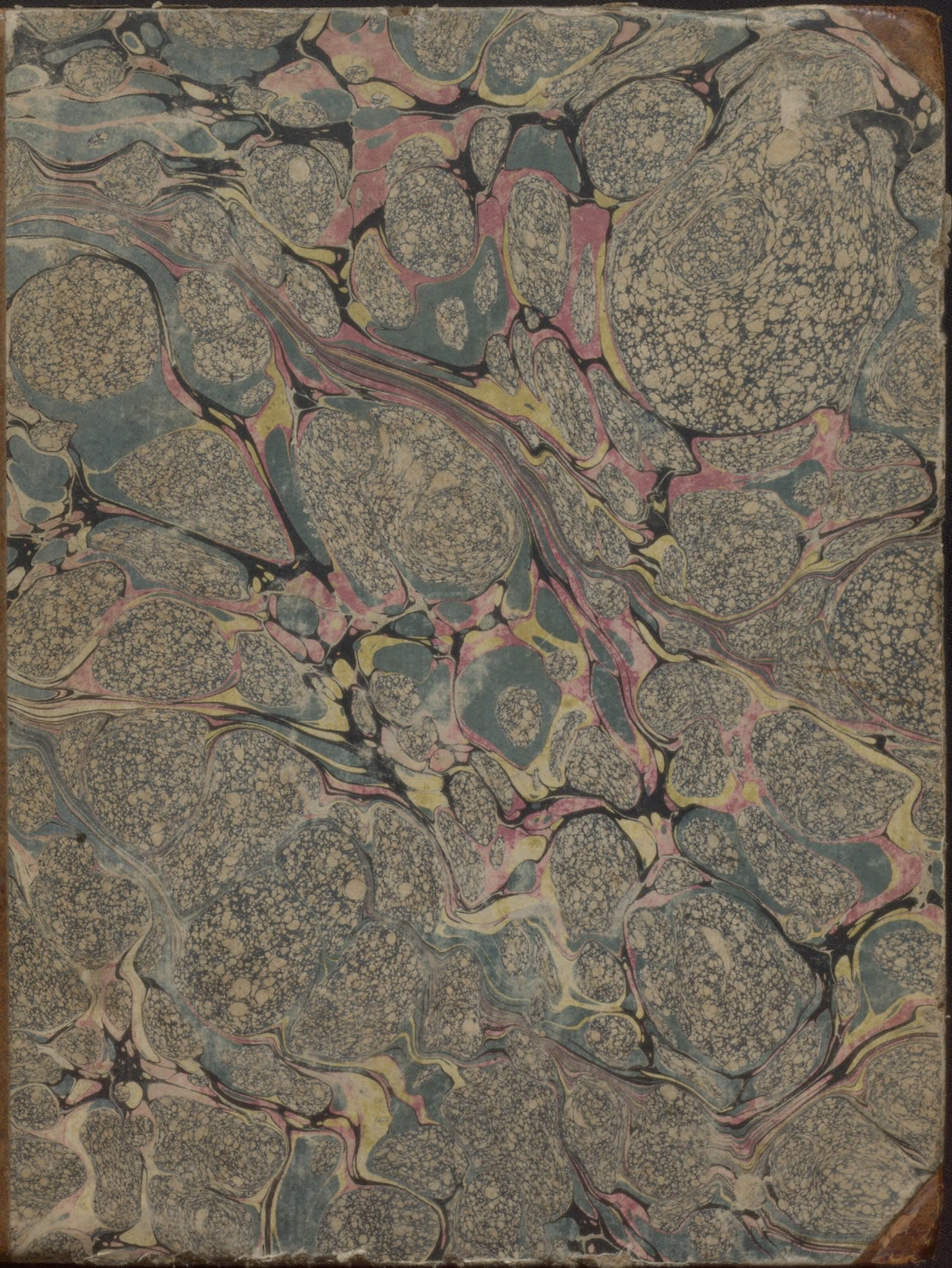


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Круз №275

Тип. им. Котлякова. 5 — 5 000 000. 1978 г. ЛГ-087-01-589.
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PARTICULARLY FOR DEDUCING THE LONGITUDE FROM LUNAR DISTANCES, AND THE LATITUDE FROM TWO ALTITUDES OF THE SUN AND THE INTERVAL OF TIME BETWEEN THE OBSERVATIONS.

141454

BY

*JOSEPH DE MENDOZA RIOS, ESQ. F.R.S.*

LONDON:

PRINTED BY T. BENSLEY, BOLT-COURT.

SOLD BY R. FAULDER, NEW BOND-STREET; LONGMAN, HURST, REES, AND ORME, PATERNOSTER-ROW; BLACKS AND PARRY; AND W. HEATHER, LEADENHALL-STREET; AND PAYNE AND MACKINLAY, STRAND.

1805.

TO

THE RIGHT HONOURABLE

# Sir JOSEPH BANKS, Baronet, K.B.

*President of the Royal Society, &c. &c.*

SIR,

THE veneration I entertain for you, whoſe life has been ſo ſucceſsfully devoted to the cultivation and promotion of ſcience, and the gratitude I feel for the regard with which you honour me, would alone incline me to ſeize every opportunity of publicly teſtifying to you thoſe ſentiments; but, on the preſent occaſion, I am impelled to addreſs you by ſtill more cogent motives. While I eſteem your approbation as one of the moſt valuable rewards of my labour, it is at the ſame time incumbent on me to declare, that Navigators will be indebted to you, for a conſiderable ſhare of any benefit they may derive from the methods offered to their uſe in the following [illegible]. The warm intereſt you manifeſted in my undertaking, has ſtimulated my diligence, and ſupported my induſtry, to the completion of this toilſome compoſition; and you have made every effort in your power to promote the utility of my performance, by facilitating its introduction in practice. Should

this work meet with a favourable reception from the Public, the idea of its having juſtified in any degree your good opinion, will be to me a peculiar ſatisfaction: but my obligations to you are not to be affected by the merit or demerit of my book, or by the fate which may attend it; and I diſcharge a pleaſing duty, while I thus preſent it to you, with my ſincere acknowledgements for the many marks of friendſhip which I have experienced from you on various occaſions.

I requeſt you to accept them, as the genuine effuſions of that warm attachment and high reſpect, with which I have the honour to remain,

SIR,

Your moſt devoted and obliged ſervant,

Portman-Place,
N. [illegible]

JOSEPH DE MENDOZA RIOS.

I HEREWITH offer to the Public, a Collection of Tables, which I announced ſome time ſince, and which I have endeavoured to render as convenient and uſeful as appears to me requiſite for the uſual calculations of Navigation and Nautical Aſtronomy.

The expences attending this work are ſuch, that, had it been publiſhed in the uſual manner, the price of the book muſt have been ſo high as to confine its utility ſolely to that claſs of Navigators who are in eaſy circumſtances; and which, unfortunately, is not the moſt numerous. But the Commiſſioners of Longitude have remedied this diſadvantage, by granting a ſum of money to reduce the price to the Public; and I here preſent my moſt reſpectful thanks to them, for this honourable teſtimony of their approbation of my labours.

The Court of Directors of the Eaſt India Company, whoſe liberality with regard to ſcience in general, and particularly that of Navigation, is ſo well known, have alſo voted a ſum of money, to effect a farther reduction in the price of this work; for which I likewiſe preſent to them my beſt acknowledgements.

With this double aſſiſtance, and the additional ſacrifice, on my part, of all views of profit, I have ſettled the ſale of this edition on the moderate terms at which it is now publiſhed; and, I ſhall eſteem myſelf happy, if my endeavours to bring theſe tables before the Public, in the moſt likely manner to prove uſeful, ſhould contribute in any degree to improve and diffuſe the practice of Nautical Aſtronomy.

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TABLES

# EXPLANATION AND USE

OF THE

# TABLES;

WITH

## PROBLEMS AND EXAMPLES.

# EXPLANATION OF THE TABLES.

PREVIOUS to the Explanations of the ſeveral Tables, I ſhall make the following general Remarks:

As the minutes and ſeconds of the circle differ ſo much from the minutes and ſeconds of time, I have thought proper to diſtinguiſh them by different marks, or ſigns; which will, I hope, produce perſpicuity and prevent miſtakes. I have, therefore, adopted for the latter the initial letters of the words; an $^{m}$ will accordingly be found to mark the minutes of time, and an $^{s}$ to denote the ſeconds, &c., in the ſame manner as we uſe an $^{h}$ to mark the hours; leaving the ſigns $^{\circ}$, $'$, $''$, &c. excluſively, for the expreſſions which apply to the diviſions of the circle.

When a C is placed before the Roman numbers of the tables, it is intended to ſignify, that the page, thus marked, is a continuation of the ſubject, or table, contained in the preceding pages.

Except when the contrary is expreſſed, I always uſe aſtronomical time in conformity with the Nautical Almanac, ſuppoſing the day to begin at noon (twelve hours later than the civil day), and counting it up to twenty-four hours, or till the ſucceeding noon.

When I expreſs the ſhip's longitude, I underſtand that it is reckoned from the meridian of the Royal Obſervatory at Greenwich.

## TABLE I.

*Corrections to be applied to the Angles, on Account of the Deviation of the Plane in which they were obſerved.*

The teleſcope, in Hadley's Quadrant, or the Reflecting Circle, is ſo ſituated as to preſerve its parallelism to the plane of the inſtrument; but, ſometimes, the contact of the images cannot be obſerved through the axis of viſion; that is, in the center of the object glaſs. In theſe caſes, the deviation of the line of ſight may be meaſured or eſtimated; for which the preſent table will give the correction, to be ſubtracted from the obſerved angle, in order to have the true angle.

## TABLE II.

*Depreſſions, or Dips of the Horizon of the Sea.*

This table contains the difference in the ſituations of the true horizon and the viſible horizon of the ſea, according to the height of the obſerver's eye above the water; allowance being made for the effect of horizontal refraction. The Dip is to be ſubtracted from the Altitudes taken at ſea with Hadley's Quadrant, except when the back obſervation is uſed, in which caſe the Dip muſt be added.

## TABLE III.

*Dips of the Sea, at different Diſtances from the Obſerver.*

When the land intervenes, and obſtructs the ſight of the horizon under the ſun's vertical, the Dip of the ſea at that place may be found by the preſent table, according to the diſtance from the obſerver to the point uſed as horizon in bringing the reflected image for taking the Altitude. Seamen, by habit, are frequently able to eſtimate ſuch diſtances, with ſufficient accuracy for that purpoſe; if not, the Dip may be aſcertained by the following method:

Let two perſons obſerve the ſun's altitude at the ſame time; the one as high up the main, or fore maſt, as he can conveniently place himſelf, and the other on deck immediately underneath; and let the height of each obſerver's eye above the ſea be meaſured. Multiply the difference (in minutes) of the obſerved altitudes, by the leſſer height (in feet); and divide the product by the difference of the two heights (in feet), which will give a firſt quotient. Multiply the difference of the two heights by the conſtant number 0,283; and divide the product by the difference of the altitudes; which will give a ſecond quotient. The ſum of the two quotients will be the Dip (in minutes), anſwering to the ſituation of the lower obſerver, or that which is to be applied to the leſſer obſerved altitude.

By uſing the greater height in the above calculation, the reſult will be the Dip for that height, or for the greater altitude.

EXAMPLE.

An obſerver at the maſt head, having his eye 91 feet above the ſea, took, with Hadley's Quadrant, the ſun's altitude, and found it to be 41°. 37′; while another obſerver on deck, with his eye 22 feet above the ſea, found the ſun's altitude to be 41°. 25′. Therefore,

| | Feet | | | | |
|---|---|---|---|---|---|
| Height at the maſt head - | 91 | Diff. 69 | Obſerved altitude - | 41°. 37′ | Diff. 12 |
| Height on deck - - - | 22 | | Obſerved altitude - | 41. 25 | |
| First quotient $\frac{12' \times 22}{69}$ | = 3′,8 | | | | |
| Second quotient $\frac{69' \times 0{,}283}{12}$ | = 1′,6 | | Dip on deck - - | — | 5 |
| Sun's altitude on deck corrected of Dip - - - - - - | | | | | 41. 20 |

The Dip at the maſt head would be found to be 15′,8 + 1′,6 = 17′.

## TABLE IV.

*Corrections (ſubtractive) of the Apparent Altitudes of the Sun, and Stars.*

By an effect of the refraction which the rays of light ſuffer in their paſſage through our atmoſphere, the heavenly bodies appear higher than they really are, by a quantity, which is at its maximum at the horizon, and gradually decreaſes till it vaniſhes at the zenith. The preſent table gives the corrections which muſt, on this account, be ſubtracted from the obſerved altitudes of the ſtars.

The

The parallax of the ſun diminiſhes the effect of the refraction, and the difference is here given for applying, at once, the reſult of both corrections to the ſun's altitude.

The corrections are found at ſight in this table to the neareſt ſecond, in a manner which is evident, and of which many examples will be given hereafter.

## TABLE V.

*Numbers for reducing the Mean Refractions of the Nautical Tables to the actual weight and temperature of the Atmoſphere*.*

The mean refractions given in Table IV. are computed for that ſtate of the atmoſphere when the Barometer is at 29,6 inches, and Fahrenheit's Thermometer at 50 degrees. In order to adapt them to any other weight and temperature, the numbers of this table, anſwering to the given height of the Barometer, and the degrees of the Thermometer, muſt be multiplied by the mean refraction; and the product will be the actual refraction.

In correcting the low altitudes, it will always be proper to attend to the actual weight and temperature of the atmoſphere, uſing the Barometer and Thermometer, or a ſingle inſtrument anſwering the purpoſes of both. But in the altitudes of the Moon care muſt be taken to multiply the number of this table only by the refraction, and not by the correction of the Moon's altitude contained in Table IX. which comprehends both refraction and parallax.

## TABLE VI.

*Complementary Corrections (additive) of the Apparent Altitudes of the Sun and Stars.*

This table is arranged in the ſame manner as Table IV. and requires no farther explanation.

## TABLE VII.

*Semidiameters of the Moon in Altitude.*

The Nautical Almanac gives the Moon's horizontal ſemidiameter, with which, and the given apparent altitude, the ſemidiameter in altitude may be found at ſight in this table. It will be ſufficient to look for the column of the horizontal ſemidiameter, reſerving the units of the given ſeconds, and to take the number of the table anſwering to the argument neareſt the given apparent altitude; this number, with the addition of the reſerved ſeconds (which may be made by memory), will give the ſemidiameter in altitude.

### EXAMPLE.

Let the apparent altitude of the Moon's lower limb be 25°. 43′. 13″, and the Moon's horizontal ſemidiameter 15′. 48″.

For 15′. 40″. horizontal ſemidiameter, and 26° altitude, the table gives 15′. 47″; to which the 8 reſerved ſeconds are to be added, in order to have the ſemidiameter in altitude 15′. 55″.

* For finding the numbers of this table, I have employed the corrections given by Dr. Maſkelyne, in the firſt volume of the Greenwich Obſervations.

## TABLE VIII.

*Correction of the Semidiameter of the Sun and Moon.*

By an effect of the difference between the refractions which take place at different altitudes, the apparent femidiameter of the Sun and Moon is leſs, in proportion as the ſame ſemidiameter is inclined to the diameter parallel to the horizon; which is not affected by this cauſe. This correction may, therefore, be ſubtracted from the ſemidiameter given by the ephemeris, when great accuracy is deſired in the uſe of the lunar obſervations, for the purpoſe of aſcertaining the longitude.

## TABLE IX.

*Correction (additive) of the Apparent Altitudes of the Moon.*

The Moon's horizontal parallax may be found by the Nautical Almanac. The parallax becomes leſs, as the altitude increaſes; but (except when at the zenith) it always makes the Moon appear lower than it is. This effect, however, is diminiſhed by the refraction, which operates in a contrary way on the apparent ſituations. The preſent table gives the ſum of theſe two corrections, which is to be added to the Moon's apparent altitude, in order to obtain the true altitude *.

The numbers will be found at ſight to any minute of altitude; and the proportional parts for ſeconds of parallax are given to every two degrees, ſo that they need only be added to the former, in order to have the correction required.

The parts of this, and the following table, which depend on the ſame arguments, are printed in oppoſite pages, ſo that both may be uſed at one opening of the book.

## TABLE X.

*Auxiliary Arguments for Table XI.*

The arrangement of this table, being ſimilar to the preceding, the uſe of it only varies from the other, in requiring an additional correction according to the altitude of the Sun or Star, which is given at the foot of every page.

## TABLE XI.

*Numbers II. for correcting Sums of Altitudes.*
*Numbers I. for Sums of Apparent Altitudes - } and Auxiliary Arguments.*
*and Number III. for Apparent Diſtances - - }*
*Sums for finding the corrected Diſtances.*

All the numbers of this table are given for each complete degree, and to every minute of lateral argument, in two oppoſite pages. Numbers II. depend on the corrected ſums of altitudes, and the parts for ſeconds are placed by the column of minutes, which, for that purpoſe, muſt be uſed as if it referred to ſeconds. Numbers I. and III. depend on a double argument; but parts for ſeconds are only wanted for the top, or auxiliary argument, and theſe are likewiſe exhibited at the ſide of the column of minutes. It is to be obſerved, that the parts for ſeconds are always additive, and muſt be taken even when the number is 0″.

* This table has been computed by Mr. I. Mortlock, a moſt ſkilful and ingenious navigator, to whoſe friendſhip I am indebted for able aſſiſtance on this and many occaſions.

The

The arrangement of the Sums for finding the Corrected Diſtances is ſimilar to that of Numbers II.

All the Numbers are compoſed of ſeven figures, but the three firſt are only marked in the beginning of each zone, or ſection, of five lines, and when they ſuffer an alteration. It, however, ſometimes happens in Numbers I, and III, that ſuch changes take place in an intermediate point of the ſame line. This will be known to be the caſe, when three figures in a parentheſis follow the three firſt figures; and then the reſpective four figures in that part of the line which precedes the place where the firſt of theſe figures changes from 9 to 0, or vice-verſa, are to be added to the firſt three figures; and the four figures in the line after that place are to be added to the three figures in the parentheſis.

EXAMPLES.

What is Number I. for Sum of Apparent Altitudes 07°. 50′, and Auxiliary Argument 10′. 34″?

| | |
|---|---|
| Number I. for S. A. A. 07°. 50′, and Aux. Arg. 10′ - | 1627917 |
| Parts for 34″ | 110 |
| Number I. required - - - - - - - - - - - | 1628027 |

What is Number III. for Apparent Diſtance 120°. 2′, and Auxiliary Argument 32′. 0″?

| | |
|---|---|
| Number III. for A. D. 119°. 2′ and Aux. Arg. 32′ - | 2619273 |
| Parts for 0″ | 342 |
| Number III. required - - - - - - - - - - - - | 2619615 |

What is Number II. for Corrected Sum of Altitudes 84°. 45′. 47″?

| | |
|---|---|
| Number II. for 84°. 43′ - - - - - - - - - - | 1109156 |
| Parts for 47″ | 03 |
| Number II. required - - - - - - - - - - - | 1109210 |

What is the Corrected Diſtance for the Sum 421701 ½?

Sum 4216849 anſwers to 38°. 27′
Diff. 7014 / 165 - - to 55″
} Corrected Diſtance required 38°. 27′. 55″

## TABLE XII.

*Correction of the Moon's Horizontal Parallax, on account of the ſpheroidal Figure of the Earth.*

For the calculations of this, and other tables, where the earth is conſidered as ſpheroidal, I have ſuppoſed, that the polar axis is to the diameter of the equator as 320 to 321.

## TABLE XIII.

*Corrections to be added to the Lunar Diſtances, on account of the ſpheroidal Figure of the Earth.*

## TABLE XIV.

*Logarithms to compute the Corrections to be ſubtracted from the Lunar Diſtances, on account of the ſpheroidal Figure of the Earth.*

I ſhall reſerve the explanation of the uſe of theſe tables for my Treatiſe on Navigation.

## TABLE XV.

*Proportional Logarithms.*

Theſe Proportional Logarithms, contrived by the preſent learned Aſtronomer Royal, are peculiarly uſeful for finding the apparent time, at Greenwich, by the obſerved diſtance from the moon to the ſun, or a ſtar. The top argument, containing the degrees, or hours, and minutes, is to be joined with the lateral argument, containing the ſeconds as they are wanted, either for time, or for degrees. Thus the Proportional Logarithm of $0^{\circ}.9'.27''$, or $9^{m}.27^{s}$, is 127984.

## TABLE XVI.

*Logarithms of Numbers.*

This table has two arguments, one for the natural numbers, as uſual; another for the degrees, or hours, minutes, and ſeconds; by means of which the logarithm of the number of ſeconds contained in any expreſſion, under $3^{\circ}.10'$, or $3^{h}.10^{m}$, may be readily found.

The figures, at the top of each column, are to be joined with the lateral argument, in order to compoſe the numbers wanted. The degrees, or hours, are marked at the top of each page. Thus it will appear, that 3.94086 is the logarithm of the number 8727, or of $2^{\circ}.25'.27''$, or $2^{h}.25^{m}.27^{s}$.

This table will facilitate the calculations of ſexageſimal expreſſions, by ſaving the trouble of reducing degrees, or hours, and minutes into ſeconds.

## TABLE XVII.

*Logarithmic Sines, Coſines, Secants, Coſecants, Verſed,* Coverſed, Sacverſed, and Sacoverſed.*

This table contains two arguments, one in parts of the circle, the other in time, and they extend as far as $180^{\circ}$, or $6^{h}$.

The arguments, ſine, coſine, &c. refer to the degree, and hour, which are marked in the ſame line, at the top, or bottom, of the ſide columns.

The lateral arguments, to the left, for minutes of the circle, and for the correſponding minutes and ſeconds of time, are to be uſed with the reſpective arguments at the top for degrees and hours; and the lateral arguments to the right, with the arguments at the bottom.

The minutes of time are marked only once in the beginning of each zone of five lines; that is, on the upper line of the argument to the left, and on the lower line of the argument to the right.

In a line with each minute of a degree, or four ſeconds of time, of lateral argument, anſwer the logarithmic ſines, coſines, &c. to every additional $15''$, or $1'$; but the firſt figures are only marked once, at the beginning of each zone a little ſeparated

* What I call here, for the ſake of brevity, Logarithmic Verſed, &c. are the logarithms of half the verſed-ſine, &c.

from

from the others; and the remaining figures in the other columns, according to the arguments, muſt be added to the former, in order to compoſe the logarithms required. If a change from 0 to 9, or vice-verſa, happens in the ſame line, an aſteriſk is placed as a mark of this circumſtance; and then the upper firſt figures are to be uſed before, and the lower firſt figures after, the variation. For example, in page 416, the Logarithmic ſine of 14°. 12′. 30″. is 9.38996, and the logarithmic ſine of 14°. 12′. 45″, is 9.39008.

When the change is in the top line of the page the preceding firſt figure, or figures, are placed in the ſame line before the aſteriſk; and when the change is in the bottom line, the following firſt figures are placed after the aſteriſk and within a parentheſis. For example, in page 398, the logarithmic ſine of 0°. 0′. 15″ is 5.[illegible], and the logarithmic ſine of 0°. 0′. 30″ is 6.16270; and, in page 401, the logarithmic verſed of 6°. 59′. 15″ is 7,56980, and the logarithmic verſed of 6°. 59′. 30″ is 7,57032.

At the ſight of the table it appears that each logarithm anſwers to four arguments in parts of the circle, and as many in time. Thus, in page 434, the number 9.96285 is the log. coſine of 23°. 21′. 45″, or 1ʰ. 33ᵐ. 27ˢ. the log. ſine of 113°. 21′. 45″, or 7ʰ. 33ᵐ. 27ˢ, the log. ſine of 60′. 38′. 15″, or 4ᵐ. 26ˢ. 33ᵗ, and the log. coſine of 156°. 38′. 15″, or 10ʰ. 26ᵐ. 33ˢ. On taking out the arch anſwering to a given log. ſine, coſine, &c. the expreſſion will be choſen which ſuits the object of the calculation.

## TABLE XVIII.

*To convert Signs into Degrees, or Hours.*

## TABLE XIX.

*To convert Seconds of the Circle into Seconds and Decimals of Time.*

## TABLE XX.

*To convert Decimals of a Second of Time into Seconds and Decimals of the Circle.*

Degrees, minutes, &c. may be converted into time, and vice-verſa, by means of the two arguments of Table XVII, which give, at ſight, the equivalent expreſſions to every 15″, or 1′. The preceding three tables are intended to facilitate the ſame operation, when the given numbers contain ſigns, or decimals of a ſecond, either of the circle, or time.

## TABLE XXI.

*Side for computing the Latitude by Two Altitudes.*

## TABLE XXII.

*Angle for computing the Latitude by Two Altitudes.*

The pages of theſe two tables are arranged in a ſimilar manner, but alternately, in order to facilitate the taking out of the ſide and angle required for the calculation of the latitude, at the ſame opening of the book.

The differences of the ſucceſſive numbers in the ſame column are diſtinguiſhed by letters, and the correſponding proportional parts for ſeconds of interval are placed contiguous to the ſide argument for minutes, which for that purpoſe muſt be uſed as if it referred to ſeconds. The differences between the numbers in the ſame line are given in

the reſpective columns under D; and their proportional parts for ſeconds of top argument from 1 to 9, and from 10 to 50 will be found, at ſight, on each page; with which the proportional parts for any number of ſeconds may be eaſily compoſed. The proportional parts of both arguments are always additive; and on making the addition it will be ſufficient to take the neareſt minute.

EXAMPLE.

What is the ſide for interval $1^h.47^m.38^s$, and complement of declination $71°.46'$?

| | | |
|---|---|---|
| Side for interval $1^h.47^m$, and compl. of declination $71°$ - - | | $25°.16$ |
| Prop. part of $e$ for $38^s$ - - - | + | 8,9 |
| Prop. parts of $9'$ for $40'$ - - - | + | 6,0 |
| Prop. parts of $9'$ for $6$ - - - | + | 0,9 |
| Side required - - - - - | | $25.32$ |

## TABLE XXIII.

*Difference between the Sun's Meridional Altitude, and its Altitude one Minute before, or after Noon.*

This table is not to be uſed in the places marked with a *.
In taking out the numbers a double proportional part may be uſed, as follows:

EXAMPLE.

What is the number of the table for $14°.46'$ of north latitude, and $4°.37'.15''$ of north declination?

| | | |
|---|---|---|
| For $14°$ latitude and $4°$ declination of the ſame name - - - | | 11″,0 |
| Diff. for $1°$ latitude — 1″,1 ($60' : 1'',1 :: 46' : x$) Prop. part | — 0″,8 | — 0 ,1 |
| Diff. for $1°$ declin. + 1 ,2 ($60 : 1 ,2 :: 37 : x$) Prop. part | + 0 ,7 | |
| Number of the table required - - - - - - | | 10 ,9 |

## TABLE XXIV.

*Multipliers for the Uſe of the foregoing Table.*

This table requires no explanation. For $7^m.28^s$ of interval the multiplier is 55,8.

## TABLE XXV.

*Catalogue of the principal Stars.*

The right aſcenſions and declinations of the principal ſtars, to the number of 60 (the ſame as are given in the Requiſite Tables), are laid down for the beginning of the year 1800, and muſt be reduced to the time required, by means of the annual variations. The ſigns + or — attached to each variation, ſignify that it muſt be added or ſubtracted for the ſubſequent years; but if the ſituations of the ſtars are wanted for any time before 1800, the ſigns of the variations muſt be changed, making the poſitive negative, and vice-verſa.

EXAMPLE.

EXAMPLE.

What is the right aſcenſion in time, and the declination of the Lion's heart, or Regulus, the 3d of September 1805?

From the beginning of 1800 to September 3, 1805, there are 5 years and 9 months, that is $5\frac{9}{12}$ years.

| | |
|---|---|
| Right aſcenſion for 1800 - - - - - - - | $9^h.57^m.42^s,38$ |
| Annual variation $+ 3^s,212 \times 5\frac{9}{12} = 18^s,469$ - - - + | 18,47 |
| Right aſcenſion required - - - - - - - | 9.58.0,85 |
| Declination for the beginning of 1800 - - - - - | 12°.56′.25″ N. |
| Annual variation $- 17'',19 \times 5\frac{9}{12} = 98'',84$ - - - — | 1.39 |
| Declination required - - - - - - - - | 12.54.46 |

## TABLE XXVI.

*Acceleration of the Fixed Stars in Mean Time.*

By means of this table ſideral time may be converted into mean time, and vice-verſa. With the acceleration for days the going of a Chronometer may be alſo aſcertained, by the obſerved paſſages of a fixed ſtar over the meridian, according to a very ſimple method, which ſhall be explained in my Treatiſe on Navigation.

## TABLE XXVII.

*To convert Mean Time into Parts of the Equator.*

This table may be uſeful to convert into degrees, &c. of the circle, the hours, minutes, &c. of a clock, or chronometer, which is regulated according to mean time.

## TABLE XXVIII.

*To find the Circumſtances which are favourable for obſerving the Altitude of the Sun, in order to determine the apparent Time.*

The obſervation moſt favourable for determining the apparent time is that of the altitude of the Sun, when it is in the prime vertical, or neareſt the prime vertical. The firſt caſe happens, when the latitude of the place is of the ſame name and greater than the declination; the ſecond in all the other circumſtances. The preſent table gives the time from noon, and the altitude which then takes place, by which the obſerver may be guided in the choice of his obſervations. Suppoſing, for example, that the ſhip is in 27° north latitude, and that the Sun's declination is 12° north, it will be found that the altitude muſt be taken $4^h.21^m$ from noon, that is, at $4^h.21^m$ P.M., or $7^h.39^m$ A.M.; or when the Sun's altitude is 27°.15′.

The table relates only to the ſituations, where the latitude of the ſhip is of the ſame name as the Sun's declination. In the other caſes the Sun is neareſt the prime vertical when at the horizon; but, as the uncertainty and irregularity of the refraction are then very conſiderable, it is recommended not to obſerve the altitude while the Sun is leſs than 3° or 4° above the horizon.

## TABLE XXIX.

*Time anſwering to a change of One hundred Minutes of Altitude near the Horizon.*

This table is ſubſidiary to the following, and contains the expreſſions reduced into ſeconds, in order to facilitate the multiplications.

The firſt page of the table is general in all caſes; but, among the others, one is to be uſed when the declination of the Sun and the latitude of the place are of the ſame name, the other when they are of different names*.

## TABLE XXX.

*Semidiurnal Arches.*

Theſe arches ſhew the time which the Sun employs in paſſing from the horizon to the meridian, or from the meridian to the horizon. Therefore, the ſemidiurnal arch is the hour of the day at the moment of the Sun's ſetting; and the complement of the ſame arch to 24 hours, is the aſtronomical time (or the complement to 12 hours, the civil time) of the day at the moment of the Sun's riſing.

EXAMPLE.

What are the times of the Sun's riſing and ſetting in 20°. 16′ north latitude, when the Sun's declination is 16°. 9′ north?

| | | |
|---|---|---|
| Semidiurnal arch for 20° latit. and 16° declin. of the ſame name | | $6^h.\ 23^m.\ 56$ |
| Diff. for 1° latitude | $+\ 1^m.\ 20^s$ (60′ : 80ˢ :: 16′ : $x$) Prop. part + | 21 |
| Diff. for 1° declination | $+\ 1\ .\ 36$ (60 : 96 :: 9 : $x$) Prop. part + | 14 |
| Semidiurnal arch required, or time of ⊙'s ſetting | | 6 . 24 . 31 |
| | | 24 |
| Time of ⊙'s riſing | | 17 . 35 . 29 |

Thus, the times of Sun's riſing and ſetting may be found for any given day and latitude, aſcertaining firſt the Sun's declination by the Nautical Almanac.

At Sea, the height of the obſerver's eye, and the horizontal refraction and parallax of the Sun, alter the apparent time of the riſing and ſetting; and this difference may be found by means of Table XXIX. The dip of the horizon, and the horizontal refraction diminiſhed by the parallax of the Sun, (32′. 51″), are to be added together; and the ſum, multiplied by the number of the ſaid table, will (after ſtriking off the two laſt figures) give the correction which is to be added to the ſemidiurnal arch found before, in order to have the apparent times required.

* The latitude and declination are conſidered as either *north* or *ſouth*, and therefore may be diſtinguiſhed by theſe *names*. Thus we ſhall ſay, that the ſhip's latitude and the ſun's declination are of the ſame name, when they are both north or both ſouth; and that they are of different names, when one is north and the other ſouth. The ſame expreſſions will be applied to the other quantities which may be diſtinguiſhed into north or ſouth, and eaſt or weſt.

EXAMPLE.

Suppoſe, in the foregoing example, that the height of the eye is 18 feet.

| | | | |
|---|---|---|---|
| Number of Table XXIX. for 20° latitude and 16° declination | | | 447 |
| Diff. for 2° latitude | + 5″ | (120′ : 5″ :: 16′ : $x$) Pr. p. | + 1 |
| Diff. for 1° declination | + 3 | ( 60 : 3 :: 0 : $x$) Pr. p. | + 0 |
| Number required | | | 448 |
| Dip | 4′. 11 | | |
| Hor. refract.—parallax | 32. 51 | | |
| Sum | 37. 2 | 37′ × 448″ | + 0h. 2m. 46″ |
| Semidiurnal arch found before | | | 6. 24. 31 |
| Sem. arch corrected, or time of ⊙'s apparent ſetting | | | 6. 27. 17 |
| | | | 24 |
| Time of ⊙'s apparent riſing | | | 17. 32. 43 |

The times, thus computed, relate to the Sun's center; but the apparent riſing and ſetting of either of the limbs might be found in the ſame manner, by adding the Sun's ſemidiameter (as given by the Ephemeris), together with the dip and the number 32′. 51″ for the upper limb; or ſubtracting the ſemidiameter from the ſum of theſe two quantities for the lower limb. Thus, ſuppoſing the ſemidiameter to be 15′. 53″, the calculation of the example for the lower limb will ſtand thus:

| | | | |
|---|---|---|---|
| Dip | 4′. 11″ | | |
| Hor. refrac. — parallax | 32. 51 | | |
| Sum | 37. 2 | | |
| Semidiameter | 15. 53 | | |
| Remainder | 21. 9 | 21′,1 × 448″ | + 0h. 1m. 35″ |
| Semidiurnal arch found before | | | 6. 24. 31 |
| Time of lower limb's apparent ſetting | | | 6. 26. 6 |
| | | | 24 |
| Time of lower limb's apparent riſing | | | 17. 33. 54 |

## TABLE XXXI.

*Amplitudes of the Sun.*

The uſe of this table is obvious, the differences being given for a change of 100′ in each of the arguments.

The Sun's amplitude is from the eaſt, if at riſing, or, from the weſt, if at ſetting; and to the north, or ſouth, according to the name of the Sun's declination.

EXAMPLE.

What is the amplitude of the Sun at riſing in 21°. 43′ north latitude, when the Sun's declination is 6°. 17′ north?

| | | |
|---|---|---|
| Amplitude for 21° latitude and 6°. 30′ declination | - - | 6°. 57′ |
| Diff. for 100′ latitude | + 5′ × 43′ = 215′ - - - | + 2 |
| Diff. for 100 declination | + 110 × 17 = 1870 - - - | + 19 |
| Amplitude required | - - - - - - - | 7. 18 E.N. |

The Sun's declination may be found, by the Nautical Almanac, for the time of its riſing or ſetting at any given place (ſee Problem I); with which, and the latitude, the amplitude will be thus eaſily computed. This is, however, the amplitude which takes place when the Sun is in the true, and not in the viſible horizon. In order to uſe it, in deducing the variation of the Compaſs, the amplitude of the Sun's center muſt be taken with the Compaſs when the lower limb appears elevated above the horizon, by a ſpace ſomewhat exceeding that of the ſemidiameter. The compariſon between the obſerved amplitude, and the amplitude found by the table, will then give the variation of the Compaſs, with ſufficient accuracy for the general purpoſes of Navigation.

| | | |
|---|---|---|
| Suppoſe, for example, that, for the place and time of the preceding computation, the amplitude obſerved with the Compaſs in the manner already mentioned is | - - - - - | 19°. 56′ E.N. |
| True computed amplitude | - - - - | 7. 18 E.N. |
| Variation of the Compaſs | - - - - | 12. 38 E. |

## TABLE XXXII.

*Variations of the Amplitudes, anſwering to a Change of One hundred Minutes in the Sun's Altitude.*

This table is ſubſidiary to the preceding, and may ſerve to find the corrections which are to be applied to the true amplitude of the Sun's center, in order to obtain the amplitude which takes place at the time of the Sun's upper, or lower limb, touching the viſible horizon. The dip of the horizon and 32′. 51″ are to be added together, and likewiſe the Sun's ſemidiameter, for the upper limb; but, for the lower limb, the ſemidiameter is to be ſubtracted from the ſum of the two firſt quantities: the ſum, or remainder, is to be multiplied by the number of this table; and the product (cutting off the two laſt figures) will be the correction to be added to, or ſubtracted from, the true amplitude, according as the latitude and declination are of the ſame name, or of different names, in order to obtain the amplitude required.

EXAMPLE.

EXAMPLE.

What is the Sun's apparent amplitude at the ſetting of the lower limb in 46°. 38′ north latitude, when the Sun's declination is 21° 27′. 4″ ſouth, the Sun's ſemidiameter 16′. 15″, and the height of the obſerver's eye 21 feet?

Table XXXI gives,

| | | | |
|---|---|---|---|
| Amplitude for 46° latitude and 21°. 15′ declination | - - | | 31°. 27′ |
| Diff. for 100′ latitude - + 65′ × 38′ = 2470′ | - - | + | 25 |
| Diff. for 100 declination + 160 × 27 = 4320 | - - - | + | 43 |
| True amplitude of the ☉'s center towards the depreſſed pole | - | | 32. 35 W.S. |
| For that amplitude and 46° lat. Table XXXII. gives 126 | | | |
| Dip - - - | 4′. 31″ | | |
| Hor. refract. — parallax | 32. 51 | | |
| Sum - - - - | 37. 22 | | |
| Semidiameter - - | 16. 15 | | |
| Remainder - - | 21. 7 - | 21′,1 × 126 - | — 0°. 27′ |
| Apparent amplitude required | - - - - - - | | 32. 8 W.S. |
| The Sun's amplitude, having been obſerved, with the Compaſs, when the lower limb appeared to touch the horizon, was found to be - | | | 21. 39 W.S. |
| The variation of the Compaſs, therefore, is | - - - - | | 10. 29 W. |

## TABLE XXXIII.

*Equations of equal Altitudes, for Noon.*

The motion of a watch, or pendulum clock, may be aſcertained by obſerving the ſun, when at the ſame altitude, in the morning, and in the afternoon. For that purpoſe, the middle of the times of the two obſervations, by the watch or clock, muſt be taken, and a correction is to be applied to it, in order to deduce the time marked by the ſaid watch, or clock, at the moment of true noon. This equation will be eaſily found by means of the preſent table.

The equation is divided in two parts, and both have for arguments the Sun's longitude (which muſt be previouſly found by the Nautical Almanack), and the interval, or time elapſed, between the obſervations: the firſt part is, beſides, to be multiplied by the tangent of the latitude, or, which comes to the ſame, by the ſine and ſecant, of the place of obſervation. The ſigns at the top of each ſection mark, whether ſuch a part muſt be added to, or ſubtracted from, the middle-time, in order to have the time of true Noon; but the ſigns of the firſt part muſt be changed, if the place of obſervation is in the ſouthern hemiſphere. An example will illuſtrate theſe rules.

EXAMPLE.

EXAMPLE.

September 17, 1789, (civil time) the following obſervations were made by Count de Bruhl, at his Obſervatory at Harefield, ſituated in latitude 51°. 36′. 9″.

| Altitude of ⊙'s upper limb | Times by the Chronometer, morning | Times by the Chronometer, afternoon |
|---|---|---|
| 67°. 40′ | 21h. 42m. 21s,4 | 2h. 0m. 3s,0 |
| 68. 0 | 21. 44. 5,0 | 1. 58. 22,0 |
| 68. 20 | 21. 45. 45,5 | 1. 56. 39,0 |
| 68. 40 | 21. 47. 29,0 | 1. 54. 55,4 |
| 69. 0 | 21. 49. 12,4 | 1. 53. 11,0 |
| 69. 20 | 21. 52. 46,4 | 1. 49. 41,0 |
| 69. 40 | 21. 54. 31,6 | 1. 47. 52,0 |
| 70. 0 | 21. 56. 15,6 | 1. 44. 11,2 |
| Sums - - - | 174. 34. 26,9 | 15. 4. 54,6 |
| Means (dividing by 8) - | 21. 49. 18,4 | 1. 53. 6,8 |
| | 25. 53. 6,8 | Interval (difference) 4h. 3m. 48s,4 |
| | | or, 4. 4 |
| Sum - - - - | 47. 42. 25,2 | |
| Middle time (half) - | 23. 51. 12,6 | |

The Sun's longitude was then 5 ſigns 25°. Conſequently,

| | | First part. | Second part. |
|---|---|---|---|
| For 5 ſigns 25°, and | 4h. 0m | +15′,53 | —0,46 |
| | 4. 20 | +15,66 | —0,45 |
| Differences - - | | 0,13 | 0,01 |

20m : 0′,13 :: 4m : x (= 4′ × 0,13 / 20 = 0,03)  20m : 0′,01 :: 4m : x (= 4′ × 0,01 / 20 = 0,00)

| | | | |
|---|---|---|---|
| For 6 ſigns 0°, and | 4h. 0m | + 15,63 | 0′,00 |
| | 4. 20 | + 15,76 | 0,00 |
| Difference - - | | 0,13 | |

20m : 0,13 :: 4m : x (= 4 × 0,13 / 20 = 0,03)

Therefore,

| | | | |
|---|---|---|---|
| For 5s. 25° and 4h. 4m | | +15′,56 | —0′,46 |
| 6. 0 | | +15,66 | 0,00 |
| Differences - - | | 0,10 | 0,46 |

5° : 0′,10 :: 1° : x (=0,02)  5° : 0′,46 :: 1° : x (=0,09)

| | First part. | Second part. |
|---|---|---|
| Thus for 5 ſigns 26°, and 4h. 4m - | + 15′,58 | — 0′,37 |
| Log. firſt part - - - | 1.19257 | |
| Log. ſine latitude - - - | 9.89417 | |
| Log. [illegible] - - | 0.20084 | |
| Log. firſt part corrected (ſum) - | 1.29358 | + 19,66 |
| Equation [illegible] - - - - - | | + 19,29 |
| Middle-time - - - - - - | | 23h. 51m. 12,60 |
| Time of true Noon - - - - - | | 23. 51. 31,89 |

To the time of true Noon by the Chronometer, thus obtained, it is only neceſſary to apply the equation of time, in order to compare the Chronometer with equated, or mean time. The equation of time in the preſent example is — $5^m$. 49″,5, ſo that at true Noon the mean time is $23^h$. $54^m$. 10″,5; and from hence it reſults, that the Chronometer deviated — $2^m$. 38″,61 from mean time.

By the repetition of the like operation, the abſolute ſtate and daily motion of a Chronometer may be aſcertained; but for a more minute inveſtigation of this ſubject, I muſt refer to my Treatiſe on Navigation.

## TABLE XXXIV.

*Lengths in Minutes of the Equator, of one Degree of the different Parallels of Latitude, both for the Sphere and Spheroid.*

## TABLE XXXV.

*Lengths in Minutes of the Equator, of the different Arches of the Meridian, in the Spheroid, from the Equator to the Pole; and alſo of the reſpective Degrees of Latitude.*

Theſe two tables do not require, at preſent, any explanation.

## TABLE XXXVI.

*Diſtances from the viſible Horizon of the Sea to the Obſerver, according to the Elevation of the Eye above the Sea, and to other Objects, according to the Heights depreſſed under the ſame Level.*

This table may be uſeful to find the diſtances from a ſhip at ſea to any other object, when the height depreſſed under the horizon is known. Suppoſe, for example, that an obſerver on the deck of a ſhip, having his eye elevated 17 feet above the ſea, is in ſight of a light-houſe on ſhore, and that from the part of it diſcovered he eſtimates that the remaining height hidden under the horizon is 70 feet; the diſtance from the ſhip to the light-houſe will be concluded as follows,

| | | |
|---|---|---|
| Diſtance for 17 feet | | 4,735 |
| Diſtance for 70 feet | | 9,609 |
| Diſtance required | (Sum) | 14,344 |

If the object is at the edge of the viſible horizon, the diſtance for the elevation of the eye will be the diſtance required.

## TABLE XXXVII.

*Corrections to be applied to the time of High Water, at full and change of the Moon, to find the time of High Water on any other Day.*

With the help of this table, the time of high water may be found for any day in a known harbour, or any other place on the ſea coaſt. For this purpoſe the time of the neareſt phaſe of the moon at Greenwich (as given by the Nautical Almanac) muſt be reduced to the meridian of the given place, by adding or ſubtracting the longitude, according as it is eaſt or weſt. The interval between that reduced time and the given

day will give the correction which is to be applied * to the time of high water at full and change of the moon, in order to have the approximated time of high water on the given day. And applying again the corresponding correction to the interval between the reduced time of the phase, and that approximated time, the result will be the time of the first high water, on that astronomical day.

For the time of the second high water, the last interval must be diminished or increased by 12 hours, according as the given day falls before or after the phase; and the corresponding correction applied as before will give the time of the second high water.

EXAMPLE.

What are the times of the first and second high water at Port Praya in the island of St. Jago, August 11, 1792?

| | | |
|---|---|---|
| Time of ☾'s last quarter at Greenwich, August | $9^{d}.\ 2^{h}.\ 55^{m}$ | |
| Longitude of Port Praya W. — | 1 . 34 | |
| Time of ☾'s last quarter at Port Praya | 9 . 1 . 21 | |
| Given day | 11 . | |
| Interval after last quarter | 1 . 22 . 39 | |
| Correction for that interval + | 7 . 32 | |
| Time of high water at Port Praya at full and change | 11 . 0 | A.M. |
| Sum | 11 . 18 . 32 | |
| Approximated time of high water, August | 11 . 6 . 32 | |
| Time of ☾'s last quarter | 9 . 1 . 21 | |
| Interval after last quarter | 2 . 5 . 11 | |
| Correction for that interval + | 7 . 53 | |
| Time of high water at full and change | 11 . 0 | A.M. |
| Sum | 18 . 53 | |
| Time of first high water required | 6 . 53 | |
| Interval after last quarter + $12^{h}$ | 2 . 17 . 11 | |
| Correction for that interval increased + | 8 . 29 | |
| Time of high water at full and change | 11 . 0 | |
| Time of second high water required | 19 . 29 | |

## TABLE XXXVIII.

*The Latitudes and Longitudes of Places.*

This table is reprinted from the last edition of the Requisite Tables, by the obliging permission of the Commissioners of Longitude. It contains the latitudes of places with their longitudes, both in degrees and time, from the Meridian of the Royal Observatory at Greenwich: Also the times of High Water at the full and change of the Moon, at those places where it is known.

* In the columns before new moon and full moon, the corrections of the table are subtractive; in all the other columns they are additive.

## TABLE XXXIX.

*Differences of Latitude, and Departures for Quarter Points.*

## TABLE XL.

*Differences of Latitude, and Departures for Degrees.*

It does not belong to my preſent plan to enter into a particular explanation of theſe tables, the nature of which is well known. I have carried the diſtances to 480 miles.

## TABLE XLI.

*Meridional Parts.*

The meridional parts are here given to every minute of the quadrant; and I have added two decimals to the uſual numbers, for ſuch applications as require great accuracy.

## TABLE XLII.

*Reduced Latitudes, to be uſed for the Argument of the preceding Table, when the Meridional Parts are wanted in the Spheroid.*

The Meridional Parts of the preceding Table are computed on the ſuppoſition that the earth is a ſphere. If it is deſired to have the meridional parts for the ſpheroid, the preſent table gives the reduced latitudes, which then muſt be uſed as the true latitude in order to take out the number required *, out of Table XLI.

For example, if the meridional parts are wanted for latitude 28°. 43′ in the ſpheroid, the reduced latitude by Table XLII. is 28°. 33′. 58″; with which the meridional parts required will be found in Table XLI. to be 1789,73.

## TABLE XLIII.

*Proportional Parts of the Variations which take place in Periods of 12ʰ, and 6ʰ, for Longitude, or any other interval of Time.*

The elements of the Sun's and Moon's motions, contained in the Nautical Almanac, are given for noon, or for noon and midnight, of each day at Greenwich; that is, to every 24ʰ, or 12ʰ. In order to find the ſaid elements for any intermediate time, proportional parts of the variations muſt be applied, which may be readily found, by the preſent table, according to the variations and the intervals.

The top arguments, containing the intervals, and the equivalent expreſſions in degrees and minutes of longitude, are to be uſed for the variations which take place in 24ʰ; that is, for thoſe elements, which are given in the Ephemeris only for noon, ſuch as the right aſcenſion and declination of the Sun, &c. The intervals, contained in the bottom argument, are to be uſed for the variations which take place in 12ʰ, ſuch as the moon's right aſcenſion, declination, horizontal parallax, &c.

* This table has been computed according to the ratio of 320 to 321, upon the principle demonſtrated by the ingenious Mr. Delambre, in the *Connaiſſance des Tems* for the Year XIII.

The

The variation, or lateral argument, has three ſexageſimal ſigns, ſo that it may be taken for degrees, minutes, or ſeconds; and the head of each column contains three rows of correſponding ſigns, of which the higher, the middle, or the lower is to be uſed with the ſign of the variation ſtanding in the like relative ſituation. Thus (in page 660), for $1^h$ interval of $24^h$, the table gives $1^\circ. 2'. 30''$, if the variation is $25^\circ$; or $1'. 2''. 30'''$, if the variation is $25'$; or $1''. 2'''. 30^{iv}$, if the variation is $25''$. And (in page 668) for $47^m$ interval of $24^h$, the proportional part is $1^\circ. 8'. 32''. 30'''$, or $1'. 8''. 32'''. 30^{iv}$, or $1''. 8'''. 32^{iv}. 30^v$, according as the variation is $35^\circ$, or $35'$, or $35''$. But the fourths, &c. may be always neglected, adding one to the thirds, if they are more than $30^{iv}$, and thus theſe numbers will be $1^\circ. 8'. 32''. 30'''$; $1'. 8''. 32'''$; $1''. 9'''$.

The proportional part, for any given variation, may be eaſily compoſed by taking the numbers of the table for the degrees, the minutes, and the ſeconds, and adding them together. Suppoſing, for example, that the proportional part is required for $49^m$ interval, and the variation $46^\circ. 39'. 45''$ in $24^h$, it will be found, in the ſame column, as follows:

| | Variation. | | |
|---|---|---|---|
| For $49^m$ interval, and | $46^\circ$ | - - - | $1^\circ. 33'. 55''. 0'''$ |
| | $39'$ | - - - | $1. 19. 37$ |
| | $45''$ | - - - | $1. 32$ |
| Proportional part required | | - - - - | $1. 35. 16. 9$ |

The thirds may be always omitted in the ſum, adding one to the ſeconds, if there are more than $30'''$; which circumſtance will be eaſily attended to, at the time of caſting the figures, without writing the thirds. Thus the above proportional part will be $1^\circ. 35'. 16''$.

The lateral argument, of the firſt two pages of the table, contains the intervals to every hour for the variations in $24^h$, and to every half hour for the variations in $12^h$; the intervals of the other pages are minutes for $24^h$, and half minutes for $12^h$. The given interval may be thus compoſed of theſe two arguments, taking out the numbers which are to be added together, in order to have the proportional part required. For example, if the interval of $24^h$ is $17^h. 49^m$, and the variation $49^\circ$, we ſhall have:

| | Variation. | | |
|---|---|---|---|
| For interval $17^h$ / $49^m$ | and $49^\circ$ | - - | $34^\circ. 42'. 30''. 0'''$ |
| | | - - | $1. 40. 2. 30$ |
| Proportional part required | | - - - | $36. 22. 32$ |

From the above explanation, or, from the mere ſtructure of the table, it appears how the proportional part may be found for any given interval and variation. The following examples will make the proceſs ſtill more clear; but we ſhall farther obſerve, that, though, to prevent the table from being crouded, the ſexageſimal ſigns laid down relate only to the diviſions of the circle, the table may be likewiſe uſed for variations expreſſed in time, by ſimply changing the degrees into hours, and taking the minutes of a degree as minutes of time, &c.

EXAMPLE I.

What is the proportional part of the variation $3^\circ. 29'. 54''$ in $24^h$ for the interval $23^h. 4^m$?

For

| | | Variation. |
|---|---|---|
| For $21^h$ interval, and | $3^\circ$ | $2^\circ. 37'. 30''. 0'''$ |
| | $29'$ | $25 . 22 . 30$ |
| | $54''$ | $47 . 15$ |
| For $43^m$ interval, and | $3^\circ$ | $5 . 22 . 30$ |
| | $29'$ | $51 . 57$ |
| | $54''$ | $1 . 37$ |
| Proportional part required | | $3 . 9 . 56$ |

EXAMPLE 2.

What is the proportional part of the variation $4^h. 56^m. 18^s$ in $24^h$, for the interval $13^h. 27^m$?

| | | Variation. |
|---|---|---|
| For $13^h$ interval, and | $4^h$ | $2^h. 10^m. 0^s. 0^t$ |
| | $56^m$ | $30 . 20 . 0$ |
| | $18^s$ | $9 . 45$ |
| For $27^m$ interval, and | $4^h$ | $4 . 30 . 0$ |
| | $56^m$ | $1 . 3 . 0$ |
| | $18^s$ | $20$ |
| Proportional part | | $2 . 46 . 3 . 5$ |
| Or * | | $2 . 46 . 3,1$ |

EXAMPLE 3.

What is the proportional part of the variation $7^\circ. 32'. 24''$ in $12^h$, for the interval $9^h. 51^m$?

| | | Variation. |
|---|---|---|
| For $9^h. 30^m$ interval, and | $7^\circ$ | $5^\circ. 32'. 30''. 0'''$ |
| | $32'$ | $25 . 20 . 0$ |
| | $24''$ | $19 . 0$ |
| For $21^m$ interval, and | $7^\circ$ | $12 . 15 . 0$ |
| | $32'$ | $56 . 0$ |
| | $24''$ | $42$ |
| Proportional part required | | $6 . 11 . 21$ |

The proportional parts of the variations in $24^h$, for the ſeconds of interval, might be found by ſimply looking for the interval, as minutes, and reducing the ſexageſimal ſigns at the heads of the columns to the immediate lower denomination; but this will be ſeldom wanted. Even the ſeconds of the variations may commonly be neglected, taking the proportional parts only for the degrees, or hours, and minutes.

* Sexageſimals are eaſily reduced into decimals, dividing by 6: thus $5^t$ makes $0^s,1$, or $0^s,08$, &c. according as tenths, or hundreds, &c. are wanted; and decimals are reduced into ſexageſimals by the inverſe operation, that is, multiplying by 6, and ſtriking off one figure if they are hundreds, two figures if they are thouſands, &c.

## TABLE XLIV.

*Equations of Second Differences for* 12 *Hours.*

The variations of the Moon's right aſcenſion, declination, &c. not being uniform, when proportional parts are uſed, it is, beſides, neceſſary to apply an equation, on account of the ſecond differences; that is, the differences of the firſt differences. This equation is to be applied with the ſame, or a contrary ſign to that of the proportional part, according as the variations decreaſe, or increaſe.

The number for the minutes and ſeconds, not in the argument, will be found by addition. Thus, for $9^h.\ 10^m$ after noon, and $16'$ ſecond difference, the correction is $54',1 + 32'',5 = 1'.\ 26'',6$.

# PROBLEMS AND EXAMPLES.

## PROBLEM I.

*The Longitude of a Ship at Sea being given, to find the right Aſcenſion, Declination, &c. of the Sun or Moon for any time, under that Meridian, by means of the Nautical Almanac.*

1. CONVERT the ſhip's longitude into time, and, according as it is weſt, or eaſt, add it to, or ſubtract it from, the given time, in order to have the correſponding time at Greenwich.

Obſerve that, if the ſum in the preceding addition is greater than $24^h$, the exceſs above $24^h$ will be the correſponding time at Greenwich on the following day. When the longitude, though greater, is to be ſubtracted from the given time, this muſt be previouſly increaſed by $24^h$; and the remainder will then expreſs the correſponding time on the preceding day at Greenwich.

2. Take out of the Nautical Almanac the right aſcenſion, or declination, &c. for the noon immediately preceding, and the variation for $24^h$, or $12^h$ following; that is, the difference between the quantity taken, and that of the following noon or midnight.

3. With that variation, and the time at Greenwich (which, for the elements of the Moon is to be diminiſhed by $12^h$, when the time exceeds it) as interval, find the proportional part by Table XLIII. This, being added to, or ſubtracted from, the preceding right aſcenſion, declination, &c. will give the one required.

4. When the Sun's declination (or right aſcenſion, &c.) is wanted for noon at the ſhip, the trouble of finding the correſponding time at Greenwich is unneceſſary; and the proportional part of the variation may, at once, be found uſing the top argument in degrees and minutes of the circle. For this purpoſe, it will be ſufficient to take out the declination for noon of the ſame day, and the variation in the preceding 24 hours, if the longitude is eaſt, or in the following 24 hours, if the longitude is weſt, marking the ſign of the variation. The proportional part may then be found, entering the lateral argument with the longitude; and it muſt be applied to the declination taken out, in the manner indicated by the ſign of the variation.

### REMARK.

The Sun's ſemidiameter is given in the Nautical Almanac to every ſix days; from which the ſemidiameter may be taken at ſight for any intermediate day. For example, it will be ſeen that on March 11, 1792, the ſemidiameter is $16'.8$.

EXAMPLE 1.

What is the Sun's declination, February 3, 1792, at noon, in longitude 113°. 34′ weſt?

| | |
|---|---|
| Declination, Feb. 3 at noon at Greenwich - - - - - | 16°. 30′. 29″ S. |
| Vari. in the following 24ʰ, — 17′. 50″. Prop. part to 113°. 30′ long. — | 5 . 37 |
| Declination required - - - - - - - - - | 16 . 24 . 52 S. |

EXAMPLE 2.

What is the Sun's right aſcenſion June 16, 1792, at 4ʰ. 27ᵐ. 50ˢ, in longitude 93°. 18 eaſt?

| | |
|---|---|
| Time at the ſhip, June 16 - - - - - - - - - | 4ʰ. 27ᵐ. 50ˢ |
| Longitude E. 93° 18′ = - - - - - - - - — | 6 . 13 . 12 |
| Time at Greenwich the 15th - - - - - - - - | 22 . 14 . 38 |
| ☉'s right aſcenſion, June 15 at noon at Greenwich - - - | 5 . 37 . 55,9 |
| Var. in 24ʰ, + 4ᵐ. 9ˢ,4, or 4ᵐ. 9ˢ. Prop. part to 22ʰ. 15ᵐ, 3ᵐ. 50ˢ. 51ᵗ = + | 3 . 50,8 |
| Right aſcenſion required - - - - - - - - | 5 . 41 . 46,7 |

EXAMPLE 3.

What is the Moon's horizontal parallax, January 1, 1792, at 11ʰ. 35ᵐ. 41ˢ, in longitude 71°. 23′ weſt?

| | |
|---|---|
| Time at the ſhip January 1 - - - - - - - - | 11ʰ. 35ᵐ. 41ˢ |
| Longitude W. 71°. 23′ = - - - - - - - - + | 4 . 45 . 32 |
| Time at Greenwich - - - - - - - - - | 16 . 21 . 13 |
| ☾'s horizontal parallax at midnight at Greenwich - - - | 55′. 32″ |
| Variation in 12ʰ, — 18″. Prop. part to 4ʰ. 21ᵐ - - - — | 7 |
| Horizontal parallax required - - - - - - | 55 . 25 |

EXAMPLE 4.

What is the Moon's declination, February 18, 1792, at 22ʰ. 28ᵐ. 13ˢ, in longitude 18°. 16′ eaſt?

| | |
|---|---|
| Time at the ſhip, February 18 - - - - - - - - | 22ʰ. 28ᵐ. 13ˢ |
| Longitude E. 18°. 16′ = - - - - - - - - — | 1 . 13 . 4 |
| Time at Greenwich - - - - - - - - - | 21 . 15 . 9 |
| ☾'s declination, Feb. 18 at midnight at Greenwich - - | 17°. 22′ S. |
| Variation in 12ʰ, — 53′. Prop. part to 9ʰ. 15ᵐ - - - — | 41 |
| Declination required - - - - - - - - - | 16 . 41 S. |

REMARK.

REMARK.

In finding the Moon's right aſcenſion and declination, regard may be had to the ſecond differences, taking the two quantities preceding, and the two following, in the Nautical Almanac. Thus, in the preceding example, we have:

| | ☾'s Declination. | First Diff. | Second Diff. | Mean Second Diff. |
|---|---|---|---|---|
| Feb. 18, at noon - - - | 17°. 57′ S. | | | |
| | - - — | 35′ | | |
| at midnight - - | 17 . 22 | | - - 18 | |
| | - - — | 53 | - - | 16′. 30″ |
| 19, at noon - - - | 16 . 29 | | - - 15 | |
| | - - — | 1°. 8 | | |
| at midnight - - | 15 . 21 | | | |

| | | |
|---|---|---|
| Declination Feb. 18 at midnight - - - - - | 17°. 22′ | S. |
| Variation in 12ʰ, — 53′. Prop. part to 9ʰ. 15ᵐ, — 40′. 51″ } | — 39 . 24″ | |
| Correction for 16′. 30″, 2ᵈ difference and 9 . 15 , + 1 . 27 } | | |
| Declination required - - - - - | 16 . 42 . 36 | S. |

## PROBLEM II.

*To correct the obſerved Altitude of a Star, or of the Limb of the Sun or Moon, in order to reduce it to the true Altitude of the Center.*

1. Take, out of Table II. the dip of the horizon, which is to be ſubtracted from the obſerved altitude, in order to have the apparent altitude of the ſtar, or of the obſerved limb of the ſun, or moon.

When the land intervenes in the obſervation of the altitude, the dip will be found either by Table III, or by the method given in page 4.

2. If it is the ſun, find, by the Nautical Almanac, the ſemidiameter for the given day, and add it to, or ſubtract it from, the apparent altitude of the obſerved limb, according as it is the lower or the upper; which will give the apparent altitude of the center *.

If it is the moon, find by the Nautical Almanac, the horizontal ſemidiameter and parallax, for the given time at the ſhip (reducing it to the correſponding time at Greenwich). And, with the horizontal ſemidiameter, take out of Table VII. the ſemidiameter anſwering to the apparent altitude of the limb: this ſemidiameter muſt be added to, or ſubtracted from, the ſaid apparent altitude, according as the obſerved is the lower or the upper limb, in order to have the apparent altitude of the center.

3. The corrections to be applied to the apparent altitude already found, in order to conclude the true altitude, will be found by means of Table IV. for a ſtar, or for the ſun; or, by means of Table IX, for the moon, (according to the horizontal parallax found before); uſing for argument the altitude corrected of dip only (that is, in caſe of the ſun, the apparent altitude of the obſerved limb): and the corrections are to be added, or ſubtracted, as ſpecified at the top of the reſpective tables.

* The ſemidiameter, as given by the Nautical Almanac, ought to be reduced by the contraction which proceeds from the difference of refraction (Table VIII.) at the limb and center, in order to have with accuracy the apparent altitude of the latter; but this correction may generally be neglected, and can only produce ſenſible errors in very low altitudes.

SCHOLIUM.

The inverſe problem, that of deducing the apparent altitude * of a ſtar, or of the ſun or moon, from the true altitude, will be ſolved by a proceſs, which is the inverſe of the preceding rule 3. Thus the correction taken out of Table IV, for a ſtar, or for the ſun, is to be added to, and the correction taken out of Table IX, for the moon to be ſubtracted, from the true altitude. This, however, will only give at firſt an approximated altitude; but the exact apparent altitude may be obtained by repeating the ſame operation, taking a ſecond time the correction of Table IV, or IX, for the approximated altitude, and applying it to the true altitude.

REMARK.

The preceding Rules will be illuſtrated in ſeveral Examples of the following Problems.

## PROBLEM III.

*To determine the Azimuth of the Sun, by means of its obſerved Altitude.*

1. Find, by the Nautical Almanac, the ſun's declination, for the time of the obſervation (Problem I.); and deduce the diſtance from the ſun to the elevated pole †.

2. Correct the obſerved altitude of the ſun (Problem II).

3. Add together the ſun's polar diſtance, the ſun's altitude, and the ſhip's latitude; take half the ſum, and the difference between the half-ſum and the polar diſtance.

4. Add together the logarithmic ſecant of the altitude, the logarithmic ſecant of the latitude, the logarithmic coſine of the half-ſum, and the logarithmic coſine of the difference; the ſum (reducing the index to the units) will be the logarithmic verſed of the azimuth, reckoned from that quadrant of the meridian where the elevated pole is ſituated.

SCHOLIUM.

This problem is uſeful in determining the magnetic variation, by obſerving the altitude of the ſun, at the time when its azimuth is taken with the compaſs, and comparing this obſerved azimuth with the computed azimuth, in the manner explained with regard to the amplitudes (pages 13, 14 and 15).

For this purpoſe, it will be ſufficient to make the calculation, neglecting the ſeconds of the data, as follows.

EXAMPLE.

July 6, 1792, in 28°. 30′ north latitude, and 42°. 21′ weſt longitude, at 19$^{h}$. 42$^{m}$ eſtimated time, the altitude of the ☉'s lower limb was obſerved (to the eaſt) to be 9°. 58′. 45″, the eye being raiſed 16 feet above the ſea. The azimuth by the compaſs, obſerved at

* When we ſimply expreſs the apparent, or the true altitude, of the ſun, or moon, we mean the apparent, or true altitude of the center.

† The ſun's polar diſtance (that is, the diſtance to the elevated pole) will be had by taking the complement to 90° of the ſun's declination, when the latitude is of the ſame name; or by adding 90° to the declination, when the latitude is of different name.

the

the ſame time, was 87° S. E. What are the ⊙'s azimuth, and the variation of the compaſs?

| | | | | |
|---|---|---|---|---|
| Eſtimated time at the ſhip | | | | 19h. 42m. 0s |
| Longitude | | | | + 2 . 49 . 24 W. |
| Time at Greenwich | | | | 22 . 31 . 24 |
| ⊙'s declination then (by Nautical Almanac) | | | | 22°. 31′ |
| Obſerved altitude of ⊙'s lower limb | 9°. 59′ | | | |
| Dip | — 4 | | | |
| | 9 . 55 | | | |
| Semidiameter | + 16 | | | |
| | 10 . 11 | | | |
| Correct. of alt. | — 5 | | | |
| True altitude | 10 . 6 | L. ſec. | 0.00678 | |
| Latitude | 28 . 30 | L. ſec. | 0.05610 | |
| ⊙'s polar diſtance | 67 . 29 | | | |
| Sum | 106 . 5 | | | |
| Half-ſum | 53 . 2 | L. cos. | 9.77913 | |
| Half-ſum — pol. diſtance | 14 . 27 | L. double cos. | 9.98604 | |
| Azimuth | | L. ſuv. (ſum) | 9.82805 | —69°. 45′ N.E. |
| Azimuth by compaſs | | 87° S.E. or | | 93 . 0 N.E. |
| Variation of the compaſs | | | | 23 . 15 N.W. |

## PROBLEM IV.

*To find the Latitude of a Ship at Sea, by the obſerved Meridional Altitude of the Sun's Limb.*

1. With the ſhip's longitude, find by the Nautical Almanac the ſun's declination for noon at the ſhip; that is, for the time of obſervation (Problem I, 4).

2. Reduce the obſerved altitude to the true altitude of the center (Problem II).

3. Deduce the ſun's meridional zenith diſtance (the complement to 90° of the altitude), and call it north, or ſouth, according as the ſun is to the north, or ſouth, of the obſerver, at the time of making the obſervation. Take the difference, or the ſum of the meridional zenith diſtance and declination, according as they are of the ſame name, or of different names*; and the reſult will be the latitude of the ſhip required.

The latitude will always be of the name of the declination, except when the declination is of the ſame name, but leſs than the meridional zenith diſtance, in which caſe the latitude will be of a contrary name.

### SCHOLIUM.

The ſun, as well as the moon and ſtars, may paſs ſucceſſively, and without ſetting, by two different points of the meridian. The above rules will then be ſufficient for the

* The name in this acceptation relates to the diſtinction of the zenith diſtance, declination, &c. into north or ſouth.

upper paſſage; but if the ſun was obſerved at its leaſt altitude (between the elevated pole and the horizon), the latitude will be found, by adding together the meridional zenith diſtance and the declination, and taking the ſum from 180°.

EXAMPLE.

March 12, 1792, a ſhip being in 53°. 10′ longitude weſt, the meridional altitude of the ſun's lower limb was obſerved (to the ſouth) to be 86°. 10′. 15″; the obſerver's eye was 17 feet above the ſurface of the ſea: What is the latitude of the ſhip?

| | | |
|---|---|---|
| Obſerved altitude of ⊙'s lower limb | | 86°. 10′. 15″ S. |
| Dip | − | 4. 4 |
| Apparent altitude of the lower limb | | 86. 6. 11 |
| Semidiameter | + | 16. 8 |
| Apparent altitude of the center | | 86. 22. 19 |
| Correction of app. alt. | − | 3 |
| True altitude | | 86. 22. 16 |
| Zenith diſtance (complement to 90°) | | 3. 37. 44 |
| Declination (by Nautical Almanac) | | 2. 51. 29 S. |
| Latitude required (difference) | | 0. 46. 15 N. |

## PROBLEM V.

*To find the Latitude of a Ship at Sea, by the obſerved Meridional Altitude of a Star.*

Find the declination of the Star for the given time, by Table XXV. (See page 10). Correct the altitude, and proceed in the remainder of the operation, according to the rules laid down in the laſt problem.

EXAMPLE.

September 3, 1792, in a ſhip at ſea the meridional altitude of *Fomalhaut* was obſerved (to the ſouth) to be 74°. 19′. 45″, the obſerver's eye being 19 feet above the ſurface of the ſea: What is the latitude of the ſhip?

| | | |
|---|---|---|
| Obſerved altitude of *Fomalhaut* | | 74°. 19′. 45″ S. |
| Dip | − | 4. 17 |
| Apparent altitude | | 74. 15. 28 |
| Correction of app. alt. | − | 16 |
| True altitude | | 74. 15. 12 |
| Zenith diſtance (complement to 90°) | | 15. 44. 48 |
| Declination (by Table XXV.) | | 30. 42. 51 S. |
| Latitude (difference) | | 14. 58. 3 S. |

PROBLEM

## PROBLEM VI.

*To find the Latitude of a Ship at Sea by the observed Meridional Altitude of the Moon's Limb.*

1. Find by the Nautical Almanac the time of the moon's paſſing the meridian of Greenwich, on the given day: and take the difference between that time and the time of the preceding paſſage, if the ſhip's longitude is eaſt; or the difference between the ſaid paſſage and the following paſſage, if the longitude is weſt.

With that difference, as variation, and the ſhip's longitude, find (by Table XLIII.) the proportional part; and add it to, or ſubtract it from, the paſſage at Greenwich, according as the longitude is weſt or eaſt; and the ſum, or difference, will be the time at the ſhip, when the moon paſſed the meridian, that is, when the obſervation was made.

If the time at the ſhip, when the obſervation was made, is well known, the above calculation may be omitted.

2. For the ſaid time (reduced to that at Greenwich), find by the Ephemeris the moon's horizontal ſemidiameter, horizontal parallax, and declination.

3. Correct the obſerved altitude (Problem II), and conclude the latitude, following the rules in Problem IV.

### EXAMPLE.

February 19, 1792, in longitude 157°. 13′ eaſt, the meridional altitude of the moon's upper limb was obſerved (to the north) to be 82°. 7′. 30″, the obſerver's eye being 20 feet above the ſurface of the ſea: What is the latitude of the ſhip?

| | | |
|---|---|---|
| Time of ☾'s paſſage at Greenwich, Feb. 19 - - | 22ʰ. 22ᵐ | |
| Diff. to the preceding paſſage — 58ᵐ. Prop. part to 157°. 15′ — | 25 . 20 | |
| Time at the ſhip - - - - - | 21 . 56 . 40 | |
| Longitude eaſt 157°. 13′ = - - - - — | 10 . 28 . 52 | |
| Time at Greenwich - - - - - | 10 . 27 . 48 | |
| By Nautical Almanac then ☾'s horizontal ſemidiameter | 16′ . 21″ | |
| By Nautical Almanac then ☾'s horizontal parallax - | 60 . 1 | |
| By Nautical Almanac then ☾'s declination - - | 15°. 29 . 41 | S. |
| Obſerved altitude of ☾'s upper limb - - - | 82 . 7 . 30 | N. |
| Dip - - - - - - - - — | 4 . 24 | |
| Apparent altitude of upper limb - - - | 82 . 3 . 6 | |
| Semidiameter in altitude - - - - — | 16 . 38 | |
| Apparent altitude - - - - - | 81 . 46 . 28 | |
| Correct. of app. alt. - - - - + | 8 . 27 | |
| True altitude - - - - - | 81 . 54 . 55 | |
| Zenith diſtance (complement to 90°) - - | 8 . 5 . 5 | |
| Declination - - - - - - | 15 . 29 . 41 | S. |
| Latitude of the ſhip required - - - - | 23 . 34 . 46 | S. |

## PROBLEM VII.

*To find the Latitude of a Ship at Sea, by ſeveral Altitudes of the Sun obſerved near Noon.*

1. By obſerved altitudes of the ſun (Problem IX), or by ſome other way, let the watch be compared with apparent time, when it may be practicable, or convenient, in order to determine the time, which the watch will mark, or has marked, at the moment of noon at the ſhip.

2. Add the obſerved altitudes together; and divide the ſum by their number, in order to have the mean obſerved altitude.

3. Take the differences between the time of noon by the watch, and the time of the obſervation of each altitude. Find in Table XXIV. the multiplier for each difference, or interval; add all the multipliers together, and divide the ſum by their number, in order to have the mean multiplier.

4. Find, by the Nautical Almanac, the ſun's declination for noon (Problem I): with which, and the latitude by account, take the correſponding number out of Table XXIII. and multiply it by the mean multiplier. The product, and the mean altitude, added together, will be the obſerved meridional altitude; from which the latitude may be eaſily concluded (Problem IV).

### EXAMPLE.

March 7, 1792, in latitude 18°. 45′ N. by account, and longitude 111°. 34′ W. the apparent time was determined by the ſun's altitude; from which it was found, that the watch was then 15′ too ſlow for apparent time, under that meridian. The ſhip afterwards ſailed, and made 13′ of latitude to the ſouth, and 1°. 56′ of longitude to the weſt. In this ſituation (latitude 18°. 32′, and longitude 113°. 30′) the four following altitudes of the ſun's lower limb were obſerved, the eye being 13 feet above the ſea: What is the ſhip's latitude?

| | Obſerved altitudes of ⊙'s lower limb. | Times by watch. |
|---|---|---|
| | 73 . 59 . 15″ | 12 . 3 . 53 |
| | 74 . 0 . 0 | 12 . 5 . 41 |
| | 74 . 1 . 0 | 12 . 7 . 12 |
| | 74 . 1 . 30 | 12 . 11 . 13 |
| Sum | 296 . 1 . 45 | |
| Mean altitude (dividing by 4) | 74 . 0 . 26 | |

| | |
|---|---|
| The watch is too ſlow in longitude 111°. 34′ W. | 15′ |
| Ship's difference in longitude W. 1°. 56′ = | 7ᵐ. 44 |
| Therefore, in longitude 113°. 30′, the watch is too faſt | 7 . 29 |
| And at noon the time ſhewn by the watch will be | 12 . 7 . 29 |
| ⊙'s declination at noon (by Nautical Almanac) | 4°. 45′ . 7″ S. |

| Time of Noon by Watch. | Times of the Observations by Watch. | | Intervals. | |
|---|---|---|---|---|
| 12h. 7m. 29s. | 12h. 3m. 53s | - - | 3m. 36s | - - 13,0 |
| | 12. 5. 41 | - - | 1. 48 | - [illegible] |
| | 12. 7. 12 | - - | 0. 17 | - - 0,1 |
| | 12. 11. 13 | - - | 3. 44 | - - 13,9 |
| Sum - - - - | | | - - - | 30,2 |
| Mean multiplier (dividing by 4) | | | - - - | [illegible] |
| Difference of Table XXIII. | | | - - - | 4″.7 |
| Product 35, 25, or - - - - - | | | | + [illegible] |
| Observed altitude of ⊙'s lower limb | | | - - | 74°. 0′. 26 |
| Computed meridion. altitude of lower limb | | | - - | 74. 1. 1 |
| Dip - - - - - - - | | | | − 3. 33 |
| | | | | 73. 57. 28 |
| Semidiameter - - - - - | | | | + 16. 9 |
| | | | | [illegible] |
| Correction of app. altitude | | | - - - | − 14 |
| True meridion. altitude | | | - - - | 74. 13. 23 |
| Zenith distance (complement to 90°) | | | - - | 15. 46. 37 |
| Declination - - - - - | | | | 4. 45. 7 |
| Latitude of the ship required | | | - - - | 20. 31. 44 |

REMARK.

For greater accuracy, the operation might be repeated, using the latitude already found, instead of the latitude by account, but the error of the first result will generally be inconsiderable.

## PROBLEM VIII.

*To find the Latitude of a Ship at Sea, by two observed Altitudes of the Sun, and the Interval of Time elapsed between the Observations.*

1. Correct the two observed altitudes which are to be employed in the calculation (Problem II).

2. Subtracting the time, by the watch, of the first observation, from the time of the second observation (increased by 12h, if necessary), the remainder will be the interval, or time elapsed *.

3. Find, by the Nautical Almanac, the sun's declination for the middle time, (taken in an approximate manner), between the two observations.

4. According to the data, find by Tables XXI, and XXII, the respective side, and angle, encreasing this by 90°.

5. Add together that side, and the two altitudes; take half the sum, and the difference between the half-sum and the greater altitude.

* If the motion of the watch, in twenty-four hours, differs considerably from true time, it will be proper to correct the interval, or time elapsed, by the proportional part of the rate.

6. Take

6. Take the logarithmic cofecant of the fide, the logarithmic fecant of the leffer altitude, the logarithmic cofine of the half-fum, and the logarithmic fine of the difference; the fum (reducing the index to the units) will be the logarithmic verfed of arch B.

7. When the fun's declination is of the fame name, and leſs than the latitude (which muſt be eſtimated, or found by the dead reckoning for that purpoſe), take the fum of arch B. and the angle of Table XXII. encreaſed by 90°.; in all other caſes take their difference.

8. Take the difference between the fun's declination and the leſſer altitude.

9. Take the logarithmic fuverſed of the above fum, or difference (Rule 7), the logarithmic cofine of the leſſer altitude, the logarithmic cofine of the declination, and the arithmetical complement of the logarithmic fuverſed * of the difference (Rule 8); look for the fum (reducing the index to the units) in the logarithmic verſed, and take out the correſponding logarithmic fuverſed (that is, the one anſwering to the fame argument); ſubtract from this the preceding arithmetical complement; and looking for the remainder in Table XVII, the correſponding argument, leſs than the quadrant, under the head coverſed, or ſucoverſed, will be the latitude of the ſhip required.

*N.B.* That computed latitude will be the latitude of the ſhip at the place where the obſervations were made; and muſt be reduced to noon, or any other time, by means of the log.

EXAMPLE.

June 10, 1795, in the afternoon, latitude by account 81°. 30′ N. longitude 47°. E. at 9h. 33m. 8s by the watch, the altitude of the ſun's lower limb was obſerved to be 16°. 3′. 15″ and at 11h. 16m. 48s the altitude of the ſame limb was 14°. 36′. 15″; the height of the obſerver's eye being 17 feet above the ſurface of the ſea: What was the latitude of the ſhip?

| | 1ſt. Obſ. | 2d. Obſ. |
|---|---|---|
| Alt. ⊙'s L.L. | 16°. 3′. 15″ | 14°. 36′. 15″ |
| Dip of the hor. | − 4. 4 | − 4. 4 |
| Semidiameter | + 15. 48 | + 15. 48 |
| Corr. of app. alt. | − 3. 8 | − 3. 28 |
| True altitudes | 16. 11. 51 | 14. 44. 31 |

| | |
|---|---|
| Time, by watch, of 1ſt. obſervation | 9h. 33m. 8s |
| Time, by watch, of 2d. obſervation | 11. 16. 48 |
| Interval between the obſervations | 1. 43. 40 |
| Eſtimated Time of 1ſt. obſerv. at the ſhip | 9. 33 |
| Longitude | − 3. 8 E. |
| Half interval between the obſervation | + 52 |
| Eſtimated middle time at Greenwich | 7. 17 |

| | | |
|---|---|---|
| | | 23°.29′ |
| | | 9, 3 |
| | | 9, 2 |
| | | 1, 1 |

By Naut. Almanac, for that time:

| | |
|---|---|
| ⊙'s declination | 23°. 4′ N. |
| complement to 90° | 66. 56 |
| ⊙'s ſemidiameter | 15. 48 |

| | | | | |
|---|---|---|---|---|
| | Side (Table XXI.) | 23.49 | L. cofec. | 0.39382 |
| | Leſs altitude | 14.45 | L. ſec. | 0.01455 |
| | Great altitude | 16.12 | | |
| 5°. 6′ | Sum | 54.46 | | |
| 2, 0 | Half-ſum | 27.23 | L. cofine | 9.94839 |
| | Half ſum—gr. alt. | 11.11 | L. ſine | 9.28769 |
| 90. | Arch B. | 83.13 | L. verſ. (ſum) | 9.64445 |
| 95. 9 | Angle (Table XXII.) | 95. 0 | | |
| | Sum | 178.22 | L. ſuv. | 6.30781 |
| | Leſs. altitude | 14.45 | L. cofine | 9.98545 |
| | Declination | 23. 4 | L. cofine | 9.96381 |
| | Difference | 8.19 | Ar. c. l. ſuv. | 0.00229 (a) |
| | | | L. verſ. A. (ſum) | 6.25936 |
| | | | L. ſuv. A. | 9.99992 (b) |
| | Latitude of the ſhip | 81.32 | L. ſucov. (b — a) | 9.99763 |

* The arithmetical complement of a logarithm is found by taking the complement to 9 of every figure, except the laſt, of which the complement to 10 is to be taken. This may be done by memory at the ſight of the table.

SCHOLIUM.

SCHOLIUM.

In the preceding Rules and Example, it has been ſuppoſed that both altitudes were taken at the ſame place. That can ſeldom happen at ſea: but the change of ſituation may be attended to, by reducing one of the altitudes to what it would have been, if obſerved at the ſame place where the other was, as follows:

Let the bearing of the ſun be obſerved by the compaſs, at the inſtant of the firſt obſervation: take the number of points between it and the ſhip's courſe, corrected for lee-way, if ſhe makes any: with which, if leſs than 8 points, or with what it wants of 16 points, if more than 8, and the diſtance run between the obſervations, enter the Traverſe Table, and take out the difference of latitude correſponding to them. Add this difference of latitude to the firſt altitude, if the number of points between the ſun's bearing and the ſhip's courſe were leſs than 8, but ſubtract it from the firſt altitude if the number of points were more than 8; and it will be reduced to what it would have been if obſerved at the ſame place where the ſecond was.

*Note.* The reſult of the operation will then be the latitude of the ſhip, at the time when the ſecond altitude was obſerved.

EXAMPLE.

May 3, 1795, being at ſea, in longitude 4° W. and latitude 27°. 20′ S. by account, at 5ʰ. 19ᵐ. 14ˢ by the watch, the obſerved altitude of the ſun's lower limb was 47°. 1′, and the azimuth of the ſame by compaſs, N.N.E. ½ E. and at 1ʰ. 14ᵐ. 39ˢ, the obſerved altitude of the ſame limb was 44°. 6′ ½. The ſhip's courſe between the obſervations was N. by W. ½ W. on the ſtarboard tack, at the rate of 6 knots, and ſhe made ½ of a point lee-way: What was the true latitude, the height of the obſerver's eye being 20 feet?

| | |
|---|---|
| Ship's courſe by comp. | N. 1 ¾ W. |
| Lee-way - - | ¼ |
| Ship's courſe corrected | N. 2 ½ W. |
| Sun's bearing - | N. 2 ¾ E. |
| Angle between them - | 4 ¾ ] give D.L. 3′, 3 |
| Diſtance run - - | 5.5 ] = 3. 18″ |

| | 1ſt. Obſ. | 2d. Obſ. |
|---|---|---|
| Alt. ⊙'s L. L. - | 47°. 1′. 0 | 44°. 6′. 30 |
| Corr. for alter. of ſtat. - | + 3. 18 | |
| | 47. 4. 18 | |
| Dip of the hor. - | [illegible] | [illegible] |
| [illegible] - | + 13. 34 | [illegible] |
| Corr. of App. alt. - | − 47 | − 53 |
| True altitudes - - | 47. 15. 1 | 44. 17. 7 |

| | |
|---|---|
| Time, by watch, of 1ſt. obſervation - | 0ʰ. 19ᵐ. 14 |
| Time, by watch, of 2d. obſervation - | 1. 14. 39 |
| Interval between the obſervations - | 0. 55. 25 |
| Eſtimated time of the 1ſt. obſ. at the ſhip - | [illegible] |
| Longitude of the ſhip then - - - | + 16 W. |
| Half interval between the obſervations - | + [illegible] |
| Eſtimated middle time at Greenwich - | 1. 3 |

By Nautical Almanac, for that time:

| | |
|---|---|
| ⊙'s declination - - - - | 15°. 46′ N. |
| complement to 90 - - | 74. 14 |
| ⊙'s ſemidiameter - - - | 15. 54″ |

| | | | |
|---|---|---|---|
| | | 0. 7 | |
| | | 0, 3 | |
| | [illegible] - | [illegible] | L. coſec. - - - 0. 63711 |
| | [illegible] - | [illegible] | L. ſec. - - 0. [illegible] |
| | Great. altitude - | 47. 15 | |
| 1°. 47′ | Sum - - - | 104. 5 | |
| | Half-ſum - - | 52. 26 | L. coſine - - 9 [illegible] |
| 0, 7 | Half-ſum—gr. alt. - | 5. 11 | L. ſine - - 8 [illegible] |
| 90 | Arch B. - - | 70. 33 | L. verſ. - (ſum) 9 [illegible] |
| 91. 53 | Angle (Table XXII) - | 91. 53 | |
| | Difference - - | 21. 20 | L. ſuv. - 0. 0848 |
| | Leſſ. altitude - - | 44. 17 | L. coſine - 9 [illegible] |
| | Declination - | 15. 46 | L. coſine - - 9. 98334 |
| | Difference - - | 28. 31 | Ar. c. l. ſuv. - 0. 02715 (a) |
| | | | L. verſ. A - - (ſum) 9. 85025 |
| | | | L. ſuv. A - - 9. 46491 (b) |
| | Latitude of the ſhip - | 26. 52½ | L. cov. - (b—a) 9. 43773 |

REMARKS.

REMARKS.

The preceding calculations have been made, neglecting the ſeconds of the circle, and Tables XXI, and XXII, have been arranged for computing in that manner; becauſe the operation is thus eaſier, and the reſult will give the latitude generally within one minute, which is ſufficient for the uſual purpoſes of Navigation.

The problem of finding the latitude by two altitudes of the ſun, is of great importance in practice; but the proper uſe of it requires many attentions and precautions, which I could not ſufficiently explain within the limits of this introduction. I ſhall enlarge upon them in my Treatiſe on Navigation; contenting myſelf, at preſent, with the following remarks concerning the obſervations.

When the knowledge of the latitude is neceſſary for the ſafety of the ſhip, it would be imprudent to truſt to the obſervation of the Sun's meridional altitude, which the weather may render impracticable. In ſuch caſes, the Sun's altitude may be obſerved ſeveral times during the day; and this attention will be the more indiſpenſable, if the weather is cloudy or unſettled, in which circumſtances it will be uſeful to take the altitude whenever the Sun appears, or the obſervation is advantageous. The following Rules are intended to direct the choice of proper circumſtances for making the obſervations, and likewiſe for determining, among ſeveral obſervations, thoſe which are preferable for the accuracy of the reſult*.

1. It will be always advantageous to have an altitude taken near noon. Thus, among ſeveral obſerved altitudes, the greateſt is always to be adopted for one, and the choice of the other may be determined by the following conſiderations:

2. When two altitudes were obſerved on different ſides of the meridian (that is, one altitude before, and the other after, noon), it will be proper that the leſſer altitude be likewiſe obſerved near noon. Beſides, the interval of time between noon and the time of each obſervation, muſt not exceed the *time from noon* in Table XXVIII, anſwering to the ſhip's latitude by account, and the ſun's declination at that time, which may be found by the Nautical Almanac.

If the above circumſtances take place, the obſervations on different ſides of the meridian will be preferable to the obſervations on the ſame ſide.

3. When two altitudes correſpond to the ſame ſide of the meridian, it will be advantageous that the leſſer altitude be obſerved at an interval of time from noon, greater than the *time from noon* given in Table XXVIII.

In that rule we muſt, however, except the caſes, when the ſun, in its diurnal motion, paſſes between the zenith and the elevated pole. Then, it will be proper that one of the altitudes be obſerved at the ſame time from noon as that given in Table XXVIII.

4. Two altitudes may be ſo ſituated as to render the determination of the latitude, by them, either impoſſible, or liable to great errors. It will then be neceſſary, either to abandon the inveſtigation altogether, or to proceed in it with care and caution. For this reaſon, a preliminary examination may be made to aſcertain the nature of the caſe as follows.

With the time elapſed between the obſervations, and the complement to 90° of the actual declination of the ſun, take the correſponding ſide of Table XXI. and the caſe will be impoſſible, or unfavourable, if this ſide equals, or differs but little, from the

* Dr. Maſkelyne thinks, that the watch ought to go at leaſt within an error of four minutes in four-and-twenty hours.

difference between the true altitudes, or from the complement to 180° of the ſum of the altitudes.

The above diſadvantage is unavoidable, when the ſun, in its diurnal motion, paſſes the meridian at the zenith, or near the zenith.

It ſeems unneceſſary to add, that the interval of time may be more or leſs extended, according to the degree of confidence which may be had in the watch during that time. A watch may be too bad for this purpoſe, and a good one may enable the obſerver to aſcertain the latitude with ſufficient accuracy in circumſtances otherwiſe diſadvantageous.

## PROBLEM IX.

*To find the apparent Time by the obſerved Altitude of the Sun's Limb.*

1. With the ſhip's longitude and the eſtimated apparent time, find, by the Nautical Almanac, the ſun's declination for the moment of the obſervation (Problem I.).

2. From the obſerved altitude of the limb, deduce the true altitude of the center (Problem II.).

3. From the ſun's declination, conclude the polar diſtance (*Note* to Problem III.), and add it together with the ſhip's latitude, and the altitude; take half the ſum, and the difference between the half-ſum and the altitude.

4. Take the logarithmic coſecant of the polar diſtance, the logarithmic ſecant of the latitude, the logarithmic coſine of the half-ſum, and the logarithmic ſine of the difference. The ſum (with the index reduced to the units) will be the logarithmic verſed of the time from noon (or the ſun's horary angle), when the altitude was obſerved.

5. The time from noon is the apparent time, if the altitude was obſerved to the weſt, or in the afternoon; but, if it was obſerved to the eaſt, or in the forenoon, the time from noon muſt be taken from 24ʰ, in order to have the apparent time of the preceding day.

EXAMPLE.

February 11, 1792, in latitude 23°. 20′ ſouth, and longitude 27°. 27′ weſt, the altitude of the ſun's lower limb was obſerved (to the eaſt) to be 45°. 16′. 15″, the obſerver's eye being 14 feet above the ſurface of the ſea. The eſtimated time was then 20ʰ. 57ᵐ. 30′ (8ʰ. 57ᵐ. 30′ in the morning by the watch). What is the apparent time at the ſhip, at the moment of the obſervation?

| | | | |
|---|---|---|---|
| Eſtimated time at the ſhip, Feb. 11 | | | 20ʰ. 57ᵐ. 30′ |
| Longitude W. 27°. 27′ = | | | + 1. 49′. 48 |
| Time at Greenwich | | | 22. 47. 18 |
| The true altitude will be found to be | | | 45°. 21′. 53″ |
| ☉'s declin. (by Naut. Almanac) | S. 13°. 41′. 36″ | | |
| Polar diſtance | 76. 18. 24 | L. coſec. | 0.01252 |
| Latitude | 23. 20. 0 | L. ſec. | 0.03706 |
| Altitude | 45. 21. 53 | | |
| Sum | 145. 0. 17 | | |
| Half-ſum | 72. 30. 8 | L. coſine | 9.47804 |
| Half-ſum — alt. | 27. 8. 15 | L. ſine | 9.65909 |
| Time from noon | 3ʰ. 4ᵐ. 40′ | L. verſ. (ſum) | 9.18671 |
| Apparent time required | 20. 55. 20 | | |

REMARK.

## PROBLEM X.

*To find the apparent Time by the obſerved Altitude of a Star.*

1. Find the right aſcenſion and declination of the ſtar, for the given time by the catalogue.

2. Reduce the obſerved altitude to the true (Problem II.).

3. With the ſtar's declination and true altitude, and the ſhip's latitude, compute the ſtar's horary angle (or diſtance from the meridian), following rules 3 and 4 of Problem IX.

4. When the altitude was obſerved to the weſt, take the ſum of the horary angle, and the ſtar's right aſcenſion: when it was obſerved to the eaſt, ſubtract the horary angle from the right aſcenſion, increaſing this by 24, if neceſſary: the ſum (deducting 24 if greater than this quantity), or remainder, will be the right aſcenſion of mid-heaven.

5. Take out of the Nautical Almanac, the right aſcenſion for noon of the given day; and its variation during the 24 hours which comprehend the time of obſervation.

6. If the apparent time at Greenwich, at the moment of the obſervation, is accurately known (as in the caſe of Example II. to Problem XIII.), find, (Problem I.), the ſun's right aſcenſion for that moment; and ſubtract it from the right aſcenſion of mid-heaven (increaſed by $24^h$, if neceſſary); and the remainder will be the apparent time at the ſhip required.

If the apparent time at the ſhip is not well known, it will be neceſſary to proceed according to the following rules.

7. Subtract the ſun's right aſcenſion for noon, from the right aſcenſion of mid-heaven (increaſed by 24 hours, if neceſſary); and the remainder will be the approximated apparent time at the ſhip.

8. With the difference of longitude, find the correſponding time at Greenwich; and take the interval between it and the noon before. Find the proportional part of the variation of the right aſcenſion to this interval; and add it to, or ſubtract it from the approximated time at the ſhip, according as the corresponding time at Greenwich is before or after the ſaid noon; the ſum, or difference, will be the time required.

### EXAMPLE.

March 1, 1792, at $9^h.\ 32^m.\ 9^s$, time eſtimated by means of the watch, latitude 28°. 7′ north, and longitude 56°. 0′ weſt, the altitude of *Aldebaran* was obſerved (to the weſt) to be 32°. 11′. 45″, the obſerver's eye being 16 feet above the ſurface of the ſea: What is the apparent time at the ſhip when the obſervation was made?

The

| | | | | |
|---|---|---|---|---|
| The right aſcenſion of *Aldebaran* for March 1, is (by Table XXV.) | | | | $4^h.\ 24^m.\ 0^s,6$ |
| The declination of the ſame | - | - | - | $16°.\ 4'.\ 40''$ N. |
| The true altitude will be found to be | - | - | - | $32.\ 6.\ 18$ |
| ✳'s polar diſtance - | $73°.\ 55'.\ 20''$ | L. coſec. - | 0.01733 | |
| Ship's latitude - | $28.\ 7.\ 0$ | L. ſec. - | 0.05454 | |
| Altitude - | $32.\ 6.\ 18$ | | | |
| Sum - - | $134.\ 8.\ 38$ | | | |
| Half-ſum - | $67.\ 4.\ 9$ | L. coſine - | 9.59061 | |
| Half-ſum—alt. - | $34.\ 58.\ 1$ | L. ſine - | 9.75823 | |
| ✳'s horary angle, weſt - | - | L. verſ. (ſum) | 9.42071 | $4^h.\ 7^m.\ 4^s$ |
| ✳'s right aſcenſion | - | - | - | $4.\ 24.\ 0,6$ |
| Right aſcenſion of mid-heaven | - | - | (ſum) | $8.\ 31.\ 4,6$ |
| ☉'s right aſcenſion March 1, at noon at Greenwich | - | - | | $22.\ 52.\ 25,0$ |
| (Variation of right aſcenſion in $24^h$ following, $3^m.\ 43^s,8$) | | | | |
| Approximated apparent time at the ſhip | - | - | (difference) | $9.\ 38.\ 39,6$ |
| Longitude W. $36°.\ 6'$ = | - | - | - | $2.\ 24.\ 24$ |
| Approximated apparent time at Greenwich | - | - | | $12.\ 3.\ 3,6$ |
| Proportional part of $3^m.\ 44^s$ to $12^h.\ 3^m$ $-1^m.\ 52^s,28^t$ = | - | - | | $-\ 0.\ 1.\ 52.5$ |
| Approximated apparent time at the ſhip | - | - | - | $9.\ 38.\ 39,6$ |
| Apparent time at the ſhip required | - | - | - | $9.\ 36.\ 47,1$ |

## PROBLEM XI.

*To find the true, or the apparent Altitude, of the Sun, for a given Time and Place.*

1. Find, by the Nautical Almanac, the ſun's declination for the given time (Problem I.); from which, and the ſhip's latitude, deduce the meridional zenith diſtance (Problem IX. 3).

2. The interval between noon, and the given time, will be the time from noon, or the ſun's horary angle.

3. Add together the logarithmic verſed of that horary angle, the logarithmic coſine of the ſun's declination, the logarithmic coſine of the latitude, and the logarithmic ſecant of the meridional zenith diſtance: look for the ſum in the logarithmic verſed, and take out the correſponding logarithmic ſecant (or that which anſwers to the ſame argument); add it to the logarithmic ſecant of the meridional zenith diſtance; and the ſum will be the logarithmic coſecant of the ſun's true altitude.

The altitude will be negative, or the reſult will ſhew how much the ſun is under the horizon, if the firſt ſum anſwers to an arch exceeding 90°, in the logarithmic verſed-ſines.

4. The apparent altitude, if wanted, may be concluded from the true altitude (Scholium to Problem II.).

### EXAMPLE.

May 4, 1792, at $3^h.\ 10^m.\ 4^s$, in latitude $42°.\ 20'$ north, and longitude $14°.\ 18'$ weſt: What was the ſun's true altitude?

| | | | | | |
|---|---|---|---|---|---|
| Time at the ſhip | | | | | $5^h . 10^m . 4^s$ |
| Longitude W. $14^\circ . 18' =$ | | | | | $+ \quad . 57 . 12$ |
| Time at Greenwich | | | | | $5 . 7 . 16$ |
| The ⊙'s declination is then, by Nautical Almanac, | | | | | $17^\circ . 17 . 40''$ |
| ⊙'s horary angle | $5^h . 10^m . 4^s$ | L. verſ. | | 9.21035 | |
| ⊙'s declination | N. $16^\circ . 17' . 40''$ | L. coſine | | 9.98219 | |
| Latitude | N. $42 . 20 . 0$ | L. coſine | | 9.86879 | |
| Meridion. zenith diſtance | (diff.) $26 . 2 . 20$ | L. ſec. | | 0.04618 | (a) |
| | | L. verſ. A | (ſum) | 0.17293 | |
| | | L. ſec. A | | 0.12864 | (b) |
| ⊙'s true altitude | $41 . 55 . 30$ | L. coſec. | (a+b) | 0.17512 | |

## PROBLEM XII.

*To find the true Altitude of the Moon, or of a Star, for a given Time and Place.*

1. Find the right aſcenſion and declination of the moon (by the Nautical Almanac), or of the ſtar (by Table XXV.) for the given time.

2. Find, by the Nautical Almanac, the ſun's right aſcenſion then, and add it to the given time; the ſum (or its exceſs above 24) will be the right aſcenſion of mid-heaven, and the difference between this and the right aſcenſion of the moon, or ſtar, will be the horary angle of the ſame.

3. With the moon's, or the ſtar's, horary angle, and declination, and the ſhip's latitude, the true altitude may be computed by the rules laid down in the preceding problem.

4. From the true altitude, the apparent altitude, if neceſſary, may be concluded (Scholium to Problem II.).

REMARK.

This calculation is illuſtrated in the example to the following problem, Scholium II.

## PROBLEM XIII.

*To find the Longitude of a Ship at Sea, by the diſtance from the Moon's Limb to the Sun's Limb, or to a Star, and the Altitudes of the ſame heavenly Bodies, obſerved at the ſame Time*.*

1. With the eſtimated time at the ſhip, and the longitude by account, conclude the eſtimated time at Greenwich; and find by the Nautical Almanac, for that time, the ſun's declination and ſemidiameter, the moon's horizontal ſemidiameter and parallax; and the other elements which may be neceſſary for the calculation, if the diſtance is to a ſtar (Problem I.).

2. From the obſerved altitudes, conclude the apparent altitudes of the center (Problem II.), to the neareſt minute only.

3. Add to, or ſubtract from, the obſerved diſtance, the moon's ſemidiameter in altitude (taken out of Table VII. with the horizontal ſemidiameter found by the Ephemeris), according as the contact was obſerved with the neareſt or the fartheſt limb. If the diſ-

* It will be proper to obſerve, within a very ſhort time, ſeveral diſtances, as well as ſeveral altitudes, in order to uſe the mean of each ſet, as well as that of the correſponding times marked by the watch. The mean of ſeveral quantities is found by adding them all together, and dividing the ſum by their number.

tance

tance is to the ſun, do the ſame with its ſemidiameter (taken out of the Ephemeris); and the reſult will be the apparent diſtance of the centers.

4. Add together the two apparent altitudes.

5. Take out of Table VI. the complementary correction anſwering to the apparent altitude of the ſun or ſtar; and out of Table IX. the correction of the moon's apparent altitude, according to the minutes of horizontal parallax, and the proportional parts for ſeconds; which add together with the ſum of apparent altitudes, and you will have the corrected ſum of altitudes.

At the time of taking the correction of Table IX. take likewiſe the Auxiliary Argument out of Table X. which will be found in the oppoſite page.

6. Take out of Table XI. Number I. anſwering to the ſum of apparent altitudes and to the minutes of auxiliary angle, and alſo the parts for ſeconds; Number II. anſwering to the ſum of corrected altitudes, and the parts for ſeconds; and Number III. anſwering to the degrees and minutes of apparent diſtance (reſerving the ſeconds) and the minutes of auxiliary argument, and alſo the parts for ſeconds. Add together the three numbers, and parts for ſeconds; and the corrected diſtance anſwering to that ſum in the ſame Table, with the addition of the reſerved ſeconds, will be the true diſtance from the moon to the ſun, or ſtar *.

7. Look, in the Nautical Almanac, for the two correſponding diſtances which comprehend the computed true diſtance; and take their difference, as well as the difference between the firſt of them and the true diſtance. Take the proportional logarithms of theſe two differences, deduce their difference; and look in the proportional logarithms for the correſponding hours, minutes, and ſeconds. Theſe, added to the hour of the firſt diſtance, taken out of the Nautical Almanac, will give the apparent time at Greenwich when the obſervation was made.

8. By the altitude of the ſun or ſtar, and the other data, compute the apparent time then at the ſhip (Problems IX. and X.).

9. The difference (turned into degrees and minutes) between that apparent time, and the apparent time at Greenwich, found before, will be the longitude of the ſhip when the diſtance was obſerved; and the longitude will be eaſt or weſt, according as the time at the ſhip is greater or leſs than the time at Greenwich.

### REMARK.

We have ſuppoſed that the diſtance and the altitudes are obſerved at the ſame time: this requires three obſervers, but a ſingle one may apply the help of aſſiſtants, by obſerving ſome altitudes before and after the obſervations of the diſtances, and marking the time of each by the watch, from whence the altitudes of the moon, and of the ſun, or ſtar, anſwering to the diſtance, may be deduced by applying the variations which are proportional to the intervals.

### EXAMPLE I.

April 18, 1793, about half an hour paſt three o'clock, latitude 0°. 31′ S. longitude by account 9° W. the following obſervations were made, for finding the true longitude of

* Remark that, after taking Number I., Number II. will be found on turning one or two leaves, and that if the book is left open at the place of Number III. the corrected diſtance for the ſum will be found in the ſame or the contiguous; ſo that two ſearchings into the table will be ſufficient for this part of the calculation.

the

the ship; the height of the observer's eye being 20 feet above the surface of the sea. Note, 14″ must be subtracted from the distance, and 1′. 9″ added to the sun's altitude, for the errors of the quadrants.

| Altitude of ⊙'s lower L. | Altitude of ☽'s upper L. | Dist. of near Limbs ⊙ & ☾ | |
|---|---|---|---|
| 41°. 52′. 30″ | 27°. 0′. 0″ | 96°. 58′. 15″ | |
| 43 . 0 | 8 . 0 | 58 . 30 | |
| 33 . 45 | 15 . 15 | 59 . 0 | |
| 21 . 30 | 31 . 0 | 59 . 15 | |
| 10 . 0 | 44 . 0 | 59 . 45 | |
| 160 . 45 | 98 . 15 | 294 . 45 | Sums. |
| 41 . 32 . 9 | 27 . 19 . 39 | 96 . 58 . 57 | Means (dividing by 5). |
| + 1 . 9 | - - - | — 14 | Errors of the quadrants. |
| — 4 . 24 | — 4 . 24 | - - - | Dip of the horizon. |
| + 15 . 58 | + 14 . 55 | + 30 . 53 | Semidiameters. |
| 41 . 44 . 52 | 27 . 0 . 20 | 97 . 29 . 36 | Apparent altitudes and distance. |
| — 57 | Correction ⊙'s altitude. | | |
| 41 . 43 . 55 | ⊙'s true altitude. | | |

Estimated time at the ship - - 3h. 26m
Longitude in time W. - - 6 . 20
Estimated time at Greenwich - 9 . 46

By Nautical Almanac, for that time:

⊙'s declination - - 11°. 13′. 24″ N.
⊙'s semidiameter - - 15 . 58
☽'s hor. semidiameter - - 14 . 49
☽'s hor. parallax - - 54 . 24

App. alt, ⊙ - - 41°. 45′
App. alt. ☽ - - 27 . 0 (hor. parall. 54′. 24″)

Aux. Arg. 13′. 14″ + 6 + 3 = 13 . 23

Sum of app. alt. - - 68 . 45 — N. I. - - - 1639938
Compl. corr. ⊙'s alt. - + 59 . 4″ — 71
Correct. ☽'s alt. - + 46 . 15
Prop. part - + 21
Corrected sum of alt. - 70 . 30 . 40 — N. II. - - - 1349935
App. distance - - 97 . 29′ — N. III. - - - 2129318 — 91
Reserved sec. - . 37 — 41
Corr. distance - - 96 . 51 . 26 — Sum - - - 5119394

True distance - - 96 . 52 . 3 — Diff, 0°. 14′. 3″ P. L. 110760 — 270
Distances, April 18, at 9h 96 . 38 . 0 — Diff. 1 . 21 . 18 P. L. 034518 — 124
at Greenwich at 12 - 97 . 59 . 18
App. time at Greenwich (+9h) - 9h. 31m. 6s — P. L. - (diff) 076242
⊙'s polar distance - - 101°. 13′. 26″ — L. cosec. - - 0. 00839
Latitude - - - 0 . 31 . 0 — L. sec. - - 0. 00002
⊙'s altitude - - - 41 . 43 . 55
Sum - - - 143 . 27 . 21
Half-sum - - - 71 . 44 . 10 — L. cosine - - 9. 49606
Half-sum — alt. - - 30 . 0 . 15 — L. sine - - 9. 69902
Apparent time at the ship - 3h. 8m. 29s — L. vers. - (sum) 9. 20349
Apparent time at Greenwich - 9 . 31 . 6
Longitude of the ship - (diff.) 6 . 22 . 37 = 95°. 39′ West.

## EXAMPLE II.

May 6, 1794, about 6h. 25′, latitude 23°. 12′ S., longitude by account 66° W., the following distances of the Moon's remote limb from the Virgin's Spike were observed, to determine the true longitude of the ship; the height of the observer's eye above the surface of the sea being 20 feet. Note, 43″ must be subtracted from the distance, 21′. 30″ from the star's altitude, and 5′. 0″ added to the moon's altitude for the errors of the quadrants.

| Altitude of ☉. | Altitude of ☽'s lower limb. | Diſt. of ☽'s remote limb from ☉. | |
|---|---|---|---|
| 32°. 25′. 0″ | 50°. 51′. 30″ | 64°. 22′. 45″ | Eſtimated time at the ſhip - - - 6h. 28m |
| 33 . 22 . 30 | 46 . 0 | 21 . 45 | Longitude in time - - - 4 . 24 W. |
| 34 . 19 . 30 | 42 . 0 | 20 . 0 | Eſtimated time at Greenwich - - 10 . 52 |
| 35 . 13 . 15 | 34 . 30 | 18 . 15 | By Nautical Almanac, for that time; |
| | | | ☽'s hor. ſemidiameter - - - 14′. 59″ |
| | | | ☽'s hor. parallax - - - - - 54 . 59 |
| 135 . 20 . 15 | 174 . 0 | 82 . 45 | Sums. |
| 33 . 50 . 4 | 50 . 43 . 30 | 64 . 20 . 41 | Means (dividing by 4). |
| — 21 . 30 | + 5 . 0 | — 43 | Errors of the quadrants. |
| — 4 . 24 | — 4 . 24 | ..... | Dip of the horizon. |
| | + 15 . 11 | — 15 . 11 | ☽'s Semidiameter |
| 33 . 24 . 10 | 50 . 59 . 17 | 64 . 4 . 47 | Apparent altitudes and diſtance. |
| — 1 . 26 | Correct. of app. alt. | | |
| 33 . 22 . 46 | ☉'s true altitude, | | |

App. alt. ☉ - - - - - 33°. 24′
App. alt. ☽ - - - - 50 . 59 (hor. parallax 54′. 59″)

Aux. Arg. 23′. 10″ / 27 / 0 / 23 . 37

Sum of app. alt. - - - 84 . 23
Compl. corr. ☉'s alt. - + 58 . 34″
Correct. ☽'s alt. - - + 33 . 14
Prop. part - - + 37
Corrected ſum of alt. - - 85 . 55 . 25
App. diſtance - - - 64 . 4
Reſerved ſec. - - - - 47
Corr. diſtance - - - - 63 . 52 . 29
True diſtance - - - - 63 . 53 . 16
Diſtances, May 6, } at 9h - 64 . 47 . 53
at Greenwich } at 12 - 63 . 17 . 47
App. time at Greenwich (+9h) - - 10h. 49m. 5s

N. I. - - - - - - 1903264 / 30
N. II. - - - - - 1088315 / 169
N. III. - - - - - 1567752 / 134
Sum - - - - - 4559664 / 538 / 126
Diff. 0°. 54′. 37″ P. L. 51795
Diff. 1 . 30 . 6 P. L. 30055
P. L. - (diff.) 1749

By Nautical Almanac, for that time, the Sun's right aſcenſion is - - 2h. 56. m15s
By Table XXV. the right aſcenſion of the Virgin's Spike is - - 13 . 14 . 23
and the declination of the ſame - - - 10°. 4′. 50″ S.

☉'s polar diſtance - - - 79°. 55′. 10″ L. coſec. - - - 0. 00675
Ship's latitude - - - 23 . 12 . 0 L. ſec. - - - 0. 03662
☉'s altitude - - - - 33 . 22 . 46
Sum - - - - - - 136 . 29 . 56
Half-ſum - - - - - 68 . 14 . 58 L. coſine - - - 9. 56886
Half-ſum — alt. - - - 34 . 52 . 12 L. ſine - - - 9. 75719
☉'s horary angle - - - 3h. 51m. 30s L. verſ. - - (ſum) 9. 36942
☉'s right aſcenſion - - - 13 . 14 . 23
Right aſcenſion of mid-heaven (diff.) 9 . 22 . 53
☉'s right aſcenſion - - - 2 . 56 . 15
App. time at the ſhip - (diff) 6 . 26 . 38
App. time at Greenwich - - 10 . 49 . 15
Longitude of the ſhip - (diff.) 4 . 22 . 27 = 65°. 37′ Weſt.

### SCHOLIUM I.

In the preceding rules we find the apparent time at the ſhip, when the diſtance was obſerved by means of the ſun's altitude, obſerved at the ſame time: but the apparent time may likewiſe be aſcertained by means of an altitude taken before or after, in order to know the error of the watch in the meridian of that obſervation. Allowing for that error, as well as for a proportional part of the rate of the watch in the interval, if both are conſiderable, the apparent time at the moment of obſerving the diſtance will be eaſily

concluded; and, by comparing it with the apparent time at Greenwich, as explained before, the result will be the longitude of the place, where the altitude for aſcertaining the apparent time was obſerved.

In ſuch caſes the ſun's altitude may be obſerved in the circumſtances moſt advantageous for determining the time, either before or after the obſervation of the diſtance. This method will be particularly uſeful, when the ſun's altitude, obſerved with the diſtance, is diſadvantageous, and when the diſtance is to a ſtar, as the obſerved altitude may then produce conſiderable error in the computed time, though it may be ſufficiently accurate for the calculation of the true diſtance.

EXAMPLE I.

December 6, 1793, latitude 53°. 29′ S. longitude 170° W. by account, about 20$^{h}$. 20$^{m}$, the following altitudes of the ſun's lower limb were obſerved: What was the error of the watch which ſhewed the times that ſtand againſt them? The height of the obſerver's eye was 20 feet; and 3′. 11″ muſt be ſubtracted from the altitudes for the error of the quadrant.

| Time by the watch. | Altitude of ⊙'s L.L. |
|---|---|
| 20$^{h}$. 19$^{m}$. 41$^{s}$ | 38°. 27′. 45″ |
| 20 . 32 | 35 . 0 |
| 20 . 56 | 39 . 0 |
| 21 . 24 | 43 . 0 |
| 21 . 58 | 48 . 0 |
| 22 . 35 | 53 . 0 |
| 127 . 6 | 245 . 45 |
| 20 . 21 . 11 | 38 . 40 . 58 |
| | − 3 . 11 |
| | − 4 . 24 |
| | + 16 . 18 |
| | − 1 . 4 |
| | 38 . 48 . 37 |

Eſtimated time at the ſhip 20$^{h}$. 21$^{m}$
Longitude 11 . 20 W.
App. time at Greenwich, Dec. 7 7 . 41
By Nautical Almanac, for that time:
⊙'s declination 22°. 45′. 12″ S.
⊙'s ſemidiameter 16 . 18
Sums.
Means (dividing by 6).
Error of the quadrant.
Dip of the horizon.
⊙'s ſemidiameter.
Correct. of app. alt.
True altitude.

| | | | |
|---|---|---|---|
| ⊙'s polar diſtance | 67°. 14′. 48″ | L. coſec. | 0. 03519 |
| Latitude | 53 . 29 . 0 | L. ſec. | 0. 22544 |
| ⊙'s altitude | 38 . 48 . 37 | | |
| Sum | 159 . 32 . 25 | | |
| Half-ſum | 79 . 46 . 13 | L. coſine | 9. 24941 |
| Half-ſum — alt. | 40 . 57 . 36 | L. ſine | 9. 81658 |
| Time before noon, the 7th | 3$^{h}$. 39$^{m}$. 24$^{s}$ | L. verſ. (ſum) | 9. 32662 |
| | 24 | | |
| App. time, the 6th | 20 . 20 . 36 | | |
| Time by the watch | 20 . 21 . 11 | | |
| Watch too faſt | 35 | | |

The ſame day, a few minutes before the ſun was on the meridian, and in longitude by account 170°. 4′ W. the following obſervations were made for finding the true longitude of the ſhip, the height of the obſerver's eye being 20 feet. The times are thoſe marked by the watch uſed before, and it was judged unneceſſary to take into conſideration the error which might ariſe from its rate of going. Note, 4′. 12″ muſt be added to the diſtance, 2′. 46″ ſubtracted from the ſun's altitude, and 58″ from the moon's, for the errors of the quadrants.

| Time by the watch. | Altitude of ⊙'s L.L. | Altitude of ☽'s U. L. | Diſt. of near. limbs of ⊙ & ☾. |
|---|---|---|---|
| 23h. 53m. 0s | 59 . 2 . 45″ | 25 . 39 . 0 | 58 . 45 . 0 |
| 54 . 12 | 2 . 30 | 26 . 44 . 0 | 48 . 15 |
| 54 . 58 | 2 . 32 | 26 . 52 . 30 | 48 . 30 |
| 55 . 55 | 3 . 0 | 27 . 1 . 0 | 49 . 0 |
| 56 . 48 | 2 . 45 | 27 . 8 . 30 | 49 . 15 |
| 57 . 35 | 2 . 45 | 27 . 16 . 0 | 49 . 30 |
| 333 . 32 | 16 . 18 | 161 . 13[illegible] . — | 293 . 30 | Sums. |
| 55 . 25 | 59 . 2 . 42 | 26 . 59 . 30 | 58 . 49 . 45 | Means (dividing by 6) |
| | — 2 . 40 | — 5[illegible] | + 4 . 18 | Errors of the quadrants. |
| | — 4 . 4 | — 4 . 24 | — — — | Dip of the horizon. |
| | + 16 . 18 | + 16 . 12 | — 32 . 30 | Semidiameters. |
| | 59 . 11 . 56 | 27 . 34 . 38 | 58 . 45 . 33 | Apparent altitude and diſtance. |

Time at the ſhip, by the watch, to mean diſt. — 23h. 55m. 25s
Watch too faſt before — 35
App. time in the meridian of the obſ. of ⊙'s alt. — 23 . 54 . 50
Longitude when ⊙'s alt. were obſ. — 11 . 20 . 16 W.
Time at Greenwich, the 7th (to the near. m.) — 11 . 15

By Nautical Almanac, for that time:

⊙'s ſemidiameter — 16′ . 18″
☽'s horizontal ſemidiameter — 16 . 12
☽'s horizontal parallax — 59 . 27

App. alt. ⊙ — 59° . 12′
App. alt. ☽ — 26 . 35 (hor. parallax 59′. 27″)

| Aux. Arg. | | | | |
|---|---|---|---|---|
| 14′. 21″ | Sum of app. alt | 85 . 47 | N. I. | 1926991 |
| + 7 | Compl. corr. ⊙'s alt. + | 59 . 31″ | | 21 |
| + 4 | Correct. ☽'s alt. + | 50 . 52 | | |
| | Prop. part + | 24 | | |
| 14 . 32 | Corrected ſum of alt. | 87 . 37 . 47 | N. II. | 1058726 |
| | App. diſtance | 59 . 25 | N. III. | 1494802 |
| | Reſerved fec. | 35 | | 137 |
| | Corrected diſtance | 58 . 43 . 3 | Sum | 4480740 |
| | True diſtance | 58 . 43 . 38 | Diff. 1° . 12′ . 53″ P. L. 39264 | 29 |
| | Diſtances, Dec. 7, at 9h | 57 . 30 . 45 | Diff. 1 . 38 . 28 P. L. 26198 | 11 |
| | at Greenwich at 12 | 59 . 9 . 13 | | |
| | App. time at Greenwich (+9h) | 11h. 13m. 14s | P. L. (diff.) 13066 | |
| | App. time at the ſhip, the 6h in the meridian of the obſ. of ⊙'s alt. | 23 . 54 . 50 | | |
| | Longitude of the ſhip then | 11 . 18 . 24 | = 169°. 36′ Weſt. | |

## EXAMPLE II.

September 10, 1793, about 12h. 50m, eſtimated time, longitude by account 178°. 30′ E. the following altitudes and diſtances of *α Arietis* and the moon were obſerved to determine the true longitude of the ſhip; the height of the obſerver's eye being 20 feet. Note, 2′. 9″ muſt be added to the diſtance, 1′. 12″ ſubtracted from the moon's altitude, and 30″ from the ſtar's altitude, for the errors of the quadrants.

| Time by the watch. | Altitude of ☉ | Altitude of ☽'s U. Limb. | Diſt. of ☽'s remote limb from ☉ |
|---|---|---|---|
| 13ʰ. 1ᵐ. 5ˢ | 43°. 0′. 30″ | 67°. 28′. 0″ | 45°. 19′. 45″ |
| 2. 25 | 7. 0 | 67. 21. 0 | 19. 45 |
| 3. 21 | 14. 0 | 66. 59. 0 | 18. 45 |
| 4. 14 | 20. 30 | 66. 51. 0 | 16. 30 |
| 5. 11 | 29. 0 | 66. 50. 0 | 18. 15 |
| 6. 8 | 38. 0 | 66. 32. 0 | 18. 0 |
| 23. 9 | 190. 0 | 401. 37. 0 | 52. 30 |
| 13. 3. 52 | 43. 18. 10 | 66. 50. 10 | 45. 18. 45 |
| -- | 30 | — 1. 12 | + 2. 9 |
| -- | 4. 24 | — 4. 24 | - - - |
| | | — 16. 57 | — 16. 57 |
| | 43. 13. 16 | 66. 33. 37 | 45. 3. 57 |

Eſtimated time at the ſhip - 12ʰ. 50ᵐ
Longitude - - - 11. 54 E.
Eſtimated time at Greenwich - 0. 56
By Nautical Almanac, for that time:
☽'s hor. ſemidiameter - - 16′. 41″
☽'s hor. paralliax - - - 61. 13

Sums.
Means (dividing by 6.)
Errors of the quadrants.
Dip of the horizon.
Semidiameter.
Apparent altitude and diſtance.

App. alt. ☉ - - - - 43°. 13″
App. alt. ☽ - - - - 66. 34 (hor. parallax 61′. 13″)

Aux. Arg. 31′. 12″ + 7 + 0 = 31. 19

| | | |
|---|---|---|
| Sum of app. alt. | 109. 47 | |
| Compl. corr. ☉'s alt. + | 59. 0″ | |
| Correct. ☽'s alt. + | 23. 51 | |
| Prop. part + | 5 | |
| Corrected ſum of alt. | 111. 9. 56 | |
| App. diſtance | 45. 3 | |
| Reſerved fec. | 57 | |
| Corrected diſtance | 45. 0. 49 | |
| True diſtance | 45. 1. 46 | |
| Diſtances, September 19, at noon | 45. 34. 43 | |
| Diſtances, September 19, at 3ʰ | 43. 48. 45 | |
| App. time at Greenwich | 0ʰ. 55ᵐ. 58ˢ | |

N. I. - - - - - - 2332993 116
N. II. - - - - - 0655248 18
N. III. - - - - - - 1304574 112
Sum - - - - - 4293061
Diff. 0°. 32′. 57″ P. L. 73742 | 2893
Diff. 1. 45. 58 P. L. 23010 | 168
P. L. - - (diff.) 50732

And about 19ʰ. 15ᵐ eſtimated time the next morning, in latitude 20°. 25′ S. the following altitudes of the ſun's lower limb were obſerved, for finding the error of the watch uſed before; the height of the obſerver's eye being 20 feet. Note, 28″ muſt be ſubtracted from the altitude for the error of the quadrant.

| Time by the watch. | Altitude of ☉'s lower limb. |
|---|---|
| 19ʰ. 15ᵐ. 10ˢ | 16°. 8′. 35″ |
| 25. 34 | 14. 0 |
| 25. 53 | 17. 30 |
| 26. 12 | 23. 0 |
| 26. 34 | 28. 0 |
| 26. 50 | 32. 30 |
| 156. 13 | 123. 35 |
| 19. 26. 2 | 16. 20. 35 |
| -- | 28 |
| — | 4. 24 |
| + | 16. 0 |
| — | 3. 5 |
| | 16. 28. 38 |

Time by watch when ☉'s alts. were obſ. 19ʰ. 26ᵐ
Time by watch when diſtances were obſ. 13. 4
Difference - - - - - 6. 22
Time at Greenwich when diſt. were obſ. 0. 56
Time at Greenwich when ☉'s alts. were obſ. 7. 18
By Nautical Almanac, for that time:
☉'s declination - - - - 1°. 5′. 56″ N.
☉'s ſemidiameter - - - - 16. 0

Sums.
Means (dividing by 6).
Error of the quadrant.
Dip of the horizon.
Semidiameter.
Correct. of app. alt
True altitude.

| | | | |
|---|---|---|---|
| ⊙'s polar diſtance | 91° 5′ .56″ | L. coſec. | 0.00008 |
| Latitude | 30 .25 . 0 | L. ſec. | 0.02818 |
| ⊙'s altitude | 16 .28 .38 | | |
| Sum | 127 .59 .34 | | |
| Half-ſum | 63 .59 .47 | L. coſine | 9.64191 |
| Half-ſum — alt. | 47 .31 . 9 | L. ſine | 9.86778 |
| App. time before noon | 4h .47m .45s | L. verſ. (ſum) | 9.53795 |
| | 24 | | |
| App. time at the ſhip | 19 .12 .11 | | |
| Time by the watch | 19 .26 . 2 | | |
| Watch too faſt | 13 .51 | | |
| Time by watch to mean diſt. | 13 . 3 .52 | | |
| App. time at the ſhip to mean diſt. in the meridian of the obſ. of ⊙'s alt. | 12 .50 . 1 | | |
| App. time at Greenwich | 0 .55 .58 | | |
| Longitude of the ſhip when the ⊙'s altitudes were obſ. | 11 .54 . 3 | = 178°. 31′ Eaſt. | |

## SCHOLIUM II.

We have ſuppoſed, till now, that the altitudes for the reduction of the diſtance are actually obſerved; but if theſe obſervations cannot be made, or from the time of night, or imperfect light of the horizon, can only be made under diſadvantageous circumſtances, the true and apparent altitudes may be computed (Problems XII. and XIII.), and with them the longitude will be concluded, following the preceding rules.

## EXAMPLE.

July 26, 1792, in latitude 29°. 57′ north, about 6h. 8m eſtimated time, and longitude by account 113°. 50′ weſt, the following obſervations were made, the obſerver's eye being 17 feet above the ſurface of the ſea, in order to aſcertain the error of the watch; and it was known that it went 8s too faſt in 24 hours. Note, 15″ is to be ſubtracted for the error of the quadrant.

| Times by the watch. | Altitude of ⊙'s L. L. | |
|---|---|---|
| 5h. 7 .57 | 15° . 7′ .45″ | |
| 8 .24 | 15 . 5 .30 | |
| 8 .40 | 15 . 2 .30 | |
| 8 .50 | 14 .59 .15 | |
| 9 .18 | 14 .56 .30 | |
| 9 .34 | 14 .52 .15 | |
| 53 .52 | 90 . 4 . 0 | Sums. |
| 5 . 8 .52 | 15 . 0 .40 | Means (dividing by 6). |
| | — 15 | Error of the quadrant. |
| | — 4 . 4 | Dip of the horizon. |
| | + 15 .48 | Semidiameter. |
| | — 3 .22 | Correct. of app. alt. |
| | 15 . 8 .47 | True altitude. |

Eſtimated time at the ſhip 6h. 8m
Longitude 7 .35 W.
Eſtimated time at Greenwich 13 .43

By Nautical Almanac, for that time:

⊙'s declination 19°. 7′.52″ N.
⊙'s ſemidiameter 15 .48

| | | | | |
|---|---|---|---|---|
| ⊙'s polar distance | 70°. 52′. 8″ | L. cosec. | | 0.02467 |
| Latitude | 29. 57. 0 | L. sec. | | 0.06225 |
| ⊙'s altitude | 15. 8. 47 | | | |
| Sum | 115. 57. 55 | | | |
| Half-sum | 57. 58. 57 | L. cosine | | 9.72441 |
| Half-sum — alt. | 42. 50. 10 | L. sine | | 9.83246 |
| Apparent time at the ship | 5h. 32m. 35s | L. vers. | (sum) | 9.64379 |
| Time by the watch | 15. 8. 52 | | | |
| Watch too slow | 23. 43 | | | |

The ship ran afterwards 13′ in latitude to the north, and 18′ in longitude to the east; and then (being in latitude 30°. 10′ N., and longitude 113°. 32′ W.) the following distances of the Virgin's spike from the moon were observed. The times marked are those given by the watch used before. Note, 25″ must be added to the distance for the error of the quadrant.

| Time by the watch. | Dist. of ☽'s near limb from ✶ |
|---|---|
| 5h. 7m. 23s | 16°. 22′. 15″ |
| 8. 23 | 23. 10 |
| 9. 6 | 23. 30 |
| 9. 56 | 23. 50 |
| 10. 42 | 24. 20 |
| 45. 30 | 117. 5 |
| 9. 9. 6 | 16. 23. 25 |
| | + 25 |
| | + 15. 57 |
| | 16. 39. 47 |

| | |
|---|---|
| Time by watch when ⊙'s alt. were obs. | 5h. 8m. 52s |
| Time by watch when dist. were obs. | 9. 9. 6 |
| Interval 4h. 0m. 14s. Pr. part of the rate 8s, − 0m. 1s<br>Watch too slow before + 23. 43 | + 23. 42 |
| App. time in the meridian of the obs. of ⊙'s alt. | 9. 32. 48 |
| Longitude when ⊙'s alt. were obs. (113°. 50′) | 7. 35. 20 W. |
| Time at Greenwich | 17. 8. 8 |
| Sums. | |
| Means (dividing by 5). | |
| Error of the quadrant. | |
| Semidiameter in alt. | |
| Apparent distance. | |

By Nautical Almanac, and Table XXV. for the above time:

| | |
|---|---|
| ⊙'s right ascension | 8h. 28m. 21s |
| ☽'s right ascension | 216°. 15′ |
| ☽'s declination | 10. 45 S. |
| ☽'s horizontal semidiameter | 15. 51″ |
| ☽'s horizontal parallax | 58. 10 |
| Spica's right ascension | 13h. 14m. 17s |
| Spica's declination | 10°. 4′. 18″ S. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| App. time in the meridian of the observation of ⊙'s alt. | | | | | | 9h. 32′. 48″ | |
| Difference in longitude to the place of 2d. observation E. | | | | | | + 1. 12 | |
| App. time in the meridian of the observation of dist. | | | | | | 9. 33. 7 | |
| ⊙'s right ascension | | | | | | 8. 28. 21 | |
| Right ascension of mid-heaven | 18h. 2m. 21s | | | | | 13. 2. 21 | |
| Right ascension of ✶ | 13. 14. 17 | | | | | 14. 25. 0 | |
| Horary angle | 4. 48. 4 | L. vers. | | 9.53861 | | 3. 37. 21 | 9.31916 |
| Declination | 10°. 4′ S. | L. cosine | | 9.99326 | | 10°. 45′ S. | 9.99231 |
| Latitude of the ship | 30. 10 N. | L. cosine | | 9.93680 | | 30. 10 N. | 9.93686 |
| Merid. zen. dist. | 40. 14 | L. sec. | | 0.11724 | (a) | 40. 55 | 0.12167 (a) |
| | | L. vers. A. (sum) | | 9.58591 | | | 9.36988 |
| | | L. sec. A | | 0.63978 | (b) | | 0.27468 (b) |
| True altitude | 10. 4. 38″ | L. cosec. | (a+b) | 0.75702 | | 23. 40. 10″ | 0.39635 |
| Corr. of alt. | + 5. 12 | | | | | − 51. 7 | |
| Approx. app. altitude | 10. 9. 50 | | | | | 22. 49. 3 | |
| Corr. of alt. | + 5. 10 | | | | | − 51. 22 | |
| Apparent altitude | 10. 9. 48 | | | | | 22. 48. 48 | |

App.

| | | | | | |
|---|---|---|---|---|---|
| | App. alt. ✱ | | 10°. 10′ | | |
| | App. alt. ☽ | | 22. 49 (hor. parall. 58′. 10″) | | |
| Anx. Arg. | Sum of app. alt. | | 32. 59 | N. I. | 1166248 |
| 12′. 6″ | Compl. corr. ✱'s alt. | + | 54. 50″ | | 64 |
| 2 | Correct. ☽'s alt. | + | 51. 13 | | |
| 1 | Prop. part | + | 9 | | |
| 12. 9 | Corrected sum of alt. | | 34. 45. 12 | N. II. | 1831308 |
| | App. distance | | 16. 39 | | 129 |
| | Reserved sec. | | 47 | N. III. | 1047725 |
| | Corr. distance | | 17. 21. 43 | | 73 |
| | True distance | | 17. 22. 20 | Sum | 4045547 |
| | Distances, July 18, at 15$^h$ | | 16. 12. 42 | Diff. 1°. 9′. 38″ P. L. 41246 | 499 |
| | at Greenwich at 18 | | 17. 50. 54 | Diff. 1. 38. 12 P. L. 26316 | 48 |
| | App. time at Greenwich (+15$^h$) | | 17$^h$. 7$^m$. 38$^s$ | P. L. (diff) 14930 | |
| | App. time at the ship when the ⊙'s alt. were observed | | 9. 32. 48 | | |
| | Longitude of the ship then | | 7. 34. 50 | = 115°. 42′½ West. | |

## REMARK.

The correction used, to deduce the moon's apparent altitude from its true altitude, is the same as must be included afterwards in the addition which gives the corrected sum of altitudes; and the auxiliary argument may be taken out of Table X. at the same opening of the book. The complementary correction of sun or star's altitude, included likewise in that addition, is the complement to 1° of the correction used for the deduction of the true altitude, and may be had by taking the complement at sight, without looking into Table VI. for that purpose.

THE END.

T. Bensley, Printer,
Bolt Court.

# TABLES

TO CORRECT

## THE OBSERVED ALTITUDES

OF THE

*SUN, MOON, AND STARS;*

AND

## THE OBSERVED DISTANCES

OF THE

*MOON TO THE SUN, OR A STAR.*

T. I. Corrections to be applied to the Angles on account of the Deviation of the plane in which they were observed.

| Angle | Deviation. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 10′ | 20′ | 30′ | 32′ | 36′ | 40′ | 44′ | 48′ | 50′ | 52′ | 56′ | 1° 0′ | 1° 4′ | 1° 8′ | 1° 12′ | 1° 16′ | 1° 20′ | 1° 24′ | 1° 28′ | 1° 32′ | 1° 36′ | 1° 40′ | 1° 44′ | 1° 48′ | 1° 52′ | 2° 0′ |
| ° | ′ | ″ | ′ | ″ | ″ | ″ | ′ | ″ | ″ | ′ | ″ | ′ | ″ | ′ | ″ | ′ | ″ | ′ | ″ | ′ | ″ | ′ | ″ | ′ | ″ | ′ | ″ | ′ | ″ | ′ | ″ | ′ | ″ |
| 5 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 6 | 6 | 7 | 8 | 8 | 9 | 9 | 11 |
| 10 | 0 | 1 | 1 | 2 | 2 | 2 | 3 | 4 | 4 | 4 | 5 | 6 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 17 | 18 | 19 | 20 | 22 |
| 12 | 0 | 1 | 2 | 2 | 2 | 3 | 4 | 4 | 5 | 5 | 6 | 7 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 17 | 18 | 20 | 21 | 23 | 26 |
| 14 | 0 | 1 | 2 | 2 | 3 | 3 | 4 | 5 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 14 | 15 | 16 | 18 | 20 | 21 | 23 | 25 | 27 | 29 | 31 |
| 16 | 0 | 1 | 2 | 3 | 3 | 4 | 5 | 6 | 6 | 7 | 8 | 9 | 10 | 11 | 13 | 14 | 16 | 17 | 19 | 21 | 23 | 24 | 27 | 29 | 31 | 33 | 35 |
| 18 | 0 | 1 | 3 | 3 | 4 | 4 | 5 | 6 | 7 | 7 | 9 | 10 | 11 | 13 | 14 | 16 | 18 | 19 | 21 | 23 | 25 | 28 | 30 | 32 | 34 | 36 | 40 |
| 20 | 0 | 1 | 3 | 3 | 4 | 5 | 6 | 7 | 8 | 8 | 10 | 11 | 13 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 28 | 31 | 33 | 36 | 38 | 40 | 44 |
| 22 | 0 | 1 | 3 | 3 | 4 | 5 | 7 | 8 | 8 | 9 | 11 | 12 | 14 | 16 | 18 | 20 | 22 | 24 | 26 | 29 | 31 | 34 | 37 | 39 | 42 | 45 | 49 |
| 24 | 0 | 1 | 3 | 4 | 5 | 6 | 7 | 9 | 9 | 10 | 12 | 13 | 15 | 17 | 19 | 21 | 24 | 26 | 28 | 31 | 34 | 37 | 40 | 43 | 46 | 49 | 54 |
| 26 | 0 | 2 | 4 | 4 | 5 | 6 | 8 | 9 | 10 | 11 | 13 | 15 | 16 | 19 | 21 | 23 | 26 | 28 | 31 | 34 | 37 | 41 | 44 | 47 | 50 | 54 | 58 |
| 28 | 0 | 2 | 4 | 4 | 6 | 7 | 8 | 10 | 11 | 12 | 14 | 16 | 18 | 20 | 23 | 25 | 28 | 31 | 34 | 37 | 41 | 43 | 47 | 51 | 54 | 58 | 1 3 |
| 30 | 1 | 2 | 4 | 5 | 6 | 7 | 9 | 11 | 12 | 13 | 15 | 17 | 19 | 22 | 24 | 27 | 30 | 33 | 36 | 40 | 43 | 47 | 51 | 55 | 58 | 1 8 | |
| 32 | 1 | 2 | 5 | 5 | 6 | 8 | 10 | 12 | 13 | 14 | 16 | 18 | 20 | 23 | 26 | 29 | 32 | 35 | 38 | 42 | 46 | 50 | 54 | 58 | 1 3 | 1 12 | |
| 34 | 1 | 2 | 5 | 5 | 7 | 9 | 10 | 12 | 13 | 14 | 17 | 19 | 22 | 25 | 28 | 31 | 34 | 38 | 41 | 45 | 49 | 53 | 58 | 1 2 | 1 7 | 1 17 | |
| 36 | 1 | 2 | 5 | 6 | 7 | 9 | 11 | 13 | 14 | 15 | 18 | 20 | 23 | 26 | 29 | 33 | 36 | 40 | 44 | 49 | 54 | 57 | 1 2 | 1 6 | 1 11 | 1 22 | |
| 38 | 1 | 2 | 6 | 6 | 8 | 10 | 12 | 14 | 15 | 16 | 19 | 22 | 25 | 28 | 31 | 35 | 39 | 42 | 47 | 51 | 55 | 1 0 | 1 5 | 1 10 | 1 15 | 1 27 | |
| 40 | 1 | 3 | 6 | 6 | 8 | 10 | 12 | 14 | 16 | 17 | 20 | 23 | 26 | 29 | 33 | 37 | 42 | 45 | 49 | 54 | 59 | 1 4 | 1 9 | 1 14 | 1 19 | 1 32 | |
| 42 | 1 | 3 | 6 | 7 | 9 | 11 | 13 | 15 | 17 | 18 | 21 | 24 | 27 | 31 | 35 | 39 | 43 | 47 | 52 | 57 | 1 2 | 1 7 | 1 13 | 1 18 | 1 24 | 1 37 | |
| 44 | 1 | 3 | 7 | 7 | 9 | 11 | 14 | 16 | 18 | 19 | 22 | 25 | 28 | 32 | 37 | 41 | 45 | 50 | 54 | 1 0 | 1 5 | 1 10 | 1 15 | 1 22 | 1 28 | 1 42 | |
| 46 | 1 | 3 | 7 | 8 | 10 | 12 | 14 | 17 | 18 | 20 | 23 | 27 | 31 | 34 | 38 | 43 | 47 | 52 | 57 | 1 3 | 1 8 | 1 14 | 1 20 | 1 26 | 1 33 | 1 47 | |
| 48 | 1 | 3 | 7 | 8 | 10 | 13 | 15 | 18 | 19 | 21 | 24 | 28 | 32 | 36 | 40 | 45 | 50 | 55 | 1 0 | 1 6 | 1 12 | 1 18 | 1 24 | 1 30 | 1 37 | 1 52 | |
| 50 | 1 | 3 | 8 | 8 | 11 | 13 | 16 | 18 | 20 | 22 | 25 | 29 | 33 | 38 | 42 | 47 | 52 | 57 | 1 3 | 1 9 | 1 15 | 1 21 | 1 28 | 1 35 | 1 42 | 1 57 | |
| 52 | 1 | 3 | 8 | 9 | 11 | 14 | 16 | 19 | 21 | 23 | 27 | 31 | 35 | 39 | 44 | 49 | 54 | 1 0 | 1 6 | 1 12 | 1 19 | 1 25 | 1 32 | 1 39 | 1 46 | 2 3 | |
| 54 | 1 | 4 | 8 | 9 | 12 | 14 | 17 | 20 | 22 | 24 | 28 | 32 | 36 | 41 | 46 | 51 | 57 | 1 3 | 1 9 | 1 15 | 1 22 | 1 29 | 1 36 | 1 44 | 1 51 | 2 8 | |
| 56 | 1 | 4 | 9 | 10 | 12 | 15 | 18 | 21 | 23 | 25 | 29 | 33 | 38 | 43 | 48 | 54 | 59 | 1 5 | 1 12 | 1 18 | 1 25 | 1 33 | 1 41 | 1 48 | 1 56 | 2 14 | |
| 58 | 1 | 4 | 9 | 10 | 13 | 15 | 19 | 22 | 24 | 26 | 30 | 35 | 39 | 45 | 50 | 56 | 1 2 | 1 8 | 1 15 | 1 22 | 1 29 | 1 37 | 1 45 | 1 53 | 2 1 | 2 19 | |
| 60 | 1 | 4 | 9 | 11 | 13 | 16 | 19 | 23 | 25 | 27 | 31 | 36 | 41 | 47 | 52 | 58 | 1 4 | 1 11 | 1 18 | 1 25 | 1 33 | 1 41 | 1 49 | 1 58 | 2 6 | 2 25 | |
| 62 | 1 | 4 | 10 | 11 | 14 | 17 | 20 | 24 | 26 | 28 | 33 | 38 | 43 | 49 | 54 | 1 0 | 1 7 | 1 14 | 1 21 | 1 29 | 1 37 | 1 45 | 1 53 | 2 2 | 2 12 | 2 31 | |
| 64 | 1 | 4 | 10 | 11 | 14 | 17 | 21 | 25 | 27 | 29 | 34 | 39 | 45 | 50 | 56 | 1 3 | 1 10 | 1 17 | 1 24 | 1 32 | 1 41 | 1 49 | 1 58 | 2 7 | 2 17 | 2 38 | |
| 66 | 1 | 4 | 10 | 12 | 15 | 18 | 22 | 26 | 28 | 31 | 35 | 41 | 46 | 52 | 59 | 1 5 | 1 12 | 1 20 | 1 28 | 1 36 | 1 45 | 1 53 | 2 3 | 2 13 | 2 22 | 2 44 | |
| 68 | 1 | 4 | 11 | 12 | 15 | 19 | 23 | 27 | 29 | 32 | 37 | 43 | 48 | 55 | 1 1 | 1 8 | 1 15 | 1 23 | 1 31 | 1 40 | 1 49 | 1 58 | 2 7 | 2 17 | 2 28 | 2 50 | |
| 70 | 1 | 5 | 11 | 13 | 16 | 20 | 24 | 28 | 31 | 33 | 38 | 44 | 50 | 57 | 1 3 | 1 11 | 1 18 | 1 26 | 1 34 | 1 43 | 1 53 | 2 2 | 2 12 | 2 23 | 2 33 | 2 56 | |
| 72 | 1 | 5 | 12 | 13 | 16 | 20 | 25 | 29 | 32 | 34 | 40 | 46 | 52 | 59 | 1 6 | 1 13 | 1 21 | 1 29 | 1 38 | 1 47 | 1 57 | 2 7 | 2 17 | 2 28 | 2 39 | 3 3 | |
| 74 | 1 | 5 | 12 | 13 | 17 | 21 | 25 | 30 | 33 | 35 | 41 | 47 | 54 | 1 1 | 1 8 | 1 16 | 1 24 | 1 33 | 1 42 | 1 51 | 2 1 | 2 11 | 2 22 | 2 33 | 2 45 | 3 10 | |
| 76 | 1 | 5 | 13 | 14 | 18 | 22 | 27 | 31 | 34 | 37 | 43 | 49 | 57 | 1 5 | 1 13 | 1 21 | 1 30 | 1 40 | 1 50 | 2 0 | 2 10 | 2 21 | 2 32 | 2 44 | 2 57 | 3 24 | |
| 78 | 1 | 6 | 13 | 14 | 18 | 23 | 27 | 32 | 35 | 38 | 44 | 51 | 58 | 1 5 | 1 13 | 1 22 | 1 31 | 1 40 | 1 50 | 2 1 | 2 12 | 2 23 | 2 35 | 2 48 | 3 2 | 3 31 | |
| 80 | 1 | 6 | 13 | 15 | 19 | 23 | 28 | 33 | 36 | 39 | 46 | 53 | 1 0 | 1 8 | 1 16 | 1 25 | 1 33 | 1 43 | 1 53 | 2 4 | 2 15 | 2 26 | 2 38 | 2 51 | 3 4 | 3 38 | |
| 82 | 1 | 6 | 14 | 16 | 20 | 24 | 29 | 35 | 38 | 41 | 47 | 55 | 1 2 | 1 10 | 1 19 | 1 28 | 1 37 | 1 47 | 1 57 | 2 8 | 2 20 | 2 32 | 2 44 | 2 57 | 3 10 | 3 45 | |
| 84 | 1 | 6 | 14 | 16 | 21 | 25 | 30 | 36 | 39 | 42 | 49 | 57 | 1 4 | 1 13 | 1 22 | 1 31 | 1 41 | 1 51 | 2 2 | 2 13 | 2 25 | 2 37 | 2 50 | 3 3 | 3 17 | 3 52 | |
| 86 | 1 | 7 | 15 | 17 | 21 | 26 | 31 | 37 | 41 | 44 | 51 | 59 | 1 7 | 1 15 | 1 24 | 1 34 | 1 44 | 1 55 | 2 6 | 2 18 | 2 30 | 2 43 | 2 56 | 3 10 | 3 24 | 3 59 | |
| 88 | 1 | 7 | 16 | 17 | 22 | 27 | 33 | 39 | 42 | 46 | 53 | 1 1 | 1 9 | 1 18 | 1 27 | 1 38 | 1 49 | 2 1 | 2 13 | 2 26 | 2 40 | 2 54 | 3 8 | 3 23 | 3 39 | 4 16 | |
| 90 | 1 | 7 | 16 | 18 | 23 | 28 | 34 | 40 | 43 | 47 | 55 | 1 3 | 1 11 | 1 21 | 1 31 | 1 41 | 1 52 | 2 5 | 2 15 | 2 28 | 2 41 | 2 55 | 3 9 | 3 24 | 3 39 | 4 17 | |
| 92 | 1 | 7 | 17 | 18 | 23 | 29 | 35 | 42 | 45 | 49 | 57 | 1 5 | 1 14 | 1 24 | 1 34 | 1 44 | 1 56 | 2 7 | 2 20 | 2 33 | 2 47 | 3 1 | 3 15 | 3 31 | 3 47 | 4 26 | |
| 94 | 1 | 8 | 17 | 19 | 24 | 30 | 36 | 43 | 47 | 51 | 59 | 1 8 | 1 17 | 1 27 | 1 37 | 1 48 | 2 0 | 2 12 | 2 25 | 2 39 | 2 53 | 3 7 | 3 22 | 3 38 | 3 55 | 4 36 | |
| 96 | 1 | 8 | 18 | 20 | 25 | 31 | 37 | 45 | 48 | 52 | 1 1 | 1 10 | 1 19 | 1 30 | 1 40 | 1 52 | 2 5 | 2 17 | 2 30 | 2 44 | 2 59 | 3 14 | 3 30 | 3 47 | 4 4 | 4 46 | |
| 98 | 1 | 8 | 19 | 21 | 26 | 33 | 39 | 47 | 50 | 54 | 1 3 | 1 12 | 1 23 | 1 34 | 1 46 | 1 59 | 2 12 | 2 26 | 2 39 | 2 53 | 3 8 | 3 23 | 3 39 | 3 57 | 4 14 | 4 56 | |
| 100 | 1 | 9 | 19 | 21 | 27 | 34 | 40 | 48 | 52 | 56 | 1 5 | 1 15 | 1 27 | 1 38 | 1 51 | 2 5 | 2 19 | 2 33 | 2 47 | 3 2 | 3 19 | 3 36 | 3 54 | 4 12 | 4 31 | 5 9 | |
| 102 | 1 | 9 | 20 | 22 | 28 | 35 | 42 | 50 | 54 | 58 | 1 7 | 1 18 | 1 30 | 1 42 | 1 56 | 2 10 | 2 25 | 2 40 | 2 55 | 3 11 | 3 28 | 3 45 | 4 4 | 4 23 | 4 43 | 5 23 | |
| 104 | 1 | 9 | 20 | 23 | 29 | 36 | 43 | 51 | 56 | 1 0 | 1 9 | 1 21 | 1 33 | 1 46 | 2 0 | 2 15 | 2 30 | 2 46 | 3 2 | 3 19 | 3 37 | 3 56 | 4 15 | 4 35 | 4 56 | 5 38 | |
| 106 | 1 | 9 | 21 | 24 | 30 | 37 | 45 | 53 | 58 | 1 3 | 1 13 | 1 24 | 1 37 | 1 51 | 2 6 | 2 22 | 2 38 | 2 55 | 3 13 | 3 32 | 3 51 | 4 11 | 4 32 | 4 54 | 5 16 | 6 2 | |
| 108 | 1 | 10 | 22 | 25 | 31 | 39 | 47 | 55 | 1 0 | 1 4 | 1 15 | 1 27 | 1 39 | 1 53 | 2 9 | 2 25 | 2 42 | 3 0 | 3 18 | 3 38 | 3 58 | 4 19 | 4 41 | 5 4 | 5 28 | 6 17 | |
| 110 | 1 | 10 | 23 | 26 | 32 | 41 | 49 | 58 | 1 3 | 1 7 | 1 18 | 1 30 | 1 43 | 1 58 | 2 13 | 2 30 | 2 48 | 3 7 | 3 27 | 3 48 | 4 10 | 4 33 | 4 57 | 5 22 | 5 48 | 6 42 | |
| 112 | 1 | 10 | 23 | 27 | 34 | 43 | 51 | 1 1 | 1 5 | 1 11 | 1 21 | 1 33 | 1 47 | 2 2 | 2 18 | 2 35 | 2 53 | 3 13 | 3 34 | 3 56 | 4 19 | 4 43 | 5 8 | 5 34 | 6 1 | 7 1 | |
| 114 | 1 | 11 | 24 | 28 | 35 | 45 | 54 | 1 4 | 1 8 | 1 13 | 1 24 | 1 37 | 1 51 | 2 7 | 2 24 | 2 42 | 3 1 | 3 21 | 3 43 | 4 6 | 4 30 | 4 55 | 5 21 | 5 48 | 6 17 | 7 22 | |
| 116 | 1 | 11 | 25 | 29 | 36 | 46 | 56 | 1 6 | 1 11 | 1 16 | 1 28 | 1 41 | 1 56 | 2 12 | 2 30 | 2 49 | 3 9 | 3 30 | 3 53 | 4 17 | 4 43 | 5 9 | 5 37 | 6 6 | 6 37 | 7 46 | |
| 118 | 1 | 12 | 25 | 30 | 38 | 48 | 58 | 1 8 | 1 13 | 1 18 | 1 31 | 1 45 | 2 0 | 2 18 | 2 37 | 2 57 | 3 18 | 3 40 | 4 4 | 4 30 | 4 57 | 5 25 | 5 55 | 6 27 | 7 0 | 8 13 | |
| 120 | 1 | 12 | 26 | 31 | 39 | 49 | 1 0 | 1 10 | 1 15 | 1 22 | 1 34 | 1 49 | 2 5 | 2 23 | 2 43 | 3 4 | 3 27 | 3 51 | 4 16 | 4 43 | 5 12 | 5 43 | 6 15 | 6 50 | 7 27 | 8 43 | |
| 122 | 1 | 12 | 27 | 32 | 40 | 51 | 1 2 | 1 12 | 1 18 | 1 25 | 1 38 | 1 53 | 2 10 | 2 29 | 2 50 | 3 12 | 3 36 | 4 2 | 4 29 | 4 58 | 5 29 | 6 2 | 6 38 | 7 16 | 7 57 | 9 17 | |
| 124 | 1 | 13 | 28 | 33 | 42 | 53 | 1 4 | 1 14 | 1 20 | 1 27 | 1 41 | 1 57 | 2 15 | 2 35 | 2 57 | 3 21 | 3 47 | 4 15 | 4 45 | 5 18 | 5 53 | 6 32 | 7 14 | 8 0 | 8 51 | 10 37 | |
| 126 | 1 | 13 | 29 | 34 | 43 | 55 | 1 7 | 1 17 | 1 23 | 1 30 | 1 45 | 2 2 | 2 21 | 2 42 | 3 6 | 3 32 | 4 0 | 4 32 | 5 7 | 5 46 | 6 30 | 7 19 | 8 15 | 9 19 | 10 34 | 13 19 | |
| 128 | 1 | 14 | 30 | 35 | 45 | 57 | 1 9 | 1 20 | 1 26 | 1 34 | 1 49 | 2 7 | 2 28 | 2 52 | 3 19 | 3 50 | 4 26 | 5 8 | 5 58 | 6 58 | 8 11 | 9 41 | 11 34 | 14 11 | 18 11 | 36 0 | |
| 130 | 1 | 14 | 31 | 36 | 47 | 59 | 1 12 | 1 23 | 1 30 | 1 38 | 1 54 | 2 13 | 2 36 | 3 3 | 3 36 | 4 16 | 5 5 | 6 7 | 7 36 | 9 36 | 12 36 | 17 36 | 36 0 | | | | |
| 132 | 1 | 15 | 32 | 37 | 49 | 1 2 | 1 15 | 1 27 | 1 34 | 1 43 | 2 0 | 2 21 | 2 47 | 3 20 | 4 3 | 5 5 | 6 36 | 9 0 | 12 36 | 36 0 | | | | | | | |
| 134 | 1 | 15 | 33 | 38 | 51 | 1 5 | 1 18 | 1 31 | 1 39 | 1 48 | 2 7 | 2 31 | 3 1 | 3 41 | 4 36 | 6 36 | 9 36 | 18 0 | | | | | | | | | |
| 136 | 1 | 16 | 34 | 40 | 53 | 1 8 | 1 22 | 1 36 | 1 44 | 1 54 | 2 15 | 2 42 | 3 19 | 4 19 | 6 36 | 18 0 | | | | | | | | | | | |
| 138 | 1 | 17 | 35 | 41 | 55 | 1 11 | 1 26 | 1 41 | 1 50 | 2 1 | 2 25 | 2 57 | 3 45 | 5 36 | 18 0 | | | | | | | | | | | | |
| 140 | 1 | 17 | 36 | 43 | 57 | 1 14 | 1 30 | 1 47 | 1 57 | 2 9 | 2 37 | 3 19 | 4 19 | 6 36 | | | | | | | | | | | | | |
| 142 | 1 | 18 | 37 | 44 | 59 | 1 17 | 1 35 | 1 53 | 2 4 | 2 18 | 2 51 | 3 45 | 5 36 | 18 0 | | | | | | | | | | | | | |
| 144 | 1 | 18 | 38 | 46 | 1 2 | 1 21 | 1 40 | 2 0 | 2 12 | 2 29 | 3 10 | 4 19 | 6 36 | | | | | | | | | | | | | | |
| 146 | 1 | 19 | 39 | 48 | 1 5 | 1 25 | 1 45 | 2 7 | 2 21 | 2 41 | 3 36 | 5 36 | 18 0 | | | | | | | | | | | | | | |
| 148 | 1 | 20 | 41 | 50 | 1 8 | 1 30 | 1 51 | 2 15 | 2 32 | 2 57 | 4 19 | 6 36 | | | | | | | | | | | | | | | |
| 150 | 1 | 21 | 42 | 52 | 1 12 | 1 35 | 1 58 | 2 25 | 2 45 | 3 19 | 5 36 | 18 0 | | | | | | | | | | | | | | | |
| 152 | 1 | 22 | 44 | 54 | 1 16 | 1 41 | 2 6 | 2 36 | 3 0 | 3 45 | 6 36 | | | | | | | | | | | | | | | | |
| 154 | 1 | 23 | 45 | 57 | 1 20 | 1 47 | 2 15 | 2 49 | 3 19 | 4 19 | 8 36 | | | | | | | | | | | | | | | | |
| 156 | 1 | 24 | 47 | 59 | 1 25 | 1 54 | 2 26 | 3 6 | 3 45 | 5 36 | 18 0 | | | | | | | | | | | | | | | | |
| 158 | 1 | 25 | 49 | 1 2 | 1 30 | 2 2 | 2 39 | 3 28 | 4 19 | 6 36 | | | | | | | | | | | | | | | | | |
| 160 | 1 | 26 | 51 | 1 5 | 1 36 | 2 12 | 2 55 | 3 58 | 5 36 | 18 0 | | | | | | | | | | | | | | | | | |
| 162 | 1 | 27 | 53 | 1 9 | 1 43 | 2 24 | 3 19 | 4 45 | 6 36 | | | | | | | | | | | | | | | | | | |
| 164 | 1 | 28 | 55 | 1 13 | 1 51 | 2 39 | 3 45 | 5 36 | 18 0 | | | | | | | | | | | | | | | | | | |
| 166 | 1 | 29 | 57 | 1 17 | 1 59 | 2 58 | 4 19 | 6 36 | | | | | | | | | | | | | | | | | | | |
| 168 | 1 | 30 | 59 | 1 22 | 2 9 | 3 24 | 5 5 | 18 0 | | | | | | | | | | | | | | | | | | | |
| 170 | 1 | 32 | 1 2 | 1 28 | 2 21 | 3 58 | 6 36 | | | | | | | | | | | | | | | | | | | | |
| 172 | 1 | 33 | 1 4 | 1 34 | 2 36 | 4 45 | 8 36 | | | | | | | | | | | | | | | | | | | | |
| 174 | 1 | 34 | 1 6 | 1 41 | 2 55 | 5 36 | 18 0 | | | | | | | | | | | | | | | | | | | | |
| 176 | 1 | 35 | 1 9 | 1 50 | 3 19 | 6 36 | | | | | | | | | | | | | | | | | | | | | |
| 178 | 1 | 36 | 1 12 | 2 0 | 3 45 | 8 36 | | | | | | | | | | | | | | | | | | | | | |
| 180 | 1 | 38 | 1 15 | 2 12 | 4 19 | 18 0 | | | | | | | | | | | | | | | | | | | | | |

| Height of the eye in feet | Dip of the Horizon | Height of the eye in feet | Dip of the Horizon | Height of the eye in feet | Dip of the Horizon |
|---|---|---|---|---|---|
| | ′ ″ | | ′ ″ | | ′ ″ |
| 1 | 0. 59 | 38 | 6. 4 | 143 | 11. 46 |
| 2 | 1. 24 | 41 | 6. 18 | 146 | 11. 54 |
| 3 | 1. 42 | 44 | 6. 32 | 149 | 12. 1 |
| 4 | 1. 58 | 47 | 6. 45 | 152 | 12. 8 |
| 5 | 2. 12 | 50 | 6. 58 | 155 | 12. 15 |
| 6 | 2. 25 | 53 | 7. 10 | 158 | 12. 22 |
| 7 | 2. 36 | 56 | 7. 22 | 161 | 12. 29 |
| 8 | 2. 47 | 59 | 7. 34 | 164 | 12. 36 |
| 9 | 2. 57 | 62 | 7. 45 | 167 | 12. 43 |
| 10 | 3. 7 | 65 | 7. 56 | 170 | 12. 50 |
| 11 | 3. 16 | 68 | 8. 7 | 173 | 12. 57 |
| 12 | 3. 25 | 71 | 8. 18 | 176 | 13. 4 |
| 13 | 3. 33 | 74 | 8. 28 | 179 | 13. 10 |
| 14 | 3. 41 | 77 | 8. 38 | 182 | 13. 17 |
| 15 | 3. 49 | 80 | 8. 48 | 185 | 13. 23 |
| 16 | 3. 56 | 83 | 8. 58 | 188 | 13. 30 |
| 17 | 4. 4 | 86 | 9. 8 | 191 | 13. 36 |
| 18 | 4. 11 | 89 | 9. 17 | 194 | 13. 43 |
| 19 | 4. 17 | 92 | 9. 26 | 197 | 13. 49 |
| 20 | 4. 24 | 95 | 9. 36 | 200 | 13. 55 |
| 21 | 4. 31 | 98 | 9. 45 | 203 | 14. 2 |
| 22 | 4. 37 | 101 | 9. 54 | 206 | 14. 8 |
| 23 | 4. 43 | 104 | 10. 2 | 209 | 14. 14 |
| 24 | 4. 49 | 107 | 10. 11 | 212 | 14. 20 |
| 25 | 4. 55 | 110 | 10. 19 | 215 | 14. 26 |
| 26 | 5. 1 | 113 | 10. 28 | 218 | 14. 32 |
| 27 | 5. 7 | 116 | 10. 36 | 221 | 14. 38 |
| 28 | 5. 13 | 119 | 10. 44 | 224 | 14. 44 |
| 29 | 5. 18 | 122 | 10. 52 | 227 | 14. 50 |
| 30 | 5. 24 | 125 | 11. 00 | 230 | 14. 56 |
| 31 | 5. 29 | 128 | 11. 8 | 233 | 15. 2 |
| 32 | 5. 34 | 131 | 11. 16 | 236 | 15. 7 |
| 33 | 5. 39 | 134 | 11. 24 | 239 | 15. 13 |
| 34 | 5. 44 | 137 | 11. 31 | 242 | 15. 19 |
| 35 | 5. 49 | 140 | 11. 39 | 245 | 15. 25 |

T. III. Dips of the Sea at different Diſtances from the Obſerver.

| Diſtance in Miles | Height of the eye above the Sea in Feet. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 |
| | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| ¼ | 11 | 22 | 34 | 45 | 56 | 68 | 79 | 90 |
| ½ | 6 | 11 | 17 | 22 | 28 | 34 | 39 | 45 |
| ¾ | 4 | 8 | 12 | 15 | 19 | 23 | 27 | 30 |
| 1 | 4 | 6 | 9 | 12 | 15 | 17 | 20 | 23 |
| 1¼ | 3 | 5 | 7 | 9 | 12 | 14 | 16 | 19 |
| 1½ | 3 | 4 | 6 | 8 | 10 | 12 | 14 | 15 |
| 1¾ | 2 | 3 | 5 | 6 | 8 | 10 | 11 | 12 |
| 2 | 2 | 3 | 5 | 6 | 7 | 8 | 9 | 10 |
| 2½ | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 3 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 3½ | 2 | 3 | 4 | 5 | 6 | 6 | 7 | 7 |
| 4 | 2 | 3 | 4 | 4 | 5 | 6 | 7 | 7 |
| 5 | 2 | 3 | 4 | 4 | 5 | 5 | 6 | 6 |
| 6 | 2 | 3 | 4 | 4 | 5 | 5 | 6 | 6 |

| Appar. Alt. | * Correct. | ⊙ Correct. | Diff. to 10′ |
|---|---|---|---|
| ° ′ | ′ ″ | ′ ″ | ″ |
| 0. 0 | 33. 0 | 32. 51 | 100 |
| 5 | 32. 10 | 32. 1 | 60 |
| 10 | 31. 22 | 31. 13 | 64 |
| 15 | 30. 35 | 30. 26 | 90 |
| 20 | 29. 50 | 29. 41 | 90 |
| 25 | 29. 5 | 28. 56 | 86 |
| 0. 30 | 28. 22 | 28. 14 | 84 |
| 35 | 27. 40 | 27. 32 | 80 |
| 40 | 27. 0 | 26. 51 | 80 |
| 45 | 26. 20 | 26. 11 | 76 |
| 50 | 25. 42 | 25. 33 | 74 |
| 55 | 25. 5 | 24. 56 | 72 |
| 1. 0 | 24. 29 | 24. 20 | 70 |
| 5 | 23. 54 | 23. 45 | 68 |
| 10 | 23. 20 | 23. 11 | 66 |
| 15 | 22. 47 | 22. 38 | 64 |
| 20 | 22. 15 | 22. 6 | 62 |
| 25 | 21. 44 | 21. 35 | 58 |
| 1. 30 | 21. 15 | 21. 6 | 58 |
| 35 | 20. 46 | 20. 37 | 56 |
| 40 | 20. 18 | 20. 9 | 54 |
| 45 | 19. 51 | 19. 42 | 52 |
| 50 | 19. 25 | 19. 16 | 50 |
| 55 | 19. 0 | 18. 51 | 50 |
| 2. 0 | 18. 35 | 18. 26 | 48 |
| 5 | 18. 11 | 18. 2 | 46 |
| 10 | 17. 48 | 17. 39 | 44 |
| 15 | 17. 26 | 17. 17 | 44 |
| 20 | 17. 4 | 16. 55 | 40 |
| 25 | 16. 44 | 16. 35 | 40 |
| 2. 30 | 16. 24 | 16. 15 | 40 |
| 35 | 16. 4 | 15. 55 | 38 |
| 40 | 15. 45 | 15. 36 | 36 |
| 45 | 15. 27 | 15. 18 | 36 |
| 50 | 15. 9 | 15. 0 | 34 |
| 55 | 14. 53 | 14. 43 | 32 |
| 3. 0 | 14. 36 | 14. 26 | 32 |
| 5 | 14. 20 | 14. 11 | 32 |
| 10 | 14. 4 | 13. 55 | 30 |
| 15 | 13. 48 | 13. 40 | 30 |
| 20 | 13. 34 | 13. 25 | 28 |
| 25 | 13. 21 | 13. 11 | 26 |
| 3. 30 | 13. 6 | 12. 57 | 28 |
| 35 | 12. 52 | 12. 43 | 26 |
| 40 | 12. 39 | 12. 30 | 26 |
| 45 | 12. 26 | 12. 17 | 24 |
| 50 | 12. 14 | 12. 5 | 24 |
| 55 | 12. 2 | 11. 53 | 24 |
| 4. 0 | 11. 50 | 11. 41 | 22 |
| 5 | 11. 38 | 11. 30 | 22 |
| 10 | 11. 28 | 11. 19 | 22 |
| 15 | 11. 17 | 11. 8 | 20 |
| 20 | 11. 7 | 10. 58 | 20 |
| 25 | 10. 57 | 10. 48 | 20 |
| 4. 30 | 10. 47 | 10. 38 | 20 |
| 35 | 10. 37 | 10. 28 | 18 |
| 40 | 10. 28 | 10. 19 | 18 |
| 45 | 10. 19 | 10. 10 | 18 |
| 50 | 10. 10 | 10. 1 | 18 |
| 55 | 10. 1 | 9. 52 | 18 |

| Appar. Alt. | * Correct. | ⊙ Correct. |
|---|---|---|
| ° ′ | ′ ″ | ′ ″ |
| 5. 0 | 9. 53 | 9. 44 |
| 1 | 9. 51 | 9. 42 |
| 2 | 9. 50 | 9. 41 |
| 3 | 9. 48 | 9. 39 |
| 4 | 9. 47 | 9. 38 |
| 5 | 9. 45 | 9. 36 |
| 5. 6 | 9. 43 | 9. 34 |
| 7 | 9. 42 | 9. 33 |
| 8 | 9. 40 | 9. 31 |
| 9 | 9. 39 | 9. 30 |
| 10 | 9. 37 | 9. 28 |
| 11 | 9. 35 | 9. 26 |
| 5. 12 | 9. 34 | 9. 25 |
| 13 | 9. 32 | 9. 23 |
| 14 | 9. 31 | 9. 22 |
| 15 | 9. 29 | 9. 20 |
| 16 | 9. 27 | 9. 18 |
| 17 | 9. 26 | 9. 17 |
| 5. 18 | 9. 24 | 9. 15 |
| 19 | 9. 23 | 9. 14 |
| 20 | 9. 21 | 9. 13 |
| 21 | 9. 20 | 9. 11 |
| 22 | 9. 18 | 9. 9 |
| 23 | 9. 17 | 9. 8 |
| 5. 24 | 9. 15 | 9. 6 |
| 25 | 9. 14 | 9. 5 |
| 26 | 9. 13 | 9. 4 |
| 27 | 9. 11 | 9. 2 |
| 28 | 9. 10 | 9. 1 |
| 29 | 9. 8 | 8. 59 |
| 5. 30 | 9. 7 | 8. 58 |
| 31 | 9. 6 | 8. 57 |
| 32 | 9. 4 | 8. 55 |
| 33 | 9. 3 | 8. 54 |
| 34 | 9. 1 | 8. 52 |
| 35 | 9. 0 | 8. 51 |
| 5. 36 | 8. 59 | 8. 50 |
| 37 | 8. 57 | 8. 48 |
| 38 | 8. 56 | 8. 47 |
| 39 | 8. 54 | 8. 45 |
| 40 | 8. 53 | 8. 44 |
| 41 | 8. 52 | 8. 43 |
| 5. 42 | 8. 50 | 8. 41 |
| 43 | 8. 49 | 8. 40 |
| 44 | 8. 47 | 8. 38 |
| 45 | 8. 46 | 8. 37 |
| 46 | 8. 45 | 8. 36 |
| 47 | 8. 43 | 8. 34 |
| 5. 48 | 8. 42 | 8. 33 |
| 49 | 8. 41 | 8. 32 |
| 50 | 8. 39 | 8. 31 |
| 51 | 8. 38 | 8. 29 |
| 52 | 8. 37 | 8. 28 |
| 53 | 8. 35 | 8. 26 |
| 5. 54 | 8. 34 | 8. 25 |
| 55 | 8. 33 | 8. 24 |
| 56 | 8. 32 | 8. 23 |
| 57 | 8. 31 | 8. 22 |
| 58 | 8. 29 | 8. 20 |
| 59 | 8. 28 | 8. 19 |

| Appar. Alt. | * Correct. | ⊙ Correct. |
|---|---|---|
| ° ′ | ′ ″ | ′ ″ |
| 6. 0 | 8. 27 | 8. 18 |
| 1 | 8. 26 | 8. 17 |
| 2 | 8. 25 | 8. 16 |
| 3 | 8. 23 | 8. 14 |
| 4 | 8. 22 | 8. 13 |
| 5 | 8. 21 | 8. 12 |
| 6. 6 | 8. 20 | 8. 11 |
| 7 | 8. 19 | 8. 10 |
| 8 | 8. 17 | 8. 8 |
| 9 | 8. 16 | 8. 7 |
| 10 | 8. 15 | 8. 6 |
| 11 | 8. 14 | 8. 5 |
| 6. 12 | 8. 13 | 8. 4 |
| 13 | 8. 11 | 8. 2 |
| 14 | 8. 10 | 8. 1 |
| 15 | 8. 9 | 8. 0 |
| 16 | 8. 8 | 7. 59 |
| 17 | 8. 7 | 7. 58 |
| 6. 18 | 8. 5 | 7. 56 |
| 19 | 8. 4 | 7. 55 |
| 20 | 8. 3 | 7. 54 |
| 21 | 8. 2 | 7. 53 |
| 22 | 8. 1 | 7. 52 |
| 23 | 8. 0 | 7. 51 |
| 6. 24 | 7. 59 | 7. 50 |
| 25 | 7. 57 | 7. 48 |
| 26 | 7. 56 | 7. 47 |
| 27 | 7. 55 | 7. 46 |
| 28 | 7. 54 | 7. 45 |
| 29 | 7. 53 | 7. 44 |
| 6. 30 | 7. 52 | 7. 43 |
| 31 | 7. 51 | 7. 42 |
| 32 | 7. 50 | 7. 41 |
| 33 | 7. 49 | 7. 40 |
| 34 | 7. 48 | 7. 39 |
| 35 | 7. 46 | 7. 37 |
| 6. 36 | 7. 45 | 7. 36 |
| 37 | 7. 44 | 7. 35 |
| 38 | 7. 43 | 7. 34 |
| 39 | 7. 42 | 7. 33 |
| 40 | 7. 41 | 7. 32 |
| 41 | 7. 40 | 7. 31 |
| 6. 42 | 7. 39 | 7. 30 |
| 43 | 7. 38 | 7. 29 |
| 44 | 7. 37 | 7. 28 |
| 45 | 7. 36 | 7. 27 |
| 46 | 7. 35 | 7. 26 |
| 47 | 7. 34 | 7. 25 |
| 6. 48 | 7. 33 | 7. 24 |
| 49 | 7. 32 | 7. 23 |
| 50 | 7. 31 | 7. 22 |
| 51 | 7. 30 | 7. 21 |
| 52 | 7. 29 | 7. 20 |
| 53 | 7. 28 | 7. 19 |
| 6. 54 | 7. 27 | 7. 18 |
| 55 | 7. 26 | 7. 17 |
| 56 | 7. 25 | 7. 16 |
| 57 | 7. 24 | 7. 15 |
| 58 | 7. 23 | 7. 14 |
| 59 | 7. 22 | 7. 13 |

| Appar. Alt. | * Correct. | ⊙ Correct. |
|---|---|---|
| ° ′ | ′ ″ | ′ ″ |
| 7. 0 | 7. 21 | 7. 12 |
| 1 | 7. 20 | 7. 11 |
| 2 | 7. 19 | 7. 10 |
| 3 | 7. 18 | 7. 9 |
| 4 | 7. 17 | 7. 8 |
| 5 | 7. 16 | 7. 7 |
| 7. 6 | 7. 16 | 7. 7 |
| 7 | 7. 15 | 7. 6 |
| 8 | 7. 14 | 7. 5 |
| 9 | 7. 13 | 7. 4 |
| 10 | 7. 12 | 7. 3 |
| 11 | 7. 11 | 7. 2 |
| 7. 12 | 7. 10 | 7. 1 |
| 13 | 7. 9 | 7. 0 |
| 14 | 7. 8 | 6. 59 |
| 15 | 7. 7 | 6. 58 |
| 16 | 7. 7 | 6. 58 |
| 17 | 7. 6 | 6. 57 |
| 7. 18 | 7. 5 | 6. 56 |
| 19 | 7. 4 | 6. 55 |
| 20 | 7. 3 | 6. 54 |
| 21 | 7. 2 | 6. 53 |
| 22 | 7. 1 | 6. 52 |
| 23 | 7. 0 | 6. 51 |
| 7. 24 | 6. 59 | 6. 50 |
| 25 | 6. 58 | 6. 49 |
| 26 | 6. 58 | 6. 49 |
| 27 | 6. 57 | 6. 48 |
| 28 | 6. 56 | 6. 47 |
| 29 | 6. 55 | 6. 46 |
| 7. 30 | 6. 54 | 6. 45 |
| 31 | 6. 53 | 6. 44 |
| 32 | 6. 52 | 6. 43 |
| 33 | 6. 52 | 6. 43 |
| 34 | 6. 51 | 6. 42 |
| 35 | 6. 50 | 6. 41 |
| 7. 36 | 6. 49 | 6. 40 |
| 37 | 6. 49 | 6. 39 |
| 38 | 6. 48 | 6. 39 |
| 39 | 6. 47 | 6. 38 |
| 40 | 6. 46 | 6. 37 |
| 41 | 6. 45 | 6. 36 |
| 7. 42 | 6. 44 | 6. 35 |
| 43 | 6. 44 | 6. 35 |
| 44 | 6. 43 | 6. 34 |
| 45 | 6. 42 | 6. 33 |
| 46 | 6. 41 | 6. 32 |
| 47 | 6. 41 | 6. 31 |
| 7. 48 | 6. 40 | 6. 31 |
| 49 | 6. 39 | 6. 30 |
| 50 | 6. 38 | 6. 29 |
| 51 | 6. 37 | 6. 28 |
| 52 | 6. 36 | 6. 27 |
| 53 | 6. 36 | 6. 27 |
| 7. 54 | 6. 35 | 6. 26 |
| 55 | 6. 34 | 6. 25 |
| 56 | 6. 33 | 6. 24 |
| 57 | 6. 33 | 6. 23 |
| 58 | 6. 32 | 6. 23 |
| 59 | 6. 31 | 6. 22 |

| Appar. Alt. | * Correct. | ⊙ Correct. |
|---|---|---|
| ° ′ | ′ ″ | ′ ″ |
| 8. 0 | 6. 30 | 6. 21 |
| 1 | 6. 29 | 6. 20 |
| 2 | 6. 28 | 6. 20 |
| 3 | 6. 28 | 6. 19 |
| 4 | 6. 27 | 6. 18 |
| 5 | 6. 26 | 6. 17 |
| 8. 6 | 6. 25 | 6. 17 |
| 7 | 6. 24 | 6. 16 |
| 8 | 6. 24 | 6. 15 |
| 9 | 6. 23 | 6. 15 |
| 10 | 6. 22 | 6. 14 |
| 11 | 6. 21 | 6. 13 |
| 8. 12 | 6. 21 | 6. 12 |
| 13 | 6. 20 | 6. 12 |
| 14 | 6. 19 | 6. 11 |
| 15 | 6. 18 | 6. 10 |
| 16 | 6. 18 | 6. 9 |
| 17 | 6. 17 | 6. 8 |
| 8. 18 | 6. 16 | 6. 8 |
| 19 | 6. 16 | 6. 7 |
| 20 | 6. 15 | 6. 6 |
| 21 | 6. 14 | 6. 5 |
| 22 | 6. 14 | 6. 5 |
| 23 | 6. 13 | 6. 4 |
| 8. 24 | 6. 12 | 6. 3 |
| 25 | 6. 11 | 6. 2 |
| 26 | 6. 11 | 6. 2 |
| 27 | 6. 10 | 6. 1 |
| 28 | 6. 9 | 6. 0 |
| 29 | 6. 9 | 6. 0 |
| 8. 30 | 6. 8 | 5. 59 |
| 31 | 6. 7 | 5. 58 |
| 32 | 6. 7 | 5. 58 |
| 33 | 6. 6 | 5. 57 |
| 34 | 6. 5 | 5. 57 |
| 35 | 6. 4 | 5. 56 |
| 8. 36 | 6. 4 | 5. 55 |
| 37 | 6. 3 | 5. 55 |
| 38 | 6. 2 | 5. 54 |
| 39 | 6. 2 | 5. 54 |
| 40 | 6. 1 | 5. 53 |
| 41 | 6. 0 | 5. 52 |
| 8. 42 | 6. 0 | 5. 52 |
| 43 | 5. 59 | 5. 51 |
| 44 | 5. 59 | 5. 50 |
| 45 | 5. 58 | 5. 49 |
| 46 | 5. 57 | 5. 49 |
| 47 | 5. 57 | 5. 48 |
| 8. 48 | 5. 56 | 5. 47 |
| 49 | 5. 56 | 5. 47 |
| 50 | 5. 55 | 5. 46 |
| 51 | 5. 54 | 5. 45 |
| 52 | 5. 54 | 5. 45 |
| 53 | 5. 53 | 5. 44 |
| 8. 54 | 5. 53 | 5. 44 |
| 55 | 5. 52 | 5. 43 |
| 56 | 5. 51 | 5. 42 |
| 57 | 5. 51 | 5. 42 |
| 58 | 5. 50 | 5. 41 |
| 59 | 5. 50 | 5. 41 |

| Appar. Alt. | * Correct | ⊙ Correct |
|---|---|---|
| ° ′ | ′ ″ | ′ ″ |
| 9. 0 | 5. 49 | 5. 40 |
| 2 | 5. 48 | 5. 39 |
| 4 | 5. 47 | 5. 38 |
| 6 | 5. 45 | 5. 36 |
| 8 | 5. 44 | 5. 35 |
| 10 | 5. 43 | 5. 34 |
| 9. 12 | 5. 42 | 5. 33 |
| 14 | 5. 41 | 5. 32 |
| 16 | 5. 39 | 5. 30 |
| 18 | 5. 38 | 5. 29 |
| 20 | 5. 37 | 5. 28 |
| 22 | 5. 36 | 5. 27 |
| 9. 24 | 5. 35 | 5. 26 |
| 26 | 5. 33 | 5. 24 |
| 28 | 5. 32 | 5. 23 |
| 30 | 5. 31 | 5. 22 |
| 32 | 5. 30 | 5. 21 |
| 34 | 5. 29 | 5. 20 |
| 9. 36 | 5. 28 | 5. 19 |
| 38 | 5. 27 | 5. 18 |
| 40 | 5. 26 | 5. 17 |
| 42 | 5. 25 | 5. 16 |
| 44 | 5. 24 | 5. 15 |
| 46 | 5. 22 | 5. 14 |
| 9. 48 | 5. 21 | 5. 13 |
| 50 | 5. 20 | 5. 12 |
| 52 | 5. 19 | 5. 11 |
| 54 | 5. 18 | 5. 10 |
| 56 | 5. 17 | 5. 8 |
| 58 | 5. 16 | 5. 7 |
| 10. 0 | 5. 15 | 5. 6 |
| 2 | 5. 14 | 5. 5 |
| 4 | 5. 13 | 5. 4 |
| 6 | 5. 12 | 5. 3 |
| 8 | 5. 11 | 5. 2 |
| 10 | 5. 10 | 5. 1 |
| 10. 12 | 5. 9 | 5. 0 |
| 14 | 5. 8 | 4. 59 |
| 16 | 5. 7 | 4. 58 |
| 18 | 5. 6 | 4. 57 |
| 20 | 5. 5 | 4. 56 |
| 22 | 5. 5 | 4. 55 |
| 10. 24 | 5. 4 | 4. 54 |
| 26 | 5. 3 | 4. 53 |
| 28 | 5. 2 | 4. 52 |
| 30 | 5. 1 | 4. 51 |
| 32 | 5. 0 | 4. 51 |
| 34 | 4. 59 | 4. 50 |
| 10. 36 | 4. 58 | 4. 49 |
| 38 | 4. 57 | 4. 48 |
| 40 | 4. 56 | 4. 47 |
| 42 | 4. 55 | 4. 47 |
| 44 | 4. 54 | 4. 46 |
| 46 | 4. 53 | 4. 45 |
| 10. 48 | 4. 52 | 4. 44 |
| 50 | 4. 51 | 4. 43 |
| 52 | 4. 51 | 4. 42 |
| 54 | 4. 50 | 4. 41 |
| 56 | 4. 49 | 4. 40 |
| 58 | 4. 48 | 4. 39 |

| Appar. Alt. | ✱ Corrn | ☉ Corrn | Appar. Alt. | ✱ Corrn | ☉ Corrn | Appar. Alt. | ✱ Corrn | ☉ Corrn | Appar. Alt. | ✱ Corrn | ☉ Corrn | Appar. Alt. | ✱ Corrn | ☉ Corrn | Appar. Alt. | ✱ Corrn | ☉ Corrn |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ° ′ | ′ ″ | ′ ″ | ° ′ | ′ ″ | ′ ″ | ° ′ | ′ ″ | ′ ″ | ° ′ | ′ ″ | ′ ″ | ° ′ | ′ ″ | ′ ″ | ° ′ | ′ ″ | ′ ″ |
| 11. 0 | 4. 47 | 4. 38 | 13. 0 | 4. 1 | 3. 51 | 17. 0 | 3. 31 | 3. 21 | 21. 0 | 2. 3 | 2. 0 | 25. 0 | 1. 36 | 1. 32 | 30. 0 | 0. 48 | 0. 46 |
| 2 | 4. 46 | 4. 37 | 2 | 4. 0 | 3. 50 | 10 | 3. 30 | 3. 20 | 10 | 2. 2 | 1. 59 | 2 | 1. 35 | 1. 31 | 30 | 0. 47 | 0. 45 |
| 4 | 4. 45 | 4. 36 | 4 | 3. 59 | 3. 49 | 20 | 3. 29 | 3. 19 | 20 | 2. 1 | 1. 58 | 4 | 1. 34 | 1. 30 | 31. 0 | 0. 46 | 0. 44 |
| 6 | 4. 45 | 4. 36 | 6 | 3. 58 | 3. 48 | 30 | 3. 28 | 3. 18 | 30 | 2. 0 | 1. 57 | 26. 0 | 1. 33 | 1. 29 | 30 | 0. 45 | 0. 43 |
| 8 | 4. 44 | 4. 35 | 8 | 3. 57 | 3. 47 | 40 | 3. 27 | 3. 17 | 40 | 1. 59 | 1. 56 | 2 | 1. 32 | 1. 28 | 32. 0 | 0. 44 | 0. 42 |
| 10 | 4. 43 | 4. 34 | 10 | 3. 56 | 3. 46 | 50 | 3. 26 | 3. 16 | 50 | 1. 58 | 1. 55 | 4 | 1. 31 | 1. 27 | 30 | 0. 43 | 0. 41 |
| 11. 12 | 4. 42 | 4. 33 | 13. 12 | 3. 56 | 3. 46 | 18. 0 | 3. 25 | 3. 15 | 22. 0 | 1. 57 | 1. 54 | 26. 0 | 1. 30 | 1. 26 | 34. 0 | 0. 42 | 0. 40 |
| 14 | 4. 41 | 4. 32 | 14 | 3. 55 | 3. 45 | 10 | 3. 24 | 3. 14 | 10 | 1. 56 | 1. 53 | 2 | 1. 29 | 1. 25 | 30 | 0. 41 | 0. 39 |
| 16 | 4. 41 | 4. 31 | 16 | 3. 54 | 3. 44 | 20 | 3. 23 | 3. 13 | 20 | 1. 55 | 1. 52 | 4 | 1. 28 | 1. 24 | 36. 0 | 0. 40 | 0. 38 |
| 18 | 4. 40 | 4. 31 | 18 | 3. 53 | 3. 43 | 30 | 3. 22 | 3. 12 | 30 | 1. 54 | 1. 51 | 28. 0 | 1. 27 | 1. 23 | 30 | 0. 39 | 0. 37 |
| 20 | 4. 39 | 4. 30 | 20 | 3. 52 | 3. 42 | 40 | 3. 21 | 3. 11 | 40 | 1. 53 | 1. 50 | 2 | 1. 26 | 1. 22 | 38. 0 | 0. 38 | 0. 36 |
| 22 | 4. 38 | 4. 29 | 22 | 3. 51 | 3. 41 | 50 | 3. 20 | 3. 10 | 50 | 1. 52 | 1. 49 | 4 | 1. 25 | 1. 21 | 30 | 0. 37 | 0. 35 |
| 11. 24 | 4. 37 | 4. 28 | 13. 24 | 3. 50 | 3. 40 | 19. 0 | 3. 19 | 3. 9 | 23. 0 | 1. 51 | 1. 48 | 30. 0 | 1. 24 | 1. 20 | 40. 0 | 0. 36 | 0. 34 |
| 26 | 4. 37 | 4. 28 | 26 | 3. 50 | 3. 40 | 10 | 3. 18 | 3. 8 | 10 | 1. 50 | 1. 47 | 2 | 1. 23 | 1. 19 | 30 | 0. 35 | 0. 33 |
| 28 | 4. 36 | 4. 27 | 28 | 3. 49 | 3. 39 | 20 | 3. 17 | 3. 7 | 20 | 1. 49 | 1. 46 | 4 | 1. 22 | 1. 18 | 42. 0 | 0. 34 | 0. 32 |
| 30 | 4. 35 | 4. 26 | 30 | 3. 48 | 3. 38 | 30 | 3. 16 | 3. 6 | 30 | 1. 48 | 1. 45 | 32. 0 | 1. 21 | 1. 17 | 30 | 0. 33 | 0. 31 |
| 32 | 4. 34 | 4. 25 | 32 | 3. 47 | 3. 37 | 40 | 3. 15 | 3. 5 | 40 | 1. 47 | 1. 44 | 2 | 1. 20 | 1. 16 | 44. 0 | 0. 32 | 0. 30 |
| 34 | 4. 33 | 4. 24 | 34 | 3. 46 | 3. 36 | 50 | 3. 14 | 3. 4 | 50 | 1. 46 | 1. 43 | 4 | 1. 19 | 1. 15 | 30 | 0. 31 | 0. 29 |
| 11. 36 | 4. 33 | 4. 24 | 13. 36 | 3. 45 | 3. 35 | 20. 0 | 3. 13 | 3. 3 | 24. 0 | 1. 45 | 1. 42 | 34. 0 | 1. 18 | 1. 14 | 46. 0 | 0. 30 | 0. 28 |
| 38 | 4. 32 | 4. 23 | 38 | 3. 45 | 3. 35 | 10 | 3. 12 | 3. 2 | 10 | 1. 44 | 1. 41 | 2 | 1. 17 | 1. 13 | 30 | 0. 29 | 0. 27 |
| 40 | 4. 31 | 4. 22 | 40 | 3. 44 | 3. 34 | 20 | 3. 11 | 3. 1 | 20 | 1. 43 | 1. 40 | 4 | 1. 16 | 1. 12 | 48. 0 | 0. 28 | 0. 26 |
| 42 | 4. 30 | 4. 21 | 42 | 3. 43 | 3. 33 | 30 | 3. 10 | 3. 0 | 30 | 1. 42 | 1. 39 | 36. 0 | 1. 15 | 1. 11 | 30 | 0. 27 | 0. 25 |
| 44 | 4. 29 | 4. 20 | 44 | 3. 42 | 3. 32 | 40 | 3. 9 | 2. 59 | 40 | 1. 41 | 1. 38 | 2 | 1. 14 | 1. 10 | 50. 0 | 0. 26 | 0. 24 |
| 46 | 4. 28 | 4. 20 | 46 | 3. 41 | 3. 31 | 50 | 3. 8 | 2. 58 | 50 | 1. 40 | 1. 37 | 4 | 1. 13 | 1. 9 | 30 | 0. 25 | 0. 23 |
| 11. 48 | 4. 28 | 4. 19 | 13. 48 | 3. 40 | 3. 30 | 21. 0 | 3. 7 | 2. 57 | 25. 0 | 1. 39 | 1. 36 | 38. 0 | 1. 12 | 1. 8 | 52. 0 | 0. 24 | 0. 22 |
| 50 | 4. 27 | 4. 18 | 50 | 3. 40 | 3. 30 | 10 | 3. 6 | 2. 56 | 10 | 1. 38 | 1. 35 | 2 | 1. 11 | 1. 7 | 30 | 0. 23 | 0. 21 |
| 52 | 4. 26 | 4. 17 | 52 | 3. 39 | 3. 29 | 20 | 3. 5 | 2. 55 | 20 | 1. 37 | 1. 34 | 4 | 1. 11 | 1. 6 | 54. 0 | 0. 22 | 0. 20 |
| 54 | 4. 25 | 4. 16 | 54 | 3. 38 | 3. 28 | 30 | 3. 4 | 2. 54 | 30 | 1. 36 | 1. 33 | 40. 0 | 1. 10 | 1. 5 | 30 | 0. 21 | 0. 19 |
| 56 | 4. 25 | 4. 16 | 56 | 3. 37 | 3. 28 | 40 | 3. 3 | 2. 53 | 40 | 1. 35 | 1. 32 | 2 | 1. 9 | 1. 4 | 56. 0 | 0. 20 | 0. 18 |
| 58 | 4. 24 | 4. 15 | 58 | 3. 36 | 3. 27 | 50 | 3. 2 | 2. 52 | 50 | 1. 34 | 1. 31 | 4 | 1. 8 | 1. 3 | 30 | 0. 19 | 0. 17 |
| 12. 0 | 4. 23 | 4. 14 | 14. 0 | 3. 36 | 3. 27 | 22. 0 | 3. 1 | 2. 51 | 26. 0 | 1. 33 | 1. 30 | 42. 0 | 1. 7 | 1. 2 | 58. 0 | 0. 18 | 0. 16 |
| 2 | 4. 22 | 4. 13 | 2 | 3. 35 | 3. 26 | 10 | 3. 0 | 2. 50 | 10 | 1. 32 | 1. 29 | 2 | 1. 6 | 1. 1 | 31 | 0. 17 | 0. 15 |
| 4 | 4. 21 | 4. 13 | 4 | 3. 34 | 3. 25 | 20 | 2. 59 | 2. 49 | 20 | 1. 31 | 1. 28 | 4 | 1. 5 | 1. 0 | 0. 0 | 0. 16 | 0. 14 |
| 6 | 4. 21 | 4. 12 | 6 | 3. 34 | 3. 24 | 30 | 2. 58 | 2. 48 | 30 | 1. 30 | 1. 27 | 44. 0 | 1. 4 | 0. 59 | 2 | 0. 15 | 0. 13 |
| 8 | 4. 20 | 4. 11 | 8 | 3. 33 | 3. 23 | 40 | 2. 57 | 2. 47 | 40 | 1. 29 | 1. 26 | 2 | 1. 3 | 0. 58 | 4 | 0. 14 | 0. 12 |
| 10 | 4. 20 | 4. 11 | 10 | 3. 32 | 3. 23 | 50 | 2. 56 | 2. 46 | 50 | 1. 28 | 1. 25 | 4 | 1. 2 | 0. 57 | 31 | 0. 13 | 0. 11 |
| 12. 12 | 4. 19 | 4. 10 | 14. 12 | 3. 32 | 3. 22 | 23. 0 | 2. 55 | 2. 45 | 27. 0 | 1. 27 | 1. 24 | 44. 0 | 1. 1 | 0. 56 | 6 | 0. 12 | 0. 10 |
| 14 | 4. 18 | 4. 9 | 14 | 3. 31 | 3. 21 | 10 | 2. 54 | 2. 44 | 10 | 1. 26 | 1. 23 | 2 | 1. 0 | 0. 55 | 8 | 0. 11 | 0. 9 |
| 16 | 4. 17 | 4. 8 | 16 | 3. 30 | 3. 20 | 20 | 2. 53 | 2. 43 | 20 | 1. 25 | 1. 22 | 4 | 0. 59 | 0. 54 | 10 | 0. 10 | 0. 8 |
| 18 | 4. 17 | 4. 8 | 18 | 3. 30 | 3. 20 | 30 | 2. 52 | 2. 42 | 30 | 1. 24 | 1. 21 | 46. 0 | 0. 58 | 0. 53 | 12 | 0. 9 | 0. 7 |
| 20 | 4. 16 | 4. 7 | 20 | 3. 29 | 3. 19 | 40 | 2. 51 | 2. 41 | 40 | 1. 23 | 1. 20 | 2 | 0. 57 | 0. 52 | 14 | 0. 8 | 0. 6 |
| 22 | 4. 15 | 4. 6 | 22 | 3. 28 | 3. 18 | 50 | 2. 50 | 2. 40 | 50 | 1. 22 | 1. 19 | 4 | 0. 56 | 0. 51 | 16 | 0. 7 | 0. 5 |
| 12. 24 | 4. 15 | 4. 6 | 14. 24 | 3. 28 | 3. 18 | 24. 0 | 2. 49 | 2. 39 | 28. 0 | 1. 21 | 1. 18 | 46. 0 | 0. 55 | 0. 50 | 18 | 0. 6 | 0. 4 |
| 26 | 4. 14 | 4. 5 | 26 | 3. 27 | 3. 17 | 10 | 2. 48 | 2. 38 | 10 | 1. 20 | 1. 17 | 2 | 0. 54 | 0. 49 | 20 | 0. 5 | 0. 3 |
| 28 | 4. 14 | 4. 5 | 28 | 3. 26 | 3. 16 | 20 | 2. 47 | 2. 37 | 20 | 1. 19 | 1. 16 | 4 | 0. 53 | 0. 48 | 22 | 0. 4 | 0. 2 |
| 30 | 4. 13 | 4. 4 | 30 | 3. 25 | 3. 15 | 30 | 2. 46 | 2. 36 | 30 | 1. 18 | 1. 15 | 48. 0 | 0. 52 | 0. 47 | 24 | 0. 3 | 0. 1 |
| 32 | 4. 12 | 4. 3 | 32 | 3. 24 | 3. 14 | 40 | 2. 45 | 2. 35 | 40 | 1. 17 | 1. 14 | 2 | 0. 51 | 0. 46 | 26 | 0. 2 | 0. 0 |
| 34 | 4. 12 | 4. 3 | 34 | 3. 24 | 3. 14 | 50 | 2. 44 | 2. 34 | 50 | 1. 16 | 1. 13 | 4 | 0. 50 | 0. 45 | 28 | 0. 1 | 0. 0 |
| 12. 36 | 4. 11 | 4. 2 | 14. 36 | 3. 23 | 3. 13 | 25. 0 | 2. 43 | 2. 33 | 29. 0 | 1. 15 | 1. 12 | 48. 0 | 0. 49 | 0. 44 | 30 | 0. 0 | 0. 0 |
| 38 | 4. 11 | 4. 2 | 38 | 3. 22 | 3. 12 | 10 | 2. 42 | 2. 32 | 10 | 1. 14 | 1. 11 | 2 | 0. 48 | 0. 43 | 32 | 0. 0 | 0. 0 |
| 40 | 4. 10 | 4. 1 | 40 | 3. 21 | 3. 11 | 20 | 2. 41 | 2. 31 | 20 | 1. 13 | 1. 10 | 4 | 0. 47 | 0. 42 | 34 | 0. 0 | 0. 0 |
| 42 | 4. 9 | 4. 0 | 42 | 3. 20 | 3. 10 | 30 | 2. 40 | 2. 30 | 30 | 1. 12 | 1. 9 | 50. 0 | 0. 46 | 0. 41 | 36 | 0. 0 | 0. 0 |
| 44 | 4. 8 | 3. 59 | 44 | 3. 19 | 3. 9 | 40 | 2. 39 | 2. 29 | 40 | 1. 11 | 1. 8 | 2 | 0. 45 | 0. 40 | 38 | 0. 0 | 0. 0 |
| 46 | 4. 8 | 3. 59 | 46 | 3. 18 | 3. 8 | 50 | 2. 38 | 2. 28 | 50 | 1. 10 | 1. 7 | 4 | 0. 44 | 0. 39 | 40 | 0. 0 | 0. 0 |
| 12. 48 | 4. 7 | 3. 58 | 14. 48 | 3. 18 | 3. 8 | 26. 0 | 2. 37 | 2. 27 | 30. 0 | 1. 10 | 1. 7 | 50. 0 | 0. 43 | 0. 38 | 42 | 0. 0 | 0. 0 |
| 50 | 4. 6 | 3. 57 | 50 | 3. 17 | 3. 7 | 10 | 2. 36 | 2. 26 | 10 | 1. 9 | 1. 6 | 2 | 0. 42 | 0. 37 | 44 | 0. 0 | 0. 0 |
| 52 | 4. 5 | 3. 56 | 52 | 3. 16 | 3. 6 | 20 | 2. 35 | 2. 25 | 20 | 1. 8 | 1. 5 | 4 | 0. 41 | 0. 36 | 46 | 0. 0 | 0. 0 |
| 54 | 4. 5 | 3. 56 | 54 | 3. 15 | 3. 5 | 30 | 2. 34 | 2. 24 | 30 | 1. 7 | 1. 4 | 52. 0 | 0. 40 | 0. 35 | 48 | 0. 0 | 0. 0 |
| 56 | 4. 4 | 3. 55 | 56 | 3. 14 | 3. 4 | 40 | 2. 33 | 2. 23 | 40 | 1. 6 | 1. 3 | 2 | 0. 39 | 0. 34 | 50 | 0. 0 | 0. 0 |
| 58 | 4. 4 | 3. 55 | 58 | 3. 13 | 3. 3 | 50 | 2. 32 | 2. 22 | 50 | 1. 5 | 1. 2 | 4 | 0. 38 | 0. 33 | 52 | 0. 0 | 0. 0 |

## T. V. Numbers for reducing the Mean Refractions of the Heavenly Bodies to the actual Weight, and Temperature of the Atmosphere.

| Degrees of Reaumur's Thermometer | Degrees of Fahrenheit's Thermometer | Height of the Barometer in Inches and Tenths. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 29, 0 | 29, 1 | 29, 2 | 29, 3 | 29, 4 | 29, 5 | 29, 6 | 29, 7 | 29, 8 | 29, 9 | 30, 0 |
| Below the freezing point. | | | | | | | | | | | | |
| 5, 3 | 20 | 1, 059 | 1, 063 | 1, 067 | 1, 070 | 1, 074 | 1, 077 | 1, 081 | 1, 085 | 1, 088 | 1, 092 | 1, 096 |
| 4, 9 | 21 | 1, 056 | 1, 060 | 1, 064 | 1, 067 | 1, 071 | 1, 075 | 1, 078 | 1, 082 | 1, 085 | 1, 089 | 1, 093 |
| 4, 4 | 22 | 1, 054 | 1, 057 | 1, 061 | 1, 064 | 1, 068 | 1, 072 | 1, 075 | 1, 079 | 1, 083 | 1, 086 | 1, 090 |
| 4, 0 | 23 | 1, 051 | 1, 054 | 1, 058 | 1, 062 | 1, 065 | 1, 069 | 1, 072 | 1, 076 | 1, 080 | 1, 083 | 1, 087 |
| 3, 6 | 24 | 1, 048 | 1, 051 | 1, 055 | 1, 059 | 1, 062 | 1, 066 | 1, 070 | 1, 073 | 1, 077 | 1, 080 | 1, 084 |
| 3, 1 | 25 | 1, 045 | 1, 049 | 1, 052 | 1, 056 | 1, 060 | 1, 063 | 1, 067 | 1, 070 | 1, 074 | 1, 078 | 1, 081 |
| 2, 7 | 26 | 1, 042 | 1, 046 | 1, 049 | 1, 053 | 1, 057 | 1, 060 | 1, 064 | 1, 067 | 1, 071 | 1, 075 | 1, 078 |
| 2, 2 | 27 | 1, 040 | 1, 043 | 1, 047 | 1, 050 | 1, 054 | 1, 057 | 1, 061 | 1, 065 | 1, 068 | 1, 072 | 1, 075 |
| 1, 8 | 28 | 1, 037 | 1, 040 | 1, 044 | 1, 048 | 1, 051 | 1, 055 | 1, 058 | 1, 062 | 1, 065 | 1, 069 | 1, 073 |
| 1, 3 | 29 | 1, 034 | 1, 038 | 1, 041 | 1, 045 | 1, 048 | 1, 052 | 1, 055 | 1, 059 | 1, 062 | 1, 066 | 1, 070 |
| 0, 9 | 30 | 1, 031 | 1, 035 | 1, 038 | 1, 042 | 1, 046 | 1, 049 | 1, 053 | 1, 056 | 1, 060 | 1, 063 | 1, 067 |
| 0, 4 | 31 | 1, 029 | 1, 032 | 1, 036 | 1, 039 | 1, 043 | 1, 046 | 1, 050 | 1, 053 | 1, 057 | 1, 061 | 1, 064 |
| 0, 0 | 32 | 1, 026 | 1, 029 | 1, 033 | 1, 037 | 1, 040 | 1, 044 | 1, 047 | 1, 051 | 1, 054 | 1, 058 | 1, 061 |
| 0, 4 | 33 | 1, 023 | 1, 027 | 1, 030 | 1, 034 | 1, 037 | 1, 041 | 1, 044 | 1, 048 | 1, 051 | 1, 055 | 1, 059 |
| 0, 9 | 34 | 1, 021 | 1, 024 | 1, 028 | 1, 031 | 1, 035 | 1, 038 | 1, 042 | 1, 045 | 1, 049 | 1, 052 | 1, 056 |
| 1, 3 | 35 | 1, 018 | 1, 021 | 1, 025 | 1, 028 | 1, 032 | 1, 036 | 1, 039 | 1, 043 | 1, 046 | 1, 050 | 1, 053 |
| 1, 8 | 36 | 1, 015 | 1, 019 | 1, 022 | 1, 026 | 1, 029 | 1, 033 | 1, 036 | 1, 040 | 1, 043 | 1, 047 | 1, 050 |
| 2, 2 | 37 | 1, 013 | 1, 016 | 1, 020 | 1, 023 | 1, 027 | 1, 030 | 1, 034 | 1, 037 | 1, 041 | 1, 044 | 1, 048 |
| 2, 7 | 38 | 1, 010 | 1, 014 | 1, 017 | 1, 020 | 1, 024 | 1, 027 | 1, 031 | 1, 034 | 1, 038 | 1, 041 | 1, 045 |
| 3, 1 | 39 | 1, 007 | 1, 011 | 1, 014 | 1, 018 | 1, 021 | 1, 025 | 1, 028 | 1, 032 | 1, 035 | 1, 039 | 1, 042 |
| 3, 6 | 40 | 1, 005 | 1, 008 | 1, 012 | 1, 015 | 1, 019 | 1, 022 | 1, 026 | 1, 029 | 1, 033 | 1, 036 | 1, 040 |
| 4, 0 | 41 | 1, 002 | 1, 006 | 1, 009 | 1, 013 | 1, 016 | 1, 020 | 1, 023 | 1, 026 | 1, 030 | 1, 033 | 1, 037 |
| 4, 4 | 42 | 1, 000 | 1, 003 | 1, 007 | 1, 010 | 1, 014 | 1, 017 | 1, 020 | 1, 024 | 1, 027 | 1, 031 | 1, 034 |
| 4, 9 | 43 | 0, 997 | 1, 001 | 1, 004 | 1, 008 | 1, 011 | 1, 014 | 1, 018 | 1, 021 | 1, 025 | 1, 028 | 1, 032 |
| 5, 3 | 44 | 0, 995 | 0, 998 | 1, 002 | 1, 005 | 1, 008 | 1, 012 | 1, 015 | 1, 019 | 1, 022 | 1, 026 | 1, 029 |
| 5, 8 | 45 | 0, 992 | 0, 996 | 0, 999 | 1, 002 | 1, 006 | 1, 009 | 1, 013 | 1, 016 | 1, 020 | 1, 023 | 1, 026 |
| 6, 2 | 46 | 0, 990 | 0, 993 | 0, 996 | 1, 000 | 1, 003 | 1, 007 | 1, 010 | 1, 014 | 1, 017 | 1, 020 | 1, 024 |
| 6, 7 | 47 | 0, 987 | 0, 991 | 0, 994 | 0, 997 | 1, 001 | 1, 004 | 1, 008 | 1, 011 | 1, 014 | 1, 018 | 1, 021 |
| 7, 1 | 48 | 0, 985 | 0, 988 | 0, 991 | 0, 995 | 0, 998 | 1, 002 | 1, 005 | 1, 008 | 1, 012 | 1, 015 | 1, 019 |
| 7, 6 | 49 | 0, 982 | 0, 985 | 0, 989 | 0, 992 | 0, 996 | 0, 999 | 1, 003 | 1, 006 | 1, 009 | 1, 013 | 1, 016 |
| 8, 0 | 50 | 0, 980 | 0, 983 | 0, 986 | 0, 990 | 0, 993 | 0, 997 | 1, 000 | 1, 003 | 1, 007 | 1, 010 | 1, 014 |
| 8, 4 | 51 | 0, 977 | 0, 981 | 0, 984 | 0, 987 | 0, 991 | 0, 994 | 0, 997 | 1, 001 | 1, 004 | 1, 008 | 1, 011 |
| 8, 9 | 52 | 0, 975 | 0, 978 | 0, 981 | 0, 985 | 0, 988 | 0, 992 | 0, 995 | 0, 998 | 1, 002 | 1, 005 | 1, 008 |
| 9, 3 | 53 | 0, 972 | 0, 976 | 0, 979 | 0, 982 | 0, 986 | 0, 989 | 0, 992 | 0, 996 | 0, 999 | 1, 003 | 1, 006 |
| 9, 8 | 54 | 0, 970 | 0, 973 | 0, 977 | 0, 980 | 0, 983 | 0, 987 | 0, 990 | 0, 993 | 0, 997 | 1, 000 | 1, 004 |
| 10, 2 | 55 | 0, 968 | 0, 971 | 0, 974 | 0, 978 | 0, 981 | 0, 984 | 0, 988 | 0, 991 | 0, 994 | 0, 998 | 1, 001 |
| 10, 7 | 56 | 0, 965 | 0, 968 | 0, 972 | 0, 975 | 0, 978 | 0, 982 | 0, 985 | 0, 988 | 0, 992 | 0, 995 | 0, 998 |
| 11, 1 | 57 | 0, 963 | 0, 966 | 0, 969 | 0, 973 | 0, 976 | 0, 979 | 0, 983 | 0, 986 | 0, 989 | 0, 993 | 0, 996 |
| 11, 6 | 58 | 0, 960 | 0, 964 | 0, 967 | 0, 970 | 0, 974 | 0, 977 | 0, 980 | 0, 984 | 0, 987 | 0, 990 | 0, 994 |
| 12, 0 | 59 | 0, 958 | 0, 961 | 0, 965 | 0, 968 | 0, 971 | 0, 975 | 0, 978 | 0, 981 | 0, 985 | 0, 988 | 0, 991 |
| 12, 4 | 60 | 0, 956 | 0, 959 | 0, 962 | 0, 966 | 0, 969 | 0, 972 | 0, 976 | 0, 979 | 0, 982 | 0, 985 | 0, 989 |
| 12, 9 | 61 | 0, 953 | 0, 957 | 0, 960 | 0, 963 | 0, 967 | 0, 970 | 0, 973 | 0, 976 | 0, 980 | 0, 983 | 0, 986 |
| 13, 3 | 62 | 0, 951 | 0, 954 | 0, 958 | 0, 961 | 0, 964 | 0, 968 | 0, 971 | 0, 974 | 0, 977 | 0, 981 | 0, 984 |
| 13, 8 | 63 | 0, 949 | 0, 952 | 0, 955 | 0, 959 | 0, 962 | 0, 965 | 0, 968 | 0, 972 | 0, 975 | 0, 978 | 0, 982 |
| 14, 2 | 64 | 0, 947 | 0, 950 | 0, 953 | 0, 956 | 0, 960 | 0, 963 | 0, 966 | 0, 969 | 0, 973 | 0, 976 | 0, 979 |
| 14, 7 | 65 | 0, 944 | 0, 948 | 0, 951 | 0, 954 | 0, 957 | 0, 961 | 0, 964 | 0, 967 | 0, 970 | 0, 974 | 0, 977 |
| 15, 1 | 66 | 0, 942 | 0, 945 | 0, 948 | 0, 952 | 0, 955 | 0, 958 | 0, 961 | 0, 965 | 0, 968 | 0, 971 | 0, 974 |
| 15, 6 | 67 | 0, 940 | 0, 943 | 0, 946 | 0, 949 | 0, 953 | 0, 956 | 0, 959 | 0, 962 | 0, 965 | 0, 969 | 0, 972 |
| 16, 0 | 68 | 0, 937 | 0, 941 | 0, 944 | 0, 947 | 0, 950 | 0, 954 | 0, 957 | 0, 960 | 0, 963 | 0, 967 | 0, 970 |
| 16, 4 | 69 | 0, 935 | 0, 938 | 0, 942 | 0, 945 | 0, 948 | 0, 951 | 0, 955 | 0, 958 | 0, 961 | 0, 964 | 0, 968 |
| 16, 9 | 70 | 0, 933 | 0, 936 | 0, 939 | 0, 943 | 0, 946 | 0, 949 | 0, 952 | 0, 956 | 0, 959 | 0, 962 | 0, 965 |
| 17, 3 | 71 | 0, 931 | 0, 934 | 0, 937 | 0, 941 | 0, 944 | 0, 947 | 0, 950 | 0, 953 | 0, 956 | 0, 960 | 0, 963 |
| 17, 8 | 72 | 0, 928 | 0, 932 | 0, 935 | 0, 938 | 0, 942 | 0, 945 | 0, 948 | 0, 951 | 0, 954 | 0, 957 | 0, 961 |
| 18, 2 | 73 | 0, 926 | 0, 930 | 0, 933 | 0, 936 | 0, 939 | 0, 943 | 0, 946 | 0, 949 | 0, 952 | 0, 955 | 0, 958 |
| 18, 7 | 74 | 0, 924 | 0, 927 | 0, 931 | 0, 934 | 0, 937 | 0, 940 | 0, 943 | 0, 947 | 0, 950 | 0, 953 | 0, 956 |
| 19, 1 | 75 | 0, 921 | 0, 925 | 0, 928 | 0, 932 | 0, 935 | 0, 938 | 0, 941 | 0, 944 | 0, 947 | 0, 951 | 0, 954 |
| 19, 6 | 76 | 0, 919 | 0, 923 | 0, 926 | 0, 929 | 0, 933 | 0, 936 | 0, 939 | 0, 942 | 0, 945 | 0, 949 | 0, 952 |
| 20, 0 | 77 | 0, 918 | 0, 921 | 0, 924 | 0, 927 | 0, 930 | 0, 934 | 0, 937 | 0, 940 | 0, 943 | 0, 946 | 0, 950 |
| 20, 4 | 78 | 0, 916 | 0, 919 | 0, 922 | 0, 925 | 0, 928 | 0, 931 | 0, 935 | 0, 938 | 0, 941 | 0, 944 | 0, 947 |
| 20, 9 | 79 | 0, 913 | 0, 917 | 0, 920 | 0, 923 | 0, 926 | 0, 929 | 0, 932 | 0, 935 | 0, 939 | 0, 942 | 0, 945 |
| 21, 3 | 80 | 0, 911 | 0, 914 | 0, 918 | 0, 921 | 0, 924 | 0, 927 | 0, 930 | 0, 933 | 0, 936 | 0, 940 | 0, 943 |
| Above the freezing point. | | | | | | | | | | | | |

| Degrees of Réaumur's Thermometer | Degrees of Fahrenheit's Thermometer | Height of the Barometer in Inches and Tenths. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 30, 1 | 30, 2 | 30, 3 | 30, 4 | 30, 5 | 30, 6 | 30, 7 | 30, 8 | 30, 9 | 31, 0 | 31, 1 |
| 5, 3 | 20 | 1, 099 | 1, 103 | 1, 107 | 1, 110 | 1, 114 | 1, 118 | 1, 121 | 1, 125 | 1, 129 | 1, 132 | 1, 135 |
| 4, 9 | 21 | 1, 096 | 1, 100 | 1, 104 | 1, 107 | 1, 111 | 1, 115 | 1, 118 | 1, 122 | 1, 126 | 1, 129 | 1, 132 |
| 4, 4 | 22 | 1, 094 | 1, 097 | 1, 101 | 1, 104 | 1, 108 | 1, 112 | 1, 115 | 1, 119 | 1, 123 | 1, 126 | 1, 129 |
| 4, 0 | 23 | 1, 091 | 1, 094 | 1, 098 | 1, 101 | 1, 105 | 1, 109 | 1, 112 | 1, 116 | 1, 120 | 1, 123 | 1, 126 |
| 3, 6 | 24 | 1, 088 | 1, 091 | 1, 095 | 1, 098 | 1, 102 | 1, 106 | 1, 109 | 1, 113 | 1, 117 | 1, 120 | 1, 123 |
| 3, 1 | 25 | 1, 085 | 1, 088 | 1, 092 | 1, 096 | 1, 099 | 1, 103 | 1, 106 | 1, 110 | 1, 114 | 1, 117 | 1, 120 |
| 2, 7 | 26 | 1, 082 | 1, 085 | 1, 089 | 1, 093 | 1, 096 | 1, 100 | 1, 103 | 1, 107 | 1, 111 | 1, 114 | 1, 117 |
| 2, 2 | 27 | 1, 079 | 1, 083 | 1, 086 | 1, 090 | 1, 093 | 1, 097 | 1, 100 | 1, 104 | 1, 108 | 1, 111 | 1, 114 |
| 1, 8 | 28 | 1, 076 | 1, 080 | 1, 083 | 1, 087 | 1, 090 | 1, 094 | 1, 098 | 1, 101 | 1, 105 | 1, 108 | 1, 111 |
| 1, 3 | 29 | 1, 073 | 1, 077 | 1, 080 | 1, 084 | 1, 088 | 1, 091 | 1, 095 | 1, 098 | 1, 102 | 1, 105 | 1, 108 |
| 0, 9 | 30 | 1, 070 | 1, 074 | 1, 078 | 1, 081 | 1, 085 | 1, 088 | 1, 092 | 1, 095 | 1, 099 | 1, 103 | 1, 105 |
| 0, 4 | 31 | 1, 068 | 1, 071 | 1, 075 | 1, 078 | 1, 082 | 1, 085 | 1, 089 | 1, 093 | 1, 096 | 1, 100 | 1, 103 |
| 0, 0 | 32 | 1, 065 | 1, 068 | 1, 072 | 1, 075 | 1, 079 | 1, 083 | 1, 086 | 1, 090 | 1, 093 | 1, 097 | 1, 101 |
| 0, 4 | 33 | 1, 062 | 1, 066 | 1, 069 | 1, 073 | 1, 076 | 1, 080 | 1, 083 | 1, 087 | 1, 090 | 1, 094 | 1, 098 |
| 0, 9 | 34 | 1, 059 | 1, 063 | 1, 066 | 1, 070 | 1, 073 | 1, 077 | 1, 080 | 1, 084 | 1, 088 | 1, 091 | 1, 094 |
| 1, 3 | 35 | 1, 057 | 1, 060 | 1, 064 | 1, 067 | 1, 071 | 1, 074 | 1, 078 | 1, 081 | 1, 085 | 1, 088 | 1, 091 |
| 1, 8 | 36 | 1, 054 | 1, 057 | 1, 061 | 1, 064 | 1, 068 | 1, 071 | 1, 075 | 1, 078 | 1, 082 | 1, 085 | 1, 089 |
| 2, 2 | 37 | 1, 051 | 1, 055 | 1, 058 | 1, 062 | 1, 065 | 1, 069 | 1, 072 | 1, 076 | 1, 079 | 1, 083 | 1, 087 |
| 2, 7 | 38 | 1, 048 | 1, 052 | 1, 055 | 1, 059 | 1, 062 | 1, 066 | 1, 069 | 1, 073 | 1, 076 | 1, 080 | 1, 084 |
| 3, 1 | 39 | 1, 046 | 1, 049 | 1, 053 | 1, 056 | 1, 060 | 1, 063 | 1, 067 | 1, 070 | 1, 074 | 1, 077 | 1, 080 |
| 3, 6 | 40 | 1, 043 | 1, 046 | 1, 050 | 1, 053 | 1, 057 | 1, 060 | 1, 064 | 1, 067 | 1, 071 | 1, 074 | 1, 077 |
| 4, 0 | 41 | 1, 040 | 1, 044 | 1, 047 | 1, 051 | 1, 054 | 1, 058 | 1, 061 | 1, 065 | 1, 068 | 1, 071 | 1, 075 |
| 4, 4 | 42 | 1, 038 | 1, 041 | 1, 045 | 1, 048 | 1, 051 | 1, 055 | 1, 058 | 1, 062 | 1, 065 | 1, 069 | 1, 072 |
| 4, 9 | 43 | 1, 035 | 1, 038 | 1, 042 | 1, 045 | 1, 049 | 1, 052 | 1, 056 | 1, 059 | 1, 063 | 1, 066 | 1, 069 |
| 5, 3 | 44 | 1, 032 | 1, 036 | 1, 039 | 1, 043 | 1, 046 | 1, 050 | 1, 053 | 1, 056 | 1, 060 | 1, 063 | 1, 066 |
| 5, 8 | 45 | 1, 030 | 1, 033 | 1, 037 | 1, 040 | 1, 044 | 1, 047 | 1, 050 | 1, 054 | 1, 057 | 1, 061 | 1, 064 |
| 6, 2 | 46 | 1, 027 | 1, 031 | 1, 034 | 1, 037 | 1, 041 | 1, 044 | 1, 048 | 1, 051 | 1, 054 | 1, 058 | 1, 062 |
| 6, 7 | 47 | 1, 025 | 1, 028 | 1, 031 | 1, 035 | 1, 038 | 1, 042 | 1, 045 | 1, 049 | 1, 052 | 1, 055 | 1, 059 |
| 7, 1 | 48 | 1, 022 | 1, 025 | 1, 029 | 1, 032 | 1, 036 | 1, 039 | 1, 042 | 1, 046 | 1, 049 | 1, 053 | 1, 057 |
| 7, 6 | 49 | 1, 019 | 1, 023 | 1, 026 | 1, 030 | 1, 033 | 1, 036 | 1, 040 | 1, 043 | 1, 047 | 1, 050 | 1, 053 |
| 8, 0 | 50 | 1, 017 | 1, 020 | 1, 024 | 1, 027 | 1, 030 | 1, 034 | 1, 037 | 1, 041 | 1, 044 | 1, 047 | 1, 051 |
| 8, 4 | 51 | 1, 014 | 1, 018 | 1, 021 | 1, 025 | 1, 028 | 1, 031 | 1, 035 | 1, 038 | 1, 041 | 1, 045 | 1, 048 |
| 8, 9 | 52 | 1, 012 | 1, 015 | 1, 019 | 1, 022 | 1, 025 | 1, 029 | 1, 032 | 1, 035 | 1, 039 | 1, 042 | 1, 045 |
| 9, 3 | 53 | 1, 009 | 1, 013 | 1, 016 | 1, 019 | 1, 023 | 1, 026 | 1, 030 | 1, 033 | 1, 036 | 1, 040 | 1, 043 |
| 9, 8 | 54 | 1, 007 | 1, 010 | 1, 014 | 1, 017 | 1, 020 | 1, 024 | 1, 028 | 1, 030 | 1, 034 | 1, 037 | 1, 040 |
| 10, 2 | 55 | 1, 004 | 1, 008 | 1, 011 | 1, 014 | 1, 018 | 1, 021 | 1, 024 | 1, 028 | 1, 031 | 1, 034 | 1, 037 |
| 10, 7 | 56 | 1, 002 | 1, 005 | 1, 009 | 1, 012 | 1, 015 | 1, 019 | 1, 022 | 1, 025 | 1, 029 | 1, 032 | 1, 035 |
| 11, 1 | 57 | 0, 999 | 1, 003 | 1, 006 | 1, 009 | 1, 013 | 1, 016 | 1, 019 | 1, 023 | 1, 026 | 1, 029 | 1, 032 |
| 11, 6 | 58 | 0, 997 | 1, 000 | 1, 004 | 1, 007 | 1, 010 | 1, 014 | 1, 017 | 1, 020 | 1, 024 | 1, 027 | 1, 030 |
| 12, 0 | 59 | 0, 994 | 0, 998 | 1, 001 | 1, 004 | 1, 008 | 1, 011 | 1, 014 | 1, 018 | 1, 021 | 1, 024 | 1, 027 |
| 12, 4 | 60 | 0, 992 | 0, 995 | 0, 999 | 1, 002 | 1, 005 | 1, 009 | 1, 012 | 1, 015 | 1, 019 | 1, 022 | 1, 025 |
| 12, 9 | 61 | 0, 990 | 0, 993 | 0, 996 | 0, 999 | 1, 003 | 1, 006 | 1, 009 | 1, 013 | 1, 016 | 1, 019 | 1, 022 |
| 13, 3 | 62 | 0, 987 | 0, 991 | 0, 994 | 0, 997 | 1, 000 | 1, 004 | 1, 007 | 1, 010 | 1, 014 | 1, 017 | 1, 020 |
| 13, 8 | 63 | 0, 985 | 0, 988 | 0, 991 | 0, 995 | 0, 998 | 1, 001 | 1, 005 | 1, 008 | 1, 011 | 1, 014 | 1, 017 |
| 14, 2 | 64 | 0, 982 | 0, 986 | 0, 989 | 0, 992 | 0, 996 | 0, 999 | 1, 002 | 1, 005 | 1, 009 | 1, 012 | 1, 015 |
| 14, 7 | 65 | 0, 980 | 0, 983 | 0, 987 | 0, 990 | 0, 993 | 0, 996 | 1, 000 | 1, 003 | 1, 006 | 1, 010 | 1, 013 |
| 15, 1 | 66 | 0, 977 | 0, 981 | 0, 984 | 0, 987 | 0, 991 | 0, 994 | 0, 997 | 1, 001 | 1, 004 | 1, 007 | 1, 010 |
| 15, 6 | 67 | 0, 975 | 0, 979 | 0, 982 | 0, 985 | 0, 988 | 0, 992 | 0, 995 | 0, 998 | 1, 001 | 1, 005 | 1, 008 |
| 16, 0 | 68 | 0, 973 | 0, 976 | 0, 980 | 0, 983 | 0, 986 | 0, 989 | 0, 993 | 0, 996 | 0, 999 | 1, 002 | 1, 005 |
| 16, 4 | 69 | 0, 971 | 0, 974 | 0, 977 | 0, 981 | 0, 984 | 0, 987 | 0, 990 | 0, 993 | 0, 997 | 1, 000 | 1, 003 |
| 16, 9 | 70 | 0, 968 | 0, 972 | 0, 975 | 0, 978 | 0, 981 | 0, 985 | 0, 988 | 0, 991 | 0, 994 | 0, 997 | 1, 000 |
| 17, 3 | 71 | 0, 966 | 0, 969 | 0, 973 | 0, 976 | 0, 979 | 0, 982 | 0, 985 | 0, 989 | 0, 992 | 0, 995 | 0, 998 |
| 17, 8 | 72 | 0, 964 | 0, 967 | 0, 970 | 0, 973 | 0, 977 | 0, 980 | 0, 983 | 0, 986 | 0, 989 | 0, 993 | 0, 996 |
| 18, 2 | 73 | 0, 962 | 0, 965 | 0, 968 | 0, 971 | 0, 974 | 0, 978 | 0, 981 | 0, 984 | 0, 987 | 0, 990 | 0, 993 |
| 18, 7 | 74 | 0, 959 | 0, 962 | 0, 966 | 0, 969 | 0, 972 | 0, 975 | 0, 978 | 0, 982 | 0, 985 | 0, 988 | 0, 991 |
| 19, 1 | 75 | 0, 957 | 0, 960 | 0, 963 | 0, 967 | 0, 970 | 0, 973 | 0, 976 | 0, 979 | 0, 983 | 0, 986 | 0, 989 |
| 19, 6 | 76 | 0, 955 | 0, 958 | 0, 961 | 0, 964 | 0, 968 | 0, 971 | 0, 974 | 0, 977 | 0, 980 | 0, 983 | 0, 986 |
| 20, 0 | 77 | 0, 953 | 0, 956 | 0, 959 | 0, 962 | 0, 965 | 0, 968 | 0, 972 | 0, 975 | 0, 978 | 0, 981 | 0, 984 |
| 20, 4 | 78 | 0, 950 | 0, 953 | 0, 957 | 0, 960 | 0, 963 | 0, 966 | 0, 969 | 0, 972 | 0, 976 | 0, 979 | 0, 982 |
| 20, 9 | 79 | 0, 948 | 0, 951 | 0, 954 | 0, 958 | 0, 961 | 0, 964 | 0, 967 | 0, 970 | 0, 973 | 0, 977 | 0, 980 |
| 21, 3 | 80 | 0, 946 | 0, 949 | 0, 952 | 0, 955 | 0, 958 | 0, 962 | 0, 965 | 0, 968 | 0, 971 | 0, 974 | 0, 977 |

Below the freezing point.

Above the freezing point.

| Appar. Alt. | ✱ Compl. Correct. | ⊙ Compl. Correct. | Diff. to 10′ |
|---|---|---|---|
| ° ′ | ′ ″ | ′ ″ | ″ |
| 0. 0 | 27. 0 | 27. 9 | 106 |
| 5 | 27. 50 | 27. 56 | 96 |
| 10 | 28. 38 | 28. 47 | 94 |
| 15 | 29. 25 | 29. 36 | 92 |
| 20 | 30. 10 | 30. 19 | 90 |
| 25 | 30. 55 | 31. 4 | 86 |
| 30 | 31. 38 | 31. 49 | 84 |
| 35 | 32. 20 | 32. 28 | 80 |
| 40 | 33. 0 | 33. 9 | 80 |
| 45 | 33. 40 | 33. 49 | 76 |
| 50 | 34. 16 | 34. 27 | 74 |
| 55 | 34. 55 | 35. 4 | 72 |
| 1. 0 | 35. 31 | 35. 41 | 70 |
| 5 | 36. 0 | 36. 15 | 68 |
| 10 | 36. 40 | 36. 49 | 66 |
| 15 | 37. 18 | 37. 23 | 64 |
| 20 | 37. 45 | 37. 54 | 62 |
| 25 | 38. 14 | 38. 23 | 58 |
| 1. 30 | 38. 45 | 38. 54 | 58 |
| 35 | 39. 14 | 39. 23 | 56 |
| 40 | 39. 42 | 39. 51 | 54 |
| 45 | 40. 9 | 40. 18 | 52 |
| 50 | 40. 35 | 40. 44 | 50 |
| 55 | 41. 0 | 41. 9 | 50 |
| 2. 0 | 41. 25 | 41. 34 | 48 |
| 5 | 41. 49 | 41. 58 | 46 |
| 10 | 42. 12 | 42. 21 | 46 |
| 15 | 42. 34 | 42. 43 | 44 |
| 20 | 42. 54 | 43. 3 | 44 |
| 25 | 43. 16 | 43. 23 | 40 |
| 2. 30 | 43. 36 | 43. 45 | 40 |
| 35 | 43. 56 | 44. 5 | 38 |
| 40 | 44. 15 | 44. 24 | 38 |
| 45 | 44. 33 | 44. 42 | 36 |
| 50 | 44. 51 | 45. 0 | 36 |
| 55 | 45. 8 | 45. 17 | 34 |
| 3. 0 | 45. 24 | 45. 34 | 32 |
| 5 | 45. 41 | 45. 49 | 32 |
| 10 | 45. 56 | 46. 5 | 30 |
| 15 | 46. 11 | 46. 20 | 30 |
| 20 | 46. 26 | 46. 35 | 30 |
| 25 | 46. 40 | 46. 49 | 28 |
| 3. 30 | 46. 54 | 47. 3 | 28 |
| 35 | 47. 8 | 47. 16 | 28 |
| 40 | 47. 21 | 47. 30 | 26 |
| 45 | 47. 34 | 47. 43 | 26 |
| 50 | 47. 47 | 47. 55 | 24 |
| 55 | 47. 58 | 48. 7 | 24 |
| 4. 0 | 48. 10 | 48. 19 | 24 |
| 5 | 48. 21 | 48. 30 | 22 |
| 10 | 48. 32 | 48. 41 | 22 |
| 15 | 48. 43 | 48. 52 | 22 |
| 20 | 48. 53 | 49. 2 | 20 |
| 25 | 49. 3 | 49. 12 | 20 |
| 4. 30 | 49. 13 | 49. 22 | 20 |
| 35 | 49. 23 | 49. 32 | 18 |
| 40 | 49. 32 | 49. 41 | 18 |
| 45 | 49. 41 | 49. 50 | 18 |
| 50 | 49. 50 | 49. 59 | 18 |
| 55 | 49. 59 | 50. 8 | 18 |

| Appar. Alt. | ✱ Compl. Correct. | ⊙ Compl. Correct. |
|---|---|---|
| ° ′ | ′ ″ | ′ ″ |
| 5. 0 | 50. 7 | 50. 16 |
| 1 | 50. 9 | 50. 18 |
| 2 | 50. 10 | 50. 19 |
| 3 | 50. 12 | 50. 21 |
| 4 | 50. 13 | 50. 22 |
| 5 | 50. 15 | 50. 24 |
| 6. 0 | 50. 17 | 50. 26 |
| 7 | 50. 18 | 50. 27 |
| 8 | 50. 20 | 50. 29 |
| 9 | 50. 21 | 50. 30 |
| 10 | 50. 23 | 50. 32 |
| 11 | 50. 25 | 50. 34 |
| 12 | 50. 26 | 50. 35 |
| 13 | 50. 28 | 50. 37 |
| 14 | 50. 29 | 50. 38 |
| 15 | 50. 31 | 50. 40 |
| 16 | 50. 33 | 50. 42 |
| 17 | 50. 34 | 50. 43 |
| 18 | 50. 36 | 50. 45 |
| 19 | 50. 37 | 50. 46 |
| 20 | 50. 39 | 50. 48 |
| 21 | 50. 40 | 50. 49 |
| 22 | 50. 42 | 50. 51 |
| 23 | 50. 43 | 50. 52 |
| 24 | 50. 45 | 50. 54 |
| 25 | 50. 46 | 50. 55 |
| 26 | 50. 48 | 50. 57 |
| 27 | 50. 49 | 50. 58 |
| 28 | 50. 50 | 50. 59 |
| 29 | 50. 52 | 51. 1 |
| 30 | 50. 53 | 51. 2 |
| 31 | 50. 54 | 51. 3 |
| 32 | 50. 56 | 51. 5 |
| 33 | 50. 57 | 51. 6 |
| 34 | 50. 59 | 51. 8 |
| 35 | 51. 0 | 51. 9 |
| 36 | 51. 1 | 51. 10 |
| 37 | 51. 3 | 51. 12 |
| 38 | 51. 4 | 51. 13 |
| 39 | 51. 6 | 51. 15 |
| 40 | 51. 7 | 51. 16 |
| 41 | 51. 8 | 51. 17 |
| 42 | 51. 10 | 51. 19 |
| 43 | 51. 11 | 51. 20 |
| 44 | 51. 13 | 51. 22 |
| 45 | 51. 14 | 51. 23 |
| 46 | 51. 15 | 51. 24 |
| 47 | 51. 17 | 51. 26 |
| 48 | 51. 18 | 51. 27 |
| 49 | 51. 19 | 51. 28 |
| 50 | 51. 21 | 51. 30 |
| 51 | 51. 22 | 51. 31 |
| 52 | 51. 23 | 51. 32 |
| 53 | 51. 25 | 51. 34 |
| 54 | 51. 26 | 51. 35 |
| 55 | 51. 27 | 51. 36 |
| 56 | 51. 28 | 51. 37 |
| 57 | 51. 30 | 51. 39 |
| 58 | 51. 31 | 51. 40 |
| 59 | 51. 32 | 51. 41 |

| Appar. Alt. | ✱ Compl. Correct. | ⊙ Compl. Correct. |
|---|---|---|
| ° ′ | ′ ″ | ′ ″ |
| 6. 0 | 51. 33 | 51. 42 |
| 1 | 51. 34 | 51. 43 |
| 2 | 51. 35 | 51. 44 |
| 3 | 51. 37 | 51. 47 |
| 4 | 51. 38 | 51. 47 |
| 5 | 51. 39 | 51. 48 |
| 6. 6 | 51. 41 | 51. 49 |
| 7 | 51. 41 | 51. 50 |
| 8 | 51. 43 | 51. 52 |
| 9 | 51. 44 | 51. 53 |
| 10 | 51. 45 | 51. 54 |
| 11 | 51. 47 | 51. 55 |
| 12 | 51. 47 | 51. 56 |
| 13 | 51. 49 | 51. 58 |
| 14 | 51. 50 | 51. 59 |
| 15 | 51. 51 | 52. 0 |
| 16 | 51. 53 | 52. 1 |
| 17 | 51. 53 | 52. 2 |
| 18 | 51. 55 | 52. 4 |
| 19 | 51. 56 | 52. 5 |
| 20 | 51. 57 | 52. 6 |
| 21 | 51. 58 | 52. 7 |
| 22 | 51. 59 | 52. 8 |
| 23 | 52. 0 | 52. 9 |
| 24 | 52. 1 | 52. 10 |
| 25 | 52. 2 | 52. 11 |
| 26 | 52. 3 | 52. 12 |
| 27 | 52. 4 | 52. 13 |
| 28 | 52. 5 | 52. 14 |
| 29 | 52. 6 | 52. 15 |
| 30 | 52. 7 | 52. 16 |
| 31 | 52. 8 | 52. 17 |
| 32 | 52. 9 | 52. 18 |
| 33 | 52. 11 | 52. 20 |
| 34 | 52. 12 | 52. 21 |
| 35 | 52. 14 | 52. 23 |
| 36 | 52. 13 | 52. 24 |
| 37 | 52. 16 | 52. 25 |
| 38 | 52. 17 | 52. 26 |
| 39 | 52. 18 | 52. 27 |
| 40 | 52. 19 | 52. 28 |
| 41 | 52. 20 | 52. 29 |
| 42 | 52. 21 | 52. 30 |
| 43 | 52. 23 | 52. 31 |
| 44 | 52. 23 | 52. 32 |
| 45 | 52. 24 | 52. 33 |
| 46 | 52. 25 | 52. 34 |
| 47 | 52. 26 | 52. 35 |
| 48 | 52. 27 | 52. 36 |
| 49 | 52. 28 | 52. 37 |
| 50 | 52. 29 | 52. 38 |
| 51 | 52. 30 | 52. 39 |
| 52 | 52. 31 | 52. 40 |
| 53 | 52. 32 | 52. 41 |
| 54 | 52. 33 | 52. 42 |
| 55 | 52. 34 | 52. 43 |
| 56 | 52. 35 | 52. 44 |
| 57 | 52. 36 | 52. 45 |
| 58 | 52. 37 | 52. 46 |
| 59 | 52. 38 | 52. 47 |

| Appar. Alt. | ✱ Compl. Correct. | ⊙ Compl. Correct. |
|---|---|---|
| ° ′ | ′ ″ | ′ ″ |
| 7. 0 | 52. 30 | 52. 48 |
| 1 | 52. 40 | 52. 49 |
| 2 | 52. 41 | 52. 50 |
| 3 | 52. 42 | 52. 51 |
| 4 | 52. 43 | 52. 52 |
| 5 | 52. 44 | 52. 53 |
| 7. 6 | 52. 44 | 52. 53 |
| 7 | 52. 47 | 52. 54 |
| 8 | 52. 47 | 52. 55 |
| 9 | 52. 47 | 52. 56 |
| 10 | 52. 48 | 52. 57 |
| 11 | 52. 49 | 52. 57 |
| 12 | 52. 50 | 52. 59 |
| 13 | 52. 51 | 53. 0 |
| 14 | 52. 52 | 53. 1 |
| 15 | 52. 53 | 53. 2 |
| 16 | 52. 53 | 53. 3 |
| 17 | 52. 54 | 53. 4 |
| 18 | 52. 55 | 53. 4 |
| 19 | 52. 56 | 53. 5 |
| 20 | 52. 57 | 53. 6 |
| 21 | 52. 58 | 53. 7 |
| 22 | 52. 59 | 53. 8 |
| 23 | 53. 0 | 53. 9 |
| 24 | 53. 1 | 53. 10 |
| 25 | 53. 2 | 53. 11 |
| 26 | 53. 3 | 53. 12 |
| 27 | 53. 3 | 53. 12 |
| 28 | 53. 4 | 53. 13 |
| 29 | 53. 5 | 53. 14 |
| 30 | 53. 6 | 53. 15 |
| 31 | 53. 7 | 53. 16 |
| 32 | 53. 8 | 53. 17 |
| 33 | 53. 8 | 53. 17 |
| 34 | 53. 9 | 53. 18 |
| 35 | 53. 10 | 53. 19 |
| 36 | 53. 11 | 53. 20 |
| 37 | 53. 11 | 53. 20 |
| 38 | 53. 12 | 53. 21 |
| 39 | 53. 13 | 53. 22 |
| 40 | 53. 14 | 53. 23 |
| 41 | 53. 15 | 53. 24 |
| 42 | 53. 16 | 53. 25 |
| 43 | 53. 16 | 53. 25 |
| 44 | 53. 17 | 53. 26 |
| 45 | 53. 18 | 53. 27 |
| 46 | 53. 19 | 53. 28 |
| 47 | 53. 19 | 53. 28 |
| 48 | 53. 20 | 53. 29 |
| 49 | 53. 21 | 53. 30 |
| 50 | 53. 22 | 53. 31 |
| 51 | 53. 23 | 53. 32 |
| 52 | 53. 24 | 53. 33 |
| 53 | 53. 24 | 53. 33 |
| 54 | 53. 25 | 53. 34 |
| 55 | 53. 26 | 53. 35 |
| 56 | 53. 27 | 53. 36 |
| 57 | 53. 27 | 53. 36 |
| 58 | 53. 28 | 53. 37 |
| 59 | 53. 29 | 53. 38 |

| Appar. Alt. | ✱ Compl. Correct. | ⊙ Compl. Correct. |
|---|---|---|
| ° ′ | ′ ″ | ′ ″ |
| 8. 0 | 53. 30 | 53. 39 |
| 1 | 53. 31 | 53. 40 |
| 2 | 53. 32 | 53. 41 |
| 3 | 53. 33 | 53. 42 |
| 4 | 53. 33 | 53. 43 |
| 5 | 53. 34 | 53. 43 |
| 8. 6 | 53. 35 | 53. 44 |
| 7 | 53. 36 | 53. 45 |
| 8 | 53. 36 | 53. 45 |
| 9 | 53. 37 | 53. 46 |
| 10 | 53. 38 | 53. 47 |
| 11 | 53. 39 | 53. 48 |
| 12 | 53. 40 | 53. 49 |
| 13 | 53. 41 | 53. 50 |
| 14 | 53. 42 | 53. 51 |
| 15 | 53. 43 | 53. 52 |
| 16 | 53. 44 | 53. 53 |
| 17 | 53. 45 | 53. 54 |
| 18 | 53. 46 | 53. 55 |
| 19 | 53. 47 | 53. 56 |
| 20 | 53. 48 | 53. 57 |
| 21 | 53. 49 | 53. 58 |
| 22 | 53. 50 | 53. 59 |
| 23 | 53. 51 | 54. 0 |
| 24 | 53. 52 | 54. 1 |
| 25 | 53. 53 | 54. 2 |
| 26 | 53. 54 | 54. 3 |
| 27 | 53. 55 | 54. 4 |
| 28 | 53. 56 | 54. 5 |
| 29 | 53. 57 | 54. 6 |
| 30 | 53. 58 | 54. 7 |
| 31 | 53. 59 | 54. 8 |
| 32 | 54. 0 | 54. 9 |
| 33 | 54. 1 | 54. 10 |
| 34 | 54. 2 | 54. 11 |
| 35 | 54. 3 | 54. 12 |
| 36 | 54. 4 | 54. 13 |
| 37 | 54. 5 | 54. 14 |
| 38 | 54. 6 | 54. 15 |
| 39 | 54. 7 | 54. 16 |
| 40 | 54. 8 | 54. 17 |
| 41 | 54. 9 | 54. 18 |
| 42 | 54. 10 | 54. 19 |
| 43 | 54. 11 | 54. 20 |
| 44 | 54. 12 | 54. 21 |
| 45 | 54. 13 | 54. 22 |
| 46 | 54. 14 | 54. 23 |
| 47 | 54. 15 | 54. 24 |
| 48 | 54. 16 | 54. 25 |
| 49 | 54. 17 | 54. 26 |
| 50 | 54. 18 | 54. 27 |
| 51 | 54. 19 | 54. 28 |
| 52 | 54. 20 | 54. 29 |
| 53 | 54. 21 | 54. 30 |
| 54 | 54. 22 | 54. 31 |
| 55 | 54. 23 | 54. 32 |
| 56 | 54. 24 | 54. 33 |
| 57 | 54. 25 | 54. 34 |
| 58 | 54. 26 | 54. 35 |
| 59 | 54. 27 | 54. 36 |
| 60 | 54. 28 | 54. 37 |
| 61 | 54. 29 | 54. 38 |
| 62 | 54. 30 | 54. 39 |
| 63 | 54. 31 | 54. 40 |
| 64 | 54. 32 | 54. 41 |
| 65 | 54. 33 | 54. 42 |
| 66 | 54. 34 | 54. 43 |
| 67 | 54. 35 | 54. 44 |
| 68 | 54. 36 | 54. 45 |
| 69 | 54. 37 | 54. 46 |
| 70 | 54. 38 | 54. 47 |
| 71 | 54. 39 | 54. 48 |
| 72 | 54. 40 | 54. 49 |
| 73 | 54. 41 | 54. 50 |
| 74 | 54. 42 | 54. 51 |
| 75 | 54. 43 | 54. 52 |
| 76 | 54. 43 | 54. 52 |
| 77 | 54. 44 | 54. 53 |
| 78 | 54. 45 | 54. 54 |
| 79 | 54. 46 | 54. 55 |
| 80 | 54. 47 | 54. 56 |
| 81 | 54. 48 | 54. 57 |
| 82 | 54. 49 | 54. 58 |
| 83 | 54. 50 | 54. 59 |
| 84 | 54. 51 | 55. 0 |
| 85 | 54. 52 | 55. 1 |
| 86 | 54. 53 | 55. 2 |
| 87 | 54. 54 | 55. 3 |
| 88 | 54. 55 | 55. 4 |
| 89 | 54. 56 | 55. 5 |
| 90 | 54. 57 | 55. 6 |
| 91 | 54. 58 | 55. 7 |
| 92 | 54. 59 | 55. 8 |
| 93 | 55. 0 | 55. 9 |
| 94 | 55. 1 | 55. 10 |
| 95 | 55. 2 | 55. 11 |
| 96 | 55. 3 | 55. 12 |
| 97 | 55. 4 | 55. 13 |
| 98 | 55. 5 | 55. 14 |
| 99 | 55. 6 | 55. 15 |
| 100 | 55. 7 | 55. 16 |
| 101 | 55. 8 | 55. 17 |
| 102 | 55. 9 | 55. 18 |
| 103 | 55. 10 | 55. 19 |
| 104 | 55. 11 | 55. 20 |
| 105 | 55. 12 | 55. 21 |

| Appar. Alt. | ✱ Comp. Corr. | ☉ Comp. Corr. | Appar. Alt. | ✱ Comp. Corr. | ☉ Comp. Corr. | Appar. Alt. | ✱ Comp. Corr. | ☉ Comp. Corr. | Appar. Alt. | ✱ Comp. Corr. | ☉ Comp. Corr. | Appar. Alt. | ✱ Comp. Corr. | ☉ Comp. Corr. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ° | ′ | ′ | ° | ′ | ′ | ° | ′ | ′ | ° | ′ | ′ | ° | ′ | ′ |
| 11. 0 | 55. 13 | 55. 24 | 12. 0 | 56. 11 | 56. 20 | 13. 0 | 56. 56 | 56. 39 | 20. 0 | 57. 24 | 57. 32 | 30. 0 | 58. 21 | 58. 0 | 50. 0 | 59. 1 | 59. 18 |
| 1 | 55. 14 | 55. 25 | 1 | 56. 12 | 56. 21 | 1 | 56. 57 | 56. 40 | 10 | 57. 25 | 57. 33 | 1 | 58. 22 | 58. 31 | 1 | 59. 13 | 59. 19 |
| 2 | 55. 15 | 55. 26 | 2 | 56. 13 | 56. 22 | 2 | 56. 58 | 56. 41 | 20 | 57. 27 | 57. 34 | 2 | 58. 23 | 58. 32 | 51. 0 | 59. 14 | 59. 20 |
| 3 | 55. 16 | 55. 27 | 3 | 56. 14 | 56. 23 | 3 | 56. 59 | 56. 42 | 30 | 57. 28 | 57. 36 | 31. 0 | 58. 25 | 58. 33 | 1 | 59. 15 | 59. 20 |
| 4 | 55. 17 | 55. 28 | 4 | 56. 15 | 56. 24 | 4 | 57. 0 | 56. 43 | 40 | 57. 30 | 57. 38 | 2 | 58. 27 | 58. 34 | 52. 0 | 59. 17 | 59. 21 |
| 5 | 55. 18 | 55. 29 | 5 | 56. 16 | 56. 25 | 5 | 57. 1 | 56. 44 | 50 | 57. 31 | 57. 39 | 3 | 58. 28 | 58. 36 | 1 | 59. 18 | 59. 22 |
| 11. 6 | 55. 19 | 55. 30 | 6 | 56. 17 | 56. 26 | 6 | 57. 2 | 56. 45 | 21. 0 | 57. 32 | 57. 40 | 4 | 58. 30 | 58. 37 | 53. 0 | 59. 19 | 59. 23 |
| 7 | 55. 20 | 55. 31 | 7 | 56. 18 | 56. 27 | 7 | 57. 3 | 56. 46 | 10 | 57. 33 | 57. 41 | 5 | 58. 31 | 58. 38 | 1 | 59. 20 | 59. 23 |
| 8 | 55. 21 | 55. 32 | 8 | 56. 19 | 56. 28 | 8 | 57. 4 | 56. 47 | 20 | 57. 35 | 57. 43 | 6 | 58. 32 | 58. 40 | 54. 0 | 59. 21 | 59. 24 |
| 9 | 55. 22 | 55. 33 | 9 | 56. 20 | 56. 29 | 9 | 57. 5 | 56. 48 | 30 | 57. 36 | 57. 44 | 33. 0 | 58. 34 | 58. 41 | 1 | 59. 22 | 59. 25 |
| 10 | 55. 23 | 55. 34 | 10 | 56. 21 | 56. 30 | 10 | 57. 6 | 56. 49 | 40 | 57. 38 | 57. 46 | 2 | 58. 35 | 58. 42 | 55. 0 | 59. 23 | 59. 26 |
| 11 | 55. 24 | 55. 35 | 11 | 56. 22 | 56. 31 | 11 | 57. 7 | 56. 50 | 50 | 57. 39 | 57. 47 | 3 | 58. 36 | 58. 43 | 1 | 59. 24 | 59. 26 |
| 11. 12 | 55. 25 | 55. 36 | 13. 12 | 56. 23 | 56. 32 | 13. 11 | 57. 8 | 56. 51 | 22. 0 | 57. 40 | 57. 48 | 4 | 58. 37 | 58. 44 | 56. 0 | 59. 25 | 59. 27 |
| 13 | 55. 26 | 55. 37 | 13 | 56. 24 | 56. 33 | 12 | 57. 9 | 56. 52 | 10 | 57. 41 | 57. 49 | 5 | 58. 38 | 58. 45 | 1 | 59. 26 | 59. 27 |
| 14 | 55. 27 | 55. 38 | 14 | 56. 25 | 56. 34 | 13 | 57. 10 | 56. 53 | 20 | 57. 43 | 57. 50 | 6 | 58. 39 | 58. 46 | 57. 0 | 59. 27 | 59. 28 |
| 15 | 55. 28 | 55. 39 | 15 | 56. 26 | 56. 35 | 14 | 57. 11 | 56. 54 | 30 | 57. 44 | 57. 52 | 35. 0 | 58. 40 | 58. 47 | 1 | 59. 28 | 59. 29 |
| 16 | 55. 29 | 55. 40 | 16 | 56. 27 | 56. 36 | 15 | 57. 12 | 56. 55 | 40 | 57. 45 | 57. 53 | 2 | 58. 41 | 58. 48 | 58. 0 | 59. 29 | 59. 30 |
| 17 | 55. 30 | 55. 41 | 17 | 56. 28 | 56. 37 | 16 | 57. 13 | 56. 56 | 50 | 57. 47 | 57. 54 | 3 | 58. 42 | 58. 49 | 1 | 59. 30 | 59. 30 |
| 11. 18 | 55. 31 | 55. 42 | 13. 18 | 56. 29 | 56. 38 | 13. 17 | 57. 14 | 56. 57 | 23. 0 | 57. 48 | 57. 55 | 36. 0 | 58. 43 | 58. 50 | 59. 0 | 59. 31 | 59. 31 |
| 19 | 55. 32 | 55. 43 | 19 | 56. 30 | 56. 39 | 18 | 57. 15 | 56. 58 | 10 | 57. 49 | 57. 56 | 1 | 58. 44 | 58. 51 | 1 | 59. 32 | 59. 32 |
| 20 | 55. 33 | 55. 44 | 20 | 56. 31 | 56. 40 | 19 | 57. 16 | 56. 59 | 20 | 57. 50 | 57. 57 | 2 | 58. 45 | 58. 52 | 2 | 59. 33 | 59. 33 |
| 21 | 55. 34 | 55. 45 | 21 | 56. 32 | 56. 41 | 20 | 57. 17 | 57. 0 | 30 | 57. 52 | 57. 58 | 37. 0 | 58. 46 | 58. 53 | 1 | 59. 34 | 59. 34 |
| 22 | 55. 35 | 55. 46 | 22 | 56. 33 | 56. 42 | 21 | 57. 18 | 57. 1 | 40 | 57. 53 | 57. 59 | 1 | 58. 47 | 58. 54 | 2 | 59. 35 | 59. 35 |
| 23 | 55. 36 | 55. 47 | 23 | 56. 34 | 56. 43 | 22 | 57. 19 | 57. 2 | 50 | 57. 54 | 58. 0 | 2 | 58. 48 | 58. 55 | 3 | 59. 36 | 59. 36 |
| 11. 24 | 55. 37 | 55. 48 | 13. 24 | 56. 35 | 56. 44 | 13. 23 | 57. 20 | 57. 3 | 24. 0 | 57. 55 | 58. 1 | 38. 0 | 58. 49 | 58. 56 | 59. 4 | 59. 37 | 59. 37 |
| 25 | 55. 38 | 55. 49 | 25 | 56. 36 | 56. 45 | 24 | 57. 21 | 57. 4 | 10 | 57. 56 | 58. 2 | 1 | 58. 50 | 58. 57 | 5 | 59. 38 | 59. 38 |
| 26 | 55. 39 | 55. 50 | 26 | 56. 37 | 56. 46 | 25 | 57. 22 | 57. 5 | 20 | 57. 58 | 58. 3 | 2 | 58. 51 | 58. 58 | 6 | 59. 39 | 59. 39 |
| 27 | 55. 40 | 55. 51 | 27 | 56. 38 | 56. 47 | 26 | 57. 23 | 57. 6 | 30 | 57. 59 | 58. 4 | 3 | 58. 52 | 58. 59 | 7 | 59. 40 | 59. 40 |
| 28 | 55. 41 | 55. 52 | 28 | 56. 39 | 56. 48 | 27 | 57. 24 | 57. 7 | 40 | 58. 0 | 58. 5 | 4 | 58. 53 | 59. 0 | 8 | 59. 41 | 59. 41 |
| 29 | 55. 42 | 55. 53 | 29 | 56. 40 | 56. 49 | 28 | 57. 25 | 57. 8 | 50 | 58. 1 | 58. 6 | 5 | 58. 54 | 59. 1 | 9 | 59. 42 | 59. 42 |
| 11. 30 | 55. 43 | 55. 54 | 13. 30 | 56. 41 | 56. 50 | 13. 29 | 57. 26 | 57. 9 | 25. 0 | 58. 2 | 58. 7 | 39. 0 | 58. 55 | 59. 2 | 59. 10 | 59. 43 | 59. 43 |
| 31 | 55. 44 | 55. 55 | 31 | 56. 42 | 56. 51 | 30 | 57. 27 | 57. 10 | 10 | 58. 3 | 58. 8 | 1 | 58. 56 | 59. 3 | 11 | 59. 44 | 59. 44 |
| 32 | 55. 45 | 55. 56 | 32 | 56. 43 | 56. 52 | 31 | 57. 28 | 57. 11 | 20 | 58. 4 | 58. 9 | 2 | 58. 57 | 59. 4 | 12 | 59. 45 | 59. 45 |
| 33 | 55. 46 | 55. 57 | 33 | 56. 44 | 56. 53 | 32 | 57. 29 | 57. 12 | 30 | 58. 5 | 58. 10 | 3 | 58. 58 | 59. 5 | 13 | 59. 46 | 59. 46 |
| 11. 34 | 55. 47 | 55. 58 | 13. 34 | 56. 45 | 56. 54 | 13. 33 | 57. 30 | 57. 13 | 25. 0 | 58. 6 | 58. 11 | 40. 0 | 58. 59 | 59. 6 | 59. 14 | 59. 47 | 59. 47 |
| 35 | 55. 48 | 55. 59 | 35 | 56. 46 | 56. 55 | 34 | 57. 31 | 57. 14 | 10 | 58. 7 | 58. 12 | 1 | 59. 0 | 59. 7 | 15 | 59. 48 | 59. 48 |
| 36 | 55. 49 | 56. 0 | 36 | 56. 47 | 56. 56 | 35 | 57. 32 | 57. 15 | 20 | 58. 8 | 58. 13 | 2 | 59. 1 | 59. 8 | 16 | 59. 49 | 59. 49 |
| 37 | 55. 50 | 56. 1 | 37 | 56. 48 | 56. 57 | 36 | 57. 33 | 57. 16 | 30 | 58. 9 | 58. 14 | 3 | 59. 2 | 59. 9 | 17 | 59. 50 | 59. 50 |
| 38 | 55. 51 | 56. 2 | 38 | 56. 49 | 56. 58 | 37 | 57. 34 | 57. 17 | 40 | 58. 10 | 58. 15 | 4 | 59. 3 | 59. 10 | 18 | 59. 51 | 59. 51 |
| 39 | 55. 52 | 56. 3 | 39 | 56. 50 | 56. 59 | 38 | 57. 35 | 57. 18 | 50 | 58. 11 | 58. 16 | 5 | 59. 4 | 59. 11 | 19 | 59. 52 | 59. 52 |
| 11. 40 | 55. 53 | 56. 4 | 13. 40 | 56. 51 | 57. 0 | 13. 39 | 57. 36 | 57. 19 | 26. 0 | 58. 12 | 58. 17 | 41. 0 | 59. 5 | 59. 12 | 59. 20 | 59. 53 | 59. 53 |
| 41 | 55. 54 | 56. 5 | 41 | 56. 52 | 57. 1 | 40 | 57. 37 | 57. 20 | 10 | 58. 13 | 58. 18 | 1 | 59. 6 | 59. 13 | 21 | 59. 54 | 59. 54 |
| 42 | 55. 55 | 56. 6 | 42 | 56. 53 | 57. 2 | 41 | 57. 38 | 57. 21 | 20 | 58. 14 | 58. 19 | 2 | 59. 7 | 59. 14 | 22 | 59. 55 | 59. 55 |
| 43 | 55. 56 | 56. 7 | 43 | 56. 54 | 57. 3 | 42 | 57. 39 | 57. 22 | 30 | 58. 15 | 58. 20 | 3 | 59. 8 | 59. 15 | 23 | 59. 56 | 59. 56 |
| 44 | 55. 57 | 56. 8 | 44 | 56. 55 | 57. 4 | 43 | 57. 40 | 57. 23 | 40 | 58. 16 | 58. 21 | 4 | 59. 9 | 59. 16 | 24 | 59. 57 | 59. 57 |
| 45 | 55. 58 | 56. 9 | 45 | 56. 56 | 57. 5 | 44 | 57. 41 | 57. 24 | 50 | 58. 17 | 58. 22 | 5 | 59. 10 | 59. 17 | 25 | 59. 58 | 59. 58 |
| 11. 46 | 55. 59 | 56. 10 | 13. 46 | 56. 57 | 57. 6 | 13. 45 | 57. 42 | 57. 25 | 27. 0 | 58. 18 | 58. 23 | 42. 0 | 59. 11 | 59. 18 | 59. 26 | 59. 59 | 59. 59 |
| 47 | 56. 0 | 56. 11 | 47 | 56. 58 | 57. 7 | 46 | 57. 43 | 57. 26 | 10 | 58. 19 | 58. 24 | 1 | 59. 12 | 59. 19 | 27 | 60. 0 | 60. 0 |
| 48 | 56. 1 | 56. 12 | 48 | 56. 59 | 57. 8 | 47 | 57. 44 | 57. 27 | 20 | 58. 20 | 58. 25 | 2 | 59. 13 | 59. 20 | 28 | 60. 1 | 60. 1 |
| 49 | 56. 2 | 56. 13 | 49 | 57. 0 | 57. 9 | 48 | 57. 45 | 57. 28 | 30 | 58. 21 | 58. 26 | 3 | 59. 14 | 59. 21 | 29 | 60. 2 | 60. 2 |
| 50 | 56. 3 | 56. 14 | 50 | 57. 1 | 57. 10 | 49 | 57. 46 | 57. 29 | 40 | 58. 22 | 58. 27 | 4 | 59. 15 | 59. 22 | 30 | 60. 3 | 60. 3 |
| 11. 51 | 56. 4 | 56. 15 | 13. 51 | 57. 2 | 57. 11 | 13. 50 | 57. 47 | 57. 30 | 28. 0 | 58. 23 | 58. 28 | 43. 0 | 59. 16 | 59. 23 | 59. 31 | 60. 4 | 60. 4 |
| 52 | 56. 5 | 56. 16 | 52 | 57. 3 | 57. 12 | 51 | 57. 48 | 57. 31 | 10 | 58. 24 | 58. 29 | 1 | 59. 17 | 59. 24 | 32 | 60. 5 | 60. 5 |
| 53 | 56. 6 | 56. 17 | 53 | 57. 4 | 57. 13 | 52 | 57. 49 | 57. 32 | 20 | 58. 25 | 58. 30 | 2 | 59. 18 | 59. 25 | 33 | 60. 6 | 60. 6 |
| 54 | 56. 7 | 56. 18 | 54 | 57. 5 | 57. 14 | 53 | 57. 50 | 57. 33 | 30 | 58. 26 | 58. 31 | 3 | 59. 19 | 59. 26 | 34 | 60. 7 | 60. 7 |
| 55 | 56. 8 | 56. 19 | 55 | 57. 6 | 57. 15 | 54 | 57. 51 | 57. 34 | 40 | 58. 27 | 58. 32 | 4 | 59. 20 | 59. 27 | 35 | 60. 8 | 60. 8 |
| 56 | 56. 9 | 56. 20 | 56 | 57. 7 | 57. 16 | 55 | 57. 52 | 57. 35 | 50 | 58. 28 | 58. 33 | 5 | 59. 21 | 59. 28 | 36 | 60. 9 | 60. 9 |
| 11. 57 | 56. 10 | 56. 21 | 13. 57 | 57. 8 | 57. 17 | 13. 56 | 57. 53 | 57. 36 | 29. 0 | 58. 29 | 58. 34 | 44. 0 | 59. 22 | 59. 29 | 59. 37 | 60. 10 | 60. 10 |
| 58 | 56. 11 | 56. 22 | 58 | 57. 9 | 57. 18 | 57 | 57. 54 | 57. 37 | 10 | 58. 30 | 58. 35 | 1 | 59. 23 | 59. 30 | 38 | 60. 11 | 60. 11 |
| 59 | 56. 12 | 56. 23 | 59 | 57. 10 | 57. 19 | 58 | 57. 55 | 57. 38 | 20 | 58. 31 | 58. 36 | 2 | 59. 24 | 59. 31 | 39 | 60. 12 | 60. 12 |
| 60 | 56. 13 | 56. 24 | 60 | 57. 11 | 57. 20 | 59 | 57. 56 | 57. 39 | 30 | 58. 32 | 58. 37 | 3 | 59. 25 | 59. 32 | 40 | 60. 13 | 60. 13 |
| 12. 1 | 56. 14 | 56. 25 | 14. 1 | 57. 12 | 57. 21 | 14. 0 | 57. 57 | 57. 40 | 30. 0 | 58. 33 | 58. 38 | 45. 0 | 59. 26 | 59. 33 | 59. 41 | 60. 14 | 60. 14 |
| 2 | 56. 15 | 56. 26 | 2 | 57. 13 | 57. 22 | 1 | 57. 58 | 57. 41 | 10 | 58. 34 | 58. 39 | 1 | 59. 27 | 59. 34 | 42 | 60. 15 | 60. 15 |
| 3 | 56. 16 | 56. 27 | 3 | 57. 14 | 57. 23 | 2 | 57. 59 | 57. 42 | 20 | 58. 35 | 58. 40 | 2 | 59. 28 | 59. 35 | 43 | 60. 16 | 60. 16 |
| 4 | 56. 17 | 56. 28 | 4 | 57. 15 | 57. 24 | 3 | 58. 0 | 57. 43 | 30 | 58. 36 | 58. 41 | 3 | 59. 29 | 59. 36 | 44 | 60. 17 | 60. 17 |
| 5 | 56. 18 | 56. 29 | 5 | 57. 16 | 57. 25 | 4 | 58. 1 | 57. 44 | 40 | 58. 37 | 58. 42 | 4 | 59. 30 | 59. 37 | 45 | 60. 18 | 60. 18 |
| 6 | 56. 19 | 56. 30 | 6 | 57. 17 | 57. 26 | 5 | 58. 2 | 57. 45 | 50 | 58. 38 | 58. 43 | 5 | 59. 31 | 59. 38 | 46 | 60. 19 | 60. 19 |
| 12. 7 | 56. 20 | 56. 31 | 14. 7 | 57. 18 | 57. 27 | 14. 6 | 58. 3 | 57. 46 | 31. 0 | 58. 39 | 58. 44 | 46. 0 | 59. 32 | 59. 39 | 59. 47 | 60. 20 | 60. 20 |
| 8 | 56. 21 | 56. 32 | 8 | 57. 19 | 57. 28 | 7 | 58. 4 | 57. 47 | 10 | 58. 40 | 58. 45 | 1 | 59. 33 | 59. 40 | 48 | 60. 21 | 60. 21 |
| 9 | 56. 22 | 56. 33 | 9 | 57. 20 | 57. 29 | 8 | 58. 5 | 57. 48 | 20 | 58. 41 | 58. 46 | 2 | 59. 34 | 59. 41 | 49 | 60. 22 | 60. 22 |
| 10 | 56. 23 | 56. 34 | 10 | 57. 21 | 57. 30 | 9 | 58. 6 | 57. 49 | 30 | 58. 42 | 58. 47 | 3 | 59. 35 | 59. 42 | 50 | 60. 23 | 60. 23 |
| 11 | 56. 24 | 56. 35 | 11 | 57. 22 | 57. 31 | 10 | 58. 7 | 57. 50 | 40 | 58. 43 | 58. 48 | 4 | 59. 36 | 59. 43 | 51 | 60. 24 | 60. 24 |
| 12. 12 | 56. 25 | 56. 36 | 14. 12 | 57. 23 | 57. 32 | 14. 11 | 58. 8 | 57. 51 | 31. 50 | 58. 44 | 58. 49 | 46. 5 | 59. 37 | 59. 44 | 59. 52 | 60. 25 | 60. 25 |
| 13 | 56. 26 | 56. 37 | 13 | 57. 24 | 57. 33 | 12 | 58. 9 | 57. 52 | 32. 0 | 58. 45 | 58. 50 | 47. 0 | 59. 38 | 59. 45 | 53 | 60. 26 | 60. 26 |
| 14 | 56. 27 | 56. 38 | 14 | 57. 25 | 57. 34 | 13 | 58. 10 | 57. 53 | 10 | 58. 46 | 58. 51 | 1 | 59. 39 | 59. 46 | 54 | 60. 27 | 60. 27 |
| 15 | 56. 28 | 56. 39 | 15 | 57. 26 | 57. 35 | 14 | 58. 11 | 57. 54 | 20 | 58. 47 | 58. 52 | 2 | 59. 40 | 59. 47 | 55 | 60. 28 | 60. 28 |
| 16 | 56. 29 | 56. 40 | 16 | 57. 27 | 57. 36 | 15 | 58. 12 | 57. 55 | 30 | 58. 48 | 58. 53 | 3 | 59. 41 | 59. 48 | 56 | 60. 29 | 60. 29 |
| 17 | 56. 30 | 56. 41 | 17 | 57. 28 | 57. 37 | 16 | 58. 13 | 57. 56 | 40 | 58. 49 | 58. 54 | 4 | 59. 42 | 59. 49 | 57 | 60. 30 | 60. 30 |
| 12. 18 | 56. 31 | 56. 42 | 14. 18 | 57. 29 | 57. 38 | 14. 17 | 58. 14 | 57. 57 | 32. 50 | 58. 50 | 58. 55 | 47. 5 | 59. 43 | 59. 50 | 59. 58 | 60. 31 | 60. 31 |
| 19 | 56. 32 | 56. 43 | 19 | 57. 30 | 57. 39 | 18 | 58. 15 | 57. 58 | 33. 0 | 58. 51 | 58. 56 | 48. 0 | 59. 44 | 59. 51 | 59 | 60. 32 | 60. 32 |
| 20 | 56. 33 | 56. 44 | 20 | 57. 31 | 57. 40 | 19 | 58. 16 | 57. 59 | 10 | 58. 52 | 58. 57 | 1 | 59. 45 | 59. 52 | 60. 0 | 60. 33 | 60. 33 |
| 21 | 56. 34 | 56. 45 | 21 | 57. 32 | 57. 41 | 20 | 58. 17 | 58. 0 | 20 | 58. 53 | 58. 58 | 2 | 59. 46 | 59. 53 | 1 | 60. 34 | 60. 34 |
| 22 | 56. 35 | 56. 46 | 22 | 57. 33 | 57. 42 | 21 | 58. 18 | 58. 1 | 30 | 58. 54 | 58. 59 | 3 | 59. 47 | 59. 54 | 2 | 60. 35 | 60. 35 |
| 23 | 56. 36 | 56. 47 | 23 | 57. 34 | 57. 43 | 22 | 58. 19 | 58. 2 | 40 | 58. 55 | 59. 0 | 4 | 59. 48 | 59. 55 | 3 | 60. 36 | 60. 36 |
| 12. 24 | 56. 37 | 56. 48 | 14. 24 | 57. 35 | 57. 44 | 14. 23 | 58. 20 | 58. 3 | 33. 50 | 58. 56 | 59. 1 | 48. 5 | 59. 49 | 59. 56 | 60. 4 | 60. 37 | 60. 37 |
| 25 | 56. 38 | 56. 49 | 25 | 57. 36 | 57. 45 | 24 | 58. 21 | 58. 4 | 34. 0 | 58. 57 | 59. 2 | 49. 0 | 59. 50 | 59. 57 | 5 | 60. 38 | 60. 38 |
| 26 | 56. 39 | 56. 50 | 26 | 57. 37 | 57. 46 | 25 | 58. 22 | 58. 5 | 10 | 58. 58 | 59. 3 | 1 | 59. 51 | 59. 58 | 6 | 60. 39 | 60. 39 |
| 27 | 56. 40 | 56. 51 | 27 | 57. 38 | 57. 47 | 26 | 58. 23 | 58. 6 | 20 | 58. 59 | 59. 4 | 2 | 59. 52 | 59. 59 | 7 | 60. 40 | 60. 40 |
| 28 | 56. 41 | 56. 52 | 28 | 57. 39 | 57. 48 | 27 | 58. 24 | 58. 7 | 30 | 59. 0 | 59. 5 | 3 | 59. 53 | 60. 0 | 8 | 60. 41 | 60. 41 |
| 29 | 56. 42 | 56. 53 | 29 | 57. 40 | 57. 49 | 28 | 58. 25 | 58. 8 | 40 | 59. 1 | 59. 6 | 4 | 59. 54 | 60. 1 | 9 | 60. 42 | 60. 42 |
| 12. 30 | 56. 43 | 56. 54 | 14. 30 | 57. 41 | 57. 50 | 14. 29 | 58. 26 | 58. 9 | 34. 50 | 59. 2 | 59. 7 | 49. 5 | 59. 55 | 60. 2 | 59. 10 | 60. 43 | 60. 43 |
| 31 | 56. 44 | 56. 55 | 31 | 57. 42 | 57. 51 | 30 | 58. 27 | 58. 10 | 35. 0 | 59. 3 | 59. 8 | 50. 0 | 59. 56 | 60. 3 | 11 | 60. 44 | 60. 44 |
| 32 | 56. 45 | 56. 56 | 32 | 57. 43 | 57. 52 | 31 | 58. 28 | 58. 11 | 10 | 59. 4 | 59. 9 | 1 | 59. 57 | 60. 4 | 12 | 60. 45 | 60. 45 |
| 33 | 56. 46 | 56. 57 | 33 | 57. 44 | 57. 53 | 32 | 58. 29 | 58. 12 | 20 | 59. 5 | 59. 10 | 2 | 59. 58 | 60. 5 | 13 | 60. 46 | 60. 46 |
| 12. 34 | 56. 47 | 56. 58 | 14. 34 | 57. 45 | 57. 54 | 14. 33 | 58. 30 | 58. 13 | 35. 30 | 59. 6 | 59. 11 | 50. 3 | 59. 59 | 60. 6 | 59. 14 | 60. 47 | 60. 47 |
| 35 | 56. 48 | 56. 59 | 35 | 57. 46 | 57. 55 | 34 | 58. 31 | 58. 14 | 36. 0 | 59. 7 | 59. 12 | 51. 0 | 60. 0 | 60. 7 | 15 | 60. 48 | 60. 48 |
| 36 | 56. 49 | 57. 0 | 36 | 57. 47 | 57. 56 | 35 | 58. 32 | 58. 15 | 10 | 59. 8 | 59. 13 | 1 | 60. 1 | 60. 8 | 16 | 60. 49 | 60. 49 |
| 37 | 56. 50 | 57. 1 | 37 | 57. 48 | 57. 57 | 36 | 58. 33 | 58. 16 | 20 | 59. 9 | 59. 14 | 2 | 60. 2 | 60. 9 | 17 | 60. 50 | 60. 50 |
| 38 | 56. 51 | 57. 2 | 38 | 57. 49 | 57. 58 | 37 | 58. 34 | 58. 17 | 30 | 59. 10 | 59. 15 | 3 | 60. 3 | 60. 10 | 18 | 60. 51 | 60. 51 |
| 39 | 56. 52 | 57. 3 | 39 | 57. 50 | 57. 59 | 38 | 58. 35 | 58. 18 | 40 | 59. 11 | 59. 16 | 4 | 60. 4 | 60. 11 | 19 | 60. 52 | 60. 52 |
| 12. 40 | 56. 53 | 57. 4 | 14. 40 | 57. 51 | 58. 0 | 14. 39 | 58. 36 | 58. 19 | 36. 50 | 59. 12 | 59. 17 | 51. 5 | 60. 5 | 60. 12 | 59. 20 | 60. 53 | 60. 53 |
| 41 | 56. 54 | 57. 5 | 41 | 57. 52 | 58. 1 | 40 | 58. 37 | 58. 20 | 37. 0 | 59. 13 | 59. 18 | 52. 0 | 60. 6 | 60. 13 | 21 | 60. 54 | 60. 54 |
| 42 | 56. 55 | 57. 6 | 42 | 57. 53 | 58. 2 | 41 | 58. 38 | 58. 21 | 10 | 59. 14 | 59. 19 | 1 | 60. 7 | 60. 14 | 22 | 60. 55 | 60. 55 |
| 43 | 56. 56 | 57. 7 | 43 | 57. 54 | 58. 3 | 42 | 58. 39 | 58. 22 | 20 | 59. 15 | 59. 20 | 2 | 60. 8 | 60. 15 | 23 | 60. 56 | 60. 56 |
| 44 | 56. 57 | 57. 8 | 44 | 57. 55 | 58. 4 | 43 | 58. 40 | 58. 23 | 30 | 59. 16 | 59. 21 | 3 | 60. 9 | 60. 16 | 24 | 60. 57 | 60. 57 |
| 45 | 56. 58 | 57. 9 | 45 | 57. 56 | 58. 5 | 44 | 58. 41 | 58. 24 | 40 | 59. 17 | 59. 22 | 4 | 60. 10 | 60. 17 | 25 | 60. 58 | 60. 58 |
| 12. 46 | 56. 59 | 57. 10 | 14. 46 | 57. 57 | 58. 6 | 14. 45 | 58. 42 | 58. 25 | 36. 50 | 59. 18 | 59. 23 | 52. 5 | 60. 11 | 60. 18 | 59. 26 | 60. 59 | 60. 59 |
| 47 | 57. 0 | 57. 11 | 47 | 57. 58 | 58. 7 | 46 | 58. 43 | 58. 26 | 37. 0 | 59. 19 | 59. 24 | 53. 0 | 60. 12 | 60. 19 | 27 | 61. 0 | 61. 0 |
| 48 | 57. 1 | 57. 12 | 48 | 57. 59 | 58. 8 | 47 | 58. 44 | 58. 27 | 10 | 59. 20 | 59. 25 | 1 | 60. 13 | 60. 20 | 28 | 61. 1 | 61. 1 |
| 49 | 57. 2 | 57. 13 | 49 | 58. 0 | 58. 9 | 48 | 58. 45 | 58. 28 | 20 | 59. 21 | 59. 26 | 2 | 60. 14 | 60. 21 | 29 | 61. 2 | 61. 2 |
| 50 | 57. 3 | 57. 14 | 50 | 58. 1 | 58. 10 | 49 | 58. 46 | 58. 29 | 30 | 59. 22 | 59. 27 | 3 | 60. 15 | 60. 22 | 30 | 61. 3 | 61. 3 |
| 12. 51 | 57. 4 | 57. 15 | 14. 51 | 58. 2 | 58. 11 | 14. 50 | 58. 47 | 58. 30 | 37. 40 | 59. 23 | 59. 28 | 53. 4 | 60. 16 | 60. 23 | 59. 31 | 61. 4 | 61. 4 |
| 52 | 57. 5 | 57. 16 | 52 | 58. 3 | 58. 12 | 51 | 58. 48 | 58. 31 | 38. 0 | 59. 24 | 59. 29 | 54. 0 | 60. 17 | 60. 24 | 32 | 61. 5 | 61. 5 |
| 53 | 57. 6 | 57. 17 | 53 | 58. 4 | 58. 13 | 52 | 58. 49 | 58. 32 | 10 | 59. 25 | 59. 30 | 1 | 60. 18 | 60. 25 | 33 | 61. 6 | 61. 6 |
| 54 | 57. 7 | 57. 18 | 54 | 58. 5 | 58. 14 | 53 | 58. 50 | 58. 33 | 20 | 59. 26 | 59. 31 | 2 | 60. 19 | 60. 26 | 34 | 61. 7 | 61. 7 |
| 55 | 57. 8 | 57. 19 | 55 | 58. 6 | 58. 15 | 54 | 58. 51 | 58. 34 | 30 | 59. 27 | 59. 32 | 3 | 60. 20 | 60. 27 | 35 | 61. 8 | 61. 8 |
| 56 | 57. 9 | 57. 20 | 56 | 58. 7 | 58. 16 | 55 | 58. 52 | 58. 35 | 40 | 59. 28 | 59. 33 | 4 | 60. 21 | 60. 28 | 36 | 61. 9 | 61. 9 |
| 12. 57 | 57. 10 | 57. 21 | 14. 57 | 58. 8 | 58. 17 | 14. 56 | 58. 53 | 58. 36 | 37. 50 | 59. 29 | 59. 34 | 54. 5 | 60. 22 | 60. 29 | 59. 37 | 61. 10 | 61. 10 |
| 58 | 57. 11 | 57. 22 | 58 | 58. 9 | 58. 18 | 57 | 58. 54 | 58. 37 | 38. 0 | 59. 30 | 59. 35 | 55. 0 | 60. 23 | 60. 30 | 38 | 61. 11 | 61. 11 |
| 59 | 57. 12 | 57. 23 | 59 | 58. 10 | 58. 19 | 58 | 58. 55 | 58. 38 | 10 | 59. 31 | 59. 36 | 1 | 60. 24 | 60. 31 | 39 | 61. 12 | 61. 12 |
| 60 | 57. 13 | 57. 24 | 60 | 58. 11 | 58. 20 | 59 | 58. 56 | 58. 39 | 20 | 59. 32 | 59. 37 | 2 | 60. 25 | 60. 32 | 40 | 61. 13 | 61. 13 |

| Altitude. | Horizontal Semidiameter. | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 14′ 40″ | 14′ 50″ | 15′ 0″ | 15′ 10″ | 15′ 20″ | 15′ 30″ | 15′ 40″ | 15′ 50″ | 16′ 0″ | 16′ 10″ | 16′ 20″ | 16′ 30″ | 16′ 40″ | 16′ 50″ | | |
| ° | | | | | | | | | | | | | | | | |
| 0 | 14. 40 | 14. 50 | 15. 0 | 15. 10 | 15. 20 | 15. 30 | 15. 40 | 15. 50 | 16. 0 | 16. 10 | 16. 20 | 16. 30 | 16. 40 | 16. 50 | | |
| 1 | 14. 40 | 14. 50 | 15. 0 | 15. 10 | 15. 20 | 15. 30 | 15. 40 | 15. 50 | 16. 0 | 16. 10 | 16. 21 | 16. 31 | 16. 41 | 16. 51 | | |
| 2 | 14. 41 | 14. 51 | 15. 1 | 15. 10 | 15. 21 | 15. 31 | 15. 41 | 15. 51 | 16. 1 | 16. 11 | 16. 21 | 16. 31 | 16. 41 | 16. 51 | | |
| 3 | 14. 41 | 14. 51 | 15. 1 | 15. 10 | 15. 21 | 15. 31 | 15. 41 | 15. 51 | 16. 1 | 16. 11 | 16. 21 | 16. 31 | 16. 41 | 16. 51 | | |
| 4 | 14. 41 | 14. 51 | 15. 1 | 15. 11 | 15. 21 | 15. 31 | 15. 41 | 15. 51 | 16. 1 | 16. 11 | 16. 21 | 16. 31 | 16. 41 | 16. 51 | | |
| 5 | 14. 41 | 14. 51 | 15. 2 | 15. 11 | 15. 21 | 15. 32 | 15. 42 | 15. 52 | 16. 2 | 16. 12 | 16. 22 | 16. 32 | 16. 42 | 16. 52 | | |
| 6 | 14. 42 | 14. 52 | 15. 2 | 15. 12 | 15. 22 | 15. 32 | 15. 42 | 15. 52 | 16. 2 | 16. 12 | 16. 22 | 16. 32 | 16. 42 | 16. 52 | | |
| 7 | 14. 42 | 14. 52 | 15. 2 | 15. 12 | 15. 22 | 15. 32 | 15. 42 | 15. 52 | 16. 2 | 16. 12 | 16. 22 | 16. 32 | 16. 42 | 16. 53 | | |
| 8 | 14. 42 | 14. 52 | 15. 2 | 15. 12 | 15. 22 | 15. 32 | 15. 42 | 15. 52 | 16. 2 | 16. 12 | 16. 23 | 16. 33 | 16. 43 | 16. 53 | | |
| 9 | 14. 42 | 14. 52 | 15. 2 | 15. 12 | 15. 23 | 15. 33 | 15. 43 | 15. 53 | 16. 3 | 16. 13 | 16. 23 | 16. 33 | 16. 43 | 16. 53 | | |
| 10 | 14. 43 | 14. 52 | 15. 3 | 15. 13 | 15. 23 | 15. 33 | 15. 43 | 15. 53 | 16. 3 | 16. 13 | 16. 23 | 16. 33 | 16. 43 | 16. 53 | | |
| 11 | 14. 43 | 14. 53 | 15. 3 | 15. 13 | 15. 23 | 15. 33 | 15. 43 | 15. 53 | 16. 3 | 16. 13 | 16. 23 | 16. 33 | 16. 44 | 16. 54 | | |
| 12 | 14. 43 | 14. 53 | 15. 3 | 15. 13 | 15. 23 | 15. 33 | 15. 43 | 15. 54 | 16. 4 | 16. 14 | 16. 24 | 16. 34 | 16. 44 | 16. 54 | | |
| 13 | 14. 43 | 14. 53 | 15. 3 | 15. 13 | 15. 24 | 15. 34 | 15. 44 | 15. 54 | 16. 4 | 16. 14 | 16. 24 | 16. 34 | 16. 44 | 16. 54 | | |
| 14 | 14. 43 | 14. 54 | 15. 4 | 15. 14 | 15. 24 | 15. 34 | 15. 44 | 15. 54 | 16. 4 | 16. 14 | 16. 24 | 16. 34 | 16. 45 | 16. 55 | | |
| 15 | 14. 44 | 14. 54 | 15. 4 | 15. 14 | 15. 24 | 15. 34 | 15. 44 | 15. 54 | 16. 4 | 16. 15 | 16. 25 | 16. 35 | 16. 45 | 16. 55 | | |
| 16 | 14. 44 | 14. 54 | 15. 4 | 15. 14 | 15. 24 | 15. 34 | 15. 45 | 15. 55 | 16. 5 | 16. 15 | 16. 25 | 16. 35 | 16. 45 | 16. 55 | | |
| 17 | 14. 44 | 14. 54 | 15. 4 | 15. 14 | 15. 25 | 15. 35 | 15. 45 | 15. 55 | 16. 5 | 16. 15 | 16. 25 | 16. 35 | 16. 45 | 16. 56 | | |
| 18 | 14. 44 | 14. 54 | 15. 5 | 15. 15 | 15. 25 | 15. 35 | 15. 45 | 15. 55 | 16. 5 | 16. 15 | 16. 25 | 16. 36 | 16. 46 | 16. 56 | | |
| 19 | 14. 45 | 14. 55 | 15. 5 | 15. 15 | 15. 25 | 15. 35 | 15. 45 | 15. 55 | 16. 6 | 16. 16 | 16. 26 | 16. 36 | 16. 46 | 16. 56 | | |
| 20 | 14. 45 | 14. 55 | 15. 5 | 15. 15 | 15. 25 | 15. 35 | 15. 46 | 15. 56 | 16. 6 | 16. 16 | 16. 26 | 16. 36 | 16. 46 | 16. 56 | | |
| 21 | 14. 45 | 14. 55 | 15. 5 | 15. 15 | 15. 26 | 15. 36 | 15. 46 | 15. 56 | 16. 6 | 16. 16 | 16. 26 | 16. 36 | 16. 47 | 16. 57 | | |
| 22 | 14. 45 | 14. 55 | 15. 6 | 15. 15 | 15. 26 | 15. 36 | 15. 46 | 15. 56 | 16. 6 | 16. 16 | 16. 27 | 16. 37 | 16. 47 | 16. 57 | | |
| 23 | 14. 46 | 14. 56 | 15. 6 | 15. 16 | 15. 26 | 15. 36 | 15. 46 | 15. 56 | 16. 7 | 16. 17 | 16. 27 | 16. 37 | 16. 47 | 16. 57 | | |
| 24 | 14. 46 | 14. 56 | 15. 6 | 15. 16 | 15. 26 | 15. 36 | 15. 47 | 15. 57 | 16. 7 | 16. 17 | 16. 27 | 16. 37 | 16. 47 | 16. 58 | | |
| 25 | 14. 46 | 14. 56 | 15. 6 | 15. 16 | 15. 27 | 15. 37 | 15. 47 | 15. 57 | 16. 7 | 16. 17 | 16. 27 | 16. 38 | 16. 48 | 16. 58 | | |
| 26 | 14. 46 | 14. 56 | 15. 7 | 15. 17 | 15. 27 | 15. 37 | 15. 47 | 15. 57 | 16. 7 | 16. 18 | 16. 28 | 16. 38 | 16. 48 | 16. 58 | | |
| 27 | 14. 46 | 14. 57 | 15. 7 | 15. 17 | 15. 27 | 15. 37 | 15. 47 | 15. 58 | 16. 8 | 16. 18 | 16. 28 | 16. 38 | 16. 48 | 16. 58 | | |
| 28 | 14. 47 | 14. 57 | 15. 7 | 15. 17 | 15. 27 | 15. 37 | 15. 48 | 15. 58 | 16. 8 | 16. 18 | 16. 28 | 16. 38 | 16. 49 | 16. 59 | | |
| 29 | 14. 47 | 14. 57 | 15. 7 | 15. 17 | 15. 28 | 15. 38 | 15. 48 | 15. 58 | 16. 8 | 16. 18 | 16. 28 | 16. 39 | 16. 49 | 16. 59 | | |
| 30 | 14. 47 | 14. 57 | 15. 7 | 15. 18 | 15. 28 | 15. 38 | 15. 48 | 15. 58 | 16. 8 | 16. 19 | 16. 29 | 16. 39 | 16. 49 | 16. 59 | | |
| 32 | 14. 48 | 14. 58 | 15. 8 | 15. 18 | 15. 28 | 15. 38 | 15. 48 | 15. 59 | 16. 9 | 16. 19 | 16. 29 | 16. 39 | 16. 50 | 17. 0 | | |
| 34 | 14. 48 | 14. 58 | 15. 8 | 15. 18 | 15. 29 | 15. 39 | 15. 49 | 15. 59 | 16. 9 | 16. 19 | 16. 30 | 16. 40 | 16. 50 | 17. 0 | | |
| 36 | 14. 48 | 14. 58 | 15. 9 | 15. 19 | 15. 29 | 15. 39 | 15. 49 | 16. 0 | 16. 10 | 16. 20 | 16. 30 | 16. 40 | 16. 51 | 17. 1 | | |
| 38 | 14. 49 | 14. 58 | 15. 9 | 15. 19 | 15. 29 | 15. 40 | 15. 50 | 16. 0 | 16. 10 | 16. 20 | 16. 31 | 16. 41 | 16. 51 | 17. 1 | | |
| 40 | 14. 49 | 14. 59 | 15. 9 | 15. 20 | 15. 30 | 15. 40 | 15. 50 | 16. 0 | 16. 11 | 16. 21 | 16. 31 | 16. 42 | 16. 52 | 17. 2 | | |
| 42 | 14. 49 | 15. 0 | 15. 10 | 15. 20 | 15. 30 | 15. 40 | 15. 51 | 16. 1 | 16. 11 | 16. 21 | 16. 32 | 16. 42 | 16. 52 | 17. 2 | | |
| 44 | 14. 50 | 15. 0 | 15. 10 | 15. 20 | 15. 30 | 15. 41 | 15. 51 | 16. 1 | 16. 11 | 16. 22 | 16. 32 | 16. 43 | 16. 53 | 17. 3 | | |
| 46 | 14. 50 | 15. 0 | 15. 11 | 15. 21 | 15. 31 | 15. 41 | 15. 51 | 16. 2 | 16. 12 | 16. 22 | 16. 32 | 16. 43 | 16. 53 | 17. 3 | | |
| 48 | 14. 50 | 15. 1 | 15. 11 | 15. 21 | 15. 31 | 15. 42 | 15. 52 | 16. 2 | 16. 12 | 16. 23 | 16. 33 | 16. 43 | 16. 53 | 17. 4 | | |
| 50 | 14. 51 | 15. 1 | 15. 11 | 15. 21 | 15. 32 | 15. 42 | 15. 52 | 16. 2 | 16. 13 | 16. 23 | 16. 33 | 16. 44 | 16. 54 | 17. 4 | | |
| 52 | 14. 51 | 15. 1 | 15. 12 | 15. 22 | 15. 32 | 15. 42 | 15. 53 | 16. 3 | 16. 13 | 16. 23 | 16. 34 | 16. 44 | 16. 54 | 17. 4 | | |
| 54 | 14. 51 | 15. 2 | 15. 12 | 15. 22 | 15. 32 | 15. 43 | 15. 53 | 16. 3 | 16. 13 | 16. 24 | 16. 34 | 16. 44 | 16. 55 | 17. 5 | | |
| 56 | 14. 52 | 15. 2 | 15. 12 | 15. 22 | 15. 33 | 15. 43 | 15. 53 | 16. 4 | 16. 14 | 16. 24 | 16. 34 | 16. 45 | 16. 55 | 17. 5 | | |
| 58 | 14. 52 | 15. 2 | 15. 12 | 15. 23 | 15. 33 | 15. 43 | 15. 54 | 16. 4 | 16. 14 | 16. 24 | 16. 35 | 16. 45 | 16. 55 | 17. 6 | | |
| 60 | 14. 52 | 15. 2 | 15. 13 | 15. 23 | 15. 33 | 15. 44 | 15. 54 | 16. 4 | 16. 14 | 16. 24 | 16. 35 | 16. 45 | 16. 56 | 17. 6 | | |
| 62 | 14. 52 | 15. 3 | 15. 13 | 15. 23 | 15. 34 | 15. 44 | 15. 54 | 16. 4 | 16. 15 | 16. 25 | 16. 35 | 16. 46 | 16. 56 | 17. 6 | | |
| 64 | 14. 53 | 15. 3 | 15. 13 | 15. 23 | 15. 34 | 15. 44 | 15. 54 | 16. 5 | 16. 15 | 16. 25 | 16. 36 | 16. 46 | 16. 56 | 17. 6 | | |
| 66 | 14. 53 | 15. 3 | 15. 13 | 15. 24 | 15. 34 | 15. 44 | 15. 55 | 16. 5 | 16. 15 | 16. 25 | 16. 36 | 16. 46 | 16. 56 | 17. 7 | | |
| 68 | 14. 53 | 15. 3 | 15. 14 | 15. 24 | 15. 34 | 15. 44 | 15. 55 | 16. 5 | 16. 15 | 16. 26 | 16. 36 | 16. 46 | 16. 57 | 17. 7 | | |
| 70 | 14. 53 | 15. 3 | 15. 14 | 15. 24 | 15. 34 | 15. 45 | 15. 55 | 16. 5 | 16. 16 | 16. 26 | 16. 36 | 16. 47 | 16. 57 | 17. 7 | | |
| 72 | 14. 53 | 15. 4 | 15. 14 | 15. 24 | 15. 34 | 15. 45 | 15. 55 | 16. 5 | 16. 16 | 16. 26 | 16. 36 | 16. 47 | 16. 57 | 17. 7 | | |
| 74 | 14. 53 | 15. 4 | 15. 14 | 15. 24 | 15. 35 | 15. 45 | 15. 55 | 16. 6 | 16. 16 | 16. 26 | 16. 37 | 16. 47 | 16. 57 | 17. 8 | | |
| 76 | 14. 53 | 15. 4 | 15. 14 | 15. 24 | 15. 35 | 15. 45 | 15. 55 | 16. 6 | 16. 16 | 16. 26 | 16. 37 | 16. 47 | 16. 57 | 17. 8 | | |
| 78 | 14. 53 | 15. 4 | 15. 14 | 15. 25 | 15. 35 | 15. 45 | 15. 56 | 16. 6 | 16. 16 | 16. 27 | 16. 37 | 16. 47 | 16. 58 | 17. 8 | | |
| 80 | 14. 54 | 15. 4 | 15. 14 | 15. 25 | 15. 35 | 15. 45 | 15. 56 | 16. 6 | 16. 16 | 16. 27 | 16. 37 | 16. 47 | 16. 58 | 17. 8 | | |
| 82 | 14. 54 | 15. 4 | 15. 14 | 15. 25 | 15. 35 | 15. 45 | 15. 56 | 16. 6 | 16. 16 | 16. 27 | 16. 37 | 16. 47 | 16. 58 | 17. 8 | | |
| 84 | 14. 54 | 15. 4 | 15. 14 | 15. 25 | 15. 35 | 15. 46 | 15. 56 | 16. 6 | 16. 17 | 16. 27 | 16. 37 | 16. 48 | 16. 58 | 17. 8 | | |
| 86 | 14. 54 | 15. 4 | 15. 14 | 15. 25 | 15. 35 | 15. 46 | 15. 56 | 16. 6 | 16. 17 | 16. 27 | 16. 37 | 16. 48 | 16. 58 | 17. 8 | | |
| 90 | 14. 54 | 15. 4 | 15. 15 | 15. 25 | 15. 35 | 15. 46 | 15. 56 | 16. 6 | 16. 17 | 16. 27 | 16. 37 | 16. 48 | 16. 58 | 17. 8 | | |

| Alt. of ☉. | Inclination of the Semidiameter to the Horizon. | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0° | 6° | 12° | 18° | 24° | 30° | 36° | 42° | 48° | 54° | 60° | 66° | 72° | 78° | 84° | 90° |
| ° ′ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 1. 0 | 0 | 1 | 5 | 10 | 18 | 27 | 37 | 48 | 59 | 70 | 80 | 89 | 95 | 102 | 105 | 107 |
| 1. 10 | 0 | 1 | 4 | 10 | 17 | 25 | 35 | 45 | 55 | 66 | 75 | 84 | 91 | 99 | 99 | 100 |
| 1. 20 | 0 | 1 | 4 | 9 | 16 | 23 | 32 | 42 | 52 | 62 | 70 | 78 | 85 | 90 | 93 | 94 |
| 1. 30 | 0 | 1 | 4 | 8 | 15 | 22 | 30 | 39 | 49 | 58 | 66 | 74 | 80 | 84 | 87 | 88 |
| 1. 40 | 0 | 1 | 4 | 8 | 14 | 21 | 29 | 37 | 46 | 54 | 62 | 69 | 75 | 79 | 82 | 83 |
| 1. 50 | 0 | 1 | 3 | 7 | 13 | 19 | 27 | 35 | 43 | 50 | 58 | 64 | 70 | 74 | 77 | 77 |
| 2. 0 | 0 | 1 | 3 | 7 | 12 | 18 | 25 | 32 | 40 | 47 | 54 | 60 | 66 | 69 | 72 | 73 |
| 2. 10 | 0 | 1 | 3 | 6 | 11 | 17 | 23 | 30 | 37 | 44 | 51 | 57 | 61 | 65 | 67 | 68 |
| 2. 20 | 0 | 1 | 3 | 6 | 11 | 16 | 22 | 28 | 35 | 42 | 48 | 53 | 58 | 61 | 63 | 64 |
| 2. 30 | 0 | 1 | 3 | 6 | 10 | 15 | 21 | 27 | 33 | 39 | 45 | 50 | 54 | 57 | 59 | 60 |
| 2. 40 | 0 | 1 | 2 | 5 | 9 | 14 | 19 | 25 | 31 | 37 | 42 | 47 | 52 | 53 | 55 | 56 |
| 2. 50 | 0 | 1 | 2 | 5 | 9 | 13 | 18 | 23 | 29 | 34 | 39 | 44 | 47 | 50 | 53 | 53 |
| 3. 0 | 0 | 1 | 2 | 5 | 8 | 12 | 17 | 22 | 27 | 32 | 37 | 41 | 44 | 47 | 49 | 49 |
| 3. 20 | 0 | 0 | 2 | 4 | 7 | 11 | 15 | 20 | 24 | 29 | 33 | 37 | 40 | 42 | 44 | 44 |
| 3. 40 | 0 | 0 | 2 | 4 | 6 | 10 | 13 | 18 | 22 | 26 | 29 | 33 | 35 | 37 | 39 | 39 |
| 4. 0 | 0 | 0 | 2 | 3 | 6 | 9 | 12 | 16 | 19 | 23 | 26 | 29 | 31 | 33 | 35 | 35 |
| 4. 20 | 0 | 0 | 1 | 3 | 5 | 8 | 11 | 14 | 17 | 20 | 23 | 26 | 28 | 30 | 31 | 31 |
| 4. 40 | 0 | 0 | 1 | 3 | 5 | 7 | 11 | 13 | 15 | 18 | 21 | 23 | 25 | 27 | 28 | 28 |
| 5. 0 | 0 | 0 | 1 | 2 | 4 | 6 | 9 | 11 | 14 | 16 | 19 | 21 | 23 | 24 | 25 | 25 |
| 5. 30 | 0 | 0 | 1 | 2 | 4 | 5 | 8 | 10 | 12 | 14 | 16 | 18 | 20 | 21 | 22 | 22 |
| 6 | 0 | 0 | 1 | 2 | 3 | 5 | 7 | 9 | 10 | 12 | 14 | 16 | 17 | 18 | 19 | 19 |
| 7 | 0 | 0 | 1 | 1 | 2 | 4 | 5 | 7 | 8 | 9 | 11 | 12 | 13 | 14 | 14 | 14 |
| 8 | 0 | 0 | 1 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 11 | 11 |
| 9 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 4 | 5 | 6 | 7 | 7 | 8 | 9 | 9 | 9 |
| 10 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 3 | 4 | 5 | 6 | 6 | 7 | 7 | 8 | 8 |
| 11 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 4 | 4 | 5 | 5 | 6 | 6 | 6 | 6 |
| 12 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 3 | 4 | 4 | 5 | 5 | 5 | 5 | 5 |
| 13 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 2 | 3 | 3 | 4 | 4 | 4 | 5 | 5 | 5 |
| 14 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 3 | 3 | 3 | 4 | 4 | 4 | 4 |
| 15 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 4 | 4 |
| 16 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 3 | 3 | 3 | 3 | 3 |
| 17 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| 18 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 | 3 |
| 19 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 3 |
| 20 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| 21 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 | 2 |
| 22 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 |
| 23 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| 24 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 2 | 2 |
| 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 |
| 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 |
| 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 42 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 46 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

### ☽'s App. Altitude 2 Degrees.

| | Horizontal Parallax. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
| 0 | 35′ 26″ | 36′ 28″ | 37′ 25″ | 38′ 26″ | 39′ 28″ | 40′ 23″ | 41′ 23″ | 42′ 23″ |
| 2 | 32 | 32 | 32 | 32 | 32 | 32 | 32 | 32 |
| 4 | 42 | 42 | 42 | 42 | 42 | 42 | 42 | 42 |
| 6 | 51 | 51 | 51 | 51 | 51 | 51 | 51 | 51 |
| 8 | 36. 0 | 37. 0 | 38. 0 | 39. 0 | 40. 0 | 41. 0 | 42. 0 | 43. 0 |
| 10 | 9 | 10 | 10 | 10 | 10 | 9 | 9 | 9 |
| 12 | 18 | 18 | 18 | 18 | 18 | 18 | 18 | 18 |
| 14 | 27 | 27 | 27 | 27 | 27 | 27 | 27 | 27 |
| 16 | 37 | 36 | 36 | 36 | 36 | 36 | 36 | 36 |
| 18 | 45 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| 20 | 36. 54 | 37. 53 | 38. 53 | 39. 53 | 40. 53 | 41. 53 | 42. 53 | 43. 53 |
| 22 | 37. 1 | 38. 1 | 39. 1 | 40. 1 | 41. 1 | 42. 1 | 43. 1 | 44. 1 |
| 24 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 26 | 17 | 17 | 17 | 17 | 17 | 17 | 17 | 17 |
| 28 | 25 | 25 | 25 | 25 | 25 | 25 | 25 | 25 |
| 30 | 37. 34 | 38. 33 | 39. 33 | 40. 33 | 41. 33 | 42. 33 | 43. 33 | 44. 33 |
| 32 | 42 | 41 | 41 | 41 | 41 | 41 | 41 | 41 |
| 34 | 49 | 49 | 48 | 48 | 48 | 48 | 48 | 48 |
| 36 | 57 | 57 | 56 | 56 | 56 | 56 | 56 | 56 |
| 38 | 38. 4 | 39. 4 | 40. 3 | 41. 3 | 42. 3 | 43. 3 | 44. 3 | 45. 3 |
| 40 | 38. 12 | 39. 12 | 40. 11 | 41. 11 | 42. 11 | 43. 11 | 44. 11 | 45. 11 |
| 42 | 19 | 19 | 18 | 18 | 18 | 18 | 18 | 18 |
| 44 | 26 | 26 | 25 | 25 | 25 | 25 | 25 | 25 |
| 46 | 33 | 33 | 32 | 32 | 32 | 32 | 32 | 32 |
| 48 | 40 | 40 | 39 | 39 | 39 | 39 | 39 | 39 |
| 50 | 38. 47 | 39. 47 | 40. 47 | 41. 47 | 42. 47 | 43. 47 | 44. 47 | 45. 47 |
| 52 | 54 | 54 | 54 | 54 | 54 | 54 | 54 | 54 |
| 54 | 39. 0 | 40. 0 | 41. 0 | 42. 0 | 43. 0 | 44. 0 | 45. 0 | 46. 0 |
| 56 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 58 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |

### ☽'s App. Altitude 3 Degrees.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 39′ 21″ | 40′ 20″ | 41′ 20″ | 42′ 20″ | 43′ 20″ | 44′ 20″ | 45′ 20″ | 46′ 20″ |
| 2 | 27 | 26 | 26 | 26 | 26 | 26 | 26 | 26 |
| 4 | 34 | 33 | 33 | 33 | 33 | 33 | 33 | 33 |
| 6 | 40 | 39 | 39 | 39 | 39 | 39 | 39 | 39 |
| 8 | 46 | 45 | 45 | 45 | 45 | 45 | 45 | 45 |
| 10 | 39. 52 | 40. 52 | 41. 52 | 42. 52 | 43. 51 | 44. 51 | 45. 51 | 46. 51 |
| 12 | 58 | 58 | 58 | 58 | 57 | 57 | 57 | 57 |
| 14 | 40. 4 | 41. 4 | 42. 4 | 43. 4 | 44. 3 | 45. 3 | 46. 3 | 47. 3 |
| 16 | 10 | 10 | 10 | 10 | 9 | 9 | 9 | 9 |
| 18 | 16 | 16 | 16 | 16 | 15 | 15 | 15 | 15 |
| 20 | 40. 21 | 41. 21 | 42. 21 | 43. 21 | 44. 21 | 45. 21 | 46. 21 | 47. 20 |
| 22 | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 25 |
| 24 | 32 | 31 | 31 | 31 | 32 | 32 | 32 | 31 |
| 26 | 37 | 37 | 37 | 37 | 37 | 37 | 37 | 36 |
| 28 | 43 | 43 | 43 | 43 | 43 | 43 | 43 | 42 |
| 30 | 40. 48 | 41. 48 | 42. 48 | 43. 48 | 44. 48 | 45. 48 | 46. 48 | 47. 48 |
| 32 | 54 | 54 | 54 | 53 | 53 | 53 | 53 | 53 |
| 34 | 59 | 59 | 58 | 58 | 58 | 58 | 58 | 58 |
| 36 | 41. 5 | 42. 5 | 43. 5 | 44. 4 | 45. 4 | 46. 4 | 47. 4 | 48. 4 |
| 38 | 10 | 10 | 10 | 9 | 9 | 9 | 9 | 9 |
| 40 | 41. 15 | 42. 14 | 43. 14 | 44. 14 | 45. 14 | 46. 14 | 47. 14 | 48. 14 |
| 42 | 20 | 19 | 19 | 19 | 19 | 19 | 19 | 19 |
| 44 | 25 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| 46 | 30 | 29 | 29 | 29 | 29 | 29 | 29 | 29 |
| 48 | 35 | 34 | 34 | 34 | 34 | 34 | 34 | 34 |
| 50 | 41. 39 | 42. 39 | 43. 39 | 44. 39 | 45. 38 | 46. 38 | 47. 38 | 48. 38 |
| 52 | 44 | 44 | 44 | 44 | 43 | 43 | 43 | 43 |
| 54 | 48 | 48 | 48 | 48 | 47 | 47 | 47 | 47 |
| 56 | 53 | 53 | 53 | 53 | 52 | 52 | 52 | 52 |
| 58 | 57 | 57 | 57 | 57 | 56 | 56 | 56 | 56 |

| Figures for Seconds of Parallax | |
|---|---|
| ′ | ″ |
| 1– | 1 |
| 2– | 2 |
| 3– | 3 |
| 4– | 4 |
| 5– | 5 |
| 6– | 6 |
| 7– | 7 |
| 8– | 8 |
| 9– | 9 |
| 10– | 10 |
| 11– | 11 |
| 12– | 12 |
| 13– | 13 |
| 14– | 14 |
| 15– | 15 |
| 16– | 16 |
| 17– | 17 |
| 18– | 18 |
| 19– | 19 |
| 20– | 20 |
| 21– | 21 |
| 22– | 22 |
| 23– | 23 |
| 24– | 24 |
| 25– | 25 |
| 26– | 26 |
| 27– | 27 |
| 28– | 28 |
| 29– | 29 |
| 30– | 30 |
| 31– | 31 |
| 32– | 32 |
| 33– | 33 |
| 34– | 34 |
| 35– | 35 |
| 36– | 36 |
| 37– | 37 |
| 38– | 38 |
| 39– | 39 |
| 40– | 40 |
| 41– | 41 |
| 42– | 42 |
| 43– | 43 |
| 44– | 44 |
| 45– | 45 |
| 46– | 46 |
| 47– | 47 |
| 48– | 48 |
| 49– | 49 |
| 50– | 50 |
| 51– | 51 |
| 52– | 52 |
| 53– | 53 |
| 54– | 54 |
| 55– | 55 |
| 56– | 56 |
| 57– | 57 |
| 58– | 58 |
| 59– | 59 |

### ☽' App. Altitude 4 Degrees.

| | Horizontal Parallax. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
| 0 | 42′ 2″ | 43′ 2″ | 44′ 2″ | 45′ 1″ | 46′ 1″ | 47′ 1″ | 48′ 1″ | 49′ 1″ |
| 2 | 6 | 6 | 6 | 5 | 5 | 5 | 5 | 5 |
| 4 | 11 | 11 | 11 | 10 | 10 | 10 | 10 | 10 |
| 6 | 15 | 15 | 15 | 14 | 14 | 14 | 14 | 14 |
| 8 | 19 | 19 | 19 | 18 | 18 | 18 | 18 | 18 |
| 10 | 42. 24 | 43. 23 | 44. 23 | 45. 23 | 46. 23 | 47. 23 | 48. 23 | 49. 22 |
| 12 | 28 | 27 | 27 | 27 | 27 | 27 | 27 | 26 |
| 14 | 32 | 31 | 31 | 31 | 31 | 31 | 31 | 30 |
| 16 | 36 | 35 | 35 | 35 | 35 | 35 | 35 | 34 |
| 18 | 40 | 39 | 39 | 39 | 39 | 39 | 39 | 38 |
| 20 | 42. 44 | 43. 44 | 44. 44 | 45. 43 | 46. 43 | 47. 43 | 48. 43 | 49. 43 |
| 22 | 48 | 48 | 48 | 47 | 47 | 47 | 47 | 47 |
| 24 | 52 | 52 | 52 | 51 | 51 | 51 | 51 | 51 |
| 26 | 55 | 55 | 56 | 54 | 54 | 54 | 54 | 55 |
| 28 | 59 | 59 | 59 | 58 | 58 | 58 | 58 | 59 |
| 30 | 43. 3 | 44. 3 | 45. 3 | 46. 3 | 47. 2 | 48. 2 | 49. 2 | 50. 3 |
| 32 | 7 | 7 | 7 | 7 | 6 | 6 | 6 | 6 |
| 34 | 12 | 12 | 12 | 12 | 10 | 10 | 10 | 10 |
| 36 | 14 | 14 | 14 | 14 | 13 | 13 | 13 | 13 |
| 38 | 17 | 17 | 17 | 17 | 17 | 16 | 16 | 16 |
| 40 | 43. 21 | 44. 21 | 45. 21 | 46. 21 | 47. 21 | 48. 20 | 49. 20 | 50. 20 |
| 42 | 24 | 24 | 24 | 24 | 24 | 23 | 23 | 23 |
| 44 | 28 | 28 | 28 | 28 | 28 | 27 | 27 | 27 |
| 46 | 31 | 31 | 31 | 31 | 31 | 30 | 30 | 30 |
| 48 | 35 | 35 | 35 | 35 | 35 | 34 | 34 | 34 |
| 50 | 43. 39 | 44. 38 | 45. 38 | 46. 38 | 47. 38 | 48. 37 | 49. 37 | 50. 37 |
| 52 | 42 | 41 | 41 | 41 | 41 | 40 | 40 | 40 |
| 54 | 45 | 44 | 44 | 44 | 44 | 43 | 43 | 43 |
| 56 | 49 | 48 | 48 | 48 | 48 | 47 | 47 | 47 |
| 58 | 52 | 51 | 51 | 51 | 51 | 50 | 50 | 50 |

### ☽'s App. Altitude 5 Degrees.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 43′ 55″ | 44′ 54″ | 45′ 54″ | 46′ 54″ | 47′ 54″ | 48′ 54″ | 49′ 53″ | 50′ 53″ |
| 2 | 58 | 57 | 57 | 57 | 57 | 57 | 56 | 56 |
| 4 | 44′ 1 | 45′ 0 | 46′ 0 | 47′ 0 | 48′ 0 | 49′ 0 | 50′ 0 | 50′ 59 |
| 6 | 4 | 3 | 3 | 3 | 3 | 3 | 50. 2 | 51. 2 |
| 8 | 7 | 6 | 6 | 6 | 6 | 6 | 5 | 5 |
| 10 | 44′ 10 | 45′ 10 | 46′ 10 | 47′ 9 | 48′ 9 | 49′ 9 | 50′ 9 | 51′ 8 |
| 12 | 13 | 13 | 13 | 11 | 12 | 12 | 12 | 11 |
| 14 | 16 | 16 | 16 | 15 | 15 | 15 | 15 | 14 |
| 16 | 19 | 19 | 19 | 18 | 18 | 18 | 18 | 17 |
| 18 | 22 | 22 | 22 | 21 | 21 | 21 | 21 | 20 |
| 20 | 44′ 25 | 45′ 24 | 46′ 24 | 47′ 24 | 48′ 24 | 49′ 23 | 50′ 23 | 51′ 23 |
| 22 | 28 | 27 | 27 | 27 | 27 | 26 | 26 | 26 |
| 24 | 30 | 29 | 29 | 29 | 29 | 28 | 28 | 28 |
| 26 | 33 | 32 | 32 | 32 | 32 | 31 | 31 | 31 |
| 28 | 36 | 35 | 35 | 35 | 35 | 34 | 34 | 34 |
| 30 | 44′ 38 | 45′ 38 | 46′ 38 | 47′ 38 | 48′ 37 | 49′ 37 | 50′ 37 | 51′ 36 |
| 32 | 41 | 41 | 41 | 41 | 40 | 40 | 40 | 39 |
| 34 | 43 | 43 | 43 | 43 | 42 | 42 | 42 | 41 |
| 36 | 47 | 46 | 46 | 46 | 45 | 45 | 45 | 44 |
| 38 | 49 | 48 | 48 | 48 | 48 | 48 | 47 | 47 |
| 40 | 44′ 51 | 45′ 51 | 46′ 51 | 47′ 51 | 48′ 50 | 49′ 50 | 50′ 50 | 51′ 49 |
| 42 | 53 | 53 | 53 | 53 | 52 | 52 | 52 | 51 |
| 44 | 56 | 56 | 56 | 56 | 55 | 55 | 55 | 54 |
| 46 | 58 | 58 | 58 | 58 | 57 | 57 | 57 | 56 |
| 48 | 45′ 1 | 46′ 1 | 47′ 1 | 48′ 1 | 49′ 0 | 50′ 0 | 51′ 0 | 50 |
| 50 | 45′ 4 | 46′ 3 | 47′ 3 | 48′ 3 | 49′ 3 | 50′ 2 | 51′ 2 | 52′ 2 |
| 52 | 6 | 5 | 5 | 5 | 5 | 4 | 4 | 4 |
| 54 | 9 | 8 | 8 | 8 | 8 | 7 | 7 | 7 |
| 56 | 11 | 10 | 10 | 10 | 10 | 9 | 9 | 9 |
| 58 | 13 | 12 | 12 | 12 | 12 | 11 | 11 | 11 |

| Figures for Seconds of Parallax | |
|---|---|
| ′ | ″ |
| 1– | 1 |
| 2– | 2 |
| 3– | 3 |
| 4– | 4 |
| 5– | 5 |
| 6– | 6 |
| 7– | 7 |
| 8– | 8 |
| 9– | 9 |
| 10– | 10 |
| 11– | 11 |
| 12– | 12 |
| 13– | 13 |
| 14– | 14 |
| 15– | 15 |
| 16– | 16 |
| 17– | 17 |
| 18– | 18 |
| 19– | 19 |
| 20– | 20 |
| 21– | 21 |
| 22– | 22 |
| 23– | 23 |
| 24– | 24 |
| 25– | 25 |
| 26– | 26 |
| 27– | 27 |
| 28– | 28 |
| 29– | 29 |
| 30– | 30 |
| 31– | 31 |
| 32– | 32 |
| 33– | 33 |
| 34– | 34 |
| 35– | 35 |
| 36– | 36 |
| 37– | 37 |
| 38– | 38 |
| 39– | 39 |
| 40– | 40 |
| 41– | 41 |
| 42– | 42 |
| 43– | 43 |
| 44– | 44 |
| 45– | 45 |
| 46– | 46 |
| 47– | 47 |
| 48– | 48 |
| 49– | 49 |
| 50– | 50 |
| 51– | 51 |
| 52– | 52 |
| 53– | 53 |
| 54– | 54 |
| 55– | 55 |
| 56– | 56 |
| 57– | 57 |
| 58– | 58 |
| 59– | 59 |

☽'s App. Altitude 2 Degrees.

| ′ | Horizontal Parallax 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 0. 16 | 0. 18 | 0. 19 | 0. 21 | 0. 22 | 0. 24 | 0. 26 | 0. 27 |
| 2 | 17 | 19 | 20 | 22 | 23 | 25 | 27 | 28 |
| 4 | 18 | 20 | 21 | 23 | 24 | 26 | 28 | 29 |
| 6 | 19 | 21 | 22 | 24 | 26 | 28 | 30 | 31 |
| 8 | 20 | 22 | 23 | 25 | 27 | 29 | 31 | 32 |
| 10 | 0. 21 | 0. 23 | 0. 24 | 0. 26 | 0. 28 | 0. 30 | 0. 32 | 0. 33 |
| 12 | 21 | 24 | 25 | 27 | 29 | 31 | 33 | 34 |
| 14 | 23 | 25 | 26 | 28 | 30 | 32 | 34 | 35 |
| 16 | 24 | 26 | 28 | 30 | 31 | 33 | 35 | 37 |
| 18 | 25 | 27 | 29 | 31 | 32 | 34 | 36 | 38 |
| 20 | 0. 26 | 0. 28 | 0. 30 | 0. 32 | 0. 33 | 0. 35 | 0. 37 | 0. 39 |
| 22 | 27 | 29 | 31 | 33 | 34 | 36 | 38 | 40 |
| 24 | 28 | 30 | 32 | 34 | 35 | 37 | 39 | 41 |
| 26 | 29 | 31 | 33 | 35 | 37 | 39 | 41 | 43 |
| 28 | 30 | 32 | 34 | 36 | 38 | 40 | 42 | 44 |
| 30 | 0. 31 | 0. 33 | 0. 35 | 0. 37 | 0. 39 | 0. 41 | 0. 43 | 0. 45 |
| 32 | 32 | 34 | 36 | 38 | 40 | 42 | 44 | 46 |
| 34 | 33 | 35 | 37 | 39 | 41 | 43 | 45 | 47 |
| 36 | 34 | 36 | 38 | 40 | 42 | 44 | 46 | 48 |
| 38 | 35 | 37 | 39 | 41 | 43 | 45 | 47 | 49 |
| 40 | 0. 36 | 0. 38 | 0. 40 | 0. 42 | 0. 44 | 0. 46 | 0. 48 | 0. 50 |
| 42 | 37 | 39 | 41 | 43 | 45 | 47 | 49 | 51 |
| 44 | 38 | 40 | 42 | 44 | 46 | 48 | 50 | 52 |
| 46 | 39 | 41 | 44 | 46 | 48 | 50 | 52 | 54 |
| 48 | 40 | 42 | 45 | 47 | 49 | 51 | 53 | 55 |
| 50 | 0. 41 | 0. 43 | 0. 46 | 0. 48 | 0. 50 | 0. 52 | 0. 54 | 0. 56 |
| 52 | 42 | 45 | 47 | 49 | 51 | 53 | 55 | 57 |
| 54 | 43 | 45 | 48 | 50 | 52 | 54 | 56 | 58 |
| 56 | 44 | 47 | 49 | 51 | 53 | 55 | 58 | 1. 0 |
| 58 | 45 | 48 | 50 | 52 | 54 | 56 | 59 | 1 1 |

☽'s App. Altitude 3 Degrees.

| ′ | Horizontal Parallax 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 0. 47 | 0. 49 | 0. 51 | 0. 53 | 0. 55 | 0. 57 | 1. 0 | 1. 2 |
| 2 | 47 | 50 | 52 | 54 | 56 | 58 | 1 | 3 |
| 4 | 48 | 51 | 53 | 55 | 57 | 59 | 2 | 4 |
| 6 | 49 | 52 | 55 | 57 | 59 | 1. 1 | 4 | 6 |
| 8 | 50 | 53 | 56 | 58 | 1. 0 | 2 | 5 | 7 |
| 10 | 0. 51 | 0. 54 | 0. 57 | 0. 59 | 1. 1 | 1. 3 | 1. 6 | 1. 8 |
| 12 | 52 | 55 | 58 | 1. 0 | 2 | 4 | 7 | 9 |
| 14 | 53 | 57 | 59 | 1 | 3 | 5 | 8 | 1 10 |
| 16 | 55 | 58 | 1. 0 | 2 | 4 | 7 | 10 | 12 |
| 18 | 56 | 59 | 1 | 3 | 5 | 8 | 11 | 13 |
| 20 | 0. 57 | 1. 0 | 1. 2 | 1. 4 | 1. 6 | 1. 9 | 1. 12 | 1. 14 |
| 22 | 58 | 1 | 3 | 5 | 7 | 1 10 | 13 | 15 |
| 24 | 59 | 2 | 4 | 6 | 8 | 11 | 14 | 16 |
| 26 | 1. 0 | 3 | 6 | 8 | 11 | 13 | 15 | 18 |
| 28 | 1 | 4 | 7 | 9 | 11 | 14 | 17 | 19 |
| 30 | 1. 2 | 1. 5 | 1. 8 | 1. 10 | 1. 12 | 1. 15 | 1. 18 | 1. 20 |
| 32 | 3 | 6 | 9 | 11 | 13 | 16 | 19 | 21 |
| 34 | 4 | 7 | 10 | 12 | 14 | 17 | 20 | 22 |
| 36 | 5 | 8 | 11 | 13 | 16 | 18 | 21 | 24 |
| 38 | 6 | 9 | 12 | 14 | 17 | 19 | 22 | 25 |
| 40 | 1. 7 | 1. 10 | 1. 13 | 1. 15 | 1. 18 | 1. 20 | 1. 23 | 1. 26 |
| 42 | 8 | 11 | 14 | 16 | 19 | 21 | 24 | 27 |
| 44 | 9 | 12 | 15 | 17 | 20 | 22 | 25 | 28 |
| 46 | 11 | 14 | 17 | 19 | 21 | 24 | 27 | 30 |
| 48 | 12 | 15 | 18 | 20 | 22 | 25 | 28 | 31 |
| 50 | 1. 13 | 1. 16 | 1. 19 | 1. 21 | 1. 23 | 1. 26 | 1. 29 | 1. 32 |
| 52 | 14 | 17 | 20 | 22 | 24 | 27 | 30 | 33 |
| 54 | 15 | 18 | 21 | 23 | 25 | 28 | 31 | 34 |
| 56 | 16 | 19 | 22 | 24 | 27 | 30 | 33 | 36 |
| 58 | 17 | 20 | 23 | 25 | 28 | 31 | 34 | 37 |

Proportion for Seconds of Parallax to be added

| ″ | |
|---|---|
| 1– 0 | |
| 2– 0 | |
| 3– 0 | |
| 4– 0 | |
| 5– 0 | |
| 6– 0 | |
| 7– 0 | |
| 8– 0 | |
| 9– 0 | |
| 10– 0 | |
| 11– 0 | |
| 12– 0 | |
| 13– 0 | |
| 14– 0 | |
| 15– 1 | |
| 16– 1 | |
| 17– 1 | |
| 18– 1 | |
| 19– 1 | |
| 20– 1 | |
| 21– 1 | |
| 22– 1 | |
| 23– 1 | |
| 24– 1 | |
| 25– 1 | |
| 26– 1 | |
| 27– 1 | |
| 28– 1 | |
| 29– 1 | |
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| 36– 1 | |
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| 38– 1 | |
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| 41– 1 | |
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| 43– 1 | |
| 44– 1 | |
| 45– 1 | |
| 46– 1 | |
| 47– 1 | |
| 48– 1 | |
| 49– 1 | |
| 50– 1 | |
| 51– 1 | |
| 52– 1 | |
| 53– 1 | |
| 54– 1 | |
| 55– 1 | |
| 56– 1 | |
| 57– 1 | |
| 58– 1 | |
| 59– 1 | |

☽'s App. Altitude 4 Degrees.

| ′ | Horizontal Parallax 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 1. 18 | 1. 21 | 1. 24 | 1. 26 | 1. 29 | 1. 32 | 1. 35 | 1. 38 |
| 2 | 19 | 22 | 25 | 27 | 30 | 33 | 36 | 39 |
| 4 | 20 | 23 | 26 | 28 | 31 | 34 | 37 | 40 |
| 6 | 21 | 24 | 27 | 30 | 33 | 36 | 39 | 42 |
| 8 | 22 | 25 | 28 | 31 | 34 | 37 | 40 | 43 |
| 10 | 1. 23 | 1. 26 | 1. 29 | 1. 32 | 1. 35 | 1. 38 | 1. 41 | 1. 44 |
| 12 | 24 | 27 | 30 | 33 | 36 | 39 | 42 | 45 |
| 14 | 25 | 28 | 31 | 34 | 37 | 40 | 43 | 46 |
| 16 | 27 | 30 | 33 | 36 | 39 | 42 | 45 | 48 |
| 18 | 28 | 31 | 34 | 37 | 40 | 43 | 46 | 49 |
| 20 | 1. 29 | 1. 32 | 1. 35 | 1. 38 | 1. 41 | 1. 44 | 1. 47 | 1. 50 |
| 22 | 30 | 33 | 36 | 39 | 42 | 45 | 48 | 51 |
| 24 | 31 | 34 | 37 | 40 | 43 | 46 | 49 | 52 |
| 26 | 32 | 35 | 38 | 41 | 45 | 48 | 51 | 54 |
| 28 | 33 | 36 | 39 | 42 | 46 | 49 | 52 | 55 |
| 30 | 1. 34 | 1. 37 | 1. 40 | 1. 43 | 1. 47 | 1. 50 | 1. 53 | 1. 56 |
| 32 | 35 | 38 | 41 | 44 | 48 | 51 | 54 | 57 |
| 34 | 36 | 39 | 42 | 46 | 49 | 52 | 55 | 58 |
| 36 | 37 | 40 | 44 | 47 | 50 | 53 | 56 | 2. 0 |
| 38 | 38 | 41 | 45 | 48 | 51 | 54 | 58 | 1 |
| 40 | 1. 39 | 1. 42 | 1. 46 | 1. 49 | 1. 52 | 1. 55 | 1. 59 | 2. 2 |
| 42 | 40 | 43 | 47 | 50 | 53 | 56 | 2. 0 | 3 |
| 44 | 41 | 44 | 48 | 51 | 54 | 57 | 1 | 4 |
| 46 | 43 | 46 | 49 | 52 | 56 | 59 | 2 | 6 |
| 48 | 44 | 47 | 51 | 53 | 57 | 2. 0 | 4 | 7 |
| 50 | 1. 45 | 1. 48 | 1. 51 | 1. 54 | 1. 58 | 2. 1 | 2. 5 | 2. 8 |
| 52 | 46 | 49 | 52 | 56 | 59 | 2 | 6 | 9 |
| 54 | 47 | 50 | 53 | 56 | 2. 0 | 3 | 7 | 10 |
| 56 | 48 | 51 | 55 | 58 | 2 | 5 | 8 | 12 |
| 58 | 49 | 52 | 56 | 59 | 3 | 6 | 10 | 13 |

☽'s App. Altitude 5 Degrees.

| ′ | Horizontal Parallax 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 1. 50 | 1. 53 | 1. 57 | 2. 0 | 2. 4 | 2. 7 | 2. 11 | 2. 14 |
| 2 | 51 | 54 | 58 | 1 | 5 | 8 | 12 | 15 |
| 4 | 52 | 55 | 59 | 2 | 6 | 9 | 13 | 16 |
| 6 | 53 | 57 | 2. 1 | 4 | 8 | 11 | 15 | 18 |
| 8 | 54 | 58 | 2 | 5 | 9 | 12 | 16 | 19 |
| 10 | 1. 55 | 1. 59 | 2. 3 | 2. 6 | 2. 10 | 2. 13 | 2. 17 | 2. 20 |
| 12 | 56 | 2. 0 | 4 | 7 | 11 | 14 | 18 | 21 |
| 14 | 57 | 1 | 5 | 8 | 12 | 15 | 19 | 22 |
| 16 | 59 | 2 | 6 | 10 | 14 | 17 | 21 | 24 |
| 18 | 2. 0 | 3 | 7 | 11 | 15 | 18 | 22 | 25 |
| 20 | 2. 1 | 2. 4 | 2. 8 | 2. 12 | 2. 16 | 2. 19 | 2. 23 | 2. 26 |
| 22 | 2 | 5 | 9 | 13 | 17 | 20 | 24 | 27 |
| 24 | 3 | 6 | 10 | 13 | 18 | 21 | 25 | 28 |
| 26 | 4 | 8 | 12 | 15 | 19 | 23 | 27 | 30 |
| 28 | 5 | 9 | 13 | 16 | 21 | 24 | 28 | 31 |
| 30 | 2. 6 | 2. 10 | 2. 14 | 2. 18 | 2. 22 | 2. 25 | 2. 29 | 2. 33 |
| 32 | 7 | 11 | 15 | 19 | 23 | 26 | 30 | 34 |
| 34 | 8 | 12 | 16 | 20 | 24 | 27 | 31 | 35 |
| 36 | 9 | 13 | 17 | 21 | 25 | 29 | 33 | 36 |
| 38 | 11 | 14 | 18 | 22 | 26 | 30 | 34 | 37 |
| 40 | 2. 11 | 2. 15 | 2. 19 | 2. 23 | 2. 27 | 2. 31 | 2. 35 | 2. 38 |
| 42 | 12 | 16 | 20 | 24 | 28 | 32 | 36 | 40 |
| 44 | 13 | 17 | 21 | 25 | 29 | 33 | 37 | 41 |
| 46 | 15 | 19 | 23 | 27 | 31 | 34 | 38 | 42 |
| 48 | 16 | 20 | 24 | 27 | 32 | 35 | 39 | 43 |
| 50 | 2. 17 | 2. 21 | 2. 25 | 2. 28 | 2. 33 | 2. 36 | 2. 40 | 2. 44 |
| 52 | 18 | 22 | 26 | 29 | 34 | 37 | 41 | 45 |
| 54 | 19 | 23 | 27 | 30 | 35 | 38 | 42 | 46 |
| 56 | 20 | 24 | 28 | 31 | 36 | 39 | 43 | 47 |
| 58 | 21 | 25 | 29 | 32 | 37 | 40 | 44 | 48 |

☽'s App. Altitude 6 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 45. 16″ | 46. 15″ | 47. 15″ | 48. 15″ | 49. 14″ | 50. 14″ | 51. 14″ | 52. 13″ |
| 2 | 18 | 17 | 17 | 17 | 16 | 16 | 16 | 15 |
| 4 | 20 | 19 | 19 | 19 | 18 | 18 | 18 | 17 |
| 6 | 23 | 22 | 22 | 22 | 21 | 21 | 21 | 20 |
| 8 | 25 | 24 | 24 | 24 | 23 | 23 | 23 | 22 |
| 10 | 45. 27 | 46. 26 | 47. 26 | 48. 26 | 49. 25 | 50. 25 | 51. 25 | 52. 24 |
| 12 | 29 | 28 | 28 | 28 | 27 | 27 | 27 | 26 |
| 14 | 31 | 30 | 30 | 30 | 29 | 29 | 29 | 28 |
| 16 | 33 | 33 | 33 | 32 | 32 | 31 | 31 | 31 |
| 18 | 35 | 35 | 35 | 34 | 34 | 33 | 33 | 33 |
| 20 | 45. 37 | 46. 37 | 47. 37 | 48. 36 | 49. 36 | 50. 35 | 51. 35 | 52. 35 |
| 22 | 39 | 39 | 39 | 38 | 38 | 37 | 37 | 37 |
| 24 | 41 | 41 | 41 | 40 | 40 | 39 | 39 | 39 |
| 26 | 43 | 43 | 43 | 42 | 42 | 41 | 41 | 41 |
| 28 | 45 | 45 | 45 | 44 | 44 | 43 | 43 | 43 |
| 30 | 45. 47 | 46. 47 | 47. 47 | 48. 46 | 49. 46 | 50. 45 | 51. 45 | 52. 45 |
| 32 | 49 | 49 | 49 | 48 | 48 | 47 | 47 | 47 |
| 34 | 51 | 51 | 51 | 50 | 50 | 49 | 49 | 49 |
| 36 | 53 | 53 | 53 | 52 | 51 | 51 | 51 | 50 |
| 38 | 55 | 55 | 55 | 54 | 53 | 53 | 53 | 52 |
| 40 | 45. 57 | 46. 57 | 47. 57 | 48. 56 | 49. 55 | 50. 55 | 51. 55 | 52. 54 |
| 42 | 59 | 59 | 58 | 58 | 57 | 57 | 57 | 56 |
| 44 | 46. 1 | 47. 1 | 48. 0 | 49. 0 | 59 | 59 | 59 | 58 |
| 46 | 2 | 2 | 1 | 1 | 50. 0 | 51. 0 | 52. 0 | 59 |
| 48 | 4 | 4 | 3 | 3 | 2 | 2 | 53. 1 | 53. 0 |
| 50 | 46. 6 | 47. 6 | 48. 5 | 49. 5 | 50. 4 | 51. 4 | 52. 4 | 53. 3 |
| 52 | 8 | 8 | 7 | 7 | 6 | 6 | 6 | 5 |
| 54 | 10 | 9 | 9 | 8 | 8 | 8 | 7 | 7 |
| 56 | 11 | 11 | 10 | 10 | 9 | 9 | 9 | 8 |
| 58 | 13 | 12 | 12 | 11 | 11 | 11 | 10 | 10 |

☽'s App. Altitude 7 Degrees.

| ′ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 47. 0″ | 47. 14″ | 48. 14″ | 49. 13″ | 50. 13″ | 51. 13″ | 52. 12″ | 53. 12″ |
| 2 | 17 | 17 | 17 | 15 | 15 | 15 | 14 | 14 |
| 4 | 19 | 17 | 17 | 17 | 16 | 16 | 15 | 15 |
| 6 | 20 | 19 | 19 | 18 | 18 | 18 | 17 | 17 |
| 8 | 21 | 21 | 20 | 20 | 19 | 19 | 18 | 18 |
| 10 | 47. 23 | 47. 23 | 48. 23 | 49. 21 | 50. 21 | 51. 21 | 52. 20 | 53. 20 |
| 12 | 25 | 25 | 24 | 23 | 23 | 23 | 22 | 21 |
| 14 | 27 | 25 | 25 | 24 | 24 | 24 | 23 | 23 |
| 16 | 29 | 27 | 27 | 26 | 26 | 25 | 25 | 24 |
| 18 | 31 | 29 | 28 | 28 | 27 | 27 | 26 | 26 |
| 20 | 47. 33 | 47. 31 | 48. 30 | 49. 30 | 50. 29 | 51. 28 | 52. 28 | 53. 27 |
| 22 | 34 | 34 | 33 | 32 | 31 | 31 | 29 | 29 |
| 24 | 36 | 36 | 35 | 34 | 32 | 32 | 31 | 31 |
| 26 | 38 | 38 | 37 | 36 | 34 | 34 | 33 | 32 |
| 28 | 40 | 39 | 39 | 38 | 37 | 35 | 35 | 34 |
| 30 | 47. 42 | 47. 41 | 48. 41 | 49. 40 | 50. 39 | 51. 38 | 52. 37 | 53. 36 |
| 32 | 44 | 43 | 43 | 42 | 41 | 40 | 39 | 38 |
| 34 | 46 | 45 | 45 | 44 | 43 | 42 | 41 | 41 |
| 36 | 48 | 48 | 47 | 46 | 45 | 44 | 43 | 43 |
| 38 | 50 | 50 | 49 | 48 | 47 | 46 | 45 | 45 |
| 40 | 47. 52 | 47. 52 | 48. 51 | 49. 50 | 50. 49 | 51. 48 | 52. 47 | 53. 46 |
| 42 | 54 | 54 | 53 | 52 | 51 | 50 | 49 | 48 |
| 44 | 56 | 56 | 55 | 54 | 53 | 52 | 51 | 50 |
| 46 | 58 | 58 | 57 | 56 | 55 | 54 | 53 | 52 |
| 48 | 48. 0 | 47. 59 | 48. 59 | 49. 58 | 50. 57 | 51. 56 | 52. 55 | 53. 54 |
| 50 | 48. 2 | 48. 1 | 49. 1 | 50. 0 | 50. 59 | 51. 58 | 52. 57 | 53. 56 |
| 52 | 4 | 4 | 3 | 2 | 51. 1 | 52. 0 | 52. 59 | 53. 58 |
| 54 | 6 | 6 | 5 | 4 | 3 | 3 | 54. 1 | 54. 0 |
| 56 | 8 | 8 | 7 | 6 | 5 | 5 | 4 | 54. 2 |
| 58 | 10 | 10 | 9 | 8 | 7 | 7 | 6 | 5 |

| Proparts for Seconds of Parallax additive |
|---|
| ″ ″ |
| 1– 1 |
| 2– 2 |
| 3– 3 |
| 4– 4 |
| 5– 5 |
| 6– 6 |
| 7– 7 |
| 8– 8 |
| 9– 9 |
| 10–10 |
| 11–11 |
| 12–12 |
| 13–13 |
| 14–14 |
| 15–15 |
| 16–16 |
| 17–17 |
| 18–18 |
| 19–19 |
| 20–20 |
| 21–21 |
| 22–22 |
| 23–23 |
| 24–24 |
| 25–25 |
| 26–26 |
| 27–27 |
| 28–28 |
| 29–29 |
| 30–30 |
| 31–31 |
| 32–32 |
| 33–33 |
| 34–34 |
| 35–35 |
| 36–36 |
| 37–37 |
| 38–38 |
| 39–39 |
| 40–40 |
| 41–41 |
| 42–42 |
| 43–43 |
| 44–44 |
| 45–45 |
| 46–46 |
| 47–47 |
| 48–48 |
| 49–49 |
| 50–50 |
| 51–51 |
| 52–52 |
| 53–53 |
| 54–54 |
| 55–55 |
| 56–56 |
| 57–57 |
| 58–58 |
| 59–59 |

☽'s App. Altitude 8 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 46. 59″ | 47. 58″ | 48. 58″ | 49. 57″ | 50. 56″ | 51. 56″ | 52. 55″ | 53. 55″ |
| 2 | 47. 0 | 59 | 59 | 58 | 57 | 57 | 56 | 56 |
| 4 | 1 | 48. 0 | 49. 0 | 59 | 58 | 58 | 57 | 57 |
| 6 | 3 | 2 | 2 | 50. 1 | 51. 0 | 52. 0 | 59 | 59 |
| 8 | 4 | 3 | 3 | 2 | 1 | 1 | 53. 0 | 54. 0 |
| 10 | 47. 5 | 48. 4 | 49. 4 | 50. 3 | 51. 2 | 52. 2 | 53. 1 | 54. 1 |
| 12 | 6 | 5 | 5 | 4 | 3 | 3 | 2 | 2 |
| 14 | 7 | 6 | 6 | 5 | 4 | 4 | 3 | 3 |
| 16 | 9 | 8 | 7 | 7 | 6 | 6 | 5 | 4 |
| 18 | 10 | 9 | 8 | 8 | 7 | 7 | 6 | 5 |
| 20 | 47. 11 | 48. 10 | 49. 9 | 50. 9 | 51. 8 | 52. 8 | 53. 7 | 54. 6 |
| 22 | 12 | 11 | 10 | 10 | 9 | 9 | 8 | 7 |
| 24 | 13 | 12 | 11 | 11 | 10 | 10 | 9 | 8 |
| 26 | 14 | 14 | 13 | 12 | 12 | 11 | 10 | 10 |
| 28 | 15 | 15 | 14 | 13 | 13 | 12 | 11 | 11 |
| 30 | 47. 16 | 48. 16 | 49. 15 | 50. 14 | 51. 14 | 52. 13 | 53. 12 | 54. 12 |
| 32 | 17 | 17 | 16 | 15 | 15 | 14 | 13 | 13 |
| 34 | 18 | 18 | 17 | 16 | 16 | 15 | 14 | 14 |
| 36 | 20 | 19 | 18 | 18 | 17 | 16 | 15 | 15 |
| 38 | 21 | 20 | 19 | 19 | 18 | 17 | 16 | 16 |
| 40 | 47. 22 | 48. 21 | 49. 20 | 50. 20 | 51. 19 | 52. 18 | 53. 17 | 54. 17 |
| 42 | 23 | 22 | 21 | 21 | 20 | 19 | 18 | 18 |
| 44 | 24 | 23 | 22 | 22 | 21 | 20 | 19 | 19 |
| 46 | 25 | 24 | 23 | 23 | 22 | 21 | 20 | 20 |
| 48 | 27 | 25 | 24 | 24 | 23 | 22 | 21 | 21 |
| 50 | 47. 27 | 48. 26 | 49. 25 | 50. 25 | 51. 24 | 52. 23 | 53. 22 | 54. 22 |
| 52 | 28 | 27 | 26 | 26 | 25 | 24 | 23 | 23 |
| 54 | 29 | 28 | 27 | 27 | 26 | 25 | 24 | 24 |
| 56 | 29 | 29 | 28 | 27 | 27 | 26 | 25 | 24 |
| 58 | 30 | 30 | 29 | 28 | 28 | 27 | 26 | 25 |

☽'s App. Altitude 9 Degrees.

| ′ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 47. 31″ | 48. 31″ | 49. 30″ | 50. 29″ | 51. 29″ | 52. 28″ | 53. 27″ | 54. 26″ |
| 2 | 32 | 32 | 31 | 30 | 30 | 29 | 28 | 27 |
| 4 | 33 | 33 | 32 | 31 | 31 | 30 | 29 | 28 |
| 6 | 34 | 33 | 33 | 32 | 31 | 30 | 30 | 29 |
| 8 | 35 | 34 | 34 | 33 | 32 | 31 | 30 | 30 |
| 10 | 47. 36 | 48. 35 | 49. 35 | 50. 34 | 51. 33 | 52. 32 | 53. 31 | 54. 31 |
| 12 | 37 | 36 | 36 | 35 | 34 | 33 | 32 | 32 |
| 14 | 38 | 37 | 37 | 36 | 35 | 34 | 33 | 33 |
| 16 | 38 | 38 | 37 | 36 | 35 | 34 | 34 | 33 |
| 18 | 39 | 39 | 38 | 37 | 36 | 35 | 35 | 34 |
| 20 | 47. 40 | 48. 40 | 49. 39 | 50. 38 | 51. 37 | 52. 36 | 53. 36 | 54. 35 |
| 22 | 41 | 41 | 40 | 39 | 38 | 37 | 37 | 36 |
| 24 | 42 | 42 | 41 | 40 | 39 | 38 | 38 | 37 |
| 26 | 43 | 42 | 41 | 40 | 39 | 38 | 38 | 37 |
| 28 | 44 | 43 | 42 | 41 | 40 | 39 | 39 | 38 |
| 30 | 47. 45 | 48. 44 | 49. 43 | 50. 42 | 51. 41 | 52. 40 | 53. 40 | 54. 39 |
| 32 | 46 | 45 | 44 | 43 | 42 | 41 | 41 | 40 |
| 34 | 46 | 45 | 45 | 44 | 43 | 42 | 41 | 41 |
| 36 | 47 | 46 | 45 | 44 | 43 | 43 | 42 | 41 |
| 38 | 47 | 46 | 46 | 45 | 44 | 43 | 42 | 42 |
| 40 | 47. 48 | 48. 47 | 49. 47 | 50. 46 | 51. 45 | 52. 44 | 53. 43 | 54. 43 |
| 42 | 49 | 48 | 48 | 47 | 46 | 45 | 44 | 44 |
| 44 | 50 | 49 | 48 | 48 | 47 | 46 | 45 | 44 |
| 46 | 50 | 49 | 49 | 48 | 47 | 46 | 45 | 45 |
| 48 | 51 | 50 | 49 | 49 | 48 | 47 | 46 | 45 |
| 50 | 47. 52 | 48. 51 | 49. 50 | 50. 49 | 51. 48 | 52. 47 | 53. 46 | 54. 46 |
| 52 | 53 | 52 | 51 | 50 | 49 | 48 | 47 | 47 |
| 54 | 54 | 53 | 52 | 51 | 50 | 49 | 48 | 47 |
| 56 | 54 | 54 | 53 | 52 | 51 | 50 | 49 | 48 |
| 58 | 55 | 55 | 54 | 53 | 52 | 51 | 50 | 49 |

☽'s App. Altitude 6 Degrees.

| Horizontal Parallax. | | | | | | | | Proportions for Seconds of Parallax to be added. |
|---|---|---|---|---|---|---|---|---|
| 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | |
| 0 2. 22 | 2. 26 | 2. 30 | 2. 34 | 2. 38 | 2. 42 | 2. 47 | 2. 51 | 0 |
| 2 23 | 27 | 31 | 35 | 39 | 43 | 48 | 52 | 1 |
| 4 24 | 28 | 32 | 36 | 40 | 44 | 49 | 53 | 2 |
| 6 26 | 30 | 34 | 38 | 42 | 46 | 51 | 55 | 3 |
| 8 27 | 31 | 35 | 39 | 43 | 47 | 52 | 56 | 4 |
| 10 2. 28 | 2. 32 | 2. 36 | 2. 40 | 2. 44 | 2. 48 | 2. 53 | 2. 57 | 5 |
| 12 29 | 33 | 37 | 41 | 45 | 49 | 54 | 58 | 6 |
| 14 30 | 34 | 38 | 42 | 46 | 50 | 55 | 59 | 7 |
| 16 31 | 35 | 39 | 44 | 48 | 52 | 57 | 3. 1 | 8 |
| 18 32 | 36 | 40 | 45 | 49 | 53 | 58 | 2 | 9 |
| 20 2. 33 | 2. 37 | 2. 41 | 2. 45 | 2. 50 | 2. 54 | 2. 59 | 3. 3 | 10 |
| 22 34 | 38 | 42 | 47 | 51 | 55 | 3. 0 | 4 | 11 |
| 24 35 | 39 | 43 | 48 | 52 | 56 | 1 | 5 | 12 |
| 26 37 | 41 | 45 | 50 | 54 | 58 | 3 | 7 | 13 |
| 28 38 | 42 | 46 | 51 | 55 | 59 | 4 | 8 | 14 |
| 30 2. 39 | 2. 43 | 2. 47 | 2. 52 | 2. 56 | 3. 0 | 3. 5 | 3. 9 | 15 |
| 32 41 | 44 | 48 | 53 | 57 | 1 | 6 | 10 | 16 |
| 34 42 | 46 | 49 | 54 | 58 | 2 | 7 | 11 | 17 |
| 36 43 | 47 | 51 | 55 | 3. 0 | 4 | 9 | 13 | 18 |
| 38 44 | 48 | 52 | 56 | 1 | 5 | 10 | 14 | 19 |
| 40 2. 46 | 2. 50 | 2. 54 | 2. 58 | 3. 3 | 3. 7 | 3. 12 | 3. 16 | 20 |
| 42 47 | 51 | 55 | 59 | 4 | 9 | 13 | 18 | 21 |
| 44 48 | 52 | 56 | 3. 0 | 5 | 10 | 14 | 19 | 22 |
| 46 49 | 53 | 57 | 2 | 6 | 11 | 16 | 21 | 23 |
| 48 50 | 54 | 58 | 3 | 7 | 12 | 17 | 22 | 24 |

☽'s App. Altitude 7 Degrees.

| Horizontal Parallax. | | | | | | | | Proportions for Seconds of Parallax to be added. |
|---|---|---|---|---|---|---|---|---|
| 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | |
| 0 2. 55 | 2. 59 | 3. 4 | 3. 9 | 3. 14 | 3. 18 | 3. 23 | 3. 28 | 0 |
| 2 56 | 3. 0 | 5 | 10 | 15 | 19 | 24 | 29 | 1 |
| 4 57 | 1 | 6 | 11 | 16 | 20 | 25 | 30 | 2 |
| 6 58 | 3 | 8 | 13 | 18 | 22 | 27 | 32 | 3 |
| 8 59 | 4 | 9 | 14 | 19 | 23 | 28 | 33 | 4 |
| 10 3. 0 | 3. 5 | 3. 10 | 3. 15 | 3. 20 | 3. 24 | 3. 29 | 3. 34 | 5 |
| 12 1 | 6 | 11 | 16 | 21 | 25 | 30 | 35 | 6 |
| 14 2 | 7 | 12 | 17 | 22 | 26 | 31 | 36 | 7 |
| 16 4 | 9 | 13 | 18 | 23 | 28 | 33 | 38 | 8 |
| 18 5 | 10 | 15 | 19 | 24 | 29 | 34 | 39 | 9 |
| 20 3. 6 | 3. 11 | 3. 16 | 3. 21 | 3. 26 | 3. 31 | 3. 36 | 3. 41 | 10 |
| 22 7 | 12 | 17 | 22 | 27 | 32 | 37 | 42 | 11 |
| 24 8 | 13 | 18 | 23 | 28 | 33 | 38 | 43 | 12 |
| 26 9 | 14 | 19 | 24 | 29 | 34 | 39 | 44 | 13 |
| 28 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 14 |
| 30 3. 11 | 3. 16 | 3. 21 | 3. 26 | 3. 31 | 3. 36 | 3. 41 | 3. 46 | 15 |
| 32 13 | 17 | 22 | 27 | 32 | 37 | 42 | 47 | 16 |
| 34 14 | 19 | 24 | 29 | 34 | 39 | 44 | 49 | 17 |
| 36 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 18 |
| 38 16 | 21 | 26 | 31 | 36 | 41 | 46 | 51 | 19 |
| 40 3. 17 | 3. 22 | 3. 27 | 3. 32 | 3. 37 | 3. 42 | 3. 47 | 3. 52 | 20 |
| 42 18 | 23 | 28 | 33 | 38 | 43 | 48 | 53 | 21 |
| 44 19 | 24 | 29 | 34 | 39 | 44 | 49 | 54 | 22 |
| 46 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 23 |
| 48 21 | 26 | 31 | 36 | 41 | 46 | 51 | 56 | 24 |

☽'s App. Altitude 8 Degrees.

| Horizontal Parallax. | | | | | | | | Proportions for Seconds of Parallax to be added. |
|---|---|---|---|---|---|---|---|---|
| 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | |
| 0 3. 27 | 3. 32 | 3. 37 | 3. 42 | 3. 48 | 3. 54 | 3. 59 | 4. 4 | 0 |
| 2 28 | 33 | 38 | 44 | 49 | 55 | 4. 0 | 5 | 1 |
| 4 29 | 34 | 39 | 45 | 50 | 56 | 1 | 6 | 2 |
| 6 31 | 36 | 41 | 47 | 52 | 58 | 3 | 8 | 3 |
| 8 32 | 37 | 42 | 48 | 53 | 59 | 4 | 9 | 4 |
| 10 3. 33 | 3. 38 | 3. 43 | 3. 49 | 3. 54 | 4. 0 | 4. 5 | 4. 10 | 5 |
| 12 34 | 39 | 44 | 50 | 55 | 1 | 6 | 12 | 6 |
| 14 35 | 40 | 45 | 51 | 56 | 2 | 7 | 12 | 7 |
| 16 36 | 41 | 47 | 52 | 58 | 4 | 9 | 14 | 8 |
| 18 37 | 42 | 47 | 53 | 59 | 5 | 10 | 15 | 9 |
| 20 3. 38 | 3. 43 | 3. 48 | 3. 54 | 4. 0 | 4. 6 | 4. 11 | 4. 17 | 10 |
| 22 39 | 44 | 49 | 55 | 1 | 7 | 13 | 17 | 11 |
| 24 40 | 45 | 51 | 56 | 2 | 8 | 13 | 19 | 12 |
| 26 41 | 47 | 52 | 58 | 3 | 9 | 14 | 20 | 13 |
| 28 42 | 47 | 53 | 59 | 5 | 11 | 16 | 21 | 14 |
| 30 3. 43 | 3. 49 | 3. 54 | 4. 0 | 4. 6 | 4. 12 | 4. 17 | 4. 23 | 15 |
| 32 44 | 50 | 55 | 1 | 7 | 13 | 18 | 24 | 16 |
| 34 46 | 51 | 56 | 2 | 8 | 14 | 19 | 25 | 17 |
| 36 47 | 52 | 58 | 3 | 9 | 15 | 21 | 27 | 18 |
| 38 48 | 53 | 59 | 5 | 11 | 16 | 22 | 28 | 19 |
| 40 3. 49 | 3. 54 | 4. 0 | 4. 6 | 4. 11 | 4. 17 | 4. 23 | 4. 29 | 20 |
| 42 50 | 56 | 2 | 7 | 13 | 18 | 24 | 30 | 21 |
| 44 52 | 56 | 2 | 8 | 13 | 19 | 25 | 31 | 22 |
| 46 52 | 58 | 3 | 9 | 15 | 21 | 27 | 33 | 23 |
| 48 53 | 59 | 4 | 11 | 16 | 22 | 28 | 34 | 24 |
| 50 3. 54 | 4. 0 | 4. 5 | 4. 11 | 4. 17 | 4. 23 | 4. 29 | 4. 35 | 25 |
| 52 55 | 1 | 6 | 12 | 18 | 24 | 30 | 36 | 26 |
| 54 56 | 2 | 7 | 13 | 19 | 25 | 31 | 37 | 27 |
| 56 57 | 3 | 9 | 15 | 21 | 27 | 33 | 39 | 28 |
| 58 58 | 4 | 10 | 16 | 22 | 28 | 34 | 40 | 29 |

☽'s App. Altitude 9 Degrees.

| Horizontal Parallax. | | | | | | | | Proportions for Seconds of Parallax to be added. |
|---|---|---|---|---|---|---|---|---|
| 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | |
| 0 3. 50 | 3. 55 | 4. 1 | 4. 7 | 4. 13 | 4. 19 | 4. 25 | 4. 31 | 0 |
| 2 51 | 4. 0 | 6 | 12 | 18 | 24 | 30 | 36 | 1 |
| 4 53 | 1 | 7 | 13 | 19 | 25 | 31 | 37 | 2 |
| 6 54 | 2 | 8 | 14 | 20 | 26 | 32 | 38 | 3 |
| 8 55 | 3 | 9 | 15 | 21 | 27 | 33 | 39 | 4 |
| 10 3. 56 | 4. 4 | 4. 10 | 4. 16 | 4. 22 | 4. 28 | 4. 34 | 4. 40 | 5 |
| 12 58 | 5 | 11 | 17 | 23 | 29 | 35 | 41 | 6 |
| 14 59 | 6 | 12 | 18 | 24 | 30 | 36 | 42 | 7 |
| 16 4. 0 | 7 | 13 | 19 | 25 | 31 | 37 | 43 | 8 |
| 18 1 | 8 | 14 | 20 | 26 | 32 | 38 | 44 | 9 |
| 20 4. 2 | 4. 9 | 4. 15 | 4. 21 | 4. 27 | 4. 33 | 4. 39 | 4. 45 | 10 |
| 22 4 | 10 | 16 | 22 | 28 | 34 | 40 | 46 | 11 |
| 24 5 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 12 |
| 26 6 | 13 | 19 | 25 | 31 | 37 | 43 | 49 | 13 |
| 28 7 | 14 | 20 | 26 | 32 | 38 | 44 | 50 | 14 |
| 30 4. 8 | 4. 14 | 4. 20 | 4. 27 | 4. 33 | 4. 39 | 4. 45 | 4. 51 | 15 |
| 32 10 | 16 | 22 | 28 | 34 | 40 | 46 | 52 | 16 |
| 34 11 | 17 | 23 | 29 | 35 | 41 | 47 | 53 | 17 |
| 36 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 18 |
| 38 13 | 19 | 25 | 31 | 37 | 43 | 49 | 55 | 19 |
| 40 4. 14 | 4. 20 | 4. 26 | 4. 32 | 4. 38 | 4. 44 | 4. 50 | 4. 56 | 20 |
| 42 15 | 21 | 27 | 33 | 39 | 45 | 51 | 57 | 21 |
| 44 16 | 22 | 28 | 34 | 40 | 46 | 52 | 58 | 22 |
| 46 17 | 23 | 29 | 35 | 41 | 47 | 53 | 59 | 23 |
| 48 18 | 24 | 30 | 36 | 42 | 48 | 54 | 5. 0 | 24 |
| 50 4. 19 | 4. 25 | 4. 31 | 4. 37 | 4. 43 | 4. 49 | 4. 55 | 5. 1 | 25 |
| 52 20 | 26 | 32 | 38 | 44 | 50 | 56 | 2 | 26 |
| 54 21 | 27 | 33 | 39 | 45 | 51 | 57 | 3 | 27 |
| 56 22 | 28 | 34 | 40 | 46 | 52 | 58 | 4 | 28 |
| 58 23 | 29 | 35 | 41 | 47 | 53 | 59 | 5 | 29 |
| 60 4. 24 | 4. 30 | 4. 36 | 4. 42 | 4. 48 | 4. 54 | 5. 0 | 5. 6 | 30 |
| 62 25 | 31 | 37 | 43 | 49 | 55 | 1 | 7 | 31 |
| 64 26 | 32 | 38 | 44 | 50 | 56 | 2 | 8 | 32 |
| 66 27 | 33 | 39 | 45 | 51 | 57 | 3 | 9 | 33 |
| 68 28 | 34 | 40 | 46 | 52 | 58 | 4 | 10 | 34 |
| 70 4. 29 | 4. 35 | 4. 41 | 4. 47 | 4. 53 | 4. 59 | 5. 5 | 5. 11 | 35 |
| 72 30 | 36 | 42 | 48 | 54 | 5. 0 | 6 | 12 | 36 |
| 74 31 | 37 | 43 | 49 | 55 | 1 | 7 | 13 | 37 |
| 76 32 | 38 | 44 | 50 | 56 | 2 | 8 | 14 | 38 |
| 78 33 | 39 | 45 | 51 | 57 | 3 | 9 | 15 | 39 |
| 80 4. 34 | 4. 40 | 4. 46 | 4. 52 | 4. 58 | 5. 4 | 5. 10 | 5. 16 | 40 |
| 82 35 | 41 | 47 | 53 | 59 | 5 | 11 | 17 | 41 |
| 84 36 | 42 | 48 | 54 | 5. 0 | 6 | 12 | 18 | 42 |
| 86 37 | 43 | 49 | 55 | 1 | 7 | 13 | 19 | 43 |
| 88 38 | 44 | 50 | 56 | 2 | 8 | 14 | 20 | 44 |
| 90 4. 39 | 4. 45 | 4. 51 | 4. 57 | 5. 3 | 5. 9 | 5. 15 | 5. 21 | 45 |

### ☽'s App. Altitude 10 Degrees.

| | Horizontal Parallax. | | | | | | | | Pr. parts for Seconds of Parallax *additive* |
|---|---|---|---|---|---|---|---|---|---|
| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | |
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 47. 50 | 48. 55 | 49. 54 | 50. 53 | 51. 52 | 52. 51 | 53. 50 | 54. 49 | |
| 2 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | |
| 4 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | |
| 6 | 57 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | |
| 8 | 58 | 57 | 56 | 55 | 54 | 53 | 52 | 51 | |
| 10 | 47. 59 | 48. 58 | 49. 57 | 50. 56 | 51. 55 | 52. 54 | 53. 53 | 54. 52 | |
| 12 | 48. 0 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | |
| 14 | 0 | 59 | 58 | 57 | 56 | 55 | 54 | 53 | |
| 16 | 1 | 49. 0 | 59 | 58 | 57 | 56 | 55 | 54 | |
| 18 | 1 | 1 | 59 | 58 | 57 | 56 | 55 | 54 | |
| 20 | 48. 2 | 49. 1 | 50. 0 | 50. 59 | 51. 58 | 52. 57 | 53. 56 | 54. 55 | |
| 22 | 3 | 2 | 1 | 51. 0 | 59 | 58 | 57 | 56 | |
| 24 | 3 | 2 | 1 | 0 | 59 | 58 | 57 | 56 | |
| 26 | 4 | 3 | 2 | 1 | 52. 0 | 59 | 58 | 57 | |
| 28 | 4 | 3 | 2 | 1 | 0 | 59 | 58 | 57 | |
| 30 | 48. 5 | 49. 4 | 50. 3 | 51. 2 | 52. 1 | 53. 0 | 53. 59 | 54. 58 | |
| 32 | 6 | 5 | 4 | 3 | 2 | 1 | 54. 0 | 59 | |
| 34 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | 59 | |
| 36 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 55. 0 | |
| 38 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 | |
| 40 | 48. 8 | 49. 7 | 50. 6 | 51. 5 | 52. 4 | 53. 3 | 54. 2 | 55. 1 | |
| 42 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | |
| 44 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | |
| 46 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | |
| 48 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | |
| 50 | 48. 11 | 49. 10 | 50. 9 | 51. 8 | 52. 7 | 53. 6 | 54. 5 | 55. 4 | |
| 52 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | |
| 54 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | |
| 56 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | |
| 58 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | |

### ☽'s App. Altitude 11 Degrees.

| | Horizontal Parallax. | | | | | | | | Pr. parts for Seconds of Parallax *additive* |
|---|---|---|---|---|---|---|---|---|---|
| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | |
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 48. 13 | 49. 12 | 50. 11 | 51. 10 | 52. 9 | 53. 8 | 54. 7 | 55. 6 | |
| 2 | 14 | 13 | 12 | 10 | 9 | 8 | 7 | 6 | |
| 4 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | |
| 6 | 15 | 14 | 13 | 11 | 10 | 9 | 8 | 7 | |
| 8 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | |
| 10 | 48. 16 | 49. 15 | 50. 14 | 51. 12 | 52. 11 | 53. 10 | 54. 9 | 55. 8 | |
| 12 | 16 | 15 | 14 | 13 | 11 | 10 | 9 | 8 | |
| 14 | 17 | 16 | 15 | 13 | 12 | 11 | 10 | 9 | |
| 16 | 17 | 16 | 15 | 14 | 12 | 11 | 10 | 9 | |
| 18 | 18 | 17 | 16 | 14 | 13 | 12 | 11 | 10 | |
| 20 | 48. 18 | 49. 17 | 50. 16 | 51. 15 | 52. 13 | 53. 12 | 54. 11 | 55. 10 | |
| 22 | 18 | 17 | 16 | 15 | 13 | 12 | 11 | 10 | |
| 24 | 19 | 18 | 17 | 16 | 14 | 13 | 12 | 11 | |
| 26 | 19 | 18 | 17 | 16 | 14 | 13 | 12 | 11 | |
| 28 | 20 | 19 | 18 | 17 | 15 | 14 | 13 | 12 | |
| 30 | 48. 21 | 49. 19 | 50. 18 | 51. 17 | 52. 15 | 53. 14 | 54. 13 | 55. 12 | |
| 32 | 22 | 20 | 19 | 17 | 16 | 15 | 14 | 13 | |
| 34 | 22 | 21 | 20 | 18 | 17 | 15 | 14 | 13 | |
| 36 | 23 | 21 | 20 | 19 | 17 | 16 | 15 | 14 | |
| 38 | 24 | 22 | 21 | 19 | 18 | 16 | 15 | 14 | |
| 40 | 48. 24 | 49. 23 | 50. 22 | 51. 20 | 52. 19 | 53. 17 | 54. 16 | 55. 15 | |
| 42 | 25 | 24 | 22 | 21 | 19 | 18 | 16 | 15 | |
| 44 | 26 | 24 | 23 | 21 | 20 | 18 | 17 | 16 | |
| 46 | 26 | 25 | 24 | 22 | 20 | 19 | 17 | 16 | |
| 48 | 27 | 25 | 24 | 22 | 21 | 19 | 18 | 17 | |

### ☽'s App. Altitude 12 Degrees.

| | Horizontal Parallax. | | | | | | | | Pr. parts for Seconds of Parallax *additive* |
|---|---|---|---|---|---|---|---|---|---|
| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | |
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 48. 26 | 49. 25 | 50. 23 | 51. 22 | 52. 21 | 53. 19 | 54. 18 | 55. 17 | |
| 2 | 26 | 25 | 23 | 22 | 21 | 19 | 18 | 17 | |
| 4 | 26 | 25 | 24 | 22 | 21 | 20 | 18 | 17 | |
| 6 | 27 | 26 | 24 | 23 | 22 | 20 | 19 | 18 | |
| 8 | 27 | 26 | 25 | 23 | 22 | 21 | 19 | 18 | |
| 10 | 48. 27 | 49. 26 | 50. 25 | 51. 23 | 52. 22 | 53. 21 | 54. 19 | 55. 18 | |
| 12 | 27 | 26 | 25 | 23 | 22 | 21 | 19 | 18 | |
| 14 | 28 | 27 | 25 | 24 | 23 | 21 | 20 | 18 | |
| 16 | 28 | 27 | 26 | 24 | 23 | 22 | 20 | 19 | |
| 18 | 29 | 28 | 26 | 25 | 23 | 22 | 21 | 19 | |
| 20 | 48. 29 | 49. 28 | 50. 26 | 51. 25 | 52. 23 | 53. 22 | 54. 21 | 55. 19 | |
| 22 | 29 | 28 | 26 | 25 | 23 | 22 | 21 | 19 | |
| 24 | 29 | 28 | 26 | 25 | 24 | 22 | 21 | 20 | |
| 26 | 30 | 29 | 27 | 26 | 24 | 23 | 22 | 20 | |
| 28 | 30 | 29 | 27 | 26 | 25 | 23 | 22 | 20 | |
| 30 | 48. 31 | 49. 29 | 50. 27 | 51. 26 | 52. 25 | 53. 23 | 54. 22 | 55. 20 | |
| 32 | 32 | 30 | 28 | 27 | 26 | 25 | 23 | 22 | |
| 34 | 32 | 31 | 29 | 28 | 26 | 25 | 24 | 22 | |
| 36 | 33 | 31 | 30 | 28 | 27 | 26 | 24 | 23 | |
| 38 | 33 | 32 | 30 | 29 | 27 | 26 | 25 | 23 | |
| 40 | 48. 34 | 49. 32 | 50. 31 | 51. 29 | 52. 28 | 53. 26 | 54. 25 | 55. 23 | |
| 42 | 34 | 33 | 31 | 30 | 28 | 27 | 25 | 24 | |
| 44 | 35 | 33 | 32 | 30 | 29 | 27 | 26 | 24 | |
| 46 | 35 | 34 | 32 | 31 | 29 | 28 | 26 | 25 | |
| 48 | 36 | 34 | 33 | 31 | 30 | 28 | 27 | 25 | |
| 50 | 48. 36 | 49. 35 | 50. 33 | 51. 32 | 52. 30 | 53. 29 | 54. 27 | 55. 26 | |
| 52 | 37 | 35 | 34 | 32 | 31 | 29 | 28 | 26 | |
| 54 | 38 | 36 | 34 | 33 | 31 | 30 | 28 | 27 | |
| 56 | 38 | 36 | 35 | 33 | 32 | 30 | 29 | 27 | |
| 58 | 39 | 37 | 35 | 34 | 32 | 31 | 29 | 28 | |

### ☽'s App. Altitude 13 Degrees.

| | Horizontal Parallax. | | | | | | | | Pr. parts for Seconds of Parallax *additive* |
|---|---|---|---|---|---|---|---|---|---|
| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | |
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 48. 34 | 49. 32 | 50. 31 | 51. 29 | 52. 28 | 53. 26 | 54. 25 | 55. 23 | |
| 2 | 34 | 32 | 31 | 29 | 28 | 26 | 25 | 23 | |
| 4 | 34 | 32 | 31 | 29 | 28 | 26 | 25 | 23 | |
| 6 | 35 | 33 | 32 | 30 | 28 | 27 | 25 | 24 | |
| 8 | 35 | 33 | 32 | 30 | 28 | 27 | 25 | 24 | |
| 10 | 48. 36 | 49. 34 | 50. 32 | 51. 31 | 52. 29 | 53. 28 | 54. 26 | 55. 24 | |
| 12 | 35 | 33 | 32 | 30 | 28 | 27 | 25 | 24 | |
| 14 | 35 | 33 | 32 | 30 | 28 | 27 | 25 | 24 | |
| 16 | 36 | 34 | 32 | 31 | 29 | 28 | 26 | 24 | |
| 18 | 36 | 34 | 33 | 31 | 30 | 28 | 26 | 25 | |
| 20 | 48. 36 | 49. 34 | 50. 32 | 51. 31 | 52. 29 | 53. 28 | 54. 26 | 55. 24 | |
| 22 | 36 | 34 | 32 | 31 | 29 | 28 | 26 | 24 | |
| 24 | 36 | 34 | 32 | 31 | 29 | 28 | 26 | 24 | |
| 26 | 36 | 35 | 33 | 31 | 30 | 28 | 26 | 25 | |
| 28 | 36 | 35 | 33 | 31 | 30 | 28 | 26 | 25 | |
| 30 | 48. 36 | 49. 35 | 50. 33 | 51. 31 | 52. 30 | 53. 28 | 54. 27 | 55. 25 | |
| 32 | 37 | 35 | 33 | 32 | 30 | 28 | 27 | 25 | |
| 34 | 37 | 35 | 33 | 32 | 30 | 28 | 27 | 25 | |
| 36 | 37 | 35 | 34 | 32 | 30 | 29 | 27 | 25 | |
| 38 | 37 | 35 | 34 | 32 | 30 | 29 | 27 | 25 | |
| 40 | 48. 37 | 49. 35 | 50. 34 | 51. 32 | 52. 30 | 53. 29 | 54. 27 | 55. 25 | |
| 42 | 37 | 35 | 34 | 32 | 30 | 29 | 27 | 25 | |
| 44 | 37 | 35 | 34 | 32 | 30 | 29 | 27 | 25 | |
| 46 | 38 | 36 | 34 | 32 | 31 | 29 | 27 | 25 | |
| 48 | 38 | 36 | 34 | 32 | 31 | 29 | 27 | 25 | |
| 50 | 48. 38 | 49. 36 | 50. 34 | 51. 32 | 52. 31 | 53. 29 | 54. 27 | 55. 25 | |
| 52 | 38 | 36 | 34 | 32 | 31 | 29 | 27 | 25 | |
| 54 | 38 | 36 | 34 | 32 | 31 | 29 | 27 | 25 | |
| 56 | 38 | 36 | 35 | 33 | 31 | 29 | 27 | 25 | |
| 58 | 38 | 36 | 35 | 33 | 31 | 29 | 27 | 25 | |

| Pr. parts for Seconds of Parallax *additive* |
|---|
| ″ ″ |
| 1– 1 |
| 2– 2 |
| 3– 3 |
| 4– 4 |
| 5– 5 |
| 6– 6 |
| 7– 7 |
| 8– 8 |
| 9– 9 |
| 10–10 |
| 11–11 |
| 12–12 |
| 13–13 |
| 14–14 |
| 15–15 |
| 16–16 |
| 17–17 |
| 18–18 |
| 19–19 |
| 20–20 |
| 21–20 |
| 22–21 |
| 23–22 |
| 24–23 |
| 25–24 |
| 26–25 |
| 27–26 |
| 28–27 |
| 29–28 |
| 30–29 |
| 31–30 |
| 32–31 |
| 33–32 |
| 34–33 |
| 35–34 |
| 36–35 |
| 37–36 |
| 38–37 |
| 39–38 |
| 40–39 |
| 41–40 |
| 42–41 |
| 43–42 |
| 44–43 |
| 45–44 |
| 46–45 |
| 47–46 |
| 48–47 |
| 49–48 |
| 50–49 |
| 51–50 |
| 52–51 |
| 53–52 |
| 54–53 |
| 55–54 |
| 56–55 |
| 57–56 |
| 58–57 |
| 59–58 |

## ☽'s App. Altitude 10 Degrees.

| ′ | Horizontal Parallax 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 4. 31 | 4. 38 | 4. 44 | 4. 51 | 4. 57 | 5. 4 | 5. 10 | 5. 17 |
| 2 | 32 | 39 | 45 | 52 | 58 | 5 | 11 | 18 |
| 4 | 33 | 40 | 46 | 53 | 59 | 6 | 12 | 19 |
| 6 | 34 | 42 | 48 | 55 | 5. 1 | 8 | 14 | 21 |
| 8 | 35 | 43 | 49 | 56 | 2 | 9 | 15 | 22 |
| 10 | 4. 36 | 4. 44 | 4. 50 | 4. 57 | 5. 3 | 5. 10 | 5. 16 | 5. 23 |
| 12 | 37 | 45 | 51 | 58 | 4 | 11 | 17 | 24 |
| 14 | 38 | 46 | 52 | 59 | 5 | 12 | 18 | 25 |
| 16 | 40 | 47 | 53 | 5. 0 | 7 | 14 | 20 | 27 |
| 18 | 41 | 48 | 54 | 1 | 8 | 15 | 21 | 28 |
| 20 | 4. 42 | 4. 49 | 4. 55 | 5. 2 | 5. 9 | 5. 16 | 5. 22 | 5. 29 |
| 22 | 43 | 50 | 56 | 3 | 10 | 17 | 23 | 30 |
| 24 | 44 | 51 | 57 | 4 | 11 | 18 | 24 | 31 |
| 26 | 45 | 53 | 59 | 6 | 13 | 20 | 26 | 33 |
| 28 | 46 | 54 | 5. 0 | 7 | 14 | 21 | 27 | 34 |
| 30 | 4. 47 | 4. 55 | 5. 1 | 5. 8 | 5. 15 | 5. 22 | 5. 28 | 5. 35 |
| 32 | 48 | 56 | 2 | 9 | 16 | 23 | 29 | 36 |
| 34 | 49 | 57 | 3 | 10 | 17 | 24 | 30 | 37 |
| 36 | 50 | 58 | 5 | 12 | 18 | 25 | 32 | 39 |
| 38 | 51 | 59 | 6 | 13 | 19 | 26 | 33 | 40 |
| 40 | 4. 52 | 5. 0 | 5. 7 | 5. 14 | 5. 20 | 5. 27 | 5. 34 | 5. 41 |
| 42 | 53 | 1 | 8 | 15 | 21 | 28 | 35 | 42 |
| 44 | 54 | 2 | 9 | 16 | 22 | 29 | 36 | 43 |
| 46 | 56 | 3 | 10 | 17 | 24 | 31 | 38 | 45 |
| 48 | 57 | 4 | 11 | 18 | 25 | 32 | 39 | 46 |
| 50 | 4. 58 | 5. 5 | 5. 12 | 5. 19 | 5. 26 | 5. 33 | 5. 40 | 5. 47 |
| 52 | 59 | 6 | 13 | 20 | 27 | 34 | 41 | 48 |
| 54 | 5. 0 | 7 | 14 | 21 | 28 | 35 | 42 | 49 |
| 56 | 1 | 9 | 16 | 23 | 30 | 37 | 44 | 51 |
| 58 | 2 | 10 | 17 | 24 | 31 | 38 | 45 | 52 |

Prs. parts for Seconds of Parallax additive

| ″ | ″ |
|---|---|
| 1 | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 | 0 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 1 |
| 10 | 1 |
| 11 | 1 |
| 12 | 1 |
| 13 | 2 |
| 14 | 2 |
| 15 | 2 |
| 16 | 2 |
| 17 | 2 |
| 18 | 2 |
| 19 | 3 |
| 20 | 3 |
| 21 | 3 |
| 22 | 3 |
| 23 | 3 |
| 24 | 3 |
| 25 | 3 |
| 26 | 3 |
| 27 | 3 |
| 28 | 3 |
| 29 | 3 |
| 30 | 4 |
| 31 | 4 |
| 32 | 4 |
| 33 | 4 |
| 34 | 4 |
| 35 | 4 |
| 36 | 4 |
| 37 | 4 |
| 38 | 4 |
| 39 | 4 |
| 40 | 4 |
| 41 | 4 |
| 42 | 4 |
| 43 | 4 |
| 44 | 4 |
| 45 | 5 |
| 46 | 5 |
| 47 | 5 |
| 48 | 5 |
| 49 | 5 |
| 50 | 5 |
| 51 | 5 |
| 52 | 5 |
| 53 | 5 |
| 54 | 5 |
| 55 | 5 |
| 56 | 5 |
| 57 | 5 |
| 58 | 5 |
| 59 | 5 |

Correct. for Sun's and Star's Attit. add. ☉

| | |
|---|---|
| 0 | 0 |
| 4 | 5 |
| 5 | 4 |
| 6 | 3 |
| 7 | 2 |
| 8 | 2 |
| 9 | 2 |
| 10 | 2 |
| 20 | 2 |
| 30 | 3 |
| 40 | 3 |
| 50 | 4 |
| 60 | 4 |
| 70 | 5 |
| 80 | 5 |
| 90 | 5 |

## ☽'s App. Altitude 11 Degrees.

| ′ | Horizontal Parallax 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 5. 3 | 5. 11 | 5. 18 | 5. 25 | 5. 32 | 5. 39 | 5. 46 | 5. 53 |
| 2 | 4 | 12 | 19 | 26 | 33 | 40 | 47 | 54 |
| 4 | 5 | 13 | 20 | 27 | 34 | 41 | 48 | 55 |
| 6 | 6 | 14 | 22 | 29 | 36 | 43 | 50 | 57 |
| 8 | 7 | 15 | 23 | 30 | 37 | 44 | 51 | 58 |
| 10 | 5. 8 | 5. 16 | 5. 24 | 5. 31 | 5. 38 | 5. 45 | 5. 52 | 5. 59 |
| 12 | 9 | 17 | 25 | 32 | 39 | 46 | 53 | 6. 0 |
| 14 | 10 | 18 | 26 | 33 | 40 | 47 | 54 | 1 |
| 16 | 12 | 20 | 27 | 34 | 41 | 48 | 55 | 2 |
| 18 | 13 | 21 | 28 | 35 | 42 | 49 | 56 | 3 |
| 20 | 5. 14 | 5. 22 | 5. 29 | 5. 36 | 5. 43 | 5. 51 | 5. 58 | 6. 5 |
| 22 | 15 | 23 | 30 | 37 | 44 | 52 | 59 | 6 |
| 24 | 16 | 24 | 31 | 38 | 45 | 53 | 6. 0 | 7 |
| 26 | 17 | 25 | 33 | 40 | 47 | 54 | 2 | 9 |
| 28 | 18 | 26 | 34 | 41 | 48 | 55 | 3 | 10 |
| 30 | 5. 19 | 5. 27 | 5. 34 | 5. 42 | 5. 49 | 5. 56 | 6. 4 | 6. 11 |
| 32 | 20 | 28 | 35 | 43 | 50 | 57 | 5 | 12 |
| 34 | 21 | 29 | 37 | 44 | 51 | 58 | 6 | 13 |
| 36 | 22 | 30 | 38 | 45 | 52 | 6. 0 | 8 | 15 |
| 38 | 23 | 31 | 39 | 47 | 54 | 1 | 9 | 16 |
| 40 | 5. 24 | 5. 32 | 5. 40 | 5. 47 | 5. 55 | 6. 2 | 6. 10 | 6. 17 |
| 42 | 25 | 33 | 41 | 48 | 56 | 3 | 11 | 18 |
| 44 | 26 | 34 | 42 | 49 | 57 | 4 | 12 | 19 |
| 46 | 27 | 35 | 43 | 50 | 58 | 5 | 13 | 20 |
| 48 | 28 | 37 | 45 | 52 | 6. 0 | 7 | 15 | 22 |
| 50 | 5. 30 | 5. 38 | 5. 46 | 5. 53 | 6. 1 | 6. 8 | 6. 16 | 6. 23 |
| 52 | 31 | 39 | 47 | 54 | 2 | 9 | 17 | 24 |
| 54 | 32 | 40 | 48 | 55 | 3 | 10 | 18 | 25 |
| 56 | 33 | 41 | 49 | 56 | 4 | 12 | 20 | 27 |
| 58 | 34 | 42 | 50 | 57 | 5 | 13 | 21 | 28 |

Prs. parts for Seconds of Parallax additive

| ″ | ″ |
|---|---|
| 1 | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 1 |
| 10 | 1 |
| 11 | 2 |
| 12 | 2 |
| 13 | 2 |
| 14 | 2 |
| 15 | 2 |
| 16 | 2 |
| 17 | 2 |
| 18 | 2 |
| 19 | 3 |
| 20 | 3 |
| 21 | 3 |
| 22 | 3 |
| 23 | 3 |
| 24 | 3 |
| 25 | 3 |
| 26 | 3 |
| 27 | 4 |
| 28 | 4 |
| 29 | 4 |
| 30 | 4 |
| 31 | 4 |
| 32 | 4 |
| 33 | 4 |
| 34 | 5 |
| 35 | 5 |
| 36 | 5 |
| 37 | 5 |
| 38 | 5 |
| 39 | 5 |
| 40 | 5 |
| 41 | 6 |
| 42 | 6 |
| 43 | 6 |
| 44 | 6 |
| 45 | 6 |
| 46 | 6 |
| 47 | 6 |
| 48 | 6 |
| 49 | 7 |
| 50 | 7 |
| 51 | 7 |
| 52 | 7 |
| 53 | 7 |
| 54 | 7 |
| 55 | 7 |
| 56 | 8 |
| 57 | 8 |
| 58 | 8 |
| 59 | 8 |

## ☽'s App. Altitude 12 Degrees.

| ′ | Horizontal Parallax 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 5. 35 | 5. 43 | 5. 51 | 5. 58 | 6. 6 | 6. 14 | 6. 22 | 6. 29 |
| 2 | 36 | 44 | 52 | 59 | 7 | 15 | 23 | 30 |
| 4 | 37 | 45 | 53 | 6. 0 | 8 | 16 | 24 | 31 |
| 6 | 38 | 46 | 54 | 2 | 10 | 18 | 26 | 33 |
| 8 | 39 | 47 | 55 | 3 | 11 | 19 | 27 | 34 |
| 10 | 5. 40 | 5. 48 | 5. 56 | 6. 4 | 6. 12 | 6. 20 | 6. 28 | 6. 35 |
| 12 | 41 | 49 | 57 | 5 | 13 | 21 | 29 | 36 |
| 14 | 42 | 50 | 58 | 6 | 14 | 22 | 30 | 37 |
| 16 | 44 | 52 | 6. 0 | 7 | 15 | 24 | 32 | 39 |
| 18 | 45 | 53 | 1 | 8 | 16 | 25 | 33 | 40 |
| 20 | 5. 46 | 5. 54 | 6. 2 | 6. 9 | 6. 17 | 6. 26 | 6. 34 | 6. 41 |
| 22 | 47 | 55 | 3 | 10 | 18 | 27 | 35 | 42 |
| 24 | 48 | 56 | 4 | 11 | 19 | 28 | 36 | 43 |
| 26 | 49 | 57 | 6 | 13 | 21 | 30 | 38 | 45 |
| 28 | 50 | 58 | 7 | 14 | 22 | 31 | 39 | 46 |
| 30 | 5. 51 | 5. 59 | 6. 8 | 6. 15 | 6. 23 | 6. 32 | 6. 40 | 6. 47 |
| 32 | 52 | 6. 0 | 9 | 16 | 24 | 33 | 41 | 48 |
| 34 | 53 | 1 | 10 | 17 | 25 | 34 | 42 | 49 |
| 36 | 54 | 2 | 11 | 19 | 27 | 35 | 43 | 51 |
| 38 | 55 | 3 | 12 | 20 | 28 | 36 | 44 | 52 |
| 40 | 5. 56 | 6. 4 | 6. 13 | 6. 21 | 6. 29 | 6. 37 | 6. 45 | 6. 53 |
| 42 | 57 | 5 | 14 | 22 | 30 | 38 | 46 | 54 |
| 44 | 58 | 6 | 15 | 23 | 31 | 39 | 47 | 55 |
| 46 | 6. 0 | 8 | 16 | 24 | 32 | 41 | 49 | 57 |
| 48 | 1 | 9 | 17 | 25 | 33 | 42 | 50 | 58 |
| 50 | 6. 2 | 6. 10 | 6. 18 | 6. 26 | 6. 34 | 6. 43 | 6. 51 | 6. 59 |
| 52 | 3 | 11 | 19 | 27 | 35 | 44 | 52 | 7. 0 |
| 54 | 4 | 12 | 20 | 28 | 36 | 45 | 53 | 1 |
| 56 | 5 | 13 | 22 | 30 | 38 | 47 | 55 | 3 |
| 58 | 6 | 14 | 23 | 31 | 39 | 48 | 56 | 4 |

Prs. parts for Seconds of Parallax additive

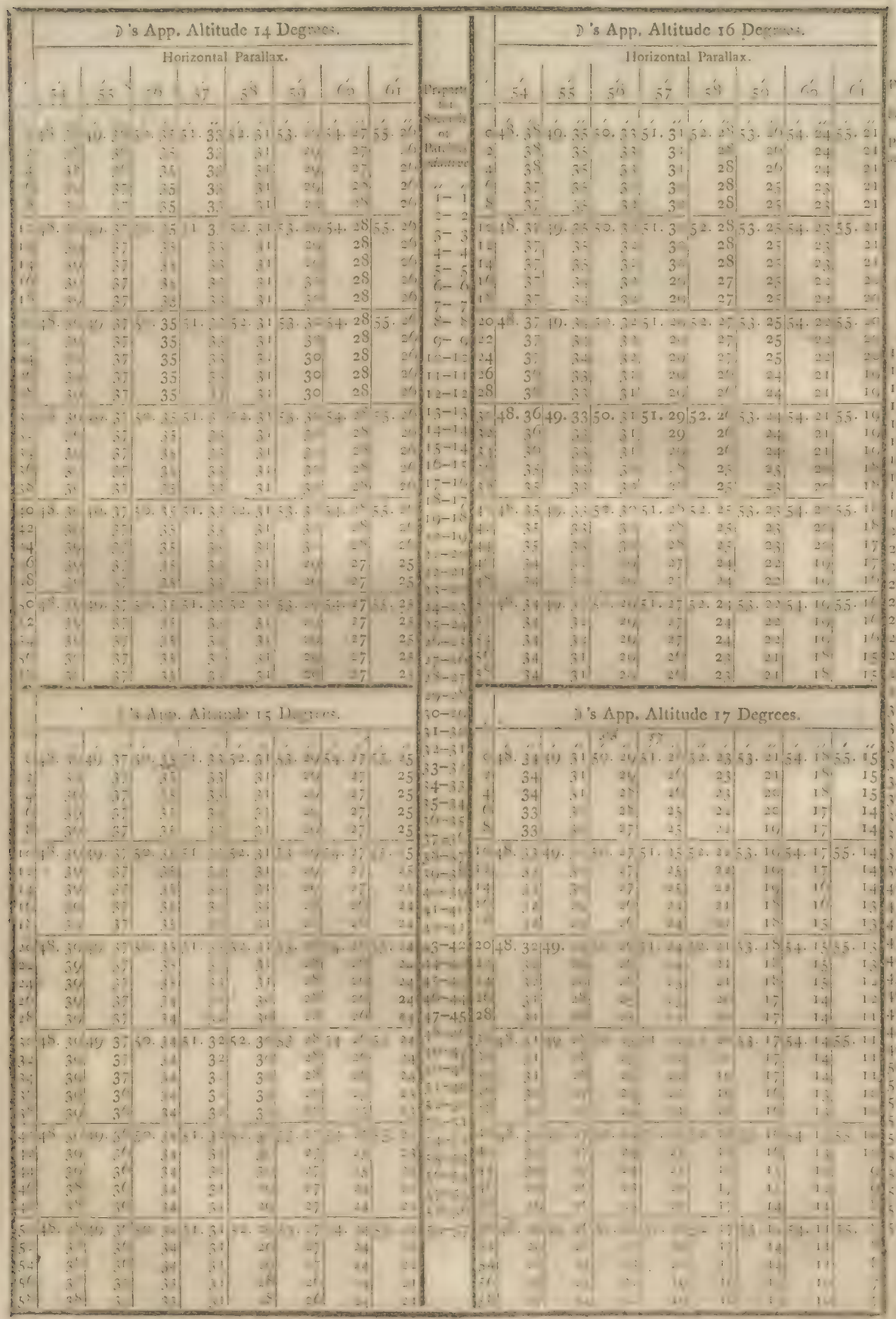
| ″ | ″ |
|---|---|
| 1 | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 1 |
| 10 | 1 |
| 11 | 2 |
| 12 | 2 |
| 13 | 2 |
| 14 | 2 |
| 15 | 2 |
| 16 | 2 |
| 17 | 2 |
| 18 | 2 |
| 19 | 3 |
| 20 | 3 |
| 21 | 3 |
| 22 | 3 |
| 23 | 3 |
| 24 | 3 |
| 25 | 3 |
| 26 | 3 |
| 27 | 4 |
| 28 | 4 |
| 29 | 4 |
| 30 | 4 |
| 31 | 4 |
| 32 | 4 |
| 33 | 4 |
| 34 | 5 |
| 35 | 5 |
| 36 | 5 |
| 37 | 5 |
| 38 | 5 |
| 39 | 5 |
| 40 | 5 |
| 41 | 6 |
| 42 | 6 |
| 43 | 6 |
| 44 | 6 |
| 45 | 6 |
| 46 | 6 |
| 47 | 6 |
| 48 | 6 |
| 49 | 7 |
| 50 | 7 |
| 51 | 7 |
| 52 | 7 |
| 53 | 7 |
| 54 | 7 |
| 55 | 7 |
| 56 | 8 |
| 57 | 8 |
| 58 | 8 |
| 59 | 8 |

## ☽'s App. Altitude 13 Degrees.

| ′ | Horizontal Parallax 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 6. 7 | 6. 15 | 6. 24 | 6. 32 | 6. 40 | 6. 49 | 6. 57 | 7. 5 |
| 2 | 8 | 16 | 25 | 33 | 41 | 50 | 58 | 6 |
| 4 | 9 | 17 | 26 | 34 | 42 | 51 | 59 | 7 |
| 6 | 11 | 19 | 28 | 36 | 44 | 53 | 7. 1 | 9 |
| 8 | 12 | 20 | 29 | 37 | 45 | 54 | 2 | 10 |
| 10 | 6. 13 | 6. 21 | 6. 30 | 6. 38 | 6. 46 | 6. 55 | 7. 3 | 7. 11 |
| 12 | 14 | 22 | 31 | 39 | 47 | 56 | 4 | 12 |
| 14 | 15 | 23 | 32 | 40 | 48 | 57 | 5 | 13 |
| 16 | 16 | 24 | 33 | 41 | 49 | 58 | 7 | 15 |
| 18 | 17 | 25 | 34 | 42 | 50 | 59 | 8 | 16 |
| 20 | 6. 18 | 6. 26 | 6. 35 | 6. 43 | 6. 51 | 7. 0 | 7. 9 | 7. 17 |
| 22 | 19 | 27 | 36 | 44 | 52 | 1 | 10 | 18 |
| 24 | 20 | 28 | 37 | 45 | 53 | 2 | 11 | 19 |
| 26 | 21 | 30 | 38 | 47 | 54 | 4 | 13 | 21 |
| 28 | 22 | 31 | 40 | 48 | 56 | 5 | 14 | 22 |
| 30 | 6. 23 | 6. 32 | 6. 40 | 6. 49 | 6. 57 | 7. 7 | 7. 15 | 7. 23 |
| 32 | 24 | 33 | 41 | 50 | 58 | 8 | 16 | 24 |
| 34 | 25 | 34 | 43 | 51 | 59 | 9 | 17 | 25 |
| 36 | 26 | 35 | 44 | 53 | 7. 1 | 11 | 18 | 27 |
| 38 | 27 | 36 | 45 | 54 | 2 | 12 | 19 | 28 |
| 40 | 6. 28 | 6. 37 | 6. 46 | 6. 55 | 7. 3 | 7. 13 | 7. 21 | 7. 30 |
| 42 | 29 | 38 | 47 | 57 | 4 | 14 | 22 | 31 |
| 44 | 30 | 39 | 48 | 58 | 5 | 15 | 23 | 32 |
| 46 | 32 | 41 | 50 | 7. 0 | 7 | 16 | 25 | 33 |
| 48 | 33 | 42 | 51 | 1 | 8 | 18 | 26 | 34 |
| 50 | 6. 34 | 6. 43 | 6. 52 | 7. 2 | 7. 11 | 7. 19 | 7. 27 | 7. 35 |
| 52 | 35 | 44 | 53 | 3 | 12 | 20 | 28 | 36 |
| 54 | 36 | 45 | 54 | 5 | 13 | 21 | 29 | 37 |
| 56 | 37 | 47 | 55 | 6 | 14 | 22 | 30 | 39 |
| 58 | 38 | 48 | 57 | 7 | 15 | 23 | 31 | 40 |

Prs. parts for Seconds of Parallax additive

| ″ | ″ |
|---|---|
| 1 | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 1 |
| 10 | 1 |
| 11 | 2 |
| 12 | 2 |
| 13 | 2 |
| 14 | 2 |
| 15 | 2 |
| 16 | 2 |
| 17 | 2 |
| 18 | 2 |
| 19 | 3 |
| 20 | 3 |
| 21 | 3 |
| 22 | 3 |
| 23 | 3 |
| 24 | 3 |
| 25 | 3 |
| 26 | 3 |
| 27 | 4 |
| 28 | 4 |
| 29 | 4 |
| 30 | 4 |
| 31 | 4 |
| 32 | 4 |
| 33 | 4 |
| 34 | 5 |
| 35 | 5 |
| 36 | 5 |
| 37 | 5 |
| 38 | 5 |
| 39 | 5 |
| 40 | 5 |
| 41 | 6 |
| 42 | 6 |
| 43 | 6 |
| 44 | 6 |
| 45 | 6 |
| 46 | 6 |
| 47 | 6 |
| 48 | 6 |
| 49 | 7 |
| 50 | 7 |
| 51 | 7 |
| 52 | 7 |
| 53 | 7 |
| 54 | 7 |
| 55 | 7 |
| 56 | 8 |
| 57 | 8 |
| 58 | 8 |
| 59 | 8 |



☽'s App. Altitude 14 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 48. 38 | 40. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 26 | 54. 24 | 55. 21 |
| 2 | 38 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 4 | 38 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 6 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 8 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 10 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 26 | 54. 24 | 55. 21 |
| 12 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 14 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 16 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 18 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 20 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 26 | 54. 24 | 55. 21 |
| 22 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 24 | 37 | 35 | 33 | 31 | 30 | 28 | 24 | 21 |
| 26 | 37 | 35 | 33 | 31 | 30 | 28 | 24 | 21 |
| 28 | 37 | 35 | 33 | 31 | 30 | 28 | 24 | 21 |
| 30 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 26 | 54. 24 | 55. 21 |
| 32 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 34 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 36 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 38 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 40 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 26 | 54. 24 | 55. 21 |
| 42 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 44 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 46 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 48 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 50 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 27 | 54. 25 | 55. 22 |
| 52 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 54 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 56 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 58 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |

☽'s App. Altitude 15 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 26 | 54. 24 | 55. 21 |
| 2 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 4 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 6 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 8 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 10 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 26 | 54. 24 | 55. 21 |
| 12 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 14 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 16 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 18 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 20 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 26 | 54. 24 | 55. 21 |
| 22 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 24 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 26 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 28 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 30 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 26 | 54. 24 | 55. 21 |
| 32 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 34 | 37 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 36 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 38 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 40 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 27 | 54. 25 | 55. 22 |
| 42 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 44 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 46 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 48 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 50 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 27 | 54. 25 | 55. 22 |
| 52 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 54 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 56 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |
| 58 | 37 | 35 | 33 | 31 | 28 | 27 | 25 | 22 |

☽'s App. Altitude 16 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 48. 38 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 26 | 54. 24 | 55. 21 |
| 2 | 38 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 4 | 38 | 35 | 33 | 31 | 28 | 26 | 24 | 21 |
| 6 | 37 | 35 | 33 | 31 | 28 | 25 | 23 | 21 |
| 8 | 37 | 35 | 33 | 31 | 28 | 25 | 23 | 21 |
| 10 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 28 | 53. 25 | 54. 23 | 55. 21 |
| 12 | 37 | 35 | 33 | 31 | 28 | 25 | 23 | 21 |
| 14 | 37 | 35 | 33 | 31 | 28 | 25 | 23 | 21 |
| 16 | 37 | 35 | 33 | 31 | 27 | 25 | 23 | 21 |
| 18 | 37 | 35 | 33 | 31 | 27 | 25 | 23 | 21 |
| 20 | 48. 37 | 49. 35 | 50. 33 | 51. 31 | 52. 27 | 53. 25 | 54. 23 | 55. 21 |
| 22 | 37 | 35 | 33 | 31 | 27 | 25 | 23 | 21 |
| 24 | 37 | 35 | 33 | 31 | 27 | 25 | 23 | 21 |
| 26 | 37 | 35 | 33 | 31 | 27 | 24 | 22 | 21 |
| 28 | 37 | 35 | 33 | 31 | 27 | 24 | 22 | 21 |
| 30 | 48. 36 | 49. 33 | 50. 31 | 51. 29 | 52. 27 | 53. 24 | 54. 22 | 55. 19 |
| 32 | 36 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |
| 34 | 36 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |
| 36 | 36 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |
| 38 | 36 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |
| 40 | 48. 35 | 49. 33 | 50. 31 | 51. 29 | 52. 27 | 53. 24 | 54. 22 | 55. 19 |
| 42 | 35 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |
| 44 | 35 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |
| 46 | 35 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |
| 48 | 35 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |
| 50 | 48. 34 | 49. 33 | 50. 31 | 51. 29 | 52. 27 | 53. 24 | 54. 22 | 55. 19 |
| 52 | 34 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |
| 54 | 34 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |
| 56 | 34 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |
| 58 | 34 | 33 | 31 | 29 | 27 | 24 | 22 | 19 |

☽'s App. Altitude 17 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 48. 34 | 49. 31 | 50. 29 | 51. 27 | 52. 25 | 53. 23 | 54. 21 | 55. 18 |
| 2 | 34 | 31 | 29 | 27 | 25 | 23 | 21 | 18 |
| 4 | 34 | 31 | 29 | 27 | 25 | 23 | 21 | 18 |
| 6 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 18 |
| 8 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 10 | 48. 33 | 49. 31 | 50. 29 | 51. 27 | 52. 25 | 53. 23 | 54. 20 | 55. 17 |
| 12 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 14 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 16 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 18 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 20 | 48. 33 | 49. 31 | 50. 29 | 51. 27 | 52. 25 | 53. 23 | 54. 20 | 55. 17 |
| 22 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 24 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 26 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 28 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 30 | 48. 33 | 49. 31 | 50. 29 | 51. 27 | 52. 25 | 53. 23 | 54. 20 | 55. 17 |
| 32 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 34 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 36 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 38 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 40 | 48. 33 | 49. 31 | 50. 29 | 51. 27 | 52. 25 | 53. 23 | 54. 20 | 55. 17 |
| 42 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 44 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 46 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 48 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 50 | 48. 33 | 49. 31 | 50. 29 | 51. 27 | 52. 25 | 53. 23 | 54. 20 | 55. 17 |
| 52 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 54 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 56 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |
| 58 | 33 | 31 | 29 | 27 | 25 | 23 | 20 | 17 |

| Prop. Pts. for Sec. or Par. Altitude | Prop. Pts. for Sec. or Par. Altitude |
|---|---|
| ″ | ′ ″ |
| 1– 1 | 1– 1 |
| 2– 2 | 2– 2 |
| 3– 3 | 3– 3 |
| 4– 4 | 4– 4 |
| 5– 5 | 5– 5 |
| 6– 6 | 6– 6 |
| 7– 7 | 7– 7 |
| 8– 8 | 8– 8 |
| 9– 9 | 9– 9 |
| 10–10 | 10–10 |
| 11–11 | 11–11 |
| 12–12 | 12–12 |
| 13–13 | 13–12 |
| 14–14 | 14–13 |
| 15–14 | 15–14 |
| 16–15 | 16–15 |
| 17–16 | 17–16 |
| 18–17 | 18–17 |
| 19–18 | 19–18 |
| 20–19 | 20–19 |
| 21–20 | 21–20 |
| 22–21 | 22–21 |
| 23–22 | 23–22 |
| 24–23 | 24–23 |
| 25–24 | 25–24 |
| 26–25 | 26–25 |
| 27–26 | 27–26 |
| 28–27 | 28–27 |
| 29–28 | 29–28 |
| 30–29 | 30–29 |
| 31–30 | 31–30 |
| 32–31 | 32–31 |
| 33–32 | 33–32 |
| 34–33 | 34–33 |
| 35–34 | 35–34 |
| 36–35 | 36–35 |
| 37–36 | 37–35 |
| 38–37 | 38–36 |
| 39–38 | 39–37 |
| 40–39 | 40–38 |
| 41–40 | 41–39 |
| 42–41 | 42–40 |
| 43–42 | 43–41 |
| 44–43 | 44–42 |
| 45–44 | 45–43 |
| 46–45 | 46–44 |
| 47–46 | 47–45 |
| 48–47 | 48–46 |
| 49–48 | 49–47 |
| 50–49 | 50–48 |
| 51–50 | 51–49 |
| 52–51 | 52–50 |
| 53–52 | 53–51 |
| 54–53 | 54–52 |
| 55–54 | 55–53 |
| 56–55 | 56–54 |
| 57–56 | 57–55 |
| 58–57 | 58–56 |
| 59–58 | 59–57 |

☽'s App. Altitude 14 Degrees.

| | Horizontal Parallax. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
| 0 | 6. 39 | 6. 48 | 6. 57 | 7. 6 | 7. 14 | 7. 23 | 7. 32 | 7. 41 |
| 2 | 40 | 49 | 58 | 7 | 15 | 24 | 33 | 42 |
| 4 | 41 | 50 | 59 | 8 | 16 | 25 | 34 | 43 |
| 6 | 42 | 51 | 7. 0 | 10 | 18 | 27 | 36 | 45 |
| 8 | 43 | 52 | 1 | 11 | 19 | 28 | 37 | 46 |
| 10 | 6. 44 | 6. 53 | 7. 2 | 7. 12 | 7. 20 | 7. 29 | 7. 38 | 7. 47 |
| 12 | 45 | 54 | 3 | 13 | 21 | 30 | 39 | 48 |
| 14 | 46 | 55 | 4 | 14 | 22 | 31 | 40 | 49 |
| 16 | 47 | 57 | 6 | 15 | 23 | 33 | 42 | 51 |
| 18 | 49 | 58 | 7 | 16 | 24 | 34 | 43 | 52 |
| 20 | 6. 50 | 6. 59 | 7. 8 | 7. 17 | 7. 25 | 7. 35 | 7. 44 | 7. 53 |
| 22 | 51 | 7. 0 | 9 | 18 | 26 | 36 | 45 | 54 |
| 24 | 52 | 1 | 10 | 19 | 27 | 37 | 46 | 55 |
| 26 | 53 | 2 | 11 | 21 | 29 | 39 | 48 | 57 |
| 28 | 54 | 3 | 12 | 22 | 30 | 40 | 49 | 58 |
| 30 | 6. 55 | 7. 4 | 7. 13 | 7. 23 | 7. 31 | 7. 41 | 7. 50 | 7. 59 |
| 32 | 56 | 5 | 14 | 24 | 32 | 42 | 51 | 8. 0 |
| 34 | 57 | 6 | 15 | 25 | 33 | 43 | 52 | 1 |
| 36 | 58 | 7 | 16 | 26 | 35 | 44 | 53 | 3 |
| 38 | 59 | 8 | 17 | 27 | 36 | 45 | 54 | 4 |
| 40 | 7. 0 | 7. 9 | 7. 18 | 7. 28 | 7. 37 | 7. 46 | 7. 55 | 8. 5 |
| 42 | 1 | 10 | 19 | 29 | 38 | 47 | 56 | 6 |
| 44 | 2 | 11 | 20 | 30 | 39 | 48 | 57 | 7 |
| 46 | 4 | 13 | 22 | 31 | 40 | 50 | 59 | 9 |
| 48 | 5 | 14 | 23 | 32 | 41 | 51 | 8. 0 | 10 |
| 50 | 7. 6 | 7. 15 | 7. 24 | 7. 33 | 7. 42 | 7. 52 | 8. 1 | 8. 11 |
| 52 | 7 | 16 | 25 | 34 | 43 | 53 | 2 | 12 |
| 54 | 8 | 17 | 26 | 35 | 44 | 54 | 3 | 13 |
| 56 | 9 | 18 | 27 | 37 | 46 | 56 | 5 | 15 |
| 58 | 10 | 19 | 28 | 38 | 47 | 57 | 6 | 16 |

Pt. part for Seconds of Parallax additive

| | |
|---|---|
| ′ | ″ |
| 1 | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 1 |
| 10 | 2 |
| 11 | 2 |
| 12 | 2 |
| 13 | 2 |
| 14 | 2 |
| 15 | 2 |
| 16 | 2 |
| 17 | 3 |
| 18 | 3 |
| 19 | 3 |
| 20 | 3 |
| 21 | 3 |
| 22 | 3 |
| 23 | 4 |
| 24 | 4 |
| 25 | 4 |
| 26 | 4 |
| 27 | 4 |
| 28 | 4 |
| 29 | 4 |
| 30 | 5 |
| 31 | 5 |
| 32 | 5 |
| 33 | 5 |
| 34 | 5 |
| 35 | 5 |
| 36 | 5 |
| 37 | 6 |
| 38 | 6 |
| 39 | 6 |
| 40 | 6 |
| 41 | 6 |
| 42 | 6 |
| 43 | 7 |
| 44 | 7 |
| 45 | 7 |
| 46 | 7 |
| 47 | 7 |
| 48 | 7 |
| 49 | 7 |
| 50 | 8 |
| 51 | 8 |
| 52 | 8 |
| 53 | 8 |
| 54 | 8 |
| 55 | 8 |
| 56 | 8 |
| 57 | 9 |
| 58 | 9 |
| 59 | 9 |
| 60 | 9 |

☽'s App. Altitude 15 Degrees.

| | Horizontal Parallax. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
| 0 | 7. 11 | 7. 20 | 7. 29 | 7. 39 | 7. 48 | 7. 58 | 8. 7 | 8. 17 |
| 2 | 12 | 21 | 30 | 40 | 49 | 59 | 8 | 18 |
| 4 | 13 | 22 | 31 | 41 | 50 | 8. 0 | 9 | 19 |
| 6 | 14 | 23 | 33 | 43 | 52 | 2 | 11 | 21 |
| 8 | 15 | 24 | 34 | 44 | 53 | 3 | 12 | 22 |
| 10 | 7. 16 | 7. 25 | 7. 35 | 7. 45 | 7. 54 | 8. 4 | 8. 13 | 8. 23 |
| 12 | 17 | 26 | 36 | 46 | 55 | 5 | 14 | 24 |
| 14 | 18 | 27 | 37 | 47 | 56 | 6 | 15 | 25 |
| 16 | 19 | 29 | 38 | 48 | 57 | 7 | 17 | 27 |
| 18 | 20 | 30 | 39 | 49 | 58 | 8 | 18 | 28 |
| 20 | 7. 21 | 7. 31 | 7. 40 | 7. 50 | 7. 59 | 8. 9 | 8. 19 | 8. 29 |
| 22 | 22 | 32 | 41 | 51 | 8. 0 | 10 | 20 | 30 |
| 24 | 23 | 33 | 42 | 52 | 1 | 11 | 21 | 31 |
| 26 | 25 | 34 | 44 | 54 | 3 | 13 | 23 | 33 |
| 28 | 26 | 35 | 45 | 55 | 4 | 14 | 24 | 34 |
| 30 | 7. 27 | 7. 36 | 7. 46 | 7. 56 | 8. 5 | 8. 15 | 8. 25 | 8. 35 |
| 32 | 28 | 37 | 47 | 57 | 6 | 16 | 26 | 36 |
| 34 | 29 | 38 | 48 | 58 | 7 | 17 | 27 | 37 |
| 36 | 30 | 39 | 49 | 59 | 9 | 19 | 28 | 38 |
| 38 | 31 | 40 | 50 | 8. 0 | 10 | 20 | 29 | 39 |
| 40 | 7. 32 | 7. 41 | 7. 51 | 8. 1 | 8. 11 | 8. 21 | 8. 30 | 8. 40 |
| 42 | 33 | 42 | 52 | 2 | 12 | 22 | 31 | 41 |
| 44 | 34 | 43 | 53 | 3 | 13 | 23 | 32 | 42 |
| 46 | 35 | 44 | 54 | 4 | 14 | 24 | 33 | 43 |
| 48 | 36 | 45 | 55 | 5 | 15 | 25 | 34 | 44 |
| 50 | 7. 37 | 7. 46 | 7. 56 | 8. 6 | 8. 16 | 8. 26 | 8. 35 | 8. 45 |
| 52 | 38 | 47 | 57 | 7 | 17 | 27 | 36 | 46 |
| 54 | 39 | 48 | 58 | 8 | 18 | 28 | 37 | 47 |
| 56 | 40 | 49 | 59 | 9 | 19 | 29 | 38 | 48 |
| 58 | 41 | 50 | 8. 0 | 10 | 20 | 30 | 39 | 49 |

☽'s App. Altitude 16 Degrees.

| | Horizontal Parallax. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
| 0 | 7. 42 | 7. 52 | 8. 2 | 8. 12 | 8. 22 | 8. 32 | 8. 42 | 8. 52 |
| 2 | 43 | 53 | 3 | 13 | 23 | 33 | 43 | 53 |
| 4 | 44 | 54 | 4 | 14 | 24 | 34 | 44 | 54 |
| 6 | 45 | 55 | 5 | 16 | 26 | 36 | 46 | 56 |
| 8 | 46 | 56 | 6 | 17 | 27 | 37 | 47 | 57 |
| 10 | 7. 47 | 7. 57 | 8. 7 | 8. 18 | 8. 28 | 8. 38 | 8. 48 | 8. 58 |
| 12 | 48 | 58 | 8 | 19 | 29 | 39 | 49 | 59 |
| 14 | 49 | 59 | 9 | 20 | 30 | 40 | 50 | 9. 0 |
| 16 | 50 | 8. 1 | 11 | 21 | 31 | 41 | 52 | 2 |
| 18 | 51 | 2 | 12 | 22 | 32 | 42 | 53 | 3 |
| 20 | 7. 52 | 8. 3 | 8. 13 | 8. 23 | 8. 33 | 8. 43 | 8. 54 | 9. 4 |
| 22 | 53 | 4 | 14 | 24 | 34 | 44 | 55 | 5 |
| 24 | 54 | 5 | 15 | 25 | 35 | 45 | 56 | 6 |
| 26 | 56 | 6 | 16 | 27 | 37 | 47 | 58 | 8 |
| 28 | 57 | 7 | 17 | 28 | 38 | 48 | 59 | 9 |
| 30 | 7. 58 | 8. 8 | 8. 18 | 8. 29 | 8. 39 | 8. 49 | 9. 0 | 9. 10 |
| 32 | 59 | 9 | 19 | 30 | 40 | 50 | 1 | 11 |
| 34 | 8. 0 | 10 | 20 | 31 | 41 | 51 | 2 | 12 |
| 36 | 1 | 11 | 21 | 32 | 43 | 53 | 3 | 13 |
| 38 | 2 | 12 | 22 | 33 | 44 | 54 | 4 | 14 |
| 40 | 8. 3 | 8. 13 | 8. 23 | 8. 34 | 8. 44 | 8. 55 | 9. 5 | 9. 15 |
| 42 | 4 | 14 | 24 | 35 | 45 | 56 | 6 | 16 |
| 44 | 5 | 15 | 25 | 36 | 47 | 57 | 7 | 17 |
| 46 | 7 | 17 | 27 | 38 | 48 | 58 | 9 | 19 |
| 48 | 8 | 18 | 28 | 39 | 49 | 59 | 10 | 20 |
| 50 | 8. 9 | 8. 19 | 8. 30 | 8. 40 | 8. 50 | 9. 1 | 9. 11 | 9. 21 |
| 52 | 10 | 20 | 31 | 41 | 51 | 2 | 12 | 22 |
| 54 | 11 | 21 | 32 | 42 | 52 | 3 | 13 | 23 |
| 56 | 12 | 22 | 33 | 43 | 53 | 4 | 14 | 24 |
| 58 | 13 | 23 | 33 | 44 | 54 | 5 | 15 | 25 |

☽'s App. Altitude 17 Degrees.

| | Horizontal Parallax. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
| 0 | 8. 13 | 8. 24 | 8. 34 | 8. 45 | 8. 56 | 9. 6 | 9. 17 | 9. 27 |
| 2 | 14 | 25 | 35 | 46 | 57 | 7 | 18 | 28 |
| 4 | 15 | 26 | 36 | 47 | 58 | 8 | 19 | 29 |
| 6 | 16 | 27 | 37 | 49 | 9. 0 | 10 | 21 | 31 |
| 8 | 17 | 28 | 38 | 50 | 1 | 11 | 22 | 32 |
| 10 | 8. 18 | 8. 29 | 8. 39 | 8. 51 | 9. 2 | 9. 12 | 9. 23 | 9. 33 |
| 12 | 19 | 30 | 40 | 52 | 3 | 13 | 24 | 34 |
| 14 | 20 | 31 | 41 | 53 | 4 | 14 | 25 | 35 |
| 16 | 21 | 32 | 43 | 54 | 5 | 15 | 26 | 37 |
| 18 | 22 | 33 | 44 | 55 | 6 | 16 | 27 | 38 |
| 20 | 8. 23 | 8. 34 | 8. 45 | 8. 56 | 9. 7 | 9. 17 | 9. 28 | 9. 39 |
| 22 | 24 | 35 | 46 | 57 | 8 | 18 | 29 | 40 |
| 24 | 25 | 36 | 47 | 58 | 9 | 19 | 30 | 41 |
| 26 | 27 | 38 | 48 | 9. 0 | 11 | 21 | 32 | 43 |
| 28 | 28 | 39 | 49 | 1 | 12 | 22 | 33 | 44 |
| 30 | 8. 29 | 8. 40 | 8. 50 | 9. 2 | 9. 13 | 9. 23 | 9. 34 | 9. 45 |
| 32 | 30 | 41 | 51 | 3 | 14 | 24 | 35 | 46 |
| 34 | 31 | 42 | 52 | 4 | 15 | 25 | 36 | 47 |
| 36 | 32 | 43 | 53 | 5 | 16 | 27 | 38 | 48 |
| 38 | 33 | 44 | 54 | 6 | 17 | 28 | 39 | 49 |
| 40 | 8. 34 | 8. 45 | 8. 55 | 9. 7 | 9. 18 | 9. 29 | 9. 40 | 9. 50 |
| 42 | 35 | 46 | 56 | 8 | 19 | 30 | 41 | 51 |
| 44 | 36 | 47 | 57 | 9 | 20 | 31 | 42 | 52 |
| 46 | 37 | 48 | 58 | 10 | 21 | 32 | 43 | 53 |
| 48 | 38 | 49 | 59 | 11 | 22 | 33 | 44 | 54 |
| 50 | 8. 39 | 8. 50 | 9. 0 | 9. 12 | 9. 23 | 9. 34 | 9. 45 | 9. 55 |
| 52 | 40 | 51 | 1 | 13 | 24 | 35 | 46 | 56 |
| 54 | 41 | 52 | 2 | 14 | 25 | 36 | 47 | 57 |
| 56 | 42 | 53 | 3 | 15 | 26 | 37 | 48 | 58 |
| 58 | 43 | 54 | 4 | 16 | 27 | 38 | 49 | 59 |

Pt. parts for Seconds of Parallax additive

| | |
|---|---|
| ′ | ″ |
| 1 | 0 |
| 2 | 0 |
| 3 | 1 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 1 |
| 8 | 1 |
| 9 | 2 |
| 10 | 2 |
| 11 | 2 |
| 12 | 2 |
| 13 | 2 |
| 14 | 3 |
| 15 | 3 |
| 16 | 3 |
| 17 | 3 |
| 18 | 3 |
| 19 | 4 |
| 20 | 4 |
| 21 | 4 |
| 22 | 4 |
| 23 | 4 |
| 24 | 4 |
| 25 | 5 |
| 26 | 5 |
| 27 | 5 |
| 28 | 5 |
| 29 | 5 |
| 30 | 6 |
| 31 | 6 |
| 32 | 6 |
| 33 | 6 |
| 34 | 6 |
| 35 | 6 |
| 36 | 7 |
| 37 | 7 |
| 38 | 7 |
| 39 | 7 |
| 40 | 7 |
| 41 | 7 |
| 42 | 8 |
| 43 | 8 |
| 44 | 8 |
| 45 | 8 |
| 46 | 8 |
| 47 | 9 |
| 48 | 9 |
| 49 | 9 |
| 50 | 9 |
| 51 | 9 |
| 52 | 9 |
| 53 | 10 |
| 54 | 10 |
| 55 | 10 |
| 56 | 10 |
| 57 | 10 |
| 58 | 10 |
| 59 | 10 |
| 60 | 10 |

### ☽'s App. Altitude 18 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Pr. parts for ″ of Parallax additive |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 48. 27″ | 49. 24″ | 50. 22″ | 51. 19″ | 52. 16″ | 53. 13″ | 54. 10″ | 55. 7″ | |
| 2 | 27 | 24 | 22 | 19 | 10 | 13 | 10 | 7 | |
| 4 | 27 | 24 | 21 | 18 | 15 | 12 | 9 | 6 | |
| 6 | 26 | 23 | 21 | 18 | 15 | 12 | 9 | 6 | |
| 8 | 26 | 23 | 20 | 17 | 14 | 11 | 8 | 5 | |
| 10 | 48. 26 | 49. 23 | 50. 20 | 51. 17 | 52. 14 | 53. 11 | 54. 8 | 55. 5 | |
| 12 | 26 | 23 | 20 | 17 | 14 | 11 | 8 | 5 | |
| 14 | 26 | 23 | 20 | 17 | 14 | 11 | 8 | 5 | |
| 16 | 25 | 22 | 19 | 16 | 13 | 10 | 7 | 4 | |
| 18 | 25 | 22 | 19 | 16 | 13 | 10 | 7 | 4 | |
| 20 | 48. 25 | 49. 22 | 50. 19 | 51. 16 | 52. 13 | 53. 10 | 54. 7 | 55. 4 | |
| 22 | 25 | 22 | 19 | 16 | 13 | 10 | 7 | 4 | |
| 24 | 24 | 21 | 18 | 15 | 12 | 9 | 6 | 3 | |
| 26 | 24 | 21 | 18 | 15 | 12 | 9 | 6 | 3 | |
| 28 | 23 | 20 | 17 | 14 | 11 | 8 | 5 | 2 | |
| 30 | 48. 23 | 49. 20 | 50. 17 | 51. 14 | 52. 11 | 53. 8 | 54. 5 | 55. 2 | |
| 32 | 23 | 20 | 17 | 14 | 11 | 8 | 5 | 2 | |
| 34 | 23 | 20 | 17 | 14 | 10 | 7 | 4 | 1 | |
| 36 | 22 | 19 | 16 | 13 | 10 | 7 | 4 | 1 | |
| 38 | 22 | 19 | 16 | 13 | 9 | 6 | 3 | 0 | |
| 40 | 48. 22 | 49. 19 | 50. 16 | 51. 13 | 52. 9 | 53. 6 | 54. 3 | 55. 0 | |
| 42 | 22 | 19 | 16 | 13 | 9 | 6 | 3 | 0 | |
| 44 | 22 | 18 | 15 | 12 | 9 | 6 | 2 | 54. 59 | |
| 46 | 21 | 18 | 15 | 12 | 8 | 5 | 2 | 59 | |
| 48 | 21 | 17 | 14 | 11 | 8 | 5 | 1 | 58 | |
| 50 | 48. 21 | 49. 17 | 50. 14 | 51. 11 | 52. 8 | 53. 5 | 54. 1 | 54. 58 | |
| 52 | 21 | 17 | 14 | 11 | 8 | 5 | 1 | 58 | |
| 54 | 20 | 17 | 14 | 10 | 7 | 4 | 1 | 57 | |
| 56 | 20 | 16 | 13 | 10 | 7 | 4 | 0 | 57 | |
| 58 | 19 | 16 | 13 | 9 | 6 | 3 | 0 | 56 | |

### ☽'s App. Altitude 19 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 48. 19″ | 49. 16″ | 50. 13″ | 51. 9″ | 52. 6″ | 53. 3″ | 54. 0″ | 54. 56″ |
| 2 | 19 | 16 | 13 | 9 | 6 | 3 | 0 | 56 |
| 4 | 19 | 15 | 12 | 9 | 5 | 2 | 53. 59 | 55 |
| 6 | 18 | 15 | 12 | 8 | 5 | 2 | 59 | 55 |
| 8 | 18 | 14 | 11 | 8 | 4 | 1 | 58 | 54 |
| 10 | 48. 18 | 49. 14 | 50. 11 | 51. 8 | 52. 4 | 53. 1 | 53. 58 | 54. 54 |
| 12 | 18 | 14 | 11 | 8 | 4 | 1 | 58 | 54 |
| 14 | 17 | 14 | 10 | 7 | 3 | 0 | 57 | 53 |
| 16 | 17 | 13 | 10 | 7 | 3 | 0 | 57 | 53 |
| 18 | 16 | 13 | 9 | 6 | 2 | 52. 59 | 56 | 52 |
| 20 | 48. 16 | 49. 13 | 50. 9 | 51. 6 | 52. 2 | 52. 59 | 53. 56 | 54. 52 |
| 22 | 16 | 13 | 9 | 6 | 2 | 59 | 56 | 52 |
| 24 | 15 | 12 | 8 | 5 | 2 | 58 | 55 | 51 |
| 26 | 15 | 12 | 8 | 5 | 1 | 58 | 55 | 51 |
| 28 | 14 | 11 | [illegible] | [illegible] | 1 | 57 | 54 | 50 |
| 30 | 48. 14 | 49. 11 | 50. 7 | 51. 4 | 52. 1 | 52. 57 | 53. 54 | 54. 50 |
| 32 | 14 | 11 | 7 | 4 | 1 | 57 | 54 | 50 |
| 34 | 14 | 10 | 7 | 3 | 0 | 56 | 53 | 49 |
| 36 | 13 | 10 | 6 | 3 | 0 | 56 | 53 | 49 |
| 38 | 13 | 9 | 6 | 2 | 51. 59 | 55 | 52 | 48 |
| 40 | 48. 13 | 49. 9 | 50. 6 | 51. 2 | 51. 59 | 52. 55 | 53. 52 | 54. 48 |
| 42 | 13 | 9 | 6 | 2 | 59 | 55 | 51 | 48 |
| 44 | 12 | 8 | 5 | 1 | 58 | 54 | 51 | 47 |
| 46 | 12 | 8 | 5 | 1 | 58 | 54 | 50 | 47 |
| 48 | 11 | 7 | 4 | 0 | 57 | 53 | 50 | 46 |
| 50 | 48. 11 | 49. 7 | 50. 4 | 51. 0 | 51. 57 | 52. 53 | 53. 49 | 54. 46 |
| 52 | 11 | 7 | 4 | 0 | 57 | 53 | 49 | 46 |
| 54 | 10 | 6 | 3 | 50. 59 | 56 | 52 | 48 | 45 |
| 56 | 10 | 6 | 3 | 59 | 56 | 52 | 48 | 45 |
| 58 | 9 | 5 | 2 | 58 | 55 | 51 | 47 | 44 |

### ☽'s App. Altitude 20 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Pr. parts for ″ of Parallax additive |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 48. 9″ | 49. 5″ | 50. 2″ | 50. 58″ | 51. 55″ | 52. 51″ | 53. 47″ | 54. 44″ | |
| 2 | 9 | 5 | 2 | 58 | 54 | 51 | 47 | 43 | |
| 4 | 8 | 4 | 1 | 57 | 54 | 50 | 46 | 43 | |
| 6 | 8 | 4 | 1 | 57 | 53 | 50 | 46 | 42 | |
| 8 | 7 | 3 | 0 | 56 | 53 | 49 | 45 | 42 | |
| 10 | 48. 7 | 49. 3 | 50. 0 | 50. 56 | 51. 52 | 52. 49 | 53. 45 | 54. 41 | |
| 12 | 7 | 3 | 0 | 56 | 52 | 48 | 45 | 41 | |
| 14 | 6 | 2 | 49. 59 | 55 | 51 | 48 | 44 | 40 | |
| 16 | 6 | 2 | 59 | 55 | 51 | 47 | 44 | 40 | |
| 18 | 5 | 1 | 58 | 54 | 50 | 47 | 43 | 39 | |
| 20 | 48. 5 | 49. 1 | 49. 58 | 50. 54 | 51. 50 | 52. 46 | 53. 43 | 54. 39 | |
| 22 | 5 | 1 | 58 | 54 | 50 | 46 | 42 | 39 | |
| 24 | 4 | 0 | 57 | 53 | 49 | 45 | 42 | 38 | |
| 26 | 4 | 0 | 57 | 53 | 49 | 45 | 41 | 38 | |
| 28 | 3 | 48. 59 | 56 | 52 | 48 | 44 | 41 | 37 | |
| 30 | 48. 3 | 48. 59 | 49. 56 | 50. 52 | 51. 48 | 52. 44 | 53. 40 | 54. 37 | |
| 32 | 3 | 59 | 55 | 52 | 48 | 44 | 40 | 36 | |
| 34 | 2 | 58 | 55 | 51 | 47 | 43 | 39 | 36 | |
| 36 | 2 | 58 | 54 | 51 | 47 | 43 | 39 | 35 | |
| 38 | 1 | 57 | 54 | 50 | 46 | 42 | 38 | 35 | |
| 40 | 48. 1 | 48. 57 | 49. 53 | 50. 50 | 51. 46 | 52. 42 | 53. 38 | 54. 34 | |
| 42 | 1 | 57 | 53 | 49 | 46 | 42 | 38 | 34 | |
| 44 | 0 | 56 | 52 | 49 | 45 | 41 | 37 | 33 | |
| 46 | 0 | 56 | 52 | 48 | 45 | 41 | 37 | 33 | |
| 48 | 47. 59 | 55 | 51 | 48 | 44 | 40 | 36 | 32 | |
| 50 | 47. 59 | 48. 55 | 49. 51 | 50. 47 | 51. 44 | 52. 40 | 53. 36 | 54. 32 | |
| 52 | 59 | 55 | 51 | 47 | 43 | 39 | 35 | 31 | |
| 54 | 58 | 54 | 50 | 46 | 43 | 39 | 35 | 31 | |
| 56 | 58 | 54 | 50 | 46 | 42 | 38 | 34 | 30 | |
| 58 | 57 | 53 | 49 | 45 | 42 | 38 | 34 | 30 | |

### ☽'s App. Altitude 21 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 47. 57″ | 48. 53″ | 49. 49″ | 50. 45″ | 51. 41″ | 52. 37″ | 53. 33″ | 54. 29″ |
| 2 | 57 | 53 | 49 | 45 | 41 | 37 | 33 | 29 |
| 4 | 56 | 52 | 48 | 44 | 40 | 36 | 32 | 28 |
| 6 | 56 | 52 | 48 | 44 | 40 | 36 | 32 | 28 |
| 8 | 55 | 51 | 47 | 43 | 39 | 35 | 31 | 27 |
| 10 | 47. 55 | 48. 51 | 49. 47 | 50. 43 | 51. 39 | 52. 35 | 53. 31 | 54. 27 |
| 12 | 55 | 51 | 47 | 42 | 38 | 34 | 30 | 26 |
| 14 | 54 | 50 | 46 | 42 | 38 | 34 | 30 | 26 |
| 16 | 54 | 50 | 46 | 41 | 37 | 33 | 29 | 25 |
| 18 | 53 | 49 | 45 | 41 | 37 | 33 | 29 | 25 |
| 20 | 47. 53 | 48. 49 | 49. 45 | 50. 40 | 51. 36 | 52. 32 | 53. 28 | 54. 24 |
| 22 | 53 | 48 | 44 | 40 | 36 | 32 | 28 | 23 |
| 24 | 52 | 48 | 44 | 39 | 35 | 31 | 27 | 23 |
| 26 | 52 | 47 | 43 | 39 | 35 | 31 | 27 | 22 |
| 28 | 51 | 47 | 43 | 38 | 34 | [illegible] | [illegible] | [illegible] |
| 30 | 47. 51 | 48. 47 | 49. 43 | 50. 38 | 51. 34 | [illegible] | 53. 26 | 54. 21 |
| 32 | 50 | 46 | 42 | 38 | 33 | 29 | 25 | 21 |
| 34 | 50 | 45 | 41 | 37 | 33 | 29 | 25 | 20 |
| 36 | 49 | 45 | 41 | 37 | 32 | 28 | 24 | 20 |
| 38 | 49 | 44 | 40 | 36 | 32 | 28 | 24 | 19 |
| 40 | 47. 48 | 48. 44 | 49. 40 | 50. 36 | 51. 31 | 52. 27 | 53. 23 | 54. 19 |
| 42 | 48 | 44 | 39 | 35 | 31 | 27 | [illegible] | [illegible] |
| 44 | 47 | 43 | 39 | 35 | 30 | 26 | [illegible] | [illegible] |
| 46 | 47 | 43 | 38 | 34 | 30 | 26 | [illegible] | [illegible] |
| 48 | 47 | 42 | 38 | 34 | 30 | 25 | [illegible] | [illegible] |
| 50 | 47 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 52 | 47 | 41 | 37 | 33 | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 46 | 41 | 36 | 32 | 27 | 23 | [illegible] | [illegible] |
| 56 | 45 | 41 | 36 | 32 | 27 | 23 | [illegible] | [illegible] |
| 58 | 45 | 40 | 35 | 31 | [illegible] | [illegible] | [illegible] | [illegible] |

| Pr. parts for ″ of Parallax additive |
|---|
| 1– 1 |
| 2– 2 |
| 3– 3 |
| 4– 4 |
| 5– 5 |
| 6– 6 |
| 7– 7 |
| 8– 8 |
| 9– 9 |
| 10– 9 |
| 11–10 |
| 12–11 |
| 13–12 |
| 14–13 |
| 15–14 |
| 16–15 |
| 17–16 |
| 18–17 |
| 19–18 |
| 20–19 |
| 21–20 |
| 22–21 |
| 23–22 |
| 24–23 |
| 25–24 |
| 26–25 |
| 27–26 |
| 28–27 |
| 29–28 |
| 30–28 |
| 31–29 |
| 32–30 |
| 33–31 |
| 34–32 |
| 35–33 |
| 36–34 |
| 37–35 |
| 38–37 |
| 39–37 |
| 40–38 |
| 41–39 |
| 42–40 |
| 43–41 |
| 44–42 |
| 45–43 |
| 46–44 |
| 47–44 |
| 48–45 |
| 49–46 |
| 50–47 |
| 51–48 |
| 52–49 |
| 53–50 |
| 54–51 |
| 55–52 |
| 56–53 |
| 57–54 |
| 58–55 |
| 59–56 |

| Pr. parts for ″ of Parallax additive |
|---|
| 1– 1 |
| 2– 2 |
| 3– 3 |
| 4– 4 |
| 5– 5 |
| 6– 6 |
| 7– 8 |
| 8– 9 |
| 9–10 |
| 10–11 |
| 11–12 |
| 12–13 |
| 13–14 |
| 14–15 |
| 15–16 |
| 16–17 |
| 17–18 |
| 18–19 |
| 19–20 |
| 20–21 |
| 21–22 |
| 22–23 |
| 23–24 |
| 24–25 |
| 25–26 |
| 26–27 |
| 27–28 |
| 28–29 |
| 29–30 |
| 30–31 |
| 31–32 |
| 32–33 |
| 33–34 |
| 34–35 |
| 35–36 |
| 36–37 |
| 37–38 |
| 38–39 |
| 39–40 |
| 40–41 |
| 41–42 |
| 42–43 |
| 43–44 |
| 44–45 |
| 45–46 |
| 46–47 |
| 47–48 |
| 48–49 |
| 49–50 |
| 50–51 |
| 51–52 |
| 52–53 |
| 53–54 |
| 54–55 |
| 55–56 |
| 56–57 |
| 57–58 |
| 58–59 |
| 59–60 |

Correct. for Sun's and Star's Altit. *addit.* ⊙ * (Stars)

### ☽'s App. Altitude 18 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 8. 44 | 8. 55 | 9. 6 | 9. 18 | 9. 29 | 9. 40 | 9. 51 | 10. 2 |
| 2 | 45 | 56 | 7 | 19 | 30 | 41 | 52 | 3 |
| 4 | 47 | 57 | 8 | 20 | 31 | 42 | 53 | 4 |
| 6 | 47 | 58 | 9 | 21 | 33 | 44 | 55 | 6 |
| 8 | 48 | 59 | 10 | 22 | 34 | 45 | 56 | 7 |
| 10 | 8. 49 | 9. 0 | 9. 11 | 9. 23 | 9. 35 | 9. 46 | 9. 57 | 10. 8 |
| 12 | 50 | 1 | 12 | 24 | 36 | 47 | 58 | 9 |
| 14 | 51 | 2 | 13 | 25 | 37 | 48 | 59 | 10 |
| 16 | 52 | 4 | 15 | 27 | 38 | 49 | 10. 0 | 12 |
| 18 | 53 | 5 | 16 | 28 | 39 | 50 | 1 | 13 |
| 20 | 8. 54 | 9. 6 | 9. 17 | 9. 29 | 9. 40 | 9. 51 | 10. 2 | 10. 14 |
| 22 | 55 | 7 | 18 | 30 | 41 | 52 | 3 | 15 |
| 24 | 56 | 8 | 19 | 31 | 42 | 53 | 4 | 16 |
| 26 | 58 | 9 | 20 | 32 | 44 | 55 | 6 | 18 |
| 28 | 59 | 10 | 21 | 33 | 45 | 56 | 7 | 19 |
| 30 | 9 0 | 9. 11 | 9. 22 | 9. 34 | 9. 46 | 9. 57 | 10. 8 | 10. 20 |
| 32 | 1 | 12 | 23 | 35 | 47 | 58 | 9 | 21 |
| 34 | 2 | 13 | 24 | 36 | 48 | 59 | 10 | 22 |
| 36 | 3 | 14 | 25 | 37 | 49 | 10. 1 | 12 | 23 |
| 38 | 4 | 15 | 26 | 38 | 50 | 2 | 13 | 24 |
| 40 | 9. 5 | 9. 16 | 9. 27 | 9. 39 | 9. 51 | 10. 3 | 10. 14 | 10. 25 |
| 42 | 6 | 17 | 28 | 40 | 52 | 4 | 15 | 26 |
| 44 | 7 | 18 | 29 | 41 | 53 | 5 | 16 | 27 |
| 46 | 8 | 20 | 31 | 43 | 55 | 6 | 17 | 29 |
| 48 | 9 | 21 | 32 | 44 | 56 | 7 | 18 | 30 |
| 50 | 9. 10 | 9. 22 | 9. 33 | 9. 45 | 9. 57 | 10. 8 | 10. 19 | 10. 31 |
| 52 | 11 | 23 | 34 | 46 | 58 | 9 | 20 | 32 |
| 54 | 12 | 24 | 35 | 47 | 59 | 10 | 21 | 33 |
| 56 | 13 | 25 | 36 | 48 | 10. 0 | 12 | 23 | 35 |
| 58 | 14 | 26 | 37 | 49 | 1 | 13 | 24 | 36 |

### ☽'s App. Altitude 19 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9. 15 | 9. 27 | 9. 38 | 9. 50 | 10. 2 | 10. 14 | 10. 25 | 10. 37 |
| 2 | 16 | 28 | 39 | 51 | 3 | 15 | 26 | 38 |
| 4 | 17 | 29 | 40 | 52 | 4 | 16 | 27 | 39 |
| 6 | 18 | 30 | 41 | 53 | 6 | 18 | 29 | 41 |
| 8 | 19 | 31 | 42 | 54 | 7 | 19 | 30 | 42 |
| 10 | 9. 20 | 9. 32 | 9. 43 | 9. 55 | 10. 8 | 10. 20 | 10. 31 | 10. 43 |
| 12 | 21 | 33 | 44 | 56 | 9 | 21 | 32 | 44 |
| 14 | 22 | 34 | 45 | 57 | 10 | 22 | 33 | 45 |
| 16 | 23 | 35 | 47 | 59 | 11 | 23 | 35 | 47 |
| 18 | 24 | 36 | 48 | 10. 0 | 12 | 24 | 36 | 48 |
| 20 | 9. 25 | 9. 37 | 9. 49 | 10. 1 | 13 | 10. 25 | 10. 37 | 10. 49 |
| 22 | 26 | 38 | 50 | 2 | 14 | 26 | 38 | 50 |
| 24 | 27 | 39 | 51 | 3 | 15 | 27 | 39 | 51 |
| 26 | 29 | 41 | 52 | 4 | 17 | 29 | 41 | 53 |
| 28 | 30 | 42 | 53 | 5 | 18 | 30 | 42 | 54 |
| 30 | 9. 31 | 9. 43 | 9. 54 | 10. 6 | 10. 19 | 10. 31 | 10. 43 | 10. 55 |
| 32 | 32 | 44 | 55 | 7 | 20 | 32 | 44 | 56 |
| 34 | 33 | 45 | 56 | 8 | 21 | 33 | 45 | 57 |
| 36 | 34 | 46 | 57 | 9 | 22 | 34 | 46 | 58 |
| 38 | 35 | 47 | 58 | 10 | 23 | 35 | 47 | 59 |
| 40 | 9. 36 | 9. 48 | 9. 59 | 10. 11 | 10. 24 | 10. 36 | 10. 48 | 11. 0 |
| 42 | 37 | 49 | 10. 0 | 12 | 25 | 37 | 49 | 1 |
| 44 | 38 | 50 | 1 | 13 | 26 | 38 | 50 | 2 |
| 46 | 39 | 51 | 3 | 15 | 28 | 40 | 51 | 4 |
| 48 | 40 | 52 | 4 | 16 | 29 | 41 | 52 | 5 |
| 50 | 9. 41 | 9. 53 | 10. 5 | 10. 17 | 10. 30 | 10. 42 | 10. 54 | 11. 6 |
| 52 | 42 | 54 | 6 | 18 | 31 | 43 | 54 | 7 |
| 54 | 43 | 55 | 7 | 19 | 32 | 44 | 55 | 8 |
| 56 | 44 | 56 | 8 | 20 | 33 | 45 | 57 | 10 |
| 58 | 45 | 57 | 9 | 21 | 34 | 46 | 58 | 11 |

### ☽'s App. Altitude 20 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 9. 46 | 9. 58 | 10. 10 | 10. 22 | 10. 35 | 10. 47 | 10. 59 | 11. 12 |
| 2 | 47 | 59 | 11 | 23 | 36 | 48 | 11. 0 | 13 |
| 4 | 48 | 10. 0 | 12 | 24 | 37 | 49 | 1 | 14 |
| 6 | 49 | 1 | 13 | 26 | 39 | 51 | 3 | 16 |
| 8 | 50 | 2 | 14 | 27 | 40 | 52 | 4 | 17 |
| 10 | 9. 51 | 10. 3 | 10. 15 | 10. 28 | 10. 41 | 10. 53 | 11. 5 | 11. 18 |
| 12 | 52 | 4 | 16 | 29 | 42 | 54 | 6 | 19 |
| 14 | 53 | 5 | 17 | 30 | 43 | 55 | 7 | 20 |
| 16 | 54 | 6 | 19 | 32 | 44 | 56 | 8 | 21 |
| 18 | 55 | 7 | 20 | 33 | 45 | 57 | 9 | 22 |
| 20 | 9. 56 | 10. 8 | 10. 21 | 10. 34 | 10. 46 | 10. 58 | 11. 10 | 11. 23 |
| 22 | 57 | 9 | 22 | 35 | 47 | 59 | 11 | 24 |
| 24 | 58 | 10 | 23 | 36 | 48 | 11. 0 | 12 | 25 |
| 26 | 59 | 12 | 24 | 37 | 50 | 2 | 14 | 27 |
| 28 | 10. 0 | 13 | 25 | 38 | 51 | 3 | 15 | 28 |
| 30 | 10. 1 | 10. 14 | 10. 26 | 10. 39 | 10. 52 | 11. 4 | 11. 16 | 11. 29 |
| 32 | 2 | 15 | 27 | 40 | 53 | 5 | 17 | 30 |
| 34 | 3 | 16 | 28 | 41 | 54 | 6 | 18 | 31 |
| 36 | 4 | 17 | 29 | 42 | 55 | 7 | 20 | 33 |
| 38 | 5 | 18 | 30 | 43 | 56 | 8 | 21 | 34 |
| 40 | 10. 6 | 10. 19 | 10. 31 | 10. 44 | 10. 57 | 11. 9 | 11. 22 | 11. 35 |
| 42 | 7 | 20 | 32 | 45 | 58 | 10 | 23 | 36 |
| 44 | 8 | 21 | 33 | 46 | 59 | 11 | 24 | 37 |
| 46 | 9 | 22 | 35 | 48 | 11. 1 | 13 | 25 | 38 |
| 48 | 10 | 23 | 36 | 49 | 2 | 14 | 26 | 39 |
| 50 | 10. 11 | 10. 24 | 10. 37 | 10. 50 | 11. 3 | 11. 15 | 11. 27 | 11. 40 |
| 52 | 12 | 25 | 38 | 51 | 4 | 16 | 28 | 41 |
| 54 | 13 | 26 | 39 | 52 | 5 | 17 | 29 | 42 |
| 56 | 14 | 27 | 40 | 53 | 6 | 18 | 31 | 44 |
| 58 | 15 | 28 | 41 | 54 | 7 | 19 | 32 | 45 |

### ☽'s App. Altitude 21 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 10. 16 | 10. 29 | 10. 42 | 10. 55 | 11. 8 | 11. 20 | 11. 33 | 11. 46 |
| 2 | 17 | 30 | 43 | 56 | 9 | 21 | 34 | 47 |
| 4 | 18 | 31 | 44 | 57 | 10 | 22 | 35 | 48 |
| 6 | 19 | 32 | 45 | 58 | 11 | 24 | 37 | 50 |
| 8 | 20 | 33 | 46 | 59 | 12 | 25 | 38 | 51 |
| 10 | 10. 21 | 10. 34 | 10. 47 | 11. 0 | 11. 13 | 11. 26 | 11. 39 | 11. 52 |
| 12 | 22 | 35 | 48 | 1 | 14 | 27 | 40 | 53 |
| 14 | 23 | 36 | 49 | 2 | 15 | 28 | 41 | 54 |
| 16 | 24 | 37 | 50 | 3 | 17 | 29 | 42 | 55 |
| 18 | 25 | 38 | 51 | 4 | 18 | 30 | 43 | 56 |
| 20 | 10. 26 | 10. 39 | 10. 52 | 11. 5 | 11. 19 | 11. 31 | 11. 44 | 11. 57 |
| 22 | 27 | 40 | 53 | 6 | 20 | 32 | 45 | 58 |
| 24 | 28 | 41 | 54 | 7 | 21 | 33 | 46 | 59 |
| 26 | 29 | 42 | 56 | 9 | 22 | 35 | 48 | 12. 1 |
| 28 | 30 | 43 | 57 | 10 | 23 | 36 | 49 | 2 |
| 30 | 10. 31 | 10. 44 | 10. 58 | 11. 11 | 11. 24 | 11. 37 | 11. 50 | 12. 3 |
| 32 | 32 | 45 | 59 | 12 | 25 | 38 | 51 | 4 |
| 34 | 33 | 46 | 11. 0 | 13 | 26 | 39 | 52 | 5 |
| 36 | 34 | 47 | 1 | 14 | 27 | 40 | 54 | 7 |
| 38 | 35 | 48 | 2 | 15 | 28 | 41 | 55 | 8 |
| 40 | 10. 36 | 10. 49 | 11. 3 | 11. 16 | 11. 29 | 11. 42 | 11. 56 | 12. 9 |
| 42 | 37 | 50 | 4 | 17 | 30 | 43 | 57 | 10 |
| 44 | 38 | 51 | 5 | 18 | 31 | 44 | 58 | 11 |
| 46 | 39 | 52 | 6 | 19 | 33 | 46 | 59 | 12 |
| 48 | 40 | 53 | 7 | 20 | 34 | 47 | 12. 0 | 13 |
| 50 | 10. 41 | 10. 54 | 11. 8 | 11. 21 | 11. 35 | 11. 48 | 12. 1 | 14 |
| 52 | 42 | 55 | 9 | 22 | 36 | 49 | 2 | 15 |
| 54 | 43 | 56 | 10 | 23 | 37 | 50 | 3 | 16 |
| 56 | 44 | 57 | 11 | 24 | 38 | 51 | 5 | 18 |
| 58 | 45 | 58 | 12 | 25 | 39 | 52 | 6 | 19 |

| Pr. parts for Seconds of Parallax additive | |
|---|---|
| ″ | ″ |
| 1– 0 | |
| 2– 0 | |
| 3– 1 | |
| 4– 1 | |
| 5– 1 | |
| 6– 1 | |
| 7– 1 | |
| 8– 2 | |
| 9– 2 | |
| 10– 2 | |
| 11– 2 | |
| 12– 2 | |
| 13– 3 | |
| 14– 3 | |
| 15– 3 | |
| 16– 3 | |
| 17– 3 | |
| 18– 4 | |
| 19– 4 | |
| 20– 4 | |
| 21– 4 | |
| 22– 4 | |
| 23– 5 | |
| 24– 5 | |
| 25– 5 | |
| 26– 5 | |
| 27– 5 | |
| 28– 6 | |
| 29– 6 | |
| 30– 6 | |
| 31– 6 | |
| 32– 6 | |
| 33– 7 | |
| 34– 7 | |
| 35– 7 | |
| 36– 7 | |
| 37– 7 | |
| 38– 8 | |
| 39– 8 | |
| 40– 8 | |
| 41– 8 | |
| 42– 8 | |
| 43– 9 | |
| 44– 9 | |
| 45– 9 | |
| 46– 9 | |
| 47– 9 | |
| 48–10 | |
| 49–10 | |
| 50–10 | |
| 51–10 | |
| 52–10 | |
| 53–11 | |
| 54–11 | |
| 55–11 | |
| 56–11 | |
| 57–11 | |
| 58–12 | |
| 59–12 | |

| Pr. parts for Seconds of Parallax additive | |
|---|---|
| ″ | ″ |
| 1– 0 | |
| 2– 0 | |
| 3– 1 | |
| 4– 1 | |
| 5– 1 | |
| 6– 1 | |
| 7– 2 | |
| 8– 2 | |
| 9– 2 | |
| 10– 2 | |
| 11– 2 | |
| 12– 3 | |
| 13– 3 | |
| 14– 3 | |
| 15– 3 | |
| 16– 3 | |
| 17– 4 | |
| 18– 4 | |
| 19– 4 | |
| 20– 4 | |
| 21– 5 | |
| 22– 5 | |
| 23– 5 | |
| 24– 5 | |
| 25– 5 | |
| 26– 6 | |
| 27– 6 | |
| 28– 6 | |
| 29– 6 | |
| 30– 7 | |
| 31– 7 | |
| 32– 7 | |
| 33– 7 | |
| 34– 7 | |
| 35– 8 | |
| 36– 8 | |
| 37– 8 | |
| 38– 8 | |
| 39– 8 | |
| 40– 9 | |
| 41– 9 | |
| 42– 9 | |
| 43– 9 | |
| 44– | |
| 45–10 | |
| 46–10 | |
| 47–10 | |
| 48–10 | |
| 49–11 | |
| 50–11 | |
| 51–11 | |
| 52–11 | |
| 53–11 | |
| 54–12 | |
| 55–12 | |
| 56–12 | |
| 57–1 | |
| 58–13 | |
| 59–14 | |

### ☽'s App. Altitude 22 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Proport. for Seconds of Parallax additive |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 47. 44 | 48. 39 | 49. 35 | 50. 31 | 51. 26 | 52. 22 | 53. 18 | 54. 13 | |
| 2 | 43 | 39 | 34 | 30 | 26 | 21 | 17 | 12 | |
| 4 | 43 | 38 | 34 | 30 | 25 | 21 | 17 | 12 | |
| 6 | 42 | 38 | 33 | 29 | 25 | 20 | 16 | 11 | |
| 8 | 42 | 37 | 33 | 29 | 24 | 20 | 16 | 11 | |
| 10 | 47. 41 | 48. 37 | 49. 32 | 50. 28 | 51. 24 | 52. 19 | 53. 15 | 54. 10 | |
| 12 | 41 | 36 | 32 | 27 | 23 | 18 | 14 | 9 | |
| 14 | 40 | 36 | 31 | 27 | 23 | 18 | 14 | 9 | |
| 16 | 40 | 35 | 31 | 26 | 22 | 17 | 13 | 8 | |
| 18 | 39 | 35 | 30 | 26 | 22 | 17 | 13 | 8 | |
| 20 | 47. 39 | 48. 34 | 49. 30 | 50. 25 | 51. 21 | 52. 16 | 53. 12 | 54. 7 | |
| 22 | 38 | 34 | 29 | 25 | 20 | 16 | 11 | 6 | |
| 24 | 38 | 33 | 29 | 24 | 20 | 15 | 11 | 6 | |
| 26 | 37 | 33 | 28 | 24 | 19 | 15 | 10 | 5 | |
| 28 | 37 | 32 | 28 | 23 | 19 | 14 | 10 | 5 | |
| 30 | 47. 36 | 48. 32 | 49. 27 | 50. 23 | 51. 18 | 52. 14 | 53. 9 | 54. 4 | |
| 32 | 36 | 31 | 27 | 22 | 17 | 13 | 8 | 3 | |
| 34 | 35 | 31 | 26 | 22 | 17 | 13 | 8 | 3 | |
| 36 | 35 | 30 | 26 | 21 | 16 | 12 | 7 | 2 | |
| 38 | 34 | 30 | 25 | 21 | 16 | 12 | 7 | 2 | |
| 40 | 47. 34 | 48. 29 | 49. 25 | 50. 20 | 51. 15 | 52. 11 | 53. 6 | 54. 1 | |
| 42 | 33 | 29 | 24 | 19 | 15 | 10 | 5 | 0 | |
| 44 | 33 | 28 | 24 | 19 | 14 | 10 | 5 | 0 | |
| 46 | 32 | 28 | 23 | 18 | 14 | 9 | 4 | 53. 59 | |
| 48 | 32 | 27 | 23 | 18 | 13 | 9 | 4 | 59 | |
| 50 | 47. 31 | 48. 27 | 49. 22 | 50. 17 | 51. 13 | 52. 8 | 53. 3 | 53. 58 | |
| 52 | 31 | 26 | 21 | 16 | 12 | 7 | 2 | 57 | |
| 54 | 30 | 26 | 21 | 16 | 12 | 7 | 2 | 57 | |
| 56 | 30 | 25 | 20 | 15 | 11 | 6 | 1 | 56 | |
| 58 | 29 | 25 | 20 | 15 | 11 | 6 | 1 | 56 | |

### ☽'s App. Altitude 23 Degrees.

| ′ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 47. 26 | 48. 22 | 49. 18 | 50. 14 | 51. 10 | 52. 5 | 53. 0 | 53. 55 | |
| 2 | 28 | 23 | 18 | 14 | 9 | 4 | 52. 59 | 54 | |
| 4 | 28 | 23 | 18 | 13 | 9 | 4 | 59 | 54 | |
| 6 | 27 | 22 | 17 | 13 | 8 | 3 | 58 | 53 | |
| 8 | 27 | 22 | 17 | 12 | 8 | 3 | 58 | 53 | |
| 10 | 47. 26 | 48. 21 | 49. 16 | 50. 12 | 51. 7 | 52. 2 | 52. 57 | 53. 52 | |
| 12 | 25 | 21 | 16 | 11 | 6 | 1 | 56 | 51 | |
| 14 | 25 | 20 | 15 | 11 | 6 | 1 | 56 | 51 | |
| 16 | 24 | 20 | 15 | 10 | 5 | 0 | 55 | 50 | |
| 18 | 24 | 19 | 14 | 10 | 5 | 0 | 55 | 50 | |
| 20 | 47. 23 | 48. 19 | 49. 14 | 50. 9 | 51. 4 | 51. 59 | 52. 54 | 53. 49 | |
| 22 | 23 | 18 | 13 | 8 | 3 | 58 | 53 | 48 | |
| 24 | 22 | 18 | 13 | 8 | 3 | 58 | 53 | 48 | |
| 26 | 22 | 17 | 12 | 7 | 2 | 57 | 52 | 47 | |
| 28 | 21 | 17 | 12 | 7 | 2 | 57 | 52 | 47 | |
| 30 | 47. 21 | 48. 16 | 49. 11 | 50. 6 | 51. 1 | 51. 56 | 52. 51 | 53. 46 | |
| 32 | 20 | 15 | 10 | 5 | 0 | 55 | 50 | 45 | |
| 34 | 20 | 15 | 10 | 5 | 0 | 55 | 50 | 45 | |
| 36 | 19 | 14 | 9 | 4 | 50. 59 | 54 | 49 | 44 | |
| 38 | 19 | 14 | 9 | 4 | 59 | 54 | 49 | 44 | |
| 40 | 47. 18 | 48. 13 | 49. 8 | 50. 3 | 50. 58 | 51. 53 | 52. 48 | 53. 43 | |
| 42 | 17 | 12 | 7 | 2 | 57 | 52 | 47 | 42 | |
| 44 | 17 | 12 | 7 | 2 | 57 | 52 | 46 | 41 | |
| 46 | 16 | 11 | 6 | 1 | 56 | 51 | 46 | 41 | |
| 48 | 16 | 11 | 6 | 1 | 56 | 51 | 45 | 40 | |
| 50 | 47. 15 | 48. 10 | 49. 5 | 50. 0 | 50. 55 | 51. 50 | 52. 44 | 53. 39 | |
| 52 | 14 | 9 | 4 | 49. 59 | 54 | 49 | 43 | 38 | |
| 54 | 14 | 9 | 4 | 59 | 54 | 49 | 43 | 38 | |
| 56 | 13 | 8 | 3 | 58 | 53 | 48 | 42 | 37 | |
| 58 | 13 | 8 | 3 | 58 | 53 | 48 | 42 | 37 | |

### ☽'s App. Altitude 24 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Proport. for Seconds of Parallax additive |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 47. 12 | 48. 7 | 49. 2 | 49. 57 | 50. 52 | 51. 47 | 52. 41 | 53. 36 | |
| 2 | 12 | 6 | 1 | 56 | 51 | 46 | 40 | 35 | |
| 4 | 11 | 6 | 1 | 56 | 50 | 45 | 40 | 35 | |
| 6 | 11 | 5 | 0 | 55 | 50 | 45 | 39 | 34 | |
| 8 | 10 | 5 | 0 | 55 | 49 | 44 | 39 | 34 | |
| 10 | 47. 10 | 48. 4 | 48. 59 | 49. 54 | 50. 48 | 51. 43 | 52. 38 | 53. 33 | |
| 12 | 9 | 3 | 58 | 53 | 47 | 42 | 37 | 32 | |
| 14 | 9 | 3 | 58 | 53 | 47 | 42 | 37 | 31 | |
| 16 | 8 | 2 | 57 | 52 | 46 | 41 | 36 | 31 | |
| 18 | 8 | 2 | 57 | 52 | 46 | 41 | 36 | 30 | |
| 20 | 47. 7 | 48. 1 | 48. 56 | 49. 51 | 50. 45 | 51. 40 | 52. 35 | 53. 29 | |
| 22 | 6 | 0 | 55 | 50 | 44 | 39 | 34 | 28 | |
| 24 | 6 | 0 | 55 | 49 | 44 | 39 | 33 | 28 | |
| 26 | 5 | 47. 59 | 54 | 49 | 43 | 38 | 33 | 27 | |
| 28 | 5 | 59 | 54 | 48 | 43 | 38 | 32 | 27 | |
| 30 | 47. 4 | 47. 58 | 48. 53 | 49. 47 | 50. 42 | 51. 37 | 52. 31 | 53. 26 | |
| 32 | 3 | 57 | 52 | 46 | 41 | 36 | 30 | 25 | |
| 34 | 3 | 57 | 52 | 46 | 41 | 35 | 30 | 24 | |
| 36 | 2 | 56 | 51 | 45 | 40 | 35 | 29 | 24 | |
| 38 | 2 | 56 | 51 | 45 | 40 | 34 | 29 | 23 | |
| 40 | 47. 1 | 47. 55 | 48. 50 | 49. 44 | 50. 39 | 51. 33 | 52. 28 | 53. 22 | |
| 42 | 0 | 54 | 49 | 43 | 38 | 32 | 27 | 21 | |
| 44 | 0 | 54 | 49 | 43 | 37 | 32 | 26 | 21 | |
| 46 | 46. 59 | 53 | 48 | 42 | 37 | 31 | 26 | 20 | |
| 48 | 59 | 53 | 48 | 42 | 36 | 31 | 25 | 20 | |
| 50 | 46. 58 | 47. 52 | 48. 47 | 49. 41 | 50. 35 | 51. 30 | 52. 24 | 53. 19 | |
| 52 | 57 | 51 | 46 | 40 | 34 | 29 | 23 | 18 | |
| 54 | 57 | 51 | 45 | 40 | 34 | 29 | 23 | 17 | |
| 56 | 56 | 50 | 45 | 39 | 33 | 28 | 22 | 17 | |
| 58 | 56 | 50 | 44 | 39 | 33 | 28 | 22 | 16 | |

### ☽'s App. Altitude 25 Degrees.

| ′ | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 46. 55 | 47. 49 | 48. 43 | 49. 38 | 50. 32 | 51. 27 | 52. 21 | 53. 15 | |
| 2 | 54 | 48 | 42 | 37 | 31 | 26 | 20 | 14 | |
| 4 | 54 | 48 | 42 | 36 | 31 | 25 | 19 | 14 | |
| 6 | 53 | 47 | 41 | 36 | 30 | 25 | 19 | 13 | |
| 8 | 53 | 47 | 41 | 35 | 30 | 24 | 18 | 13 | |
| 10 | 46. 52 | 47. 46 | 48. 40 | 49. 34 | 50. 29 | 51. 23 | 52. 17 | 53. 12 | |
| 12 | 51 | 45 | 39 | 33 | 28 | 22 | 16 | 11 | |
| 14 | 50 | 45 | 39 | 33 | 27 | 22 | 16 | 10 | |
| 16 | 50 | 44 | 38 | 32 | 27 | 21 | 15 | 10 | |
| 18 | 49 | 44 | 38 | 32 | 26 | 21 | 15 | 9 | |
| 20 | 46. 48 | 47. 43 | 48. 37 | 49. 31 | 50. 25 | 51. 20 | 52. 14 | 53. 8 | |
| 22 | 47 | 42 | 36 | 30 | 24 | 19 | 13 | 7 | |
| 24 | 47 | 41 | 36 | 30 | 24 | 18 | 12 | 6 | |
| 26 | 46 | 41 | 35 | 29 | 23 | 18 | 12 | 6 | |
| 28 | 46 | 40 | 35 | 29 | 23 | 17 | 11 | 5 | |
| 30 | 46. 45 | 47. 39 | 48. 34 | 49. 28 | 50. 22 | 51. 16 | 52. 10 | 53. 4 | |
| 32 | 44 | 38 | 33 | 27 | 21 | 15 | 9 | 3 | |
| 34 | 44 | 38 | 32 | 26 | 20 | 15 | 9 | 3 | |
| 36 | 43 | 37 | 32 | 26 | 20 | 14 | 8 | 2 | |
| 38 | 43 | 37 | 31 | 25 | 19 | 14 | 8 | 2 | |
| 40 | 46. 42 | 47. 37 | 48. 31 | 49. 24 | 50. 18 | 51. 13 | 52. 7 | 53. 1 | |
| 42 | 41 | 35 | 29 | 23 | 17 | 12 | 6 | 0 | |
| 44 | 41 | 35 | 29 | 23 | 17 | 11 | 5 | 52. 59 | |
| 46 | 40 | 34 | 28 | 22 | 16 | 11 | 5 | 58 | |
| 48 | 40 | 34 | 28 | 22 | 16 | 10 | 4 | 58 | |
| 50 | 46. 39 | 47. 33 | 48. 27 | 49. 21 | 50. 15 | 51. 9 | 52. 3 | 52. 57 | |
| 52 | 38 | 32 | 26 | 20 | 14 | 8 | 2 | 56 | |
| 54 | 38 | 32 | 25 | 19 | 13 | 7 | 1 | 55 | |
| 56 | 37 | 31 | 25 | 19 | 13 | 7 | 1 | 55 | |
| 58 | 37 | 31 | 24 | 18 | 12 | 6 | 0 | 54 | |

| Proport. for Seconds of Parallax additive |
|---|
| 0–1 |
| 1–2 |
| 2–3 |
| 3–4 |
| 4–5 |
| 5–6 |
| 6–7 |
| 7–8 |
| 8–9 |
| 9–10 |
| 10–11 |
| 11–12 |
| 12–13 |
| 13–14 |
| 14–15 |
| 15–16 |
| 16–17 |
| 17–18 |
| 18–19 |
| 19–20 |
| 20–21 |
| 21–22 |
| 22–23 |
| 23–24 |
| 24–25 |
| 25–26 |
| 26–27 |
| 27–28 |
| 28–29 |
| 29–30 |
| 30–31 |
| 31–32 |
| 32–33 |
| 33–34 |
| 34–35 |
| 35–36 |
| 36–37 |
| 37–38 |
| 38–39 |
| 39–40 |
| 40–41 |
| 41–42 |
| 42–43 |
| 43–44 |
| 44–45 |
| 45–46 |
| 46–47 |
| 47–48 |
| 48–49 |
| 49–50 |
| 50–51 |
| 51–52 |
| 52–53 |
| 53–54 |
| 54–55 |
| 55–56 |
| 56–57 |
| 57–58 |
| 58–59 |
| 59–60 |

Corrd. for Sun's and Star's Alt. *addit.* ⊙ * | Pr. parts for Seconds of Parallax *additive*

### ☽'s App. Altitude 22 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 10. 46 | 10. 59 | 11. 13 | 11. 26 | 11. 40 | 11. 53 | 12. 7 | 12. 20 |
| 2 | 47 | 11. 0 | 14 | 27 | 41 | 54 | 8 | 21 |
| 4 | 48 | 1 | 15 | 28 | 42 | 55 | 9 | 22 |
| 6 | 49 | 2 | 16 | 29 | 43 | 57 | 11 | 24 |
| 8 | 50 | 3 | 17 | 30 | 44 | 58 | 12 | 25 |
| 10 | 10. 51 | 11. 4 | 11. 18 | 11. 31 | 11. 45 | 11. 59 | 12. 13 | 12. 26 |
| 12 | 52 | 5 | 19 | 32 | 46 | 12. 0 | 14 | 27 |
| 14 | 53 | 6 | 20 | 33 | 47 | 1 | 15 | 28 |
| 16 | 54 | 7 | 21 | 35 | 49 | 2 | 16 | 29 |
| 18 | 55 | 8 | 22 | 36 | 50 | 3 | 17 | 30 |
| 20 | 10. 56 | 11. 9 | 11. 23 | 11. 37 | 11. 51 | 12. 4 | 12. 18 | 12. 31 |
| 22 | 57 | 10 | 24 | 38 | 52 | 5 | 19 | 32 |
| 24 | 58 | 11 | 25 | 39 | 53 | 6 | 20 | 33 |
| 26 | 59 | 13 | 27 | 40 | 54 | 8 | 22 | 35 |
| 28 | 11. 0 | 14 | 28 | 41 | 55 | 9 | 23 | 36 |
| 30 | 11. 1 | 11. 15 | 11. 29 | 11. 42 | 11. 56 | 12. 10 | 12. 24 | 12. 37 |
| 32 | 2 | 16 | 30 | 43 | 57 | 11 | 25 | 38 |
| 34 | 3 | 17 | 31 | 44 | 58 | 12 | 26 | 39 |
| 36 | 4 | 18 | 32 | 45 | 59 | 13 | 27 | 41 |
| 38 | 5 | 19 | 33 | 46 | 12. 0 | 14 | 28 | 42 |
| 40 | 11. 6 | 11. 20 | 11. 34 | 11. 47 | 12. 1 | 12. 15 | 12. 29 | 12. 43 |
| 42 | 7 | 21 | 35 | 48 | 2 | 16 | 30 | 44 |
| 44 | 8 | 22 | 36 | 49 | 3 | 17 | 31 | 45 |
| 46 | 9 | 23 | 37 | 51 | 5 | 19 | 33 | 46 |
| 48 | 10 | 24 | 38 | 52 | 6 | 20 | 34 | 47 |
| 50 | 11. 11 | 11. 25 | 11. 39 | 11. 53 | 12. 7 | 12. 21 | 12. 35 | 12. 48 |
| 52 | 12 | 26 | 40 | 54 | 8 | 22 | 36 | 49 |
| 54 | 13 | 27 | 41 | 55 | 9 | 23 | 37 | 50 |
| 56 | 14 | 28 | 42 | 56 | 10 | 24 | 38 | 52 |
| 58 | 15 | 29 | 43 | 57 | 11 | 25 | 39 | 53 |

### ☽'s App. Altitude 23 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 11. 10 | 11. 23 | 11. 44 | 11. 58 | 12. 12 | 12. 26 | 12. 40 | 12. 54 |
| 2 | 17 | 31 | 45 | 59 | 13 | 27 | 41 | 55 |
| 4 | 18 | 32 | 46 | 12. 0 | 14 | 28 | 42 | 56 |
| 6 | 19 | 33 | 47 | 1 | 15 | 30 | 44 | 58 |
| 8 | 20 | 34 | 48 | 2 | 16 | 31 | 45 | 59 |
| 10 | 11. 21 | 11. 35 | 11. 49 | 12. 3 | 12. 17 | 12. 32 | 12. 46 | 13. 0 |
| 12 | 22 | 36 | 50 | 4 | 18 | 33 | 47 | 1 |
| 14 | 23 | 37 | 51 | 5 | 19 | 34 | 48 | 2 |
| 16 | 24 | 38 | 52 | 7 | 21 | 35 | 49 | 3 |
| 18 | 25 | 39 | 53 | 8 | 22 | 36 | 50 | 4 |
| 20 | 11. 26 | 11. 40 | 11. 54 | 12. 9 | 12. 23 | 12. 37 | 12. 51 | 13. 5 |
| 22 | 27 | 41 | 55 | 10 | 24 | 38 | 52 | 6 |
| 24 | 28 | 42 | 56 | 11 | 25 | 39 | 53 | 7 |
| 26 | 29 | 43 | 58 | 12 | 26 | 41 | 55 | 9 |
| 28 | 30 | 44 | 59 | 13 | 27 | 42 | 56 | 10 |
| 30 | 11. 31 | 11. 45 | 12. 0 | 12. 14 | 12. 28 | 12. 43 | 12. 57 | 13. 11 |
| 32 | 32 | 46 | 1 | 15 | 29 | 44 | 58 | 12 |
| 34 | 33 | 47 | 2 | 16 | 30 | 45 | 59 | 13 |
| 36 | 34 | 48 | 3 | 17 | 31 | 46 | 13. 0 | 15 |
| 38 | 35 | 49 | 4 | 18 | 32 | 47 | 1 | 16 |
| 40 | 11. 36 | 11. 50 | 12. 5 | 12. 19 | 12. 33 | 12. 48 | 13. 2 | 13. 17 |
| 42 | 37 | 51 | 6 | 20 | 34 | 49 | 3 | 18 |
| 44 | 38 | 52 | 7 | 21 | 35 | 50 | 4 | 19 |
| 46 | 39 | 53 | 8 | 23 | 37 | 52 | 6 | 20 |
| 48 | 40 | 54 | 9 | 24 | 38 | 53 | 7 | 21 |
| 50 | 11. 41 | 11. 55 | 12. 10 | 12. 25 | 12. 39 | 12. 54 | 13. 8 | 13. 22 |
| 52 | 42 | 56 | 11 | 26 | 40 | 55 | 9 | 23 |
| 54 | 43 | 57 | 12 | 27 | 41 | 56 | 10 | 24 |
| 56 | 44 | 58 | 13 | 28 | 42 | 57 | 11 | 25 |
| 58 | 45 | 59 | 14 | 29 | 43 | 58 | 12 | 27 |

### ☽'s App. Altitude 24 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 11. 46 | 12. 0 | 12. 15 | 12. 30 | 12. 44 | 12. 59 | 13. 13 | 13. 28 |
| 2 | 47 | 1 | 16 | 31 | 45 | 13. 0 | 14 | 29 |
| 4 | 48 | 2 | 17 | 32 | 46 | 1 | 15 | 30 |
| 6 | 49 | 3 | 18 | 33 | 47 | 2 | 17 | 32 |
| 8 | 50 | 4 | 19 | 34 | 48 | 3 | 18 | 33 |
| 10 | 11. 51 | 12. 5 | 12. 20 | 12. 35 | 12. 49 | 13. 4 | 13. 19 | 13. 34 |
| 12 | 52 | 6 | 21 | 36 | 50 | 5 | 20 | 35 |
| 14 | 53 | 7 | 22 | 37 | 51 | 6 | 21 | 36 |
| 16 | 54 | 8 | 23 | 38 | 53 | 8 | 22 | 37 |
| 18 | 55 | 9 | 24 | 39 | 54 | 9 | 23 | 38 |
| 20 | 11. 56 | 12. 10 | 12. 25 | 12. 40 | 12. 55 | 13. 10 | 13. 24 | 13. 39 |
| 22 | 57 | 11 | 26 | 41 | 56 | 11 | 25 | 40 |
| 24 | 58 | 12 | 27 | 42 | 57 | 12 | 26 | 41 |
| 26 | 59 | 13 | 29 | 44 | 58 | 13 | 28 | 43 |
| 28 | 12. 0 | 14 | 30 | 45 | 59 | 14 | 29 | 44 |
| 30 | 12. 1 | 12. 15 | 12. 31 | 12. 46 | 13. 0 | 13. 15 | 13. 30 | 13. 45 |
| 32 | 2 | 16 | 32 | 47 | 1 | 16 | 31 | 46 |
| 34 | 3 | 17 | 33 | 48 | 2 | 17 | 32 | 47 |
| 36 | 3 | 18 | 34 | 49 | 3 | 18 | 33 | 48 |
| 38 | 4 | 19 | 35 | 50 | 4 | 19 | 34 | 49 |
| 40 | 12. 5 | 12. 20 | 12. 36 | 12. 51 | 13. 5 | 13. 20 | 13. 35 | 13. 50 |
| 42 | 6 | 21 | 37 | 52 | 6 | 21 | 36 | 51 |
| 44 | 7 | 22 | 38 | 53 | 7 | 22 | 37 | 52 |
| 46 | 8 | 23 | 39 | 54 | 9 | 24 | 39 | 54 |
| 48 | 9 | 24 | 40 | 55 | 10 | 25 | 40 | 55 |
| 50 | 12. 10 | 12. 25 | 12. 41 | 12. 56 | 13. 11 | 13. 26 | 13. 41 | 13. 56 |
| 52 | 11 | 26 | 42 | 57 | 12 | 27 | 42 | 57 |
| 54 | 12 | 27 | 43 | 58 | 13 | 28 | 43 | 58 |
| 56 | 13 | 28 | 44 | 59 | 14 | 29 | 44 | 59 |
| 58 | 14 | 29 | 45 | 13. 0 | 15 | 30 | 45 | 14. 0 |

### ☽'s App. Altitude 25 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 12. 15 | 12. 30 | 12. 46 | 13. 1 | 13. 16 | 13. 31 | 13. 46 | 14. 1 |
| 2 | 16 | 31 | 47 | 2 | 17 | 32 | 47 | 2 |
| 4 | 17 | 32 | 48 | 3 | 18 | 33 | 48 | 3 |
| 6 | 18 | 33 | 49 | 4 | 19 | 34 | 49 | 5 |
| 8 | 19 | 34 | 50 | 5 | 20 | 35 | 50 | 6 |
| 10 | 12. 20 | 12. 35 | 12. 51 | 13. 6 | 13. 21 | 13. 36 | 13. 51 | 14. 7 |
| 12 | 21 | 36 | 52 | 7 | 22 | 37 | 52 | 8 |
| 14 | 22 | 37 | 53 | 8 | 23 | 38 | 53 | 9 |
| 16 | 23 | 38 | 54 | 9 | 24 | 40 | 55 | 10 |
| 18 | 24 | 39 | 55 | 10 | 25 | 41 | 56 | 11 |
| 20 | 12. 25 | 12. 41 | 12. 56 | 13. 11 | 13. 27 | 13. 42 | 13. 57 | 14. 12 |
| 22 | 26 | 41 | 57 | 12 | 27 | 43 | 58 | 13 |
| 24 | 27 | 42 | 58 | 13 | 28 | 44 | 59 | 14 |
| 26 | 28 | 43 | 59 | 15 | 30 | 45 | 14. 0 | 16 |
| 28 | 29 | 44 | 13. 0 | 16 | 31 | 46 | 1 | 17 |
| 30 | 12. 30 | 12. 45 | 13. 1 | 13. 17 | 13. 32 | 13. 47 | 14. 2 | 14. 18 |
| 32 | 31 | 46 | 2 | 18 | 33 | 48 | 3 | 19 |
| 34 | 32 | 47 | 3 | 19 | 34 | 49 | 4 | 20 |
| 36 | 33 | 48 | 4 | 20 | 35 | 50 | 5 | 21 |
| 38 | 34 | 49 | 5 | 21 | 36 | 51 | 6 | 22 |
| 40 | 12. 35 | 12. 50 | 13. 6 | 13. 22 | 13. 37 | 13. 52 | 14. 7 | 14. 23 |
| 42 | 36 | 51 | 7 | 23 | 38 | 53 | 8 | 24 |
| 44 | 37 | 52 | 8 | 24 | 39 | 54 | 9 | 25 |
| 46 | 38 | 53 | 9 | 25 | 40 | 56 | 11 | 27 |
| 48 | 39 | 54 | 10 | 26 | 41 | 57 | 12 | 28 |
| 50 | 12. 40 | 12. 55 | 13. 11 | 13. 27 | 13. 42 | 13. 58 | 14. 13 | 14. 29 |
| 52 | 41 | 56 | 12 | 28 | 43 | 59 | 14 | 30 |
| 54 | 42 | 57 | 13 | 29 | 44 | 14. 0 | 15 | 31 |
| 56 | 43 | 58 | 14 | 30 | 45 | 1 | 16 | 32 |
| 58 | 44 | 59 | 15 | 31 | 46 | 2 | 17 | 33 |

| Pr. parts for Seconds of Parallax *additive* | |
|---|---|
| ″ | ″ |
| 1 | 0 |
| 2 | 0 |
| 3 | 1 |
| 4 | 1 |
| 5 | 1 |
| 6 | 2 |
| 7 | 2 |
| 8 | 2 |
| 9 | 2 |
| 10 | 2 |
| 11 | 3 |
| 12 | 3 |
| 13 | 3 |
| 14 | 3 |
| 15 | 4 |
| 16 | 4 |
| 17 | 4 |
| 18 | 4 |
| 19 | 4 |
| 20 | 5 |
| 21 | 5 |
| 22 | 5 |
| 23 | 5 |
| 24 | 6 |
| 25 | 6 |
| 26 | 6 |
| 27 | 6 |
| 28 | 7 |
| 29 | 7 |
| 30 | 7 |
| 31 | 7 |
| 32 | 8 |
| 33 | 8 |
| 34 | 8 |
| 35 | 8 |
| 36 | 8 |
| 37 | 9 |
| 38 | 9 |
| 39 | 9 |
| 40 | 9 |
| 41 | 10 |
| 42 | 10 |
| 43 | 10 |
| 44 | 10 |
| 45 | 11 |
| 46 | 11 |
| 47 | 11 |
| 48 | 11 |
| 49 | 11 |
| 50 | 12 |
| 51 | 12 |
| 52 | 12 |
| 53 | 12 |
| 54 | 13 |
| 55 | 13 |
| 56 | 13 |
| 57 | 13 |
| 58 | 14 |
| 59 | 14 |

| Pr. parts for Seconds of Parallax *additive* | |
|---|---|
| ″ | ″ |
| 1 | 0 |
| 2 | 1 |
| 3 | 1 |
| 4 | 1 |
| 5 | 1 |
| 6 | 2 |
| 7 | 2 |
| 8 | 2 |
| 9 | 2 |
| 10 | 3 |
| 11 | 3 |
| 12 | 3 |
| 13 | 3 |
| 14 | 4 |
| 15 | 4 |
| 16 | 4 |
| 17 | 4 |
| 18 | 5 |
| 19 | 5 |
| 20 | 5 |
| 21 | 5 |
| 22 | 6 |
| 23 | 6 |
| 24 | 6 |
| 25 | 6 |
| 26 | 7 |
| 27 | 7 |
| 28 | 7 |
| 29 | 7 |
| 30 | 8 |
| 31 | 8 |
| 32 | 8 |
| 33 | 8 |
| 34 | 9 |
| 35 | 9 |
| 36 | 9 |
| 37 | 9 |
| 38 | 10 |
| 39 | 10 |
| 40 | 10 |
| 41 | 10 |
| 42 | 11 |
| 43 | 11 |
| 44 | 11 |
| 45 | 11 |
| 46 | 12 |
| 47 | 12 |
| 48 | 12 |
| 49 | 12 |
| 50 | 13 |
| 51 | 13 |
| 52 | 13 |
| 53 | 13 |
| 54 | 14 |
| 55 | 14 |
| 56 | 14 |
| 57 | 14 |
| 58 | 15 |
| 59 | 15 |

### ☽'s App. Altitude 26 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 46′ 36″ | 47′ 30″ | 48′ 23″ | 49′ 17″ | 50′ 11″ | 51′ 5″ | 51′ 59″ | 52′ 53″ |
| 2 | 35 | 29 | 22 | 16 | 10 | 4 | 58 | 52 |
| 4 | 34 | 28 | 22 | 16 | 10 | 4 | 57 | 51 |
| 6 | 34 | 28 | 21 | 15 | 9 | 3 | 57 | 51 |
| 8 | 33 | 27 | 21 | 15 | 9 | 3 | 56 | 50 |
| 10 | 46′ 32″ | 47′ 26″ | 48′ 20″ | 49′ 14″ | 50′ 8″ | 51′ 2″ | 51′ 55″ | 52′ 49″ |
| 12 | 31 | 25 | 19 | 13 | 7 | 1 | 54 | 48 |
| 14 | 31 | 25 | 19 | 12 | 6 | 0 | 54 | 47 |
| 16 | 30 | 24 | 18 | 12 | 6 | 0 | 53 | 47 |
| 18 | 30 | 24 | 18 | 11 | 5 | 50′ 59″ | 53 | 46 |
| 20 | 46′ 29″ | 47′ 23″ | 48′ 17″ | 49′ 10″ | 50′ 4″ | 50′ 58″ | 51′ 52″ | 52′ 45″ |
| 22 | 28 | 22 | 16 | 9 | 3 | 57 | 51 | 44 |
| 24 | 28 | 21 | 15 | 9 | 2 | 56 | 50 | 43 |
| 26 | 27 | 21 | 15 | 8 | 2 | 56 | 50 | 43 |
| 28 | 27 | 20 | 14 | 8 | 1 | 55 | 49 | 42 |
| 30 | 46′ 26″ | 47′ 19″ | 48′ 13″ | 49′ 7″ | 50′ 0″ | 50′ 54″ | 51′ 48″ | 52′ 41″ |
| 32 | 25 | 18 | 12 | 6 | 49′ 59″ | 53 | 47 | 40 |
| 34 | 24 | 18 | 11 | 5 | 59 | 52 | 46 | 40 |
| 36 | 24 | 17 | 11 | 5 | 58 | 52 | 46 | 39 |
| 38 | 23 | 17 | 10 | 4 | 58 | 51 | 45 | 39 |
| 40 | 46′ 22″ | 47′ 16″ | 48′ 9″ | 49′ 3″ | 49′ 57″ | 50′ 50″ | 51′ 44″ | 52′ 38″ |
| 42 | 21 | 15 | 8 | 2 | 56 | 49 | 43 | 37 |
| 44 | 21 | 14 | 8 | 1 | 55 | 48 | 42 | 36 |
| 46 | 20 | 14 | 7 | 1 | 55 | 48 | 42 | 36 |
| 48 | 20 | 13 | 7 | 0 | 54 | 47 | 41 | 35 |
| 50 | 46′ 18″ | 47′ 12″ | 48′ 6″ | 48′ 59″ | 49′ 53″ | 50′ 46″ | 51′ 40″ | 52′ 34″ |
| 52 | 18 | 11 | 5 | 58 | 52 | 45 | 39 | 33 |
| 54 | 17 | 11 | 4 | 58 | 51 | 45 | 38 | 32 |
| 56 | 17 | 10 | 4 | 57 | 51 | 44 | 38 | 32 |
| 58 | 16 | 10 | 3 | 57 | 50 | 44 | 37 | 31 |

### ☽'s App. Altitude 27 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 46′ 15″ | 47′ 9″ | 48′ 2″ | 48′ 56″ | 49′ 49″ | 50′ 43″ | 51′ 36″ | 52′ 30″ |
| 2 | 14 | 8 | 1 | 55 | 48 | 42 | 35 | 29 |
| 4 | 14 | 7 | 1 | 54 | 47 | 41 | 34 | 28 |
| 6 | 13 | 7 | 0 | 54 | 47 | 41 | 34 | 28 |
| 8 | 13 | 6 | 0 | 53 | 46 | 40 | 33 | 27 |
| 10 | 46′ 12″ | 47′ 5″ | 47′ 59″ | 48′ 52″ | 49′ 45″ | 50′ 39″ | 51′ 32″ | 52′ 26″ |
| 12 | 11 | 4 | 58 | 51 | 44 | 38 | 31 | 25 |
| 14 | 10 | 4 | 57 | 50 | 44 | 37 | 30 | 24 |
| 16 | 10 | 3 | 57 | 50 | 43 | 37 | 30 | 23 |
| 18 | 9 | 3 | 56 | 49 | 43 | 36 | 29 | 22 |
| 20 | 46′ 8″ | 47′ 2″ | 47′ 55″ | 48′ 48″ | 49′ 42″ | 50′ 35″ | 51′ 28″ | 52′ 21″ |
| 22 | 7 | 1 | 54 | 47 | 41 | 34 | 27 | 20 |
| 24 | 7 | 0 | 53 | 46 | 40 | 33 | 26 | 19 |
| 26 | 6 | 0 | 53 | 46 | 40 | 33 | 26 | 19 |
| 28 | 6 | 46′ 59″ | 52 | 45 | 39 | 32 | 25 | 18 |
| 30 | 46′ 5″ | 46′ 58″ | 47′ 51″ | 48′ 44″ | 49′ 38″ | 50′ 31″ | 51′ 24″ | 52′ 17″ |
| 32 | 4 | 57 | 50 | 43 | 37 | 30 | 23 | 16 |
| 34 | 3 | 56 | 49 | 42 | 36 | 29 | 22 | 15 |
| 36 | 3 | 56 | 49 | 42 | 36 | 29 | 22 | 15 |
| 38 | 2 | 55 | 48 | 41 | 35 | 28 | 21 | 14 |
| 40 | 46′ 1″ | 46′ 54″ | 47′ 47″ | 48′ 40″ | 49′ 34″ | 50′ 27″ | 51′ 20″ | 52′ 13″ |
| 42 | 46′ 0″ | 46′ 53″ | 47′ 46″ | 48′ 39″ | 49′ 33″ | 50′ 26″ | 51′ 19″ | 52′ 12″ |
| 44 | 0 | 53 | 46 | 39 | 32 | 25 | 18 | 11 |
| 46 | 45′ 59″ | 52 | 45 | 38 | 32 | 25 | 18 | 11 |
| 48 | 59 | 52 | 45 | 38 | 31 | 24 | 17 | 10 |
| 50 | 45′ 58″ | 46′ 51″ | 47′ 44″ | 48′ 37″ | 49′ 31″ | 50′ 24″ | 51′ 17″ | 52′ 10″ |
| 52 | 57 | 50 | 43 | 36 | 29 | 22 | 15 | 8 |
| 54 | 56 | 49 | 42 | 35 | 28 | 21 | 14 | 7 |
| 56 | 56 | 49 | 42 | 35 | 28 | 21 | 14 | 7 |
| 58 | 55 | 48 | 41 | 34 | 27 | 20 | 13 | 6 |

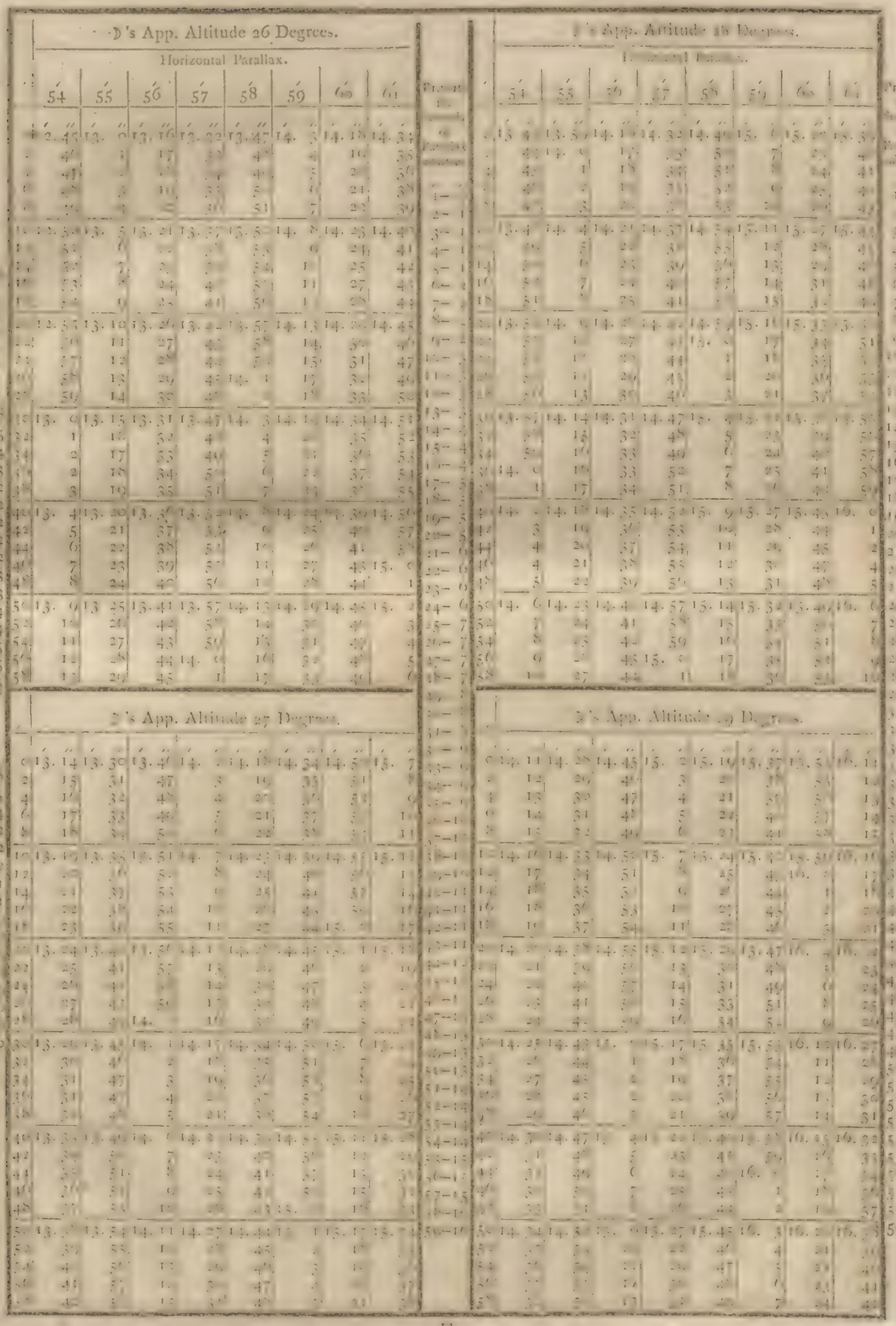
| Parts for Seconds of Parallax additive | |
|---|---|
| ″ | ′ |
| 1– 1 | |
| 2– 2 | |
| 3– 3 | |
| 4– 4 | |
| 5– 4 | |
| 6– 5 | |
| 7– 6 | |
| 8– 7 | |
| 9– 8 | |
| 10– 9 | |
| 11–10 | |
| 12–11 | |
| 13–12 | |
| 14–13 | |
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| 41–37 | |
| 42–37 | |
| 43–38 | |
| 44–39 | |
| 45–40 | |
| 46–41 | |
| 47–42 | |
| 48–43 | |
| 49–44 | |
| 50–45 | |
| 51–45 | |
| 52–46 | |
| 53–47 | |
| 54–48 | |
| 55–49 | |
| 56–50 | |
| 57–51 | |
| 58–52 | |
| 59–53 | |

### ☽'s App. Altitude 28 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 45′ 54″ | 46′ 47″ | 47′ 40″ | 48′ 33″ | 49′ 26″ | 50′ 19″ | 51′ 12″ | 52′ 5″ |
| 2 | 53 | 46 | 39 | 32 | 25 | 18 | 11 | 4 |
| 4 | 52 | 45 | 38 | 31 | 24 | 17 | 10 | 3 |
| 6 | 52 | 45 | 38 | 31 | 24 | 17 | 10 | 2 |
| 8 | 51 | 44 | 37 | 30 | 23 | 16 | 9 | 1 |
| 10 | 45′ 50″ | 46′ 43″ | 47′ 36″ | 48′ 29″ | 49′ 22″ | 50′ 15″ | 51′ 8″ | 52′ 0″ |
| 12 | 49 | 42 | 35 | 28 | 21 | 14 | 7 | 51′ 59″ |
| 14 | 48 | 41 | 34 | 27 | 20 | 13 | 6 | 58 |
| 16 | 48 | 41 | 34 | 27 | 20 | 12 | 6 | 58 |
| 18 | 47 | 40 | 33 | 26 | 19 | 11 | 5 | 57 |
| 20 | 45′ 46″ | 46′ 39″ | 47′ 32″ | 48′ 25″ | 49′ 18″ | 50′ 10″ | 51′ 4″ | 51′ 56″ |
| 22 | 45 | 38 | 31 | 24 | 17 | 9 | 3 | 55 |
| 24 | 45 | 37 | 30 | 23 | 16 | 8 | 2 | 54 |
| 26 | 44 | 37 | 30 | 23 | 16 | 8 | 1 | 54 |
| 28 | 44 | 36 | 29 | 22 | 15 | 7 | 0 | 53 |
| 30 | 45′ 43″ | 46′ 35″ | 47′ 28″ | 48′ 21″ | 49′ 14″ | 50′ 6″ | 50′ 59″ | 51′ 52″ |
| 32 | 42 | 34 | 27 | 20 | 13 | 5 | 58 | 51 |
| 34 | 41 | 34 | 26 | 19 | 12 | 4 | 57 | 50 |
| 36 | 41 | 33 | 26 | 19 | 11 | 4 | 57 | 49 |
| 38 | 40 | 33 | 25 | 18 | 10 | 3 | 56 | 48 |
| 40 | 45′ 37″ | 46′ 32″ | 47′ 24″ | 48′ 17″ | 49′ 9″ | 50′ 2″ | 50′ 55″ | 51′ 47″ |
| 42 | 38 | 31 | 23 | 16 | 8 | 1 | 54 | 46 |
| 44 | 37 | 30 | 22 | 15 | 7 | 0 | 53 | 45 |
| 46 | 37 | 30 | 22 | 15 | 7 | 0 | 52 | 45 |
| 48 | 36 | 29 | 21 | 14 | 6 | 49′ 59″ | 51 | 44 |
| 50 | 45′ 35″ | 46′ 28″ | 47′ 20″ | 48′ 13″ | 49′ 5″ | 49′ 58″ | 50′ 50″ | 51′ 43″ |
| 52 | 34 | 27 | 19 | 12 | 4 | 57 | 49 | 42 |
| 54 | 33 | 26 | 18 | 11 | 3 | 56 | 48 | 41 |
| 56 | 33 | 26 | 18 | 11 | 3 | 56 | 48 | 41 |
| 58 | 32 | 25 | 17 | 10 | 2 | 55 | 47 | 40 |

### ☽'s App. Altitude 29 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 45′ 31″ | 46′ 24″ | 47′ 16″ | 48′ 9″ | 49′ 1″ | 49′ 54″ | 50′ 46″ | 51′ 39″ |
| 2 | 30 | 23 | 15 | 8 | 0 | 53 | 45 | 38 |
| 4 | 29 | 22 | 14 | 7 | 48′ 59″ | 52 | 44 | 37 |
| 6 | 29 | 22 | 14 | 7 | 59 | 51 | 44 | 36 |
| 8 | 28 | 21 | 13 | 6 | 58 | 50 | 43 | 35 |
| 10 | 45′ 27″ | 46′ 20″ | 47′ 12″ | 48′ 5″ | 48′ 57″ | 49′ 49″ | 50′ 42″ | 51′ 34″ |
| 12 | 26 | 19 | 11 | 4 | 56 | 48 | 41 | 33 |
| 14 | 25 | 18 | 10 | 3 | 55 | 47 | 40 | 32 |
| 16 | 25 | 18 | 10 | 2 | 55 | 47 | 39 | 32 |
| 18 | 24 | 17 | 9 | 1 | 54 | 46 | 38 | 31 |
| 20 | 45′ 23″ | 46′ 16″ | 47′ 8″ | 48′ 0″ | 48′ 53″ | 49′ 45″ | 50′ 37″ | 51′ 30″ |
| 22 | 22 | 15 | 7 | 47′ 59″ | 52 | 44 | 36 | 29 |
| 24 | 21 | 14 | 6 | 58 | 51 | 43 | 35 | 28 |
| 26 | 21 | 14 | 6 | 58 | 50 | 43 | 35 | 27 |
| 28 | 20 | 13 | 5 | 57 | 49′ 46″ | 42 | 34 | 26 |
| 30 | 45′ 19″ | 46′ 12″ | 47′ 4″ | 47′ 56″ | 48′ 48″ | 49′ 41″ | 50′ 33″ | 51′ 25″ |
| 32 | 18 | 11 | 3 | 55 | 47 | 40 | 32 | 24 |
| 34 | 17 | 10 | 2 | 54 | 46 | 39 | 31 | 23 |
| 36 | 17 | 10 | 2 | 54 | 46 | 38 | 30 | 22 |
| 38 | 16 | 9 | 1 | 53 | 45 | 37 | 29 | 21 |
| 40 | 45′ 15″ | 46′ 8″ | 47′ 0″ | 47′ 52″ | 48′ 44″ | 49′ 36″ | 50′ 28″ | 51′ 20″ |
| 42 | 14 | 7 | 46′ 59″ | 51 | 43 | 35 | 27 | 19 |
| 44 | 13 | 6 | 58 | 50 | 42 | 34 | 26 | 18 |
| 46 | 13 | 6 | 58 | 50 | 42 | 34 | 26 | 18 |
| 48 | 12 | 5 | 57 | 49 | 41 | 33 | 25 | 17 |
| 50 | 45′ 11″ | 46′ 4″ | 46′ 57″ | 47′ 49″ | 48′ 40″ | 49′ 32″ | 50′ 24″ | 51′ 16″ |
| 52 | 10 | 3 | 55 | 47 | 39 | 31 | 23 | 15 |
| 54 | 9 | 2 | 54 | 46 | 38 | 30 | 22 | 14 |
| 56 | 9 | 1 | 53 | 45 | 37 | 29 | 21 | 13 |
| 58 | 8 | 0 | 52 | 44 | 36 | 28 | 20 | 12 |


☽'s App. Altitude 26 Degrees.
Horizontal Parallax.
54 55 56 57 58 59 60 61
Prop. Pts.
☽'s App. Altitude 27 Degrees.
☽'s App. Altitude 28 Degrees.
☽'s App. Altitude 29 Degrees.

### ☽'s App. Altitude 30 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 45. 7 | 46. 5 | 46. 53 | 47. 43 | 48. 35 | 49. 27 | 50. 19 | 51. 11 |
| 2 | 6 | 5 | 52 | 42 | 34 | 26 | 18 | 10 |
| 4 | 5 | 57 | 49 | 41 | 33 | 25 | 17 | 9 |
| 6 | 5 | 57 | 49 | 41 | 33 | 25 | 17 | 9 |
| 8 | 4 | 56 | 48 | 40 | 32 | 24 | 16 | 8 |
| 10 | 45. 3 | 46. 1 | 46. 53 | 47. 45 | 48. 37 | 49. 29 | 50. 21 | 51. 13 |
| 12 | 2 | 54 | 46 | 38 | 30 | 22 | 14 | 6 |
| 14 | 1 | 53 | 45 | 37 | 29 | 21 | 13 | 5 |
| 16 | 1 | 53 | 44 | 37 | 28 | 20 | 12 | 4 |
| 18 | 0 | 52 | 44 | 36 | 27 | 19 | 11 | 3 |
| 20 | 44. 59 | 45. 51 | 46. 43 | 47. 35 | 48. 26 | 49. 18 | 50. 10 | 51. 2 |
| 22 | 58 | 50 | 42 | 34 | 25 | 17 | 9 | 1 |
| 24 | 57 | 49 | 41 | 33 | 24 | 16 | 8 | 0 |
| 26 | 57 | 49 | 41 | 32 | 24 | 16 | 7 | 50. 59 |
| 28 | 56 | 48 | 40 | 31 | 23 | 15 | 6 | 58 |
| 30 | 44. 55 | 45. 47 | 46. 39 | 47. 30 | 48. 22 | 49. 14 | 50. 5 | 50. 57 |
| 32 | 54 | 46 | 38 | 29 | 21 | 13 | 4 | 56 |
| 34 | 53 | 45 | 37 | 28 | 20 | 12 | 3 | 55 |
| 36 | 53 | 45 | 36 | 28 | 19 | 11 | 3 | 54 |
| 38 | 52 | 44 | 35 | 27 | 18 | 10 | 2 | 53 |
| 40 | 44. 51 | 45. 43 | 46. 34 | 47. 26 | 48. 17 | 49. 9 | 50. 1 | 50. 52 |
| 42 | 50 | 42 | 33 | 25 | 16 | 8 | 0 | 51 |
| 44 | 49 | 41 | 32 | 24 | 15 | 7 | 49. 59 | 50 |
| 46 | 49 | 40 | 32 | 23 | 15 | 6 | 58 | 49 |
| 48 | 48 | 39 | 31 | 22 | 14 | 5 | 57 | 48 |
| 50 | 44. 47 | 45. 38 | 46. 30 | 47. 21 | 48. 13 | 49. 4 | 49. 56 | 50. 47 |
| 52 | 46 | 37 | 29 | 20 | 12 | 3 | 55 | 46 |
| 54 | 45 | 36 | 28 | 19 | 11 | 2 | 54 | 45 |
| 56 | 45 | 36 | 27 | 19 | 10 | 2 | 53 | 45 |
| 58 | 44 | 35 | 27 | 18 | 9 | 1 | 52 | 44 |

### ☽'s App. Altitude 31 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 44. 43 | 45. 34 | 46. 25 | 47. 17 | 48. 8 | 49. 0 | 49. 51 | 50. 43 |
| 2 | 42 | 33 | 24 | 16 | 7 | 48. 59 | 50 | 42 |
| 4 | 41 | 32 | 23 | 15 | 6 | 58 | 49 | 41 |
| 6 | 40 | 32 | 23 | 14 | 6 | 57 | 48 | 40 |
| 8 | 39 | 31 | 22 | 13 | 5 | 56 | 47 | 39 |
| 10 | 44. 38 | 45. 30 | 46. 21 | 47. 12 | 48. 4 | 48. 55 | 49. 46 | 50. 38 |
| 12 | 37 | 29 | 20 | 11 | 3 | 54 | 45 | 37 |
| 14 | 36 | 28 | 19 | 10 | 2 | 53 | 44 | 36 |
| 16 | 36 | 27 | 19 | 10 | 1 | 52 | 44 | 35 |
| 18 | 35 | 26 | 18 | 9 | 0 | 51 | 43 | 34 |
| 20 | 44. 34 | 45. 25 | 46. 16 | 47. 8 | 48. 0 | 48. 51 | 49. 42 | 50. 33 |
| 22 | 33 | 24 | 16 | 7 | 58 | 49 | 41 | 32 |
| 24 | 32 | 23 | 15 | 6 | 57 | 48 | 40 | 31 |
| 26 | 32 | 23 | 14 | 5 | 56 | 48 | 39 | 30 |
| 28 | 31 | 22 | 13 | 4 | 55 | 47 | 38 | 29 |
| 30 | 44. 30 | 45. 21 | 46. 12 | 47. 3 | 47. 54 | 48. 46 | 49. 37 | 50. 28 |
| 32 | 29 | 20 | 11 | 2 | 53 | 45 | 36 | 27 |
| 34 | 28 | 19 | 10 | 1 | 52 | 44 | 35 | 26 |
| 36 | 27 | 18 | 10 | 1 | 52 | 43 | 34 | 25 |
| 38 | 26 | 17 | 9 | 0 | 51 | 42 | 33 | 24 |
| 40 | 44. 25 | 45. 16 | 46. 8 | 46. 59 | 47. 50 | 48. 41 | 49. 32 | 50. 23 |
| 42 | 24 | 15 | 7 | 58 | 49 | 40 | 31 | 22 |
| 44 | 23 | 14 | 6 | 57 | 48 | 39 | 30 | 21 |
| 46 | 22 | 13 | 5 | 56 | 47 | 38 | 29 | 20 |
| 48 | 22 | 13 | 4 | 55 | 46 | 37 | 28 | 19 |
| 50 | 44. 21 | 45. 12 | 46. 4 | 46. 55 | 47. 46 | 48. 37 | 49. 28 | 50. 19 |
| 52 | 20 | 11 | 3 | 54 | 45 | 36 | 27 | 18 |
| 54 | 19 | 11 | 2 | 53 | 44 | 35 | 26 | 17 |
| 56 | 19 | 10 | 1 | 52 | 43 | 34 | 25 | 16 |
| 58 | 18 | 9 | 0 | 51 | 42 | 33 | 24 | 15 |

### ☽'s App Altitude 32 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 44. 17 | 45. 8 | 45. 58 | 46. 49 | 47. 40 | 48. 31 | 49. 22 | 50. 13 |
| 2 | 16 | 7 | 57 | 48 | 39 | 30 | 21 | 12 |
| 4 | 15 | 6 | 56 | 47 | 38 | 29 | 20 | 11 |
| 6 | 14 | 5 | 56 | 47 | 37 | 28 | 19 | 10 |
| 8 | 13 | 4 | 55 | 46 | 36 | 27 | 18 | 9 |
| 10 | 44. 12 | 45. 3 | 45. 54 | 46. 45 | 47. 35 | 48. 26 | 49. 17 | 50. 8 |
| 12 | 11 | 2 | 53 | 44 | 34 | 25 | 16 | 7 |
| 14 | 10 | 1 | 52 | 43 | 33 | 24 | 15 | 6 |
| 16 | 10 | 0 | 51 | 42 | 33 | 23 | 14 | 5 |
| 18 | 9 | 44. 59 | 50 | 41 | 32 | 22 | 13 | 4 |
| 20 | 44. 8 | 44. 58 | 45. 49 | 46. 40 | 47. 31 | 48. 21 | 49. 12 | 50. 3 |
| 22 | 7 | 57 | 48 | 39 | 30 | 20 | 11 | 2 |
| 24 | 6 | 56 | 47 | 38 | 29 | 19 | 10 | 1 |
| 26 | 5 | 56 | 47 | 37 | 28 | 18 | 9 | 0 |
| 28 | 4 | 55 | 46 | 36 | 27 | 17 | 8 | 49. 59 |
| 30 | 44. 3 | 44. 54 | 45. 45 | 46. 35 | 47. 26 | 48. 16 | 49. 7 | 49. 58 |
| 32 | 2 | 53 | 44 | 34 | 25 | 15 | 6 | 57 |
| 34 | 1 | 52 | 43 | 33 | 24 | 14 | 5 | 56 |
| 36 | 1 | 51 | 42 | 32 | 23 | 13 | 4 | 54 |
| 38 | 0 | 50 | 41 | 31 | 22 | 12 | 3 | 53 |
| 40 | 43. 59 | 44. 49 | 45. 40 | 46. 30 | 47. 21 | 48. 11 | 49. 2 | 49. 52 |
| 42 | 58 | 48 | 39 | 29 | 20 | 10 | 1 | 51 |
| 44 | 57 | 47 | 38 | 28 | 19 | 9 | 0 | 50 |
| 46 | 56 | 47 | 37 | 28 | 18 | 8 | 48. 59 | 49 |
| 48 | 55 | 46 | 36 | 27 | 17 | 7 | 58 | 48 |
| 50 | 43. 54 | 44. 45 | 45. 35 | 46. 26 | 47. 16 | 48. 6 | 48. 57 | 49. 47 |
| 52 | 53 | 44 | 34 | 25 | 15 | 5 | 56 | 46 |
| 54 | 52 | 43 | 33 | 24 | 14 | 4 | 55 | 45 |
| 56 | 52 | 42 | 32 | 23 | 13 | 3 | 54 | 44 |
| 58 | 51 | 41 | 31 | 22 | 12 | 2 | 53 | 43 |

### ☽'s App. Altitude 33 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 43. 50 | 44. 40 | 45. 30 | 46. 21 | 47. 11 | 48. 1 | 48. 52 | 49. 42 |
| 2 | 49 | 39 | 29 | 20 | 10 | 0 | 51 | 41 |
| 4 | 48 | 38 | 28 | 19 | 9 | 47. 59 | 50 | 40 |
| 6 | 47 | 37 | 28 | 18 | 8 | 58 | 48 | 39 |
| 8 | 46 | 36 | 27 | 17 | 7 | 57 | 47 | 38 |
| 10 | 43. 45 | 44. 35 | 45. 26 | 46. 16 | 47. 6 | 47. 56 | 48. 46 | 49. 37 |
| 12 | 44 | 34 | 25 | 15 | 5 | 55 | 45 | 36 |
| 14 | 43 | 33 | 24 | 14 | 4 | 54 | 44 | 35 |
| 16 | 42 | 33 | 23 | 13 | 3 | 53 | 43 | 33 |
| 18 | 41 | 32 | 22 | 12 | 2 | 52 | 42 | 32 |
| 20 | 43. 40 | 44. 31 | 45. 21 | 46. 11 | 47. 1 | 47. 51 | 48. 41 | 49. 31 |
| 22 | 39 | 30 | 20 | 10 | 0 | 50 | 40 | 30 |
| 24 | 38 | 29 | 19 | 9 | 46. 59 | 49 | 39 | 29 |
| 26 | 38 | 28 | 18 | 8 | 58 | 48 | 38 | 28 |
| 28 | 37 | 27 | 17 | 7 | 57 | 47 | 37 | 27 |
| 30 | 43. 36 | 44. 26 | 45. 16 | 46. 6 | 46. 56 | 47. 46 | 48. 36 | 49. 26 |
| 32 | 35 | 25 | 15 | 5 | 55 | 45 | 35 | 25 |
| 34 | 34 | 24 | 14 | 4 | 54 | 44 | 34 | 24 |
| 36 | 33 | 23 | 13 | 3 | 53 | 43 | 33 | 23 |
| 38 | 32 | 22 | 12 | 2 | 52 | 42 | 32 | 22 |
| 40 | 43. 31 | 44. 21 | 45. 11 | 46. 1 | 46. 51 | 47. 41 | 48. 31 | 49. 21 |
| 42 | 30 | 20 | 10 | 0 | 50 | 40 | 30 | 20 |
| 44 | 29 | 19 | 9 | 45. 59 | 49 | 39 | 29 | 19 |
| 46 | 28 | 18 | 8 | 58 | 48 | 38 | 28 | 17 |
| 48 | 27 | 17 | 7 | 57 | 47 | 37 | 27 | 16 |
| 50 | 43. 26 | 44. 16 | 45. 6 | 45. 56 | 46. 46 | 47. 36 | 48. 26 | 49. 15 |
| 52 | 25 | 15 | 5 | 55 | 45 | 35 | 25 | 14 |
| 54 | 24 | 14 | 4 | 54 | 44 | 34 | 24 | 13 |
| 56 | 24 | 14 | 3 | 53 | 43 | 32 | 22 | 12 |
| 58 | 23 | 13 | 2 | 52 | 42 | 31 | 21 | 11 |

| Pr. parts for Seconds of Parallax *additive* | Pr parts for Seconds of Parallax *additive* |
|---|---|
| ″ ″ | ″ ″ |
| 1– 1 | 1– 1 |
| 2– 2 | 2– 2 |
| 3– 3 | 3– 3 |
| 4– 3 | 4– 3 |
| 5– 4 | 5– 4 |
| 6– 5 | 6– 5 |
| 7– 6 | 7– 6 |
| 8– 7 | 8– 7 |
| 9– 8 | 9– 8 |
| 10– 9 | 10– 8 |
| 11– 9 | 11– 9 |
| 12–10 | 12–10 |
| 13–11 | 13–11 |
| 14–12 | 14–12 |
| 15–13 | 15–13 |
| 16–13 | 16–13 |
| 17–14 | 17–14 |
| 18–15 | 18–15 |
| 19–16 | 19–16 |
| 20–17 | 20–17 |
| 21–18 | 21–18 |
| 22–19 | 22–18 |
| 23–20 | 23–19 |
| 24–20 | 24–20 |
| 25–21 | 25–21 |
| 26–22 | 26–22 |
| 27–23 | 27–23 |
| 28–24 | 28–23 |
| 29–25 | 29–24 |
| 30–26 | 30–25 |
| 31–26 | 31–26 |
| 32–27 | 32–27 |
| 33–28 | 33–28 |
| 34–29 | 34–28 |
| 35–30 | 35–29 |
| 36–31 | 36–30 |
| 37–32 | 37–31 |
| 38–32 | 38–32 |
| 39–33 | 39–33 |
| 40–34 | 40–33 |
| 41–35 | 41–34 |
| 42–36 | 42–35 |
| 43–37 | 43–36 |
| 44–37 | 44–37 |
| 45–38 | 45–38 |
| 46–39 | 46–38 |
| 47–40 | 47–39 |
| 48–41 | 48–40 |
| 49–42 | 49–41 |
| 50–43 | 50–42 |
| 51–43 | 51–43 |
| 52–44 | 52–43 |
| 53–45 | 53–44 |
| 54–46 | 54–45 |
| 55–47 | 55–46 |
| 56–48 | 56–47 |
| 57–48 | 57–48 |
| 58–49 | 58–48 |
| 59–50 | 59–49 |

Correct for Sun's and Star's Altit. additive ☉ ✱

☽'s App. Altitude 30 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 14. 39 | 14. 57 | 15. 14 | 15. 32 | 15. 50 | 16. 8 | 16. 25 | 16. 43 |
| 2 | 4 | 58 | 15 | 33 | 51 | 9 | 26 | 44 |
| 4 | 41 | 59 | 16 | 34 | 52 | 10 | 27 | 45 |
| 6 | 42 | 15. 0 | 17 | 35 | 53 | 11 | 28 | 46 |
| 8 | 43 | 1 | 18 | 36 | 54 | 12 | 29 | 47 |
| 10 | 14. 44 | 15. 2 | 15. 19 | 15. 37 | 15. 55 | 16. 13 | 16. 30 | 16. 48 |
| 12 | 45 | 3 | 20 | 38 | 56 | 14 | 31 | 49 |
| 14 | 46 | 4 | 21 | 39 | 57 | 15 | 32 | 50 |
| 16 | 47 | 4 | 22 | 40 | 58 | 16 | 33 | 51 |
| 18 | 47 | 5 | 23 | 41 | 59 | 17 | 34 | 52 |
| 20 | 14. 48 | 15. 6 | 15. 24 | 15. 42 | 16. 0 | 16. 18 | 16. 35 | 16. 53 |
| 22 | 49 | 7 | 25 | 43 | 1 | 19 | 36 | 54 |
| 24 | 50 | 8 | 26 | 44 | 2 | 20 | 37 | 55 |
| 26 | 51 | 9 | 27 | 45 | 3 | 21 | 39 | 57 |
| 28 | 52 | 10 | 28 | 47 | 4 | 22 | 40 | 58 |
| 30 | 14. 53 | 15. 11 | 15. 29 | 15. 47 | 16. 5 | 16. 23 | 16. 41 | 16. 59 |
| 32 | 54 | 12 | 30 | 48 | 6 | 24 | 42 | 17. 0 |
| 34 | 55 | 13 | 31 | 49 | 7 | 25 | 43 | 1 |
| 36 | 56 | 14 | 31 | 49 | 8 | 26 | 44 | 2 |
| 38 | 57 | 15 | 32 | 50 | 9 | 27 | 45 | 3 |
| 40 | 14. 58 | 15. 16 | 15. 33 | 15. 51 | 16. 10 | 16. 28 | 16. 46 | 17. 4 |
| 42 | 59 | 17 | 34 | 52 | 11 | 29 | 47 | 5 |
| 44 | 15. 0 | 18 | 35 | 53 | 12 | 30 | 48 | 6 |
| 46 | 0 | 18 | 36 | 54 | 13 | 31 | 49 | 7 |
| 48 | 1 | 19 | 37 | 55 | 14 | 32 | 50 | 8 |
| 50 | 15. 2 | 15. 20 | 15. 38 | 15. 56 | 16. 15 | 16. 33 | 16. 51 | 17. 9 |
| 52 | 3 | 21 | 39 | 57 | 16 | 34 | 52 | 10 |
| 54 | 4 | 22 | 40 | 58 | 17 | 35 | 53 | 11 |
| 56 | 5 | 23 | 41 | 59 | 18 | 36 | 54 | 12 |
| 58 | 6 | 24 | 42 | 16. 0 | 19 | 37 | 55 | 13 |

☽'s App. Altitude 31 Degrees.

| ′ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 15. 7 | 15. 25 | 15. 43 | 16. 1 | 16. 20 | 16. 38 | 16. 56 | 17. 14 |
| 2 | | 26 | 44 | 2 | 21 | 39 | 57 | 15 |
| 4 | 9 | 27 | 45 | 3 | 22 | 40 | 58 | 16 |
| 6 | 10 | 28 | 46 | 4 | 23 | 41 | 59 | 17 |
| 8 | 11 | 29 | 47 | 5 | 24 | 42 | 17. 0 | 18 |
| 10 | 15. 12 | 15. 30 | 15. 48 | 16. 6 | 16. 25 | 16. 43 | 17. 1 | 17. 19 |
| 12 | 13 | 31 | 49 | 7 | 26 | 44 | 2 | 20 |
| 14 | 14 | 32 | 50 | 8 | 27 | 45 | 3 | 21 |
| 16 | 14 | 32 | 51 | 9 | 28 | 46 | 4 | 22 |
| 18 | 15 | 33 | 52 | 10 | 29 | 47 | 5 | 23 |
| 20 | 15. 17 | 15. 34 | 15. 53 | 16. 11 | 16. 30 | 16. 48 | 17. 6 | 17. 24 |
| 22 | 18 | 36 | 54 | 12 | 31 | 49 | 7 | 25 |
| 24 | 19 | 36 | 55 | 13 | 32 | 50 | 8 | 26 |
| 26 | 20 | 37 | 56 | 14 | 33 | 51 | 9 | 27 |
| 28 | 21 | 38 | 57 | 15 | 34 | 52 | 10 | 28 |
| 30 | 15. 22 | 15. 39 | 15. 57 | 16. 15 | 16. 35 | 16. 53 | 17. 12 | 17. 30 |
| 32 | 23 | 40 | 58 | 16 | 36 | 54 | 13 | 31 |
| 34 | 24 | 41 | 16. 0 | 18 | 37 | 55 | 14 | 32 |
| 36 | 25 | 41 | 1 | 19 | 37 | 56 | 15 | 33 |
| 38 | 26 | 42 | 2 | 20 | 38 | 57 | 16 | 34 |
| 40 | 15. 27 | 15. 43 | 16. 3 | 16. 21 | 16. 39 | 16. 58 | 17. 17 | 17. 35 |
| 42 | 28 | 44 | 4 | 22 | 40 | 17. 0 | 18 | 36 |
| 44 | 29 | 45 | 5 | 23 | 41 | 17. 1 | 19 | 37 |
| 46 | 30 | 46 | 6 | 24 | 42 | 2 | 20 | 38 |
| 48 | 31 | 47 | 7 | 25 | 43 | 3 | 21 | 39 |
| 50 | 15. 32 | 15. 48 | 16. 8 | 16. 26 | 16. 44 | 17. 3 | 17. 22 | 17. 40 |
| 52 | 33 | 49 | 9 | 27 | 45 | 4 | 23 | 41 |
| 54 | 34 | 50 | 10 | 28 | 46 | 5 | 24 | 42 |
| 56 | 35 | 51 | 11 | 29 | 47 | 6 | 25 | 43 |
| 58 | 36 | 52 | 12 | 30 | 48 | 7 | 26 | 44 |

Proportional Parts of Seconds of Parallax additive

| ″ | ″ |
|---|---|
| 0 | 0 |
| 1 | 0 |
| 2 | 1 |
| 3 | 1 |
| 4 | 1 |
| 5 | 2 |
| 6 | 2 |
| 7 | 2 |
| 8 | 2 |
| 9 | 3 |
| 10 | 3 |
| 11 | 3 |
| 12 | 4 |
| 13 | 4 |
| 14 | 4 |
| 15 | 5 |
| 16 | 5 |
| 17 | 5 |
| 18 | 5 |
| 19 | 6 |
| 20 | 6 |
| 21 | 6 |
| 22 | 7 |
| 23 | 7 |
| 24 | 7 |
| 25 | 8 |
| 26 | 8 |
| 27 | 8 |
| 28 | 9 |
| 29 | 9 |
| 30 | 9 |
| 31 | 10 |
| 32 | 10 |
| 33 | 10 |
| 34 | 11 |
| 35 | 11 |
| 36 | 11 |
| 37 | 12 |
| 38 | 12 |
| 39 | 12 |
| 40 | 13 |
| 41 | 13 |
| 42 | 13 |
| 43 | 14 |
| 44 | 14 |
| 45 | 14 |
| 46 | 15 |
| 47 | 15 |
| 48 | 15 |
| 49 | 16 |
| 50 | 16 |
| 51 | 16 |
| 52 | 17 |
| 53 | 17 |
| 54 | 17 |
| 55 | 18 |
| 56 | 18 |
| 57 | 18 |
| 58 | 19 |
| 59 | 19 |
| 60 | 19 |

☽'s App. Altitude 32 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 15. 34 | 15. 53 | 16. 12 | 16. 30 | 16. 49 | 17. 8 | 17. 27 | 17. 45 |
| 2 | 35 | 54 | 13 | 31 | 50 | 9 | 28 | 47 |
| 4 | 36 | 55 | 14 | 32 | 51 | 10 | 29 | 47 |
| 6 | 37 | 56 | 15 | 33 | 52 | 11 | 30 | 48 |
| 8 | 38 | 57 | 16 | 34 | 53 | 12 | 31 | 49 |
| 10 | 15. 39 | 15. 58 | 16. 17 | 16. 35 | 16. 54 | 17. 13 | 17. 32 | 17. 50 |
| 12 | 40 | 59 | 18 | 36 | 55 | 14 | 33 | 51 |
| 14 | 41 | 16. 0 | 19 | 37 | 56 | 15 | 34 | 52 |
| 16 | 41 | 0 | 19 | 38 | 57 | 16 | 35 | 53 |
| 18 | 42 | 1 | 20 | 39 | 58 | 17 | 36 | 54 |
| 20 | 15. 43 | 16. 2 | 16. 21 | 16. 40 | 16. 59 | 17. 18 | 17. 37 | 17. 55 |
| 22 | 44 | 3 | 22 | 41 | 17. 0 | 19 | 38 | 56 |
| 24 | 45 | 4 | 23 | 42 | 1 | 20 | 39 | 57 |
| 26 | 46 | 5 | 24 | 43 | 2 | 21 | 40 | 59 |
| 28 | 47 | 6 | 25 | 44 | 3 | 22 | 41 | 18. 0 |
| 30 | 15. 48 | 16. 7 | 16. 26 | 16. 45 | 17. 4 | 17. 23 | 17. 42 | 18. 1 |
| 32 | 49 | 8 | 27 | 46 | 5 | 24 | 43 | 2 |
| 34 | 50 | 9 | 28 | 47 | 6 | 25 | 44 | 3 |
| 36 | 51 | 10 | 29 | 47 | 6 | 26 | 45 | 4 |
| 38 | 52 | 11 | 30 | 48 | 7 | 27 | 46 | 5 |
| 40 | 15. 53 | 16. 12 | 16. 31 | 16. 49 | 17. 8 | 17. 28 | 17. 47 | 18. 6 |
| 42 | 54 | 13 | 32 | 50 | 9 | 29 | 48 | 7 |
| 44 | 55 | 14 | 33 | 51 | 10 | 30 | 49 | 8 |
| 46 | 55 | 14 | 33 | 52 | 11 | 31 | 50 | 9 |
| 48 | 56 | 15 | 34 | 53 | 12 | 32 | 51 | 10 |
| 50 | 15. 57 | 16. 16 | 16. 35 | 16. 54 | 17. 13 | 17. 33 | 17. 52 | 18. 11 |
| 52 | 58 | 17 | 36 | 55 | 14 | 34 | 53 | 12 |
| 54 | 59 | 18 | 37 | 56 | 15 | 35 | 54 | 13 |
| 56 | 16. 0 | 19 | 38 | 57 | 16 | 36 | 55 | 14 |
| 58 | 1 | 20 | 39 | 58 | 17 | 37 | 56 | 15 |

☽'s App. Altitude 33 Degrees.

| ′ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 16. 2 | 16. 21 | 16. 40 | 16. 59 | 17. 18 | 17. 37 | 17. 57 | 18. 16 |
| 2 | 3 | 22 | 41 | 17. 0 | 19 | 38 | 58 | 17 |
| 4 | 4 | 23 | 42 | 1 | 20 | 39 | 59 | 18 |
| 6 | 5 | 24 | 43 | 2 | 21 | 41 | 18. 0 | 19 |
| 8 | 6 | 25 | 44 | 3 | 22 | 42 | 1 | 20 |
| 10 | 16. 7 | 16. 27 | 16. 46 | 17. 4 | 17. 23 | 17. 43 | 18. 2 | 18. 21 |
| 12 | 8 | 27 | 46 | 5 | 24 | 44 | 3 | 22 |
| 14 | 9 | 28 | 47 | 6 | 25 | 45 | 4 | 23 |
| 16 | 9 | 28 | 47 | 7 | 26 | 46 | 5 | 24 |
| 18 | 10 | 29 | 48 | 8 | 27 | 47 | 6 | 25 |
| 20 | 16. 11 | 16. 30 | 16. 49 | 17. 9 | 17. 28 | 17. 48 | 18. 7 | 18. 26 |
| 22 | 12 | 31 | 50 | 10 | 29 | 49 | 8 | 27 |
| 24 | 13 | 32 | 51 | 11 | 30 | 50 | 9 | 28 |
| 26 | 14 | 33 | 52 | 12 | 31 | 51 | 10 | 29 |
| 28 | 15 | 34 | 53 | 13 | 32 | 52 | 11 | 30 |
| 30 | 16. 16 | 16. 35 | 16. 54 | 17. 14 | 17. 33 | 17. 53 | 18. 12 | 18. 31 |
| 32 | 17 | 36 | 55 | 15 | 34 | 54 | 13 | 32 |
| 34 | 18 | 37 | 56 | 16 | 35 | 55 | 14 | 33 |
| 36 | 19 | 38 | 57 | 17 | 36 | 56 | 15 | 34 |
| 38 | 20 | 39 | 58 | 18 | 37 | 57 | 16 | 35 |
| 40 | 16. 21 | 16. 40 | 16. 59 | 17. 18 | 17. 38 | 17. 57 | 18. 17 | 18. 36 |
| 42 | 22 | 41 | 17. 0 | 19 | 38 | 58 | 17 | 37 |
| 44 | 23 | 42 | 1 | 20 | 39 | 59 | 18 | 38 |
| 46 | 24 | 43 | 2 | 21 | 40 | 18. 0 | 19 | 39 |
| 48 | 25 | 44 | 3 | 22 | 41 | 1 | 20 | 40 |
| 50 | 16. 26 | 16. 45 | 17. 4 | 17. 23 | 17. 42 | 18. 2 | 18. 21 | 18. 41 |
| 52 | 27 | 46 | 5 | 24 | 43 | 3 | 22 | 42 |
| 54 | 28 | 47 | 6 | 25 | 44 | 4 | 23 | 43 |
| 56 | 29 | 48 | 7 | 26 | 45 | 5 | 24 | 44 |
| 58 | 30 | 49 | 8 | 27 | 46 | 6 | 25 | 45 |

☽'s App. Altitude 34 Degrees.

| | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| | 43. | 44. | 45. | 1 | 45. 51 | 46. 41 | 47. 30 | 48. 20 | 49. 10 |
| | | | | 0 | 50 | 40 | 29 | 19 | 9 |
| | | | | 59 | 49 | 39 | 28 | 18 | 8 |
| | | | | 58 | 48 | 38 | 27 | 17 | 7 |
| | | | | 57 | 47 | 37 | 26 | 16 | 6 |
| | 43. | 44. | 45. | 46. | 46. 36 | 47. 25 | 48. 15 | 49. 5 | |
| | | | | 55 | 45 | 35 | 24 | 14 | 4 |
| | | | | 54 | 44 | 34 | 23 | 13 | 3 |
| | | | | 53 | 43 | 32 | 22 | 11 | 1 |
| | | | | 52 | 42 | 31 | 21 | 10 | 0 |
| 20 | 43. 12 | 44. 2 | 44. 51 | 45. 41 | 46. 30 | 47. 20 | 48. 9 | 48. 59 | |
| 22 | 11 | 1 | 50 | 40 | 29 | 19 | 8 | 58 | |
| 24 | 10 | 0 | 49 | 39 | 28 | 18 | 7 | 57 | |
| 26 | 9 | 43. 59 | 48 | 38 | 27 | 17 | 6 | 56 | |
| 28 | 8 | 58 | 47 | 37 | 26 | 16 | 5 | 55 | |
| 30 | 43. 7 | 43. 57 | 44. 46 | 45. 36 | 46. 25 | 47. 15 | 48. 4 | 48. 54 | |
| 32 | 6 | 56 | 45 | 35 | 24 | 14 | 3 | 53 | |
| 34 | 5 | 55 | 44 | 34 | 23 | 13 | 2 | 52 | |
| 36 | 5 | 54 | 43 | 33 | 22 | 11 | 1 | 50 | |
| 38 | 4 | 53 | 42 | 32 | 21 | 10 | 0 | 49 | |
| 40 | 43. 3 | 43. 52 | 44. 41 | 45. 31 | 46. 20 | 47. 9 | 47. 59 | 48. 48 | |
| 42 | 2 | 51 | 40 | 30 | 19 | 8 | 58 | 47 | |
| 44 | 1 | 50 | 39 | 29 | 18 | 7 | 57 | 46 | |
| 46 | 0 | 49 | 38 | 27 | 17 | 6 | 55 | 44 | |
| 48 | 42. 59 | 48 | 37 | 26 | 16 | 5 | 54 | 43 | |
| 50 | 42. 58 | 43. 47 | 44. 36 | 45. 25 | 46. 15 | 47. 4 | 47. 53 | 48. 42 | |
| 52 | 57 | 46 | 35 | 24 | 14 | 3 | 52 | 41 | |
| 54 | 56 | 45 | 34 | 23 | 13 | 2 | 51 | 40 | |
| 56 | 55 | 44 | 33 | 22 | 11 | 1 | 50 | 39 | |
| 58 | 54 | 43 | 32 | 21 | 10 | 0 | 49 | 38 | |

☽'s App. Altitude 35 Degrees.

| | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| | 43. 52 | 43. 42 | 44. 31 | 45. 20 | 46. 9 | 46. 58 | 47. 47 | 48. 37 |
| 2 | 52 | 41 | 30 | 19 | 8 | 58 | 47 | 36 |
| 4 | 51 | 40 | 29 | 18 | 7 | 57 | 46 | 35 |
| 6 | 50 | 39 | 28 | 17 | 6 | 55 | 44 | 33 |
| 8 | 49 | 38 | 27 | 16 | 5 | 54 | 43 | 32 |
| 10 | 42. 48 | 43. 37 | 44. 26 | 45. 15 | 46. 4 | 46. 53 | 47. 42 | 48. 31 |
| 12 | 47 | 36 | 25 | 14 | 3 | 52 | 41 | 30 |
| 14 | 46 | 35 | 24 | 13 | 2 | 51 | 40 | 29 |
| 16 | 45 | 34 | 23 | 12 | 1 | 50 | 39 | 28 |
| 18 | 44 | 33 | 22 | 11 | 0 | 49 | 38 | 27 |
| | 43. | 43. 32 | 44. 21 | 45. 10 | 45. 59 | 46. 48 | 47. 37 | 48. 26 | |
| | | 31 | 20 | 9 | 58 | 47 | 36 | 25 | |
| | | | 19 | 8 | 57 | 46 | 35 | 24 | |
| | | 29 | 18 | 7 | 55 | 44 | 33 | 22 | |
| | | | 17 | 6 | 54 | 43 | 32 | 21 | |
| | 42. | 43. 27 | 44. 16 | 45. 5 | 45. 53 | 46. 42 | 47. 31 | 48. 20 | |
| | | 26 | 15 | 4 | 52 | 41 | 30 | 19 | |
| | | 25 | 14 | 3 | 51 | 40 | 29 | 18 | |
| | | 24 | 12 | 1 | 50 | 39 | 28 | 16 | |
| | | 23 | 11 | 0 | 49 | 38 | 27 | 15 | |
| 40 | 42. 33 | 43. 22 | 44. 10 | 44. 59 | 45. 48 | 46. 37 | 47. 26 | 48. 14 | |
| 42 | 32 | 21 | 9 | 58 | 47 | 36 | 25 | 13 | |
| 44 | 31 | | 8 | 57 | 46 | 35 | 24 | 12 | |
| | 30 | 19 | 7 | 56 | 45 | 33 | 22 | 10 | |
| | 29 | 18 | 6 | 55 | 44 | 32 | 21 | 9 | |
| | 42. 28 | 43. 17 | 44. 5 | 44. 54 | 45. 43 | 46. 31 | 47. 20 | 48. 8 | |
| | 27 | 16 | 4 | 53 | 42 | 30 | 19 | 7 | |
| | 26 | 15 | 3 | 52 | 41 | 29 | 18 | 0 | |
| | | | | | | | | |
| | | | | | | | | |

Pr. parts for of Parallax additive

| | |
|---|---|
| " " | |
| 1– 1 | |
| 2– 2 | |
| 3– 2 | |
| 4– 3 | |
| 5– 4 | |
| 6– 5 | |
| 7– 6 | |
| 8– 7 | |
| 9– 7 | |
| 10– 8 | |
| 11– 9 | |
| 12–10 | |
| 13–11 | |
| 14–11 | |
| 15–12 | |
| 16–13 | |
| 17–14 | |
| 18–15 | |
| 19–15 | |
| 20–16 | |
| 21–17 | |
| 22–18 | |
| 23–19 | |
| 24–20 | |
| 25–20 | |
| 26–21 | |
| 27–22 | |
| 28–23 | |
| 29–24 | |
| 30–24 | |
| 31–25 | |
| 32–26 | |
| 33–27 | |
| 34–28 | |
| 35–29 | |
| 36–29 | |
| 37–30 | |
| 38–31 | |
| 39–32 | |
| 40–33 | |
| 41–33 | |
| 42–34 | |
| 43–35 | |
| 44–36 | |
| 45–37 | |
| 46–38 | |
| 47–38 | |
| 48–39 | |
| 49–40 | |
| 50–41 | |
| 51–42 | |
| 52–42 | |
| 53–43 | |
| 54–44 | |
| 55–45 | |
| 56–46 | |
| 57–47 | |
| 58–47 | |
| 59–48 | |

☽'s App. Altitude 36 Degrees.

| | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 42. 23 | 43. 11 | 44. 0 | 44. 49 | 45. 37 | 46. 26 | 47. 14 | 48. 3 |
| 2 | 22 | 10 | 43. 59 | 48 | 36 | 25 | 13 | 2 |
| 4 | 21 | 9 | 58 | 47 | 35 | 24 | 12 | 1 |
| 6 | 20 | 8 | 57 | 45 | 34 | 22 | 10 | 47. 59 |
| 8 | 19 | 7 | 56 | 44 | 33 | 21 | 9 | 58 |
| 10 | 42. 18 | 43. 6 | 43. 55 | 44. 43 | 45. 32 | 46. 20 | 47. 8 | 47. 57 |
| 12 | 17 | 5 | 54 | 42 | 31 | 19 | 7 | 56 |
| 14 | 16 | 4 | 53 | 41 | 30 | 18 | 6 | 55 |
| 16 | 15 | 3 | 51 | 40 | 28 | 16 | 5 | 53 |
| 18 | 14 | 2 | 50 | 39 | 27 | 15 | 4 | 52 |
| 20 | 42. 13 | 43. 1 | 43. 49 | 44. 38 | 45. 26 | 46. 14 | 47. 3 | 47. 51 |
| 22 | 12 | 0 | 48 | 37 | 25 | 13 | 2 | 50 |
| 24 | 11 | 42. 59 | 47 | 36 | 24 | 12 | 1 | 49 |
| 26 | 10 | 58 | 46 | 34 | 23 | 11 | 46. 59 | 47 |
| 28 | 9 | 57 | 45 | 33 | 22 | 10 | 58 | 46 |
| 30 | 42. 8 | 42. 56 | 43. 44 | 44. 32 | 45. 21 | 46. 9 | 46. 57 | 47. 45 |
| 32 | 7 | 55 | 43 | 31 | 20 | 8 | 56 | 44 |
| 34 | 6 | 54 | 42 | 30 | 19 | 7 | 55 | 43 |
| 36 | 4 | 53 | 41 | 29 | 17 | 5 | 53 | 41 |
| 38 | 3 | 52 | 40 | 28 | 16 | 4 | 52 | 40 |
| 40 | 42. 2 | 42. 51 | 43. 39 | 44. 27 | 45. 15 | 46. 3 | 46. 51 | 47. 39 |
| 42 | 1 | 50 | 38 | 26 | 14 | 2 | 50 | 38 |
| 44 | 0 | 49 | 37 | 25 | 13 | 1 | 49 | 37 |
| 46 | 41. 59 | 47 | 35 | 23 | 11 | 45. 59 | 47 | 35 |
| 48 | 58 | 46 | 34 | 22 | 10 | 58 | 46 | 34 |
| 50 | 41. 57 | 42. 45 | 43. 33 | 44. 21 | 45. 9 | 45. 57 | 46. 45 | 47. 33 |
| 52 | 56 | 44 | 32 | 20 | 8 | 56 | 44 | 32 |
| 54 | 55 | 43 | 31 | 19 | 7 | 55 | 43 | 31 |
| 56 | 54 | 42 | 30 | 18 | 5 | 54 | 42 | 30 |
| 58 | 53 | 41 | 29 | 17 | 4 | 53 | 41 | 29 |

☽'s App. Altitude 37 Degrees.

| | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| | 41. 52 | 42. 40 | 43. 28 | 44. 16 | 45. 3 | 45. 52 | 46. 40 | 47. 28 |
| 2 | 51 | 39 | 27 | 15 | 2 | 51 | 39 | 27 |
| 4 | 50 | 38 | 26 | 14 | 1 | 50 | 38 | 26 |
| 6 | 49 | 37 | 24 | 12 | 0 | 48 | 36 | 24 |
| 8 | 48 | 36 | 23 | 11 | 44. 59 | 47 | 35 | 23 |
| 10 | 41. 47 | 42. 35 | 43. 22 | 44. 10 | 44. 58 | 45. 46 | 46. 34 | 47. 22 |
| 12 | 46 | 34 | 21 | 9 | 57 | 45 | 33 | 21 |
| 14 | 45 | 33 | 20 | 8 | 56 | 44 | 32 | 20 |
| 16 | 44 | 31 | 19 | 7 | 54 | 42 | 30 | 18 |
| 18 | 43 | 30 | 18 | 6 | 53 | 41 | 29 | 17 |
| 20 | 41. 42 | 42. 29 | 43. 17 | 44. 5 | 44. 52 | 45. 40 | 46. 28 | 47. 16 |
| 22 | 41 | 28 | 16 | 4 | 51 | 39 | 27 | 15 |
| 24 | 40 | 27 | 15 | 3 | 50 | 38 | 26 | 13 |
| 26 | 38 | 26 | 13 | 1 | 49 | 36 | 24 | 12 |
| 28 | 37 | 25 | 12 | 0 | 48 | 35 | 23 | 10 |
| 30 | 41. 36 | 42. 24 | 43. 11 | 43. 59 | 44. 47 | 45. 34 | 46. 22 | 47. 9 |
| 32 | 35 | 23 | 10 | 58 | 46 | 33 | 21 | 8 |
| 34 | 34 | 22 | 9 | 57 | 45 | 32 | 20 | 7 |
| 36 | 33 | 20 | 8 | 55 | 43 | 30 | 18 | 5 |
| 38 | 32 | 19 | 7 | 54 | 42 | 29 | 17 | 4 |
| 40 | 41. 31 | 42. 18 | 43. 6 | 43. 53 | 44. 41 | 45. 28 | 46. 16 | 47. 3 |
| 42 | 30 | 17 | 5 | 52 | 40 | 27 | 15 | 2 |
| 44 | 29 | 16 | 4 | 51 | 39 | 26 | 14 | 1 |
| 46 | 28 | 15 | 2 | 50 | 37 | 25 | 12 | 46. 59 |
| 48 | 27 | 14 | 1 | 49 | 36 | 24 | 11 | 58 |
| 50 | 41. 26 | 42. 13 | 43. 0 | 43. 48 | 44. 35 | 45. 23 | 46. 10 | 46. 57 |
| 52 | 25 | 12 | 42. 59 | 47 | 34 | 22 | 9 | 56 |
| 54 | 24 | 11 | 58 | 46 | 33 | 21 | 8 | 55 |
| | | | 57 | | | | | |
| | | | | | | | | |

### ☽'s App. Altitude 34 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 16. 29 | 16. 48 | 17. 8 | 17. 28 | 17. 47 | 18. 7 | 18. 27 | 18. 46 |
| 2 | 30 | 49 | 9 | 29 | 48 | 8 | 28 | 47 |
| 4 | 31 | 50 | 10 | 30 | 49 | 9 | 29 | 48 |
| 6 | 31 | 51 | 11 | 31 | 50 | 10 | 30 | 49 |
| 8 | 32 | 52 | 12 | 32 | 51 | 11 | 31 | 50 |
| 10 | 16. 33 | 16. 53 | 17. 13 | 17. 33 | 17. 52 | 18. 12 | 18. 32 | 18. 51 |
| 12 | 34 | 54 | 14 | 34 | 53 | 13 | 33 | 52 |
| 14 | 35 | 55 | 15 | 35 | 54 | 14 | 34 | 53 |
| 16 | 36 | 55 | 15 | 35 | 55 | 15 | 35 | 54 |
| 18 | 37 | 56 | 16 | 36 | 56 | 16 | 36 | 55 |
| 20 | 16. 38 | 16. 57 | 17. 17 | 17. 37 | 17. 57 | 18. 17 | 18. 37 | 18. 56 |
| 22 | 39 | 58 | 18 | 38 | 58 | 18 | 38 | 57 |
| 24 | 40 | 59 | 19 | 39 | 59 | 19 | 39 | 58 |
| 26 | 40 | 17. 0 | 20 | 40 | 18. 0 | 20 | 40 | 59 |
| 28 | 41 | 1 | 21 | 41 | 1 | 21 | 41 | 19. 0 |
| 30 | 16. 42 | 17. 2 | 17. 22 | 17. 42 | 18. 2 | 18. 22 | 18. 42 | 19. 1 |
| 32 | 43 | 3 | 23 | 43 | 3 | 23 | 43 | 2 |
| 34 | 44 | 4 | 24 | 44 | 4 | 24 | 44 | 3 |
| 36 | 44 | 4 | 24 | 45 | 4 | 24 | 44 | 4 |
| 38 | 45 | 5 | 25 | 46 | 5 | 25 | 45 | 5 |
| 40 | 16. 46 | 17. 6 | 17. 26 | 17. 47 | 18. 6 | 18. 26 | 18. 46 | 19. 6 |
| 42 | 47 | 7 | 27 | 48 | 7 | 27 | 47 | 7 |
| 44 | 48 | 8 | 28 | 49 | 8 | 28 | 48 | 8 |
| 46 | 49 | 9 | 29 | 49 | 9 | 29 | 49 | 9 |
| 48 | 50 | 10 | 30 | 50 | 10 | 30 | 50 | 10 |
| 50 | 16. 51 | 17. 11 | 17. 31 | 17. 51 | 18. 11 | 18. 31 | 18. 51 | 19. 11 |
| 52 | 52 | 12 | 32 | 52 | 12 | 32 | 52 | 12 |
| 54 | 53 | 13 | 33 | 53 | 13 | 33 | 53 | 13 |
| 56 | 53 | 13 | 33 | 54 | 14 | 34 | 54 | 14 |
| 58 | 54 | 14 | 34 | 55 | 15 | 35 | 55 | 15 |

| Parts for ′ | of Parallax additive |
|---|---|
| | ″ ″ |
| 1– 0 | |
| 2– 1 | |
| 3– 1 | |
| 4– 1 | |
| 5– 2 | |
| 6– 2 | |
| 7– 2 | |
| 8– 3 | |
| 9– 3 | |
| 10– 3 | |
| 11– 4 | |
| 12– 4 | |
| 13– 4 | |
| 14– 5 | |
| 15– 5 | |
| 16– 5 | |
| 17– 6 | |
| 18– 6 | |
| 19– 6 | |
| 20– 7 | |
| 21– 7 | |
| 22– 7 | |
| 23– 8 | |
| 24– 8 | |
| 25– 8 | |
| 26– 9 | |
| 27– 9 | |
| 28– 9 | |
| 29–10 | |
| 30–10 | |
| 31–10 | |
| 32–11 | |
| 33–11 | |
| 34–11 | |
| 35–12 | |
| 36–12 | |
| 37–12 | |
| 38–13 | |
| 39–13 | |
| 40–13 | |
| 41–14 | |
| 42–14 | |
| 43–14 | |
| 44–15 | |
| 45–15 | |
| 46–15 | |
| 47–16 | |
| 48–16 | |
| 49–16 | |
| 50–17 | |
| 51–17 | |
| 52–17 | |
| 53–18 | |
| 54–18 | |
| 55–18 | |
| 56–19 | |
| 57–19 | |
| 58–19 | |
| 59–20 | |

### ☽'s App. Altitude 35 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 16. 55 | 17. 15 | 17. 35 | 17. 56 | 18. 16 | 18. 36 | 18. 56 | 19. 16 |
| 2 | 56 | 16 | 36 | 57 | 17 | 37 | 57 | 17 |
| 4 | 57 | 17 | 37 | 58 | 18 | 38 | 58 | 18 |
| 6 | 57 | 18 | 38 | 59 | 19 | 39 | 59 | 19 |
| 8 | 58 | 19 | 39 | 18. 0 | 20 | 40 | 19. 0 | 20 |
| 10 | 16. 59 | 17. 20 | 17. 40 | 18. 1 | 18. 21 | 18. 41 | 19. 1 | 19. 21 |
| 12 | 17. 0 | 21 | 41 | 2 | 22 | 42 | 2 | 22 |
| 14 | 1 | 22 | 42 | 3 | 23 | 43 | 3 | 23 |
| 16 | 2 | 22 | 42 | 3 | 23 | 44 | 4 | 24 |
| 18 | 3 | 23 | 43 | 4 | 24 | 45 | 5 | 25 |
| 20 | 17. 4 | 17. 24 | 17. 44 | 18. 5 | 18. 25 | 18. 46 | 19. 6 | 19. 27 |
| 22 | 5 | 25 | 45 | 6 | 26 | 47 | 7 | 27 |
| 24 | 6 | 26 | 46 | 7 | 27 | 48 | 8 | 28 |
| 26 | 6 | 27 | 47 | 8 | 28 | 49 | 9 | 29 |
| 28 | 7 | 28 | 48 | 9 | 29 | 50 | 10 | 30 |
| 30 | 17. 8 | 17. 29 | 17. 49 | 18. 10 | 18. 30 | 18. 51 | 19. 11 | 19. 31 |
| 32 | 9 | 30 | 50 | 11 | 31 | 52 | 12 | 32 |
| 34 | 10 | 31 | 51 | 12 | 32 | 53 | 13 | 33 |
| 36 | 10 | 31 | 52 | 12 | 33 | 53 | 13 | 34 |
| 38 | 11 | 32 | 53 | 13 | 34 | 54 | 14 | 35 |
| 40 | 17. 12 | 17. 33 | 17. 54 | 18. 14 | 18. 35 | 18. 55 | 19. 15 | 19. 36 |
| 42 | 13 | 34 | 55 | 15 | 36 | 56 | 16 | 37 |
| 44 | 14 | 35 | 56 | 16 | 37 | 57 | 17 | 38 |
| 46 | 15 | 36 | 56 | 17 | 37 | 58 | 18 | 39 |
| 48 | 16 | 36 | 57 | 18 | 38 | 59 | 19 | 40 |
| 50 | 17. 17 | 17. 38 | 17. 58 | 18. 19 | 18. 39 | 19. 0 | 19. 20 | 19. 41 |
| 52 | 18 | 39 | 59 | 20 | 40 | 1 | 21 | 42 |
| 54 | 19 | 40 | 18. 0 | 21 | 41 | 2 | 22 | 43 |
| 56 | 19 | 40 | 1 | 21 | 42 | 3 | 23 | 44 |
| 58 | 20 | 41 | 2 | 22 | 43 | 4 | 24 | 45 |

### ☽'s App. Altitude 36 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 17. 21 | 17. 42 | 18. 3 | 18. 23 | 18. 44 | 19. 5 | 19. 25 | 19. 46 |
| 2 | 22 | 43 | 4 | 24 | 45 | 6 | 26 | 47 |
| 4 | 23 | 44 | 5 | 25 | 46 | 7 | 27 | 48 |
| 6 | 23 | 45 | 6 | 26 | 47 | 8 | 28 | 49 |
| 8 | 24 | 46 | 7 | 27 | 48 | 9 | 29 | 50 |
| 10 | 17. 25 | 17. 47 | 18. 8 | 18. 28 | 18. 49 | 19. 10 | 19. 30 | 19. 51 |
| 12 | 26 | 48 | 9 | 29 | 50 | 11 | 31 | 52 |
| 14 | 27 | 49 | 10 | 30 | 51 | 12 | 32 | 53 |
| 16 | 28 | 49 | 10 | 30 | 51 | 12 | 33 | 54 |
| 18 | 29 | 50 | 11 | 31 | 52 | 13 | 34 | 55 |
| 20 | 17. 30 | 17. 51 | 18. 12 | 18. 32 | 18. 53 | 19. 14 | 19. 35 | 19. 56 |
| 22 | 31 | 52 | 13 | 33 | 54 | 15 | 36 | 57 |
| 24 | 32 | 53 | 14 | 34 | 55 | 16 | 37 | 58 |
| 26 | 32 | 54 | 15 | 35 | 56 | 17 | 38 | 59 |
| 28 | 33 | 55 | 16 | 36 | 57 | 18 | 39 | 20. 0 |
| 30 | 17. 34 | 17. 56 | 18. 17 | 18. 37 | 18. 58 | 19. 19 | 19. 40 | 20. 1 |
| 32 | 35 | 57 | 18 | 38 | 59 | 20 | 41 | 2 |
| 34 | 36 | 58 | 19 | 39 | 19. 0 | 21 | 42 | 3 |
| 36 | 36 | 58 | 19 | 40 | 1 | 22 | 42 | 3 |
| 38 | 37 | 59 | 20 | 41 | 2 | 23 | 43 | 4 |
| 40 | 17. 38 | 18. 0 | 18. 21 | 18. 42 | 19. 3 | 19. 24 | 19. 44 | 20. 5 |
| 42 | 39 | 1 | 22 | 43 | 4 | 25 | 45 | 6 |
| 44 | 40 | 2 | 23 | 44 | 5 | 26 | 46 | 7 |
| 46 | 41 | 3 | 24 | 44 | 5 | 26 | 47 | 8 |
| 48 | 42 | 4 | 25 | 45 | 6 | 27 | 48 | 9 |
| 50 | 17. 43 | 18. 5 | 18. 26 | 18. 46 | 19. 7 | 19. 28 | 19. 49 | 20. 10 |
| 52 | 44 | 6 | 27 | 47 | 8 | 29 | 50 | 11 |
| 54 | 45 | 7 | 28 | 48 | 9 | 30 | 51 | 12 |
| 56 | 45 | 7 | 28 | 49 | 10 | 31 | 52 | 13 |
| 58 | 46 | 8 | 29 | 50 | 11 | 32 | 53 | 14 |

| Parts for ′ | of Parallax additive |
|---|---|
| | ″ ″ |
| 1– 0 | |
| 2– 1 | |
| 3– 1 | |
| 4– 1 | |
| 5– 2 | |
| 6– 2 | |
| 7– 2 | |
| 8– 3 | |
| 9– 3 | |
| 10– 3 | |
| 11– 4 | |
| 12– 4 | |
| 13– 5 | |
| 14– 5 | |
| 15– 5 | |
| 16– 6 | |
| 17– 6 | |
| 18– 6 | |
| 19– 7 | |
| 20– 7 | |
| 21– 7 | |
| 22– 8 | |
| 23– 8 | |
| 24– 8 | |
| 25– 9 | |
| 26– 9 | |
| 27– 9 | |
| 28–10 | |
| 29–10 | |
| 30–10 | |
| 31–11 | |
| 32–11 | |
| 33–12 | |
| 34–12 | |
| 35–12 | |
| 36–13 | |
| 37–13 | |
| 38–13 | |
| 39–14 | |
| 40–14 | |
| 41–14 | |
| 42–15 | |
| 43–15 | |
| 44–15 | |
| 45–16 | |
| 46–16 | |
| 47–16 | |
| 48–17 | |
| 49–17 | |
| 50–18 | |
| 51–18 | |
| 52–18 | |
| 53–19 | |
| 54–19 | |
| 55–19 | |
| 56–20 | |
| 57–20 | |
| 58–21 | |
| 59–21 | |

### ☽'s App. Altitude 37 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 17. 47 | 18. 9 | 18. 30 | 18. 51 | 19. 12 | 19. 33 | 19. 54 | 20. 15 |
| 2 | 48 | 10 | 31 | 52 | 13 | 34 | 55 | 16 |
| 4 | 49 | 11 | 32 | 53 | 14 | 35 | 56 | 17 |
| 6 | 49 | 11 | 32 | 54 | 15 | 36 | 57 | 18 |
| 8 | 50 | 12 | 33 | 55 | 16 | 37 | 58 | 19 |
| 10 | 17. 51 | 18. 13 | 18. 34 | 18. 56 | 19. 17 | 19. 38 | 19. 59 | 20. 20 |
| 12 | 52 | 14 | 35 | 57 | 18 | 39 | 20. 0 | 21 |
| 14 | 53 | 15 | 36 | 58 | 19 | 40 | 1 | 22 |
| 16 | 54 | 16 | 37 | 58 | 19 | 40 | 2 | 23 |
| 18 | 55 | 17 | 38 | 59 | 20 | 41 | 3 | 24 |
| 20 | 17. 56 | 18. 18 | 18. 39 | 19. 0 | 19. 21 | 19. 42 | 20. 4 | 20. 25 |
| 22 | 57 | 19 | 40 | 1 | 22 | 43 | 5 | 26 |
| 24 | 58 | 20 | 41 | 2 | 23 | 44 | 6 | 27 |
| 26 | 58 | 20 | 41 | 3 | 24 | 45 | 7 | 28 |
| 28 | 59 | 21 | 42 | 4 | 25 | 46 | 8 | 29 |
| 30 | 18. 0 | 18. 22 | 18. 43 | 19. 5 | 19. 26 | 19. 47 | 20. 9 | 20. 30 |
| 32 | 1 | 23 | 44 | 6 | 27 | 48 | 10 | 31 |
| 34 | 2 | 24 | 45 | 7 | 28 | 49 | 11 | 32 |
| 36 | 2 | 24 | 45 | 7 | 29 | 50 | 11 | 32 |
| 38 | 3 | 25 | 46 | 8 | 30 | 51 | 12 | 33 |
| 40 | 18. 4 | 18. 26 | 18. 47 | 19. 9 | 19. 31 | 19. 52 | 20. 13 | 20. 34 |
| 42 | 5 | 27 | 48 | 10 | 32 | 53 | 14 | 35 |
| 44 | 6 | 28 | 49 | 11 | 33 | 54 | 15 | 36 |
| 46 | 7 | 29 | 50 | 12 | 33 | 54 | 16 | 37 |
| 48 | 8 | 30 | 51 | 13 | 34 | 55 | 17 | 38 |
| 50 | 18. 9 | 18. 31 | 18. 52 | 19. 14 | 19. 35 | 19. 56 | 20. 17 | 20. 38 |
| 52 | 10 | 32 | 53 | 15 | 36 | 57 | 19 | 40 |
| 54 | 11 | 33 | 54 | 16 | 37 | 58 | 20 | 41 |
| 56 | 11 | 33 | 54 | 16 | 38 | 59 | 21 | 42 |
| 58 | 12 | 34 | 55 | 17 | 39 | 20. 0 | 22 | 43 |

☽'s App. Altitude 38 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Proportional Parts for Seconds of Parallax |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 41. 2 | 42. 8 | 42. 55 | 43. 42 | 44. 29 | 45. 17 | 46. 4 | 46. 51 | 0 |
| 2 | 10 | 7 | 54 | 41 | 28 | 16 | 3 | 50 | Parallax additive |
| 4 | 18 | 6 | 53 | 40 | 27 | 15 | 2 | 49 | |
| 6 | 17 | 4 | 50 | 38 | 26 | 13 | 0 | 47 | ″ ″ |
| 8 | 16 | 3 | 5 | 37 | 25 | 12 | 59 | 46 | 1– 1 |
| 10 | 41. 15 | 42. | | 40. | 44. 24 | 45. 11 | 45. 58 | 46. 45 | 2– 1 |
| 12 | 14 | 1 | 49 | 45 | 33 | 10 | 57 | 44 | 3– 2 |
| 14 | 13 | 0 | 47 | 34 | 22 | 9 | 56 | 43 | 4– 3 |
| 16 | 11 | 41. 59 | 46 | 33 | 20 | 7 | 54 | 42 | 5– 4 |
| 18 | 11 | 58 | 45 | 32 | 19 | 6 | 53 | 40 | 6– 4 |
| | 41. 10 | 41. 57 | 42. 44 | 43. 31 | 44. 18 | 45. 5 | 45. 52 | 46. 39 | 7– 5 |
| | 9 | 56 | 43 | 30 | 17 | 4 | 51 | 38 | 8– 6 |
| | 8 | 55 | 42 | 29 | 16 | 3 | 50 | 37 | 9– 7 |
| | 7 | 54 | 41 | 28 | 15 | 2 | 49 | 36 | 10– 7 |
| | 6 | 53 | 40 | 27 | 14 | 1 | 47 | 35 | 11– 8 |
| | 5 | 52 | 39 | 26 | 13 | 0 | 46 | 34 | 12– 9 |
| | 41. 4 | 41. 51 | 42. 38 | 43. 25 | 44. 12 | 44. 59 | 45. 47 | 46. 33 | 13–10 |
| | 3 | 50 | 37 | 24 | 11 | 58 | 45 | 32 | 14–11 |
| | 2 | 49 | 36 | 23 | 10 | 57 | 44 | 31 | 15–11 |
| | 1 | 47 | 34 | 21 | 8 | 55 | 42 | 29 | 16–12 |
| | 0 | 46 | 33 | 20 | 7 | 54 | 41 | 28 | 17–13 |
| | 41. 0 | 41. 45 | 42. 32 | 43. 19 | 44. 6 | 44. 53 | 45. 41 | 46. 27 | 18–14 |
| | 40. 59 | 44 | 31 | 18 | 5 | 52 | 39 | 26 | 19–15 |
| | 57 | 43 | 30 | 17 | 4 | 51 | 38 | 24 | 20–15 |
| | 56 | 42 | 29 | 16 | 2 | 49 | 36 | 23 | 21–16 |
| | 55 | 41 | 28 | 14 | 1 | 48 | 35 | 22 | 22–17 |
| | 41. 54 | 41. 41 | 42. 27 | 43. 13 | 44. 0 | 44. 47 | 45. 34 | 46. 20 | 23–18 |
| | 53 | 40 | 26 | 12 | 59 | 46 | 33 | 19 | 24–19 |
| | 52 | 39 | 25 | 11 | 58 | 45 | 31 | 18 | 25–20 |
| | 51 | 38 | 24 | 10 | 56 | 43 | 30 | 16 | 26–20 |
| | 50 | 37 | 23 | 9 | 55 | 42 | 28 | 15 | 27–21 |
| | 49 | 36 | 22 | 8 | 54 | 41 | 27 | 14 | 28–22 |
| | 41. 48 | 41. 35 | 42. 21 | 43. 7 | 44. 53 | 45. 40 | 46. 26 | 47. 12 | 29–23 |
| | 47 | 34 | 20 | 6 | 52 | 39 | 25 | 11 | 30–24 |
| | 46 | 33 | 19 | 5 | 51 | 38 | 24 | 10 | 31–25 |
| | 45 | 32 | 18 | 4 | 50 | 37 | 23 | 9 | 32–26 |
| | 44 | 31 | 17 | 3 | 49 | 35 | 22 | 8 | 33–27 |
| | 41. 43 | 41. 30 | 42. 16 | 43. 2 | 43 | 44. 34 | 45. 21 | 46. 7 | 34–28 |
| | 42 | 29 | 15 | 1 | 47 | 33 | 20 | 6 | 35–29 |
| | 41 | 28 | 14 | 42. 59 | 46 | 32 | 19 | 5 | 36–30 |
| | 40 | 27 | 13 | 58 | 45 | 31 | 17 | 4 | 37–31 |
| | 39 | 26 | 12 | 57 | 44 | 30 | 16 | 3 | 38–32 |
| | 41. 38 | 41. 25 | 42. 11 | 42. 56 | 43. 43 | 44. 29 | 45. 15 | 46. 1 | 39–33 |
| | 37 | 24 | 10 | 55 | 42 | 28 | 14 | 59 | 40–34 |
| | 36 | 23 | 9 | 54 | 41 | 27 | 13 | 58 | 41–35 |
| | 35 | 22 | 8 | 53 | 40 | 26 | 12 | 57 | 42–36 |
| | 34 | 21 | 7 | 52 | 39 | 25 | 11 | 56 | 43–37 |
| | 41. 33 | 41. 20 | 42. 6 | 42. 51 | 43. 37 | 44. 23 | 45. 9 | 45. 55 | 44–38 |
| | 32 | 19 | 5 | 50 | 36 | 22 | 8 | 54 | 45–39 |
| | 31 | 18 | 4 | 49 | 35 | 21 | 7 | 53 | 46–40 |
| | 30 | 17 | 3 | 48 | 34 | 20 | 6 | 52 | 47–41 |
| | 29 | 16 | 2 | 47 | 33 | 19 | 5 | 51 | 48–42 |
| | 41. 28 | 41. 15 | 42. 1 | 42. 46 | 43. 32 | 44. 18 | 45. 4 | 45. 50 | 49–43 |
| | 27 | 14 | 42. 0 | 45 | 31 | 17 | 3 | 49 | 50–44 |
| | 26 | 13 | 41. 59 | 44 | 30 | 16 | 2 | 48 | 51–45 |
| | 25 | 12 | 58 | 43 | 29 | 15 | 1 | 47 | 52–46 |
| | 24 | 11 | 57 | 42 | 28 | 14 | 44. 59 | 46 | 53–47 |
| | 41. 23 | 41. 10 | 41. 56 | 42. 41 | 43. 27 | 44. 13 | 44. 58 | 45. 44 | 54–48 |
| | 22 | 9 | 55 | 40 | 26 | 12 | 57 | 43 | 55–49 |
| | 21 | 8 | 54 | 39 | 25 | 11 | 56 | 42 | 56–50 |
| | 20 | 7 | 53 | 38 | 24 | 10 | 55 | 41 | 57–51 |
| | 19 | 6 | 52 | 37 | 23 | 9 | 54 | 40 | 58–52 |
| | 41. 18 | 41. 5 | 41. 51 | 42. 36 | 43. 22 | 44. 8 | 44. 53 | 45. 39 | 59–53 |
| | 17 | 4 | 50 | 35 | 21 | 7 | 52 | 38 | 60–54 |
| | 16 | 3 | 49 | 34 | 20 | 6 | 51 | 37 | 61–55 |
| | 15 | 2 | 48 | 33 | 19 | 5 | 50 | 36 | 62–56 |
| | 14 | 1 | 47 | 32 | 18 | 4 | 49 | 35 | 63–57 |
| | 41. 13 | 41. 0 | 41. 46 | 42. 31 | 43. 17 | 44. 3 | 44. 48 | 45. 34 | 64–58 |
| | 12 | 40. 59 | 45 | 30 | 16 | 2 | 47 | 33 | 65–59 |
| | 11 | 58 | 44 | 29 | 15 | 1 | 46 | 32 | 66–60 |
| | 10 | 57 | 43 | 28 | 14 | 44. 59 | 45 | 31 | 67–61 |
| | 41. 9 | 40. 56 | 42. 42 | 43. 27 | 44. 13 | 44. 58 | 45. 44 | 46. 30 | 68–62 |
| | 8 | 55 | 41 | 26 | 12 | 57 | 43 | 29 | 69–63 |
| | 7 | 54 | 40 | 25 | 11 | 56 | 42 | 28 | 70–64 |
| | 6 | 53 | 39 | 24 | 10 | 55 | 41 | 27 | 71–65 |
| | 5 | 52 | 38 | 23 | 9 | 54 | 40 | 26 | 72–66 |
| | 41. 4 | 40. 51 | 41. 37 | 42. 22 | 43. 8 | 43. 53 | 44. 39 | 45. 25 | 73–67 |
| | 3 | 50 | 36 | 21 | 7 | 52 | 38 | 24 | 74–68 |
| | 2 | 49 | 35 | 20 | 6 | 51 | 37 | 23 | 75–69 |
| | 1 | 48 | 34 | 19 | 5 | 50 | 36 | 22 | 76–70 |
| | 0 | 47 | 33 | 18 | 4 | 49 | 35 | 21 | 77–71 |
| | 40. 59 | 40. 46 | 41. 32 | 42. 17 | 43. 3 | 43. 48 | 44. 34 | 45. 20 | 78–72 |
| | 58 | 45 | 31 | 16 | 2 | 47 | 33 | 19 | 79–73 |
| | 57 | 44 | 30 | 15 | 1 | 46 | 32 | 18 | 80–74 |
| | 56 | 43 | 29 | 14 | 43. 0 | 45 | 31 | 17 | 81–75 |
| | 55 | 42 | 28 | 13 | 42. 59 | 44 | 30 | 16 | 82–76 |
| | 40. 54 | 40. 41 | 41. 27 | 42. 12 | 42. 58 | 43. 43 | 44. 29 | 45. 15 | 83–77 |
| | 53 | 40 | 26 | 11 | 57 | 42 | 28 | 14 | 84–78 |
| | 52 | 39 | 25 | 10 | 56 | 41 | 27 | 13 | 85–79 |
| | 51 | 38 | 24 | 9 | 55 | 40 | 26 | 12 | 86–80 |
| | 50 | 37 | 23 | 8 | 54 | 39 | 25 | 11 | 87–81 |
| | 40. 49 | 40. 36 | 41. 22 | 42. 7 | 42. 53 | 43. 38 | 44. 24 | 45. 10 | 88–82 |
| | 48 | 35 | 21 | 6 | 52 | 37 | 23 | 9 | 89–83 |
| | 47 | 34 | 20 | 5 | 51 | 36 | 22 | 8 | 90–84 |
| | 46 | 33 | 19 | 4 | 50 | 35 | 21 | 7 | 91–85 |
| | 45 | 32 | 18 | 3 | 49 | 34 | 20 | 6 | 92–86 |
| | 40. 44 | 40. 31 | 41. 17 | 42. 2 | 42. 48 | 43. 33 | 44. 19 | 45. 5 | 93–87 |
| | 43 | 30 | 16 | 42. 1 | 47 | 32 | 18 | 4 | 94–88 |
| | 42 | 29 | 15 | 42. 0 | 46 | 31 | 17 | 3 | 95–89 |
| | 41 | 28 | 14 | 41. 59 | 45 | 30 | 16 | 2 | 96–90 |
| | 40 | 27 | 13 | 58 | 44 | 29 | 15 | 1 | 97–91 |
| | 40. 39 | 40. 26 | 41. 12 | 41. 57 | 42. 43 | 43. 28 | 44. 14 | 45. 0 | 98–92 |
| | 38 | 25 | 11 | 56 | 42 | 27 | 13 | 59 | 99–93 |
| | 37 | 24 | 10 | 55 | 41 | 26 | 12 | 58 | 100–94 |
| | 36 | 23 | 9 | 54 | 40 | 25 | 11 | 57 | 101–95 |
| | 35 | 22 | 8 | 53 | 39 | 24 | 10 | 56 | 102–96 |
| | 40. 34 | 40. 21 | 41. 7 | 41. 52 | 42. 38 | 43. 23 | 44. 9 | 44. 55 | 103–97 |
| | 33 | 20 | 6 | 51 | 37 | 22 | 8 | 54 | 104–98 |
| | 32 | 19 | 5 | 50 | 36 | 21 | 7 | 53 | 105–99 |
| | 31 | 18 | 4 | 49 | 35 | 20 | 6 | 52 | 106–100 |
| | 30 | 17 | 3 | 48 | 34 | 19 | 5 | 51 | 107–101 |
| | 40. 29 | 40. 16 | 41. 2 | 41. 47 | 42. 33 | 43. 18 | 44. 4 | 44. 50 | 108–102 |
| | 28 | 15 | 41. 1 | 46 | 32 | 17 | 3 | 49 | 109–103 |
| | 27 | 14 | 41. 0 | 45 | 31 | 16 | 2 | 48 | 110–104 |
| | 26 | 13 | 40. 59 | 44 | 30 | 15 | 1 | 47 | 111–105 |
| | 25 | 12 | 58 | 43 | 29 | 14 | 44. 59 | 46 | 112–106 |
| | 40. 24 | 40. 11 | 40. 57 | 41. 42 | 42. 28 | 43. 13 | 43. 58 | 44. 44 | 113–107 |
| | 23 | 10 | 56 | 41 | 27 | 12 | 57 | 43 | 114–108 |
| | 22 | 9 | 55 | 40 | 26 | 11 | 56 | 42 | 115–109 |
| | 21 | 8 | 54 | 39 | 25 | 10 | 55 | 41 | 116–110 |
| | 20 | 7 | 53 | 38 | 24 | 9 | 54 | 40 | 117–111 |
| | 40. 19 | 40. 6 | 40. 52 | 41. 37 | 42. 23 | 43. 8 | 43. 53 | 44. 39 | 118–112 |
| | 18 | 5 | 51 | 36 | 21 | 6 | 51 | 37 | 119–113 |
| | 17 | 4 | 50 | 35 | 20 | 5 | 50 | 36 | 120–114 |
| | 16 | 3 | 49 | 34 | 19 | 4 | 48 | 35 | 121–115 |
| | 15 | 2 | 48 | 33 | 18 | 3 | 47 | 34 | 122–116 |
| | 40. 14 | 40. 1 | 40. 47 | 41. 32 | 42. 18 | 43. 3 | 43. 48 | 44. 34 | 123–117 |
| | 13 | 40. 0 | 46 | 31 | 17 | 2 | 47 | 33 | 124–118 |
| | 12 | 39. 59 | 45 | 30 | 16 | 1 | 46 | 32 | 125–119 |
| | 11 | 58 | 44 | 29 | 15 | 44. 59 | 45 | 31 | 126–120 |
| | 10 | 57 | 43 | 28 | 14 | 58 | 44 | 30 | 127–121 |
| | 40. 9 | 39. 56 | 40. 42 | 41. 27 | 42. 13 | 42. 57 | 43. 43 | 44. 29 | 128–122 |
| | 8 | 55 | 41 | 26 | 12 | 56 | 42 | 28 | 129–123 |
| | 7 | 54 | 40 | 25 | 11 | 55 | 41 | 27 | 130–124 |
| | 6 | 53 | 39 | 24 | 10 | 54 | 40 | 26 | 131–125 |
| | 5 | 52 | 38 | 23 | 9 | 53 | 39 | 25 | 132–126 |
| | 40. 4 | 39. 51 | 40. 37 | 41. 22 | 42. 8 | 42. 53 | 43. 38 | 44. 24 | 133–127 |
| | 3 | 50 | 36 | 21 | 7 | 52 | 38 | 23 | 134–128 |
| | 2 | 49 | 35 | 20 | 6 | 51 | 37 | 22 | 135–129 |
| | 1 | 48 | 34 | 19 | 5 | 50 | 36 | 21 | 136–130 |
| | 0 | 47 | 33 | 18 | 4 | 49 | 35 | 20 | 137–131 |
| | 39. 59 | 39. 46 | 40. 32 | 41. 17 | 42. 3 | 42. 48 | 43. 33 | 44. 19 | 138–132 |
| | 58 | 45 | 31 | 16 | 2 | 47 | 32 | 18 | 139–133 |
| | 57 | 44 | 30 | 15 | 1 | 46 | 31 | 17 | 140–134 |
| | 56 | 43 | 29 | 14 | 42. 0 | 45 | 30 | 16 | 141–135 |
| | 55 | 42 | 28 | 13 | 41. 59 | 44 | 29 | 15 | 142–136 |
| | 39. 54 | 39. 41 | 40. 27 | 41. 12 | 41. 58 | 42. 43 | 43. 28 | 44. 14 | 143–137 |
| | 53 | 40 | 26 | 11 | 57 | 42 | 27 | 13 | 144–138 |
| | 52 | 39 | 25 | 10 | 56 | 41 | 26 | 12 | 145–139 |
| | 51 | 38 | 24 | 9 | 55 | 40 | 25 | 11 | 146–140 |
| | 50 | 37 | 23 | 8 | 54 | 39 | 24 | 10 | 147–141 |
| | 39. 49 | 39. 36 | 40. 22 | 41. 7 | 41. 53 | 42. 38 | 43. 23 | 44. 9 | 148–142 |
| | 48 | 35 | 21 | 6 | 52 | 37 | 22 | 8 | 149–143 |
| | 47 | 34 | 20 | 5 | 51 | 36 | 21 | 7 | 150–144 |
| | 46 | 33 | 19 | 4 | 50 | 35 | 20 | 6 | 151–145 |
| | 45 | 32 | 18 | 3 | 49 | 34 | 19 | 5 | 152–146 |
| | 39. 44 | 39. 31 | 40. 17 | 41. 2 | 41. 48 | 42. 33 | 43. 18 | 44. 4 | 153–147 |
| | 43 | 30 | 16 | 41. 1 | 47 | 32 | 17 | 3 | 154–148 |
| | 42 | 29 | 15 | 41. 0 | 46 | 31 | 16 | 2 | 155–149 |
| | 41 | 28 | 14 | 40. 59 | 45 | 30 | 15 | 1 | 156–150 |
| | 40 | 27 | 13 | 58 | 44 | 29 | 14 | 44. 59 | 157–151 |
| | 39. 39 | 39. 26 | 40. 12 | 40. 57 | 41. 43 | 42. 28 | 43. 13 | 43. 58 | 158–152 |
| | 38 | 25 | 11 | 56 | 42 | 27 | 12 | 57 | 159–153 |
| | 37 | 24 | 10 | 55 | 41 | 26 | 11 | 56 | 160–154 |
| | 36 | 23 | 9 | 54 | 40 | 25 | 10 | 55 | 161–155 |
| | 35 | 22 | 8 | 53 | 39 | 24 | 9 | 54 | 162–156 |
| | 39. 34 | 39. 21 | 40. 7 | 40. 52 | 41. 38 | 42. 23 | 43. 8 | 43. 53 | 163–157 |
| | 33 | 20 | 6 | 51 | 36 | 21 | 6 | 51 | 164–158 |
| | 32 | 19 | 5 | 50 | 35 | 20 | 5 | 50 | 165–159 |
| | 31 | 18 | 4 | 49 | 34 | 19 | 4 | 48 | 166–160 |
| | 30 | 17 | 3 | 48 | 33 | 18 | 3 | 47 | 167–161 |
| | 39. 29 | 39. 16 | 40. 2 | 40. 47 | 41. 33 | 42. 18 | 43. 3 | 43. 48 | 168–162 |
| | 28 | 15 | 40. 1 | 46 | 32 | 17 | 2 | 47 | 169–163 |
| | 27 | 14 | 40. 0 | 45 | 31 | 16 | 1 | 46 | 170–164 |
| | 26 | 13 | 39. 59 | 44 | 30 | 15 | 43. 0 | 45 | 171–165 |
| | 25 | 12 | 58 | 43 | 29 | 14 | 42. 59 | 44 | 172–166 |
| | 39. 24 | 39. 11 | 39. 57 | 40. 42 | 41. 28 | 42. 13 | 42. 58 | 43. 43 | 173–167 |
| | 23 | 10 | 56 | 41 | 27 | 12 | 57 | 42 | 174–168 |
| | 22 | 9 | 55 | 40 | 26 | 11 | 56 | 41 | 175–169 |
| | 21 | 8 | 54 | 39 | 25 | 10 | 55 | 40 | 176–170 |
| | 20 | 7 | 53 | 38 | 24 | 9 | 54 | 39 | 177–171 |
| | 39. 19 | 39. 6 | 39. 52 | 40. 37 | 41. 23 | 42. 8 | 42. 53 | 43. 38 | 178–172 |
| | 18 | 5 | 51 | 36 | 21 | 6 | 51 | 37 | 179–173 |
| | 17 | 4 | 50 | 35 | 20 | 5 | 50 | 36 | 180–174 |
| | 16 | 3 | 49 | 34 | 19 | 4 | 48 | 35 | 181–175 |
| | 15 | 2 | 48 | 33 | 18 | 3 | 47 | 34 | 182–176 |
| | 39. 14 | 39. 1 | 39. 47 | 40. 32 | 41. 18 | 42. 3 | 42. 48 | 43. 33 | 183–177 |
| | 13 | 39. 0 | 46 | 31 | 17 | 2 | 47 | 32 | 184–178 |
| | 12 | 38. 59 | 45 | 30 | 16 | 1 | 46 | 31 | 185–179 |
| | 11 | 58 | 44 | 29 | 15 | 42. 0 | 45 | 30 | 186–180 |
| | 10 | 57 | 43 | 28 | 14 | 41. 59 | 44 | 29 | 187–181 |
| | 39. 9 | 38. 56 | 39. 42 | 40. 27 | 41. 13 | 41. 58 | 42. 43 | 43. 28 | 188–182 |
| | 8 | 55 | 41 | 26 | 12 | 57 | 42 | 27 | 189–183 |
| | 7 | 54 | 40 | 25 | 11 | 56 | 41 | 26 | 190–184 |
| | 6 | 53 | 39 | 24 | 10 | 55 | 40 | 25 | 191–185 |
| | 5 | 52 | 38 | 23 | 9 | 54 | 39 | 24 | 192–186 |
| | 39. 4 | 38. 51 | 39. 37 | 40. 22 | 41. 8 | 41. 53 | 42. 38 | 43. 23 | 193–187 |
| | 3 | 50 | 36 | 21 | 7 | 52 | 37 | 22 | 194–188 |
| | 2 | 49 | 35 | 20 | 6 | 51 | 36 | 21 | 195–189 |
| | 1 | 48 | 34 | 19 | 5 | 50 | 35 | 20 | 196–190 |
| | 0 | 47 | 33 | 18 | 4 | 49 | 34 | 19 | 197–191 |
| | 38. 59 | 38. 46 | 39. 32 | 40. 17 | 41. 3 | 41. 48 | 42. 33 | 43. 18 | 198–192 |
| | 58 | 45 | 31 | 16 | 2 | 47 | 32 | 18 | 199–193 |
| | 57 | 44 | 30 | 15 | 1 | 46 | 31 | 17 | 200–194 |
| | 56 | 43 | 29 | 14 | 41. 0 | 45 | 30 | 16 | 201–195 |
| | 55 | 42 | 28 | 13 | 40. 59 | 44 | 29 | 15 | 202–196 |
| | 38. 54 | 38. 41 | 39. 27 | 40. 12 | 40. 58 | 41. 43 | 42. 28 | 43. 14 | 203–197 |
| | 53 | 40 | 26 | 11 | 57 | 42 | 27 | 13 | 204–198 |
| | 52 | 39 | 25 | 10 | 56 | 41 | 26 | 12 | 205–199 |
| | 51 | 38 | 24 | 9 | 55 | 40 | 25 | 11 | 206–200 |
| | 50 | 37 | 23 | 8 | 54 | 39 | 24 | 10 | 207–201 |
| | 38. 49 | 38. 36 | 39. 22 | 40. 7 | 40. 53 | 41. 38 | 42. 23 | 43. 9 | 208–202 |
| | 48 | 35 | 21 | 6 | 52 | 37 | 22 | 8 | 209–203 |
| | 47 | 34 | 20 | 5 | 51 | 36 | 21 | 7 | 210–204 |
| | 46 | 33 | 19 | 4 | 50 | 35 | 20 | 6 | 211–205 |
| | 45 | 32 | 18 | 3 | 49 | 34 | 19 | 5 | 212–206 |
| | 38. 44 | 38. 31 | 39. 17 | 40. 2 | 40. 48 | 41. 33 | 42. 18 | 43. 4 | 213–207 |
| | 43 | 30 | 16 | 40. 1 | 47 | 32 | 17 | 3 | 214–208 |
| | 42 | 29 | 15 | 40. 0 | 46 | 31 | 16 | 2 | 215–209 |
| | 41 | 28 | 14 | 39. 59 | 45 | 30 | 15 | 1 | 216–210 |
| | 40 | 27 | 13 | 58 | 44 | 29 | 14 | 44. 59 | 217–211 |
| | 38. 39 | 38. 26 | 39. 12 | 39. 57 | 40. 43 | 41. 28 | 42. 13 | 42. 58 | 218–212 |
| | 38 | 25 | 11 | 56 | 42 | 27 | 12 | 57 | 219–213 |
| | 37 | 24 | 10 | 55 | 41 | 26 | 11 | 56 | 220–214 |
| | 36 | 23 | 9 | 54 | 40 | 25 | 10 | 55 | 221–215 |
| | 35 | 22 | 8 | 53 | 39 | 24 | 9 | 54 | 222–216 |
| | 38. 34 | 38. 21 | 39. 7 | 39. 52 | 40. 38 | 41. 23 | 42. 8 | 42. 53 | 223–217 |
| | 33 | 20 | 6 | 51 | 36 | 21 | 6 | 51 | 224–218 |
| | 32 | 19 | 5 | 50 | 35 | 20 | 5 | 50 | 225–219 |
| | 31 | 18 | 4 | 49 | 34 | 19 | 4 | 48 | 226–220 |
| | 30 | 17 | 3 | 48 | 33 | 18 | 3 | 47 | 227–221 |
| | 38. 29 | 38. 16 | 39. 2 | 39. 47 | 40. 33 | 41. 18 | 42. 3 | 42. 48 | 228–222 |
| | 28 | 15 | 39. 1 | 46 | 32 | 17 | 2 | 47 | 229–223 |
| | 27 | 14 | 39. 0 | 45 | 31 | 16 | 1 | 46 | 230–224 |
| | 26 | 13 | 38. 59 | 44 | 30 | 15 | 42. 0 | 45 | 231–225 |
| | 25 | 12 | 58 | 43 | 29 | 14 | 41. 59 | 44 | 232–226 |
| | 38. 24 | 38. 11 | 38. 57 | 39. 42 | 40. 28 | 41. 13 | 41. 58 | 42. 43 | 233–227 |
| | 23 | 10 | 56 | 41 | 27 | 12 | 57 | 42 | 234–228 |
| | 22 | 9 | 55 | 40 | 26 | 11 | 56 | 41 | 235–229 |
| | 21 | 8 | 54 | 39 | 25 | 10 | 55 | 40 | 236–230 |
| | 20 | 7 | 53 | 38 | 24 | 9 | 54 | 39 | 237–231 |
| | 38. 19 | 38. 6 | 38. 52 | 39. 37 | 40. 23 | 41. 8 | 41. 53 | 42. 38 | 238–232 |
| | 18 | 5 | 51 | 36 | 21 | 6 | 51 | 37 | 239–233 |
| | 17 | 4 | 50 | 35 | 20 | 5 | 50 | 36 | 240–234 |
| | 16 | 3 | 49 | 34 | 19 | 4 | 48 | 35 | 241–235 |
| | 15 | 2 | 48 | 33 | 18 | 3 | 47 | 34 | 242–236 |
| | 38. 14 | 38. 1 | 38. 47 | 39. 32 | 40. 18 | 41. 3 | 41. 48 | 42. 33 | 243–237 |
| | 13 | 38. 0 | 46 | 31 | 17 | 2 | 47 | 32 | 244–238 |
| | 12 | 37. 59 | 45 | 30 | 16 | 1 | 46 | 31 | 245–239 |
| | 11 | 58 | 44 | 29 | 15 | 41. 0 | 45 | 30 | 246–240 |
| | 10 | 57 | 43 | 28 | 14 | 40. 59 | 44 | 29 | 247–241 |
| | 38. 9 | 37. 56 | 38. 42 | 39. 27 | 40. 13 | 40. 58 | 41. 43 | 42. 28 | 248–242 |
| | 8 | 55 | 41 | 26 | 12 | 57 | 42 | 27 | 249–243 |
| | 7 | 54 | 40 | 25 | 11 | 56 | 41 | 26 | 250–244 |
| | 6 | 53 | 39 | 24 | 10 | 55 | 40 | 25 | 251–245 |
| | 5 | 52 | 38 | 23 | 9 | 54 | 39 | 24 | 252–246 |
| | 38. 4 | 37. 51 | 38. 37 | 39. 22 | 40. 8 | 40. 53 | 41. 38 | 42. 23 | 253–247 |
| | 3 | 50 | 36 | 21 | 7 | 52 | 37 | 22 | 254–248 |
| | 2 | 49 | 35 | 20 | 6 | 51 | 36 | 21 | 255–249 |
| | 1 | 48 | 34 | 19 | 5 | 50 | 35 | 20 | 256–250 |
| | 0 | 47 | 33 | 18 | 4 | 49 | 34 | 19 | 257–251 |
| | 37. 59 | 37. 46 | 38. 32 | 39. 17 | 40. 3 | 40. 48 | 41. 33 | 42. 18 | 258–252 |
| | 58 | 45 | 31 | 16 | 2 | 47 | 32 | 18 | 259–253 |
| | 57 | 44 | 30 | 15 | 1 | 46 | 31 | 17 | 260–254 |
| | 56 | 43 | 29 | 14 | 40. 0 | 45 | 30 | 16 | 261–255 |
| | 55 | 42 | 28 | 13 | 39. 59 | 44 | 29 | 15 | 262–256 |
| | 37. 54 | 37. 41 | 38. 27 | 39. 12 | 39. 58 | 40. 43 | 41. 28 | 42. 14 | 263–257 |
| | 53 | 40 | 26 | 11 | 57 | 42 | 27 | 13 | 264–258 |
| | 52 | 39 | 25 | 10 | 56 | 41 | 26 | 12 | 265–259 |
| | 51 | 38 | 24 | 9 | 55 | 40 | 25 | 11 | 266–260 |
| | 50 | 37 | 23 | 8 | 54 | 39 | 24 | 10 | 267–261 |
| | 37. 49 | 37. 36 | 38. 22 | 39. 7 | 39. 53 | 40. 38 | 41. 23 | 42. 9 | 268–262 |
| | 48 | 35 | 21 | 6 | 52 | 37 | 22 | 8 | 269–263 |
| | 47 | 34 | 20 | 5 | 51 | 36 | 21 | 7 | 270–264 |
| | 46 | 33 | 19 | 4 | 50 | 35 | 20 | 6 | 271–265 |
| | 45 | 32 | 18 | 3 | 49 | 34 | 19 | 5 | 272–266 |
| | 37. 44 | 37. 31 | 38. 17 | 39. 2 | 39. 48 | 40. 33 | 41. 18 | 42. 4 | 273–267 |
| | 43 | 30 | 16 | 39. 1 | 47 | 32 | 17 | 3 | 274–268 |
| | 42 | 29 | 15 | 39. 0 | 46 | 31 | 16 | 2 | 275–269 |
| | 41 | 28 | 14 | 38. 59 | 45 | 30 | 15 | 1 | 276–270 |
| | 40 | 27 | 13 | 58 | 44 | 29 | 14 | 44. 59 | 277–271 |
| | 37. 39 | 37. 26 | 38. 12 | 38. 57 | 39. 43 | 40. 28 | 41. 13 | 41. 58 | 278–272 |
| | 38 | 25 | 11 | 56 | 42 | 27 | 12 | 57 | 279–273 |
| | 37 | 24 | 10 | 55 | 41 | 26 | 11 | 56 | 280–274 |
| | 36 | 23 | 9 | 54 | 40 | 25 | 10 | 55 | 281–275 |
| | 35 | 22 | 8 | 53 | 39 | 24 | 9 | 54 | 282–276 |
| | 37. 34 | 37. 21 | 38. 7 | 38. 52 | 39. 38 | 40. 23 | 41. 8 | 41. 53 | 283–277 |
| | 33 | 20 | 6 | 51 | 36 | 21 | 6 | 51 | 284–278 |
| | 32 | 19 | 5 | 50 | 35 | 20 | 5 | 50 | 285–279 |
| | 31 | 18 | 4 | 49 | 34 | 19 | 4 | 48 | 286–280 |
| | 30 | 17 | 3 | 48 | 33 | 18 | 3 | 47 | 287–281 |
| | 37. 29 | 37. 16 | 38. 2 | 38. 47 | 39. 33 | 40. 18 | 41. 3 | 41. 48 | 288–282 |
| | 28 | 15 | 38. 1 | 46 | 32 | 17 | 2 | 47 | 289–283 |
| | 27 | 14 | 38. 0 | 45 | 31 | 16 | 1 | 46 | 290–284 |
| | 26 | 13 | 37. 59 | 44 | 30 | 15 | 42. 0 | 45 | 291–285 |
| | 25 | 12 | 58 | 43 | 29 | 14 | 41. 59 | 44 | 292–286 |
| | 37. 24 | 37. 11 | 37. 57 | 38. 42 | 39. 28 | 40. 13 | 40. 58 | 41. 43 | 293–287 |
| | 23 | 10 | 56 | 41 | 27 | 12 | 57 | 42 | 294–288 |
| | 22 | 9 | 55 | 40 | 26 | 11 | 56 | 41 | 295–289 |
| | 21 | 8 | 54 | 39 | 25 | 10 | 55 | 40 | 296–290 |
| | 20 | 7 | 53 | 38 | 24 | 9 | 54 | 39 | 297–291 |
| | 37. 19 | 37. 6 | 37. 52 | 38. 37 | 39. 23 | 40. 8 | 40. 53 | 41. 38 | 298–292 |
| | 18 | 5 | 51 | 36 | 21 | 6 | 51 | 37 | 299–293 |
| | 17 | 4 | 50 | 35 | 20 | 5 | 50 | 36 | 300–294 |
| | 16 | 3 | 49 | 34 | 19 | 4 | 48 | 35 | 301–295 |
| | 15 | 2 | 48 | 33 | 18 | 3 | 47 | 34 | 302–296 |
| | 37. 14 | 37. 1 | 37. 47 | 38. 32 | 39. 18 | 40. 3 | 40. 48 | 41. 33 | 303–297 |
| | 13 | 37. 0 | 46 | 31 | 17 | 2 | 47 | 32 | 304–298 |
| | 12 | 36. 59 | 45 | 30 | 16 | 1 | 46 | 31 | 305–299 |
| | 11 | 58 | 44 | 29 | 15 | 41. 0 | 45 | 30 | 306–300 |
| | 10 | 57 | 43 | 28 | 14 | 40. 59 | 44 | 29 | 307–301 |
| | 37. 9 | 36. 56 | 37. 42 | 38. 27 | 39. 13 | 39. 58 | 40. 43 | 41. 28 | 308–302 |
| | 8 | 55 | 41 | 26 | 12 | 57 | 42 | 27 | 309–303 |
| | 7 | 54 | 40 | 25 | 11 | 56 | 41 | 26 | 310–304 |
| | 6 | 53 | 39 | 24 | 10 | 55 | 40 | 25 | 311–305 |
| | 5 | 52 | 38 | 23 | 9 | 54 | 39 | 24 | 312–306 |
| | 37. 4 | 36. 51 | 37. 37 | 38. 22 | 39. 8 | 39. 53 | 40. 38 | 41. 23 | 313–307 |
| | 3 | 50 | 36 | 21 | 7 | 52 | 37 | 22 | 314–308 |
| | 2 | 49 | 35 | 20 | 6 | 51 | 36 | 21 | 315–309 |
| | 1 | 48 | 34 | 19 | 5 | 50 | 35 | 20 | 316–310 |
| | 0 | 47 | 33 | 18 | 4 | 49 | 34 | 19 | 317–311 |
| | 36. 59 | 36. 46 | 37. 32 | 38. 17 | 39. 3 | 39. 48 | 40. 33 | 41. 18 | 318–312 |
| | 58 | 45 | 31 | 16 | 2 | 47 | 32 | 18 | 319–313 |
| | 57 | 44 | 30 | 15 | 1 | 46 | 31 | 17 | 320–314 |
| | 56 | 43 | 29 | 14 | 40. 0 | 45 | 30 | 16 | 321–315 |
| | 55 | 42 | 28 | 13 | 39. 59 | 44 | 29 | 15 | 322–316 |
| | 36. 54 | 36. 41 | 37. 27 | 38. 12 | 38. 58 | 39. 43 | 40. 28 | 41. 14 | 323–317 |
| | 53 | 40 | 26 | 11 | 57 | 42 | 27 | 13 | 324–318 |
| | 52 | 39 | 25 | 10 | 56 | 41 | 26 | 12 | 325–319 |
| | 51 | 38 | 24 | 9 | 55 | 40 | 25 | 11 | 326–320 |
| | 50 | 37 | 23 | 8 | 54 | 39 | 24 | 10 | 327–321 |
| | 36. 49 | 36. 36 | 37. 22 | 38. 7 | 38. 53 | 39. 38 | 40. 23 | 41. 9 | 328–322 |
| | 48 | 35 | 21 | 6 | 52 | 37 | 22 | 8 | 329–323 |
| | 47 | 34 | 20 | 5 | 51 | 36 | 21 | 7 | 330–324 |
| | 46 | 33 | 19 | 4 | 50 | 35 | 20 | 6 | 331–325 |
| | 45 | 32 | 18 | 3 | 49 | 34 | 19 | 5 | 332–326 |
| | 36. 44 | 36. 31 | 37. 17 | 38. 2 | 38. 48 | 39. 33 | 40. 18 | 41. 4 | 333–327 |
| | 43 | 30 | 16 | 38. 1 | 47 | 32 | 17 | 3 | 334–328 |
| | 42 | 29 | 15 | 38. 0 | 46 | 31 | 16 | 2 | 335–329 |
| | 41 | 28 | 14 | 37. 59 | 45 | 30 | 15 | 1 | 336–330 |
| | 40 | 27 

Correct. for Sun's and Star's Altit. *addit.* ⊙

### ☽'s App. Altitude 38 Degrees.

Horizontal Parallax.

| ′ | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 18. 13 | 18. 35 | 18. 56 | 19. 18 | 19. 40 | 20. 1 | 20. 23 | 20. 44 |
| 2 | 14 | 36 | 57 | 19 | 41 | 2 | 24 | 45 |
| 4 | 15 | 37 | 58 | 20 | 42 | 3 | 25 | 46 |
| 6 | 15 | 37 | 58 | 20 | 42 | 4 | 26 | 47 |
| 8 | 16 | 38 | 59 | 21 | 43 | 5 | 27 | 48 |
| 10 | 18. 17 | 18. 39 | 19. 0 | 19. 22 | 19. 44 | 20. 6 | 20. 28 | 20. 49 |
| 12 | 18 | 40 | 1 | 23 | 45 | 7 | 29 | 50 |
| 14 | 19 | 41 | 2 | 24 | 46 | 8 | 30 | 51 |
| 16 | 19 | 41 | 3 | 25 | 47 | 8 | 30 | 52 |
| 18 | [illegible] | [illegible] | 4 | [illegible] | [illegible] | 9 | 31 | 53 |
| 20 | 18. 21 | 18. 42 | 19. 5 | 19. 27 | 19. 49 | 20. 11 | 20. 32 | 20. 54 |
| 22 | 22 | 44 | 6 | 28 | 50 | 11 | 33 | 55 |
| 24 | 23 | 45 | 7 | 29 | 51 | 12 | 34 | 56 |
| 26 | 24 | 46 | 7 | 29 | 52 | 13 | 35 | 57 |
| 28 | 25 | 47 | 8 | 30 | 53 | 14 | 36 | 58 |
| 30 | 18. 26 | 18. 47 | 19. 9 | 19. 31 | 19. 54 | 20. 15 | 20. 37 | 20. 59 |
| 32 | 27 | 49 | 10 | 32 | 55 | 16 | 38 | 21. 0 |
| 34 | 28 | 50 | 11 | 33 | 56 | 17 | 39 | 1 |
| 36 | 28 | 50 | 11 | 33 | 56 | 18 | 40 | 1 |
| 38 | 29 | 51 | 12 | 34 | 57 | 19 | 41 | 2 |
| 40 | 18. 30 | 18. 52 | 19. 13 | 19. 35 | 19. 58 | 20. 20 | 20. 42 | 21. 3 |
| 42 | 31 | 53 | 14 | 36 | 59 | 21 | 43 | 4 |
| 44 | 32 | 54 | 15 | 37 | 20. 0 | 22 | 44 | 5 |
| 46 | 32 | 54 | 16 | 38 | 0 | 22 | 44 | 6 |
| 48 | 33 | 55 | 17 | 39 | 1 | 23 | 45 | 7 |
| 50 | 18. 34 | 18. 56 | 19. 18 | 19. 40 | 20. 2 | 20. 24 | 20. 46 | 21. 8 |
| 52 | 35 | 57 | 19 | 41 | 3 | 25 | 47 | 9 |
| 54 | 36 | 58 | 20 | 42 | 4 | 26 | 48 | 10 |
| 56 | 36 | 58 | 20 | 42 | 5 | 27 | 49 | 11 |
| 58 | 37 | 59 | 21 | 43 | 6 | 28 | 50 | 12 |

### ☽'s App. Altitude 39 Degrees.

| ′ | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 18. 38 | 19. 0 | 19. 22 | 19. 44 | 20. 7 | 20. 29 | 20. 51 | 21. 13 |
| 2 | 39 | 1 | [illegible] | 45 | [illegible] | 30 | [illegible] | 14 |
| 4 | 40 | 2 | 24 | 46 | 9 | 31 | 53 | 15 |
| 6 | 40 | 2 | 24 | 47 | 9 | 32 | 54 | 16 |
| 8 | 41 | 3 | 25 | 48 | 10 | 33 | 55 | 17 |
| 10 | 18. 42 | 19. 4 | 19. 26 | 19. 49 | [illegible] | [illegible] | [illegible] | 21. 18 |
| 12 | 43 | 5 | 27 | 50 | 12 | 35 | 57 | 19 |
| 14 | 44 | 6 | 28 | 51 | 13 | 36 | 58 | 20 |
| 16 | 44 | 6 | 29 | 51 | 14 | 36 | 58 | 20 |
| 18 | 45 | 7 | 30 | 52 | 15 | 37 | 59 | 21 |
| 20 | 18. 46 | 19. 8 | 19. 31 | 19. 53 | 20. 16 | 20. 38 | 21. 0 | 21. 22 |
| 22 | 47 | 9 | 32 | 54 | 17 | 39 | 1 | 23 |
| 24 | 48 | 10 | 33 | 55 | 18 | 40 | 2 | 24 |
| 26 | 49 | 11 | 33 | 56 | 18 | 41 | 3 | 25 |
| 28 | 50 | 12 | 34 | 57 | 19 | 42 | 4 | 26 |
| 30 | 18. 51 | 19. 13 | 19. 35 | 19. 58 | 20. 20 | 20. 43 | 21. 5 | 21. 27 |
| 32 | 52 | 14 | 36 | 59 | 21 | 44 | 6 | 28 |
| 34 | 53 | 15 | 37 | 20. 0 | 22 | 45 | 7 | 29 |
| 36 | 53 | 15 | 37 | 0 | 22 | 45 | 8 | 30 |
| 38 | 54 | 16 | 38 | 1 | 23 | 46 | 9 | 31 |
| 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | 56 | 18 | 40 | 3 | 25 | 48 | 11 | 33 |
| 44 | 57 | 19 | 41 | 4 | 26 | 49 | 12 | 34 |
| 46 | 57 | 20 | 42 | 5 | 27 | 50 | 12 | 34 |
| 48 | 58 | 21 | 43 | 6 | 28 | 51 | 13 | 35 |
| 50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 52 | [illegible] | 23 | 45 | 8 | 30 | 53 | 15 | 37 |
| 54 | [illegible] | 24 | 46 | 9 | 31 | 54 | 16 | 38 |
| 56 | [illegible] | 24 | 46 | 9 | 31 | 54 | 17 | 39 |
| 58 | [illegible] | 25 | 47 | 10 | 32 | 55 | 18 | 40 |

### ☽'s App. Altitude 40 Degrees.

Horizontal Parallax.

| ′ | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 19. 3 | 19. 26 | 19. 49 | 20. 11 | 20. 33 | 20. 56 | [illegible] | [illegible] |
| 2 | 4 | 27 | 49 | 12 | 34 | 57 | 20 | 42 |
| 4 | 5 | 28 | 50 | 13 | 35 | 58 | 21 | 43 |
| 6 | 5 | 28 | 50 | 13 | 36 | 59 | 22 | 44 |
| 8 | 6 | 29 | 51 | 14 | 37 | 21. 0 | 23 | 45 |
| 10 | 19. 7 | 19. 30 | 19. 52 | 20. 15 | 20. 38 | 21. 1 | [illegible] | [illegible] |
| 12 | 8 | 31 | 53 | 16 | 39 | 2 | 25 | 47 |
| 14 | 9 | 32 | 54 | 17 | 40 | 3 | 26 | 48 |
| 16 | 9 | 32 | 55 | 18 | 40 | 3 | 26 | 48 |
| 18 | 10 | 33 | 56 | 18 | 41 | 4 | 27 | [illegible] |
| 20 | 19. 11 | 19. 34 | 19. 57 | 20. 20 | 20. 42 | 21. 5 | 21. 28 | 21. 50 |
| 22 | 12 | 35 | 58 | 21 | 43 | 6 | 29 | 51 |
| 24 | 13 | 36 | 59 | 22 | 44 | 7 | 30 | 52 |
| 26 | 14 | 37 | 59 | 22 | 45 | 8 | 31 | 53 |
| 28 | 15 | 38 | 20. 0 | 23 | 46 | 9 | 32 | 54 |
| 30 | 19. 16 | 19. 39 | [illegible] | 20. 24 | [illegible] | [illegible] | [illegible] | [illegible] |
| 32 | 17 | 40 | 2 | 25 | 48 | 11 | 34 | 56 |
| 34 | 18 | 41 | 3 | 26 | 49 | 12 | 35 | 57 |
| 36 | 18 | 41 | 3 | 26 | 49 | 12 | 35 | 58 |
| 38 | 19 | 42 | 4 | 27 | 50 | 13 | 37 | 59 |
| 40 | 19. 20 | 19. 43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | 21 | 44 | 6 | 29 | 52 | 15 | 38 | 1 |
| 44 | 22 | 45 | 7 | 30 | 53 | 16 | 39 | 2 |
| 46 | 22 | 45 | 8 | 31 | 54 | 17 | 40 | 2 |
| 48 | 23 | 46 | 9 | 32 | 55 | 18 | 41 | 3 |
| 50 | 19. 24 | 19. 47 | 20. 10 | 20. 33 | 20. 56 | 21. 19 | 21. 42 | 22. 4 |
| 52 | 25 | 48 | 11 | 34 | 57 | 20 | 43 | 5 |
| 54 | 26 | 49 | 12 | 35 | 58 | 21 | 44 | 6 |
| 56 | 26 | 49 | 12 | 35 | 58 | 21 | 44 | 7 |
| 58 | 27 | 50 | 13 | 36 | 59 | 22 | 45 | 8 |

### ☽'s App. Altitude 41 Degrees.

| ′ | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 19. 28 | 19. 51 | 20. 14 | 20. 37 | 21. 0 | 21. 23 | 21. 46 | 22. 9 |
| 2 | [illegible] | 52 | 15 | 38 | 1 | 24 | [illegible] | 1 |
| 4 | 30 | 53 | 16 | 39 | 2 | 25 | 48 | 11 |
| 6 | 30 | 53 | 16 | 39 | 3 | 25 | 49 | 12 |
| 8 | 31 | 54 | 17 | 40 | 3 | 26 | 50 | 13 |
| 10 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 12 | 33 | 56 | 19 | 42 | 5 | 28 | 52 | 15 |
| 14 | 34 | 57 | 20 | 43 | 6 | 29 | 53 | 16 |
| 16 | 34 | 57 | 20 | 43 | 7 | 30 | 53 | 16 |
| 18 | 35 | 58 | 21 | 44 | 8 | 31 | 54 | 17 |
| 20 | 19. 36 | 19. 59 | 20. 22 | 20. 45 | 21. 9 | 21. 32 | 21. 55 | 22. 18 |
| 22 | 37 | 20. 0 | 23 | 46 | 10 | 33 | 56 | 19 |
| 24 | 38 | 1 | 24 | 47 | 11 | 34 | 57 | 20 |
| 26 | 38 | 1 | 25 | 48 | 11 | 34 | 58 | 21 |
| 28 | 39 | 2 | 26 | 49 | 12 | 35 | 59 | 22 |
| 30 | 19. 40 | 20. 3 | 20. 27 | 20. 50 | 21. 13 | 21. 36 | 22. 0 | 22. 23 |
| 32 | 41 | 4 | 28 | 51 | 14 | 37 | 1 | 24 |
| 34 | 42 | 5 | 29 | 52 | 15 | 38 | 2 | 25 |
| 36 | 42 | 5 | 29 | 52 | 15 | 38 | 2 | 25 |
| 38 | 43 | 6 | 30 | 53 | 16 | 39 | 3 | 26 |
| 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | 45 | 8 | 32 | 55 | 18 | 41 | 5 | 28 |
| 44 | 46 | 9 | 33 | 56 | 19 | 42 | 6 | 29 |
| 46 | 46 | 9 | 33 | 56 | 20 | 43 | 7 | 29 |
| 48 | 47 | 10 | 34 | 57 | 21 | 44 | 8 | 30 |
| 50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 52 | 49 | 12 | 36 | 59 | 23 | 46 | 10 | 32 |
| 54 | 50 | 13 | 37 | 21. 0 | 24 | 47 | 11 | 33 |
| 56 | 50 | 13 | 37 | 0 | 24 | 47 | 11 | 34 |
| 58 | 51 | 14 | 38 | 1 | 25 | 48 | 12 | 35 |

Proport. for Seconds of Parallax additive.

| ″ | ″ |
|---|---|
| 1 | 0 |
| 2 | 1 |
| 3 | 1 |
| 4 | 1 |
| 5 | 2 |
| 6 | 2 |
| 7 | 3 |
| 8 | 3 |
| 9 | 3 |
| 10 | 4 |
| 11 | 4 |
| 12 | 4 |
| 13 | 5 |
| 14 | 5 |
| 15 | 6 |
| 16 | 6 |
| 17 | 6 |
| 18 | 7 |
| 19 | 7 |
| 20 | 7 |
| 21 | 8 |
| 22 | 8 |
| 23 | 9 |
| 24 | 9 |
| 25 | 9 |
| 26 | 10 |
| 27 | 10 |
| 28 | 10 |
| 29 | 11 |
| 30 | 11 |
| 31 | 12 |
| 32 | 12 |
| 33 | 12 |
| 34 | 13 |
| 35 | 13 |
| 36 | 13 |
| 37 | 14 |
| 38 | 14 |
| 39 | 14 |
| 40 | 15 |
| 41 | 15 |
| 42 | 15 |
| 43 | 16 |
| 44 | 16 |
| 45 | 17 |
| 46 | 17 |
| 47 | 17 |
| 48 | 18 |
| 49 | 18 |
| 50 | 18 |
| 51 | 19 |
| 52 | 19 |
| 53 | 19 |
| 54 | 20 |
| 55 | 20 |
| 56 | 21 |
| 57 | 21 |
| 58 | 22 |

Parallax additive

| ″ | ″ |
|---|---|
| 1 | 0 |
| 2 | 1 |
| 3 | 1 |
| 4 | 1 |
| 5 | 2 |
| 6 | 2 |
| 7 | 3 |
| 8 | 3 |
| 9 | 3 |
| 10 | 4 |
| 11 | 4 |
| 12 | 5 |
| 13 | 5 |
| 14 | 5 |
| 15 | 6 |
| 16 | 6 |
| 17 | 6 |
| 18 | 7 |
| 19 | 7 |
| 20 | 8 |
| 21 | 8 |
| 22 | 8 |
| 23 | 9 |
| 24 | 9 |
| 25 | 10 |
| 26 | 10 |
| 27 | 10 |
| 28 | 11 |
| 29 | 11 |
| 30 | 11 |
| 31 | 12 |
| 32 | 12 |
| 33 | 13 |
| 34 | 13 |
| 35 | 13 |
| 36 | 14 |
| 37 | 14 |
| 38 | 15 |
| 39 | 15 |
| 40 | 15 |
| 41 | 16 |
| 42 | 16 |
| 43 | 16 |
| 44 | 17 |
| 45 | 17 |
| 46 | 18 |
| 47 | 18 |
| 48 | 18 |
| 49 | 19 |
| 50 | 19 |
| 51 | 20 |
| 52 | 20 |
| 53 | 21 |
| 54 | 21 |
| 55 | 21 |
| 56 | 22 |
| 57 | 22 |
| 58 | 23 |

☽'s App. Altitude 42 Degrees.

| ′ | Horizontal Parallax. 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ |
| 0 | 38. 4 | 39. 1 | 39. 58 | 40. 54 | 41. 47 | 42. 38 | 43. 32 | 44. 17 |
| 2 | 4 | 48 | 33 | 17 | 2 | 46 | 31 | 16 |
| 4 | 3 | 47 | 32 | 16 | 1 | 45 | 29 | 14 |
| 6 | 1 | 45 | 30 | 14 | 41. 59 | 43 | 28 | 13 |
| 8 | 0 | 44 | 29 | 13 | 58 | 42 | 26 | 11 |
| 10 | 38. 59 | 39. 42 | 40. 28 | 41. 12 | 41. 57 | 42. 41 | 43. 25 | 44. 10 |
| 12 | 58 | 42 | 27 | 11 | 56 | 40 | 24 | 9 |
| 14 | 57 | 41 | 25 | 10 | 54 | 38 | 23 | 7 |
| 16 | 55 | 39 | 24 | 8 | 53 | 37 | 21 | 5 |
| 18 | 54 | 38 | 22 | 7 | 51 | 35 | 20 | 4 |
| 20 | 38. 53 | 39. 37 | 40. 21 | 41. 6 | 41. 50 | 42. 34 | 43. 19 | 44. 3 |
| 22 | 52 | 36 | 20 | 5 | 49 | 33 | 18 | 2 |
| 24 | 51 | 35 | 19 | 3 | 48 | 32 | 16 | 0 |
| 26 | 49 | 33 | 17 | 2 | 46 | 30 | 15 | 43. 59 |
| 28 | 48 | 32 | 16 | 0 | 45 | 29 | 13 | 57 |
| 30 | 38. 47 | 39. 31 | 40. 15 | 40. 59 | 41. 44 | 42. 28 | 43. 12 | 43. 56 |
| 32 | 46 | 30 | 14 | 58 | 43 | 27 | 11 | 55 |
| 34 | 45 | 29 | 13 | 57 | 41 | 25 | 9 | 53 |
| 36 | 43 | 27 | 11 | 55 | 40 | 24 | 8 | 52 |
| 38 | 42 | 26 | 10 | 54 | 38 | 22 | 6 | 50 |
| 40 | 38. 41 | 39. 25 | 40. 9 | 40. 53 | 41. 37 | 42. 21 | 43. 5 | 43. 49 |
| 42 | 40 | 24 | 8 | 52 | 36 | 20 | 4 | 48 |
| 44 | 39 | 23 | 7 | 51 | 35 | 19 | 3 | 47 |
| 46 | 37 | 21 | 5 | 49 | 33 | 17 | 1 | 45 |
| 48 | 36 | 20 | 4 | 48 | 32 | 16 | 0 | 44 |
| 50 | 38. 35 | 39. 19 | 40. 3 | 40. 47 | 41. 31 | 42. 15 | 42. 59 | 43. 43 |
| 52 | 34 | 18 | 2 | 46 | 30 | 14 | 58 | 42 |
| 54 | 33 | 16 | 0 | 44 | 28 | 12 | 56 | 40 |
| 56 | 31 | 15 | 39. 59 | 43 | 27 | 11 | 55 | 39 |
| 58 | 30 | 13 | 57 | 41 | 25 | 9 | 53 | 37 |

Pr. parts for Seconds

| Parallax additive | |
|---|---|
| ″ | ′ |
| 1 | 1 |
| 2 | 1 |
| 3 | 2 |
| 4 | 3 |
| 5 | 4 |
| 6 | 4 |
| 7 | 5 |
| 8 | 6 |
| 9 | 7 |
| 10 | 7 |
| 11 | 8 |
| 12 | 9 |
| 13 | 9 |
| 14 | 10 |
| 15 | 11 |
| 16 | 12 |
| 17 | 12 |
| 18 | 13 |
| 19 | 14 |
| 20 | 15 |
| 21 | 15 |
| 22 | 16 |
| 23 | 17 |
| 24 | 18 |
| 25 | 18 |
| 26 | 19 |
| 27 | 20 |
| 28 | 20 |
| 29 | 21 |
| 30 | 22 |
| 31 | 23 |
| 32 | 23 |
| 33 | 24 |
| 34 | 25 |
| 35 | 26 |
| 36 | 26 |
| 37 | 27 |
| 38 | 28 |
| 39 | 29 |
| 40 | 29 |
| 41 | 30 |
| 42 | 31 |
| 43 | 32 |
| 44 | 32 |
| 45 | 33 |
| 46 | 34 |
| 47 | 35 |
| 48 | 35 |
| 49 | 36 |
| 50 | 37 |
| 51 | 38 |
| 52 | 38 |
| 53 | 39 |
| 54 | 40 |
| 55 | 41 |
| 56 | 41 |
| 57 | 42 |
| 58 | 43 |
| 59 | 44 |

☽'s App. Altitude 43 Degrees.

| ′ | Horizontal Parallax. 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ |
| 0 | 38. 29 | 39. 12 | 39. 56 | 40. 42 | 41. 24 | 42. 8 | 42. 52 | 43. 36 |
| 2 | 28 | 11 | 55 | 39 | 23 | 7 | 51 | 35 |
| 4 | 26 | 10 | 54 | 38 | 22 | 5 | 49 | 33 |
| 6 | 25 | 8 | 52 | 36 | 20 | 4 | 48 | 32 |
| 8 | 23 | 7 | 51 | 35 | 19 | 2 | 46 | 30 |
| 10 | 38. 22 | 39. 6 | 39. 50 | 40. 34 | 41. 16 | 42. 1 | 42. 45 | 43. 29 |
| 12 | 21 | 5 | 49 | 33 | 17 | 0 | 44 | 28 |
| 14 | 20 | 4 | 47 | 31 | 15 | 40. 59 | 42 | 26 |
| 16 | 18 | 2 | 46 | 30 | 14 | 57 | 41 | 25 |
| 18 | 17 | 1 | 45 | 28 | 12 | 56 | 39 | 23 |
| 20 | 38. 16 | 39. 0 | 39. 44 | 40. 27 | 41. 11 | 41. 55 | 42. 38 | 43. 22 |
| 22 | 15 | 38. 59 | 43 | 26 | 9 | 54 | 37 | 21 |
| 24 | 14 | 58 | 41 | 25 | 8 | 52 | 35 | 19 |
| 26 | 12 | 56 | 40 | 23 | 7 | 51 | 34 | 18 |
| 28 | 11 | 55 | 38 | 22 | 5 | 49 | 32 | 16 |
| 30 | 38. 10 | 38. 54 | 39. 37 | 40. 21 | 41. 4 | 41. 48 | 42. 31 | 43. 15 |
| 32 | 8 | 52 | 36 | 20 | 3 | 47 | 30 | 14 |
| 34 | 7 | 51 | 34 | 18 | 2 | 45 | 28 | 12 |
| 36 | 6 | 50 | 33 | 17 | 0 | 44 | 27 | 11 |
| 38 | 5 | 48 | 32 | 15 | 40. 59 | 42 | 25 | 9 |
| 40 | 38. 4 | 38. 47 | 39. 31 | 40. 14 | 40. 58 | 41. 41 | 42. 24 | 43. 8 |
| 42 | 3 | 46 | 30 | 13 | 57 | 41 | 23 | 7 |
| 44 | 2 | 45 | 28 | 12 | 55 | 39 | 22 | 5 |
| 46 | 0 | 43 | 27 | 10 | 54 | 37 | 20 | 4 |
| 48 | 37. 59 | 42 | 25 | 9 | 52 | 36 | 19 | 2 |
| 50 | 37. 58 | 38. 41 | 39. 24 | 40. 8 | 40. 51 | 41. 34 | 42. 18 | 43. 1 |
| 52 | 57 | 40 | 23 | 7 | 50 | 33 | 17 | 0 |
| 54 | 56 | 39 | 21 | 5 | 48 | 32 | 15 | 42. 58 |
| 56 | 54 | 37 | 20 | 4 | 47 | 30 | 14 | 57 |
| 58 | 53 | 36 | 18 | 2 | 45 | 29 | 12 | 55 |

☽'s App. Altitude 44 Degrees.

| ′ | Horizontal Parallax. 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ |
| 0 | 37. 53 | 38. 36 | 39. 18 | 40. 1 | 40. 44 | 41. 27 | 42. 11 | 42. 54 |
| 2 | 51 | 34 | 17 | 0 | 43 | 27 | 10 | 53 |
| 4 | 50 | 33 | 16 | 39. 59 | 42 | 25 | 8 | 51 |
| 6 | 48 | 31 | 14 | 57 | 40 | 24 | 7 | 50 |
| 8 | 47 | 30 | 13 | 56 | 39 | 22 | 5 | 48 |
| 10 | 37. 46 | 38. 29 | 39. 12 | 39. 55 | 40. 38 | 41. 21 | 42. 4 | 42. 47 |
| 12 | 45 | 28 | 11 | 54 | 37 | 20 | 3 | 46 |
| 14 | 43 | 26 | 9 | 52 | 35 | 18 | 1 | 44 |
| 16 | 42 | 25 | 8 | 51 | 34 | 17 | 0 | 43 |
| 18 | 41 | 23 | 6 | 49 | 32 | 15 | 41. 58 | 41. 41 |
| 20 | 37. 39 | 38. 22 | 39. 5 | 39. 48 | 40. 31 | 41. 14 | 41. 57 | 42. 40 |
| 22 | 38 | 21 | 4 | 47 | 30 | 13 | 56 | 39 |
| 24 | 37 | 20 | 3 | 45 | 28 | 11 | 54 | 37 |
| 26 | 35 | 18 | 1 | 44 | 27 | 10 | 53 | 36 |
| 28 | 34 | 17 | 0 | 42 | 25 | 8 | 51 | 34 |
| 30 | 37. 33 | 38. 16 | 38. 59 | 39. 41 | 40. 24 | 41. 7 | 41. 50 | 42. 33 |
| 32 | 32 | 15 | 58 | 40 | 23 | 6 | 49 | 31 |
| 34 | 31 | 13 | 56 | 39 | 21 | 4 | 47 | 30 |
| 36 | 29 | 12 | 55 | 37 | 20 | 3 | 46 | 28 |
| 38 | 28 | 10 | 53 | 36 | 18 | 1 | 44 | 27 |
| 40 | 37. 27 | 38. 9 | 38. 53 | 39. 35 | 40. 17 | 41. 0 | 41. 43 | 42. 25 |
| 42 | 26 | 8 | 51 | 34 | 16 | 59 | 42 | 24 |
| 44 | 24 | 7 | 50 | 32 | 15 | 57 | 40 | 22 |
| 46 | 23 | 5 | 48 | 31 | 13 | 56 | 39 | 21 |
| 48 | 21 | 4 | 47 | 29 | 12 | 54 | 37 | 19 |
| 50 | 37. 20 | 38. 3 | 38. 46 | 39. 28 | 40. 11 | 40. 54 | 41. 36 | 42. 18 |
| 52 | 19 | 2 | 45 | 27 | 10 | 52 | 35 | 17 |
| 54 | 18 | 1 | 43 | 25 | 8 | 50 | 33 | 15 |
| 56 | 16 | 37. 59 | 42 | 24 | 7 | 49 | 32 | 14 |
| 58 | 15 | 58 | 40 | 22 | 5 | 47 | 30 | 12 |

☽'s App. Altitude 45 Degrees.

| ′ | Horizontal Parallax. 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ |
| 0 | 37. 14 | 37. 57 | 38. 39 | 39. 21 | 40. 4 | 40. 46 | 41. 29 | 42. 11 |
| 2 | 13 | 56 | 38 | 20 | 3 | 45 | 28 | 10 |
| 4 | 12 | 54 | 36 | 19 | 1 | 43 | 26 | 8 |
| 6 | 10 | 53 | 35 | 17 | 0 | 42 | 25 | 7 |
| 8 | 9 | 51 | 33 | 16 | 39. 58 | 40 | 23 | 5 |
| 10 | 37. 8 | 37. 50 | 38. 32 | 39. 15 | 39. 57 | 40. 39 | 41. 22 | 42. 4 |
| 12 | 7 | 49 | 31 | 14 | 56 | 38 | 20 | 3 |
| 14 | 5 | 47 | 30 | 12 | 54 | 36 | 19 | 1 |
| 16 | 4 | 46 | 28 | 11 | 53 | 35 | 17 | 0 |
| 18 | 2 | 44 | 27 | 9 | 51 | 33 | 16 | 41. 58 |
| 20 | 37. 1 | 37. 43 | 38. 26 | 39. 8 | 39. 50 | 40. 32 | 41. 14 | 41. 57 |
| 22 | 0 | 42 | 25 | 7 | 49 | 31 | 13 | 55 |
| 24 | 36. 59 | 41 | 23 | 5 | 47 | 29 | 11 | 54 |
| 26 | 57 | 39 | 22 | 4 | 46 | 28 | 10 | 52 |
| 28 | 56 | 38 | 20 | 2 | 44 | 26 | 8 | 51 |
| 30 | 36. 55 | 37. 37 | 38. 19 | 39. 1 | 39. 43 | 40. 25 | 41. 7 | 41. 49 |
| 32 | 54 | 36 | 18 | 0 | 42 | 24 | 6 | 48 |
| 34 | 53 | 35 | 16 | 38. 58 | 41 | 22 | 4 | 46 |
| 36 | 51 | 33 | 15 | 57 | 39 | 21 | 3 | 45 |
| 38 | 50 | 32 | 13 | 55 | 37 | 19 | 1 | 43 |
| 40 | 36. 49 | 37. 31 | 38. 12 | 38. 54 | 39. 36 | 40. 18 | 41. 0 | 41. 42 |
| 42 | 47 | 30 | 11 | 53 | 35 | 17 | 40. 59 | 41 |
| 44 | 46 | 28 | 10 | 52 | 33 | 15 | 57 | 39 |
| 46 | 45 | 27 | 8 | 50 | 32 | 14 | 55 | 38 |
| 48 | 43 | 25 | 7 | 49 | 30 | 12 | 54 | 36 |
| 50 | 36. 42 | 37. 24 | 38. 6 | 38. 48 | 39. 29 | 40. 11 | 40. 53 | 41. 35 |
| 52 | 41 | 23 | 5 | 47 | 28 | 10 | 51 | 33 |
| 54 | 40 | 21 | 3 | 45 | 26 | 8 | 50 | 32 |
| 56 | 38 | 20 | 2 | 44 | 25 | 7 | 49 | 30 |
| 58 | 37 | 18 | 0 | 42 | 23 | 5 | 47 | 29 |

Pr. parts for Seconds

| Parallax additive | |
|---|---|
| ″ | ′ |
| 1 | 1 |
| 2 | 1 |
| 3 | 2 |
| 4 | 3 |
| 5 | 4 |
| 6 | 4 |
| 7 | 5 |
| 8 | 6 |
| 9 | 6 |
| 10 | 7 |
| 11 | 8 |
| 12 | 8 |
| 13 | 9 |
| 14 | 10 |
| 15 | 11 |
| 16 | 11 |
| 17 | 12 |
| 18 | 13 |
| 19 | 13 |
| 20 | 14 |
| 21 | 15 |
| 22 | 15 |
| 23 | 16 |
| 24 | 17 |
| 25 | 18 |
| 26 | 18 |
| 27 | 19 |
| 28 | 20 |
| 29 | 20 |
| 30 | 21 |
| 31 | 22 |
| 32 | 23 |
| 33 | 23 |
| 34 | 24 |
| 35 | 25 |
| 36 | 25 |
| 37 | 26 |
| 38 | 27 |
| 39 | 28 |
| 40 | 28 |
| 41 | 29 |
| 42 | 30 |
| 43 | 30 |
| 44 | 31 |
| 45 | 32 |
| 46 | 33 |
| 47 | 33 |
| 48 | 34 |
| 49 | 35 |
| 50 | 35 |
| 51 | 36 |
| 52 | 37 |
| 53 | 38 |
| 54 | 38 |
| 55 | 39 |
| 56 | 40 |
| 57 | 40 |
| 58 | 41 |
| 59 | 42 |

Correct. for Sun's and Star's Altit. *addit.* ⊙ ☾

## ☽'s App. Altitude 42 Degrees.

Horizontal Parallax

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 19. 54 | 20. 18 | 20. 42 | 21. 6 | 21. 30 | 21. 54 | 22. 18 | 22. 42 |
| 2 | 56 | 20 | 44 | 7 | 31 | 54 | 18 | 42 |
| 4 | 58 | 21 | 45 | 8 | 32 | 55 | 19 | 43 |
| 6 | 58 | 21 | 45 | 8 | 32 | 56 | 20 | 43 |
| 8 | 59 | 22 | 46 | 9 | 33 | 57 | 21 | 44 |
| 10 | 20. 0 | 20. 23 | 20. 47 | 21. 10 | 21. 34 | 21. 58 | 22. 22 | 22. 45 |
| 12 | 1 | 24 | 48 | 11 | 35 | 59 | 23 | 46 |
| 14 | 2 | 25 | 49 | 12 | 36 | 22. 0 | 24 | 47 |
| 16 | 2 | 25 | 49 | 13 | 37 | 0 | 24 | 48 |
| 18 | 3 | 26 | 50 | 14 | 38 | 1 | 25 | 49 |
| 20 | 20. 4 | 20. 27 | 20. 51 | 21. 15 | 21. 39 | 22. 2 | 22. 26 | 22. 50 |
| 22 | 5 | 28 | 52 | 16 | 40 | 3 | 27 | 51 |
| 24 | 6 | 29 | 53 | 17 | 41 | 4 | 28 | 52 |
| 26 | 6 | 29 | 53 | 17 | 41 | 4 | 28 | 52 |
| 28 | 7 | 30 | 54 | 18 | 42 | 5 | 29 | 53 |
| 30 | 20. 8 | 20. 31 | 20. 55 | 21. 19 | 21. 43 | 22. 6 | 22. 30 | 22. 54 |
| 32 | 9 | 32 | 56 | 20 | 44 | 7 | 31 | 55 |
| 34 | 10 | 33 | 57 | 21 | 45 | 8 | 32 | 56 |
| 36 | 10 | 33 | 57 | 21 | 45 | 9 | 33 | 57 |
| 38 | 11 | 34 | 58 | 22 | 46 | 10 | 34 | 58 |
| 40 | 20. 12 | 20. 35 | 20. 59 | 21. 23 | 21. 47 | 22. 11 | 22. 35 | 22. 59 |
| 42 | 13 | 36 | 21. 0 | 24 | 48 | 12 | 36 | 23. 0 |
| 44 | 14 | 37 | 1 | 25 | 49 | 13 | 37 | 1 |
| 46 | 14 | 37 | 1 | 25 | 49 | 13 | 37 | 1 |
| 48 | 15 | 38 | 2 | 26 | 50 | 14 | 38 | 2 |

| Correct. for Sun's and Star's Altit. *addit.* | Pr. parts of Parallax additive |
|---|---|
| ″ ″ | |
| 1– 0 | 1– 0 |
| 2– 1 | 2– 1 |
| 3– 1 | 3– 1 |
| 4– 2 | 4– 2 |
| 5– 2 | 5– 2 |
| 6– 2 | 6– 2 |
| 7– 3 | 7– 3 |
| 8– 3 | 8– 3 |
| 9– 4 | 9– 4 |
| 10– 4 | 10– 4 |
| 11– 4 | 11– 5 |
| 12– 5 | 12– 5 |
| 13– 5 | 13– 5 |
| 14– 6 | 14– 6 |
| 15– 6 | 15– 6 |
| 16– 6 | 16– 7 |
| 17– 7 | 17– 7 |
| 18– 7 | 18– 7 |
| 19– 8 | 19– 8 |
| 20– 8 | 20– 8 |
| 21– 8 | 21– 9 |
| 22– 9 | 22– 9 |
| 23– 9 | 23–10 |
| 24–10 | 24–10 |
| 25–10 | 25–10 |
| 26–10 | 26–11 |
| 27–11 | 27–11 |
| 28–11 | 28–12 |
| 29–12 | 29–12 |
| 30–12 | 30–13 |
| 31–12 | 31–13 |
| 32–13 | 32–13 |
| 33–13 | 33–14 |
| 34–14 | 34–14 |
| 35–14 | 35–15 |
| 36–14 | 36–15 |
| 37–15 | 37–15 |
| 38–15 | 38–16 |
| 39–16 | 39–16 |
| 40–16 | 40–17 |
| 41–16 | 41–17 |
| 42–17 | 42–18 |
| 43–17 | 43–18 |
| 44–18 | 44–18 |
| 45–18 | 45–19 |
| 46–18 | 46–19 |
| 47–19 | 47–20 |
| 48–19 | 48–20 |
| 49–20 | 49–20 |
| 50–20 | 50–21 |
| 51–20 | 51–21 |
| 52–21 | 52–22 |
| 53–21 | 53–22 |
| 54–22 | 54–23 |
| 55–22 | 55–23 |
| 56–22 | 56–23 |
| 57–23 | 57–24 |
| 58–23 | 58–24 |
| 59–24 | 59–25 |

## ☽'s App. Altitude 43 Degrees.

Horizontal Parallax

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 20. 16 | 20. 39 | 21. 3 | 21. 27 | 21. 51 | 22. 15 | 22. 39 | 23. 3 |
| 2 | 17 | 40 | 4 | 28 | 52 | 16 | 40 | 4 |
| 4 | 18 | 41 | 5 | 29 | 53 | 17 | 41 | 5 |
| 6 | 18 | 41 | 5 | 29 | 53 | 17 | 41 | 5 |
| 8 | 19 | 42 | 6 | 30 | 54 | 18 | 42 | 6 |
| 10 | 20. 20 | 20. 43 | 21. 7 | 21. 31 | 21. 55 | 22. 19 | 22. 43 | 23. 7 |
| 12 | 21 | 44 | 8 | 32 | 56 | 20 | 44 | 8 |
| 14 | 22 | 45 | 9 | 33 | 57 | 21 | 45 | 9 |
| 16 | 22 | 45 | 9 | 33 | 57 | 21 | 46 | 10 |
| 18 | 23 | 46 | 10 | 34 | 58 | 22 | 47 | 11 |
| 20 | 20. 24 | 20. 47 | 21. 11 | 21. 35 | 21. 59 | 22. 23 | 22. 47 | 23. 11 |
| 22 | 25 | 48 | 12 | 36 | 22. 0 | 24 | 49 | 13 |
| 24 | 26 | 49 | 13 | 37 | 1 | 25 | 50 | 14 |
| 26 | 26 | 49 | 13 | 38 | 2 | 26 | 50 | 14 |
| 28 | 27 | 50 | 14 | 39 | 3 | 27 | 51 | 15 |
| 30 | 20. 28 | 20. 51 | 21. 15 | 21. 40 | 22. 4 | 22. 28 | 22. 52 | 23. 16 |
| 32 | 29 | 52 | 16 | 41 | 5 | 29 | 53 | 17 |
| 34 | 30 | 53 | 17 | 42 | 6 | 30 | 54 | 18 |
| 36 | 30 | 53 | 17 | 42 | 6 | 30 | 54 | 18 |
| 38 | 31 | 54 | 18 | 43 | 7 | 31 | 55 | 19 |
| 40 | 20. 32 | 20. 55 | 21. 19 | 21. 44 | 22. 8 | 22. 32 | 22. 56 | 23. 20 |
| 42 | 33 | 56 | 20 | 45 | 9 | 33 | 57 | 21 |
| 44 | 34 | 57 | 21 | 46 | 10 | 34 | 58 | 22 |
| 46 | 34 | 57 | 21 | 46 | 10 | 34 | 59 | 23 |
| 48 | 35 | 58 | 22 | 47 | 11 | 35 | 23. 0 | 24 |
| 50 | 20. 36 | 20. 59 | 21. 23 | 21. 47 | 22. 12 | 22. 36 | 23. 1 | 23. 25 |
| 52 | 36 | 21. 0 | 24 | 48 | 12 | 36 | 23. 0 | 25 |
| 54 | 37 | 1 | 25 | 50 | 14 | 38 | 3 | 27 |
| 56 | 37 | 1 | 25 | 50 | 14 | 38 | 3 | 27 |
| 58 | 38 | 2 | 26 | 51 | 15 | 39 | 4 | 28 |

## ☽'s App. Altitude 44 Degrees.

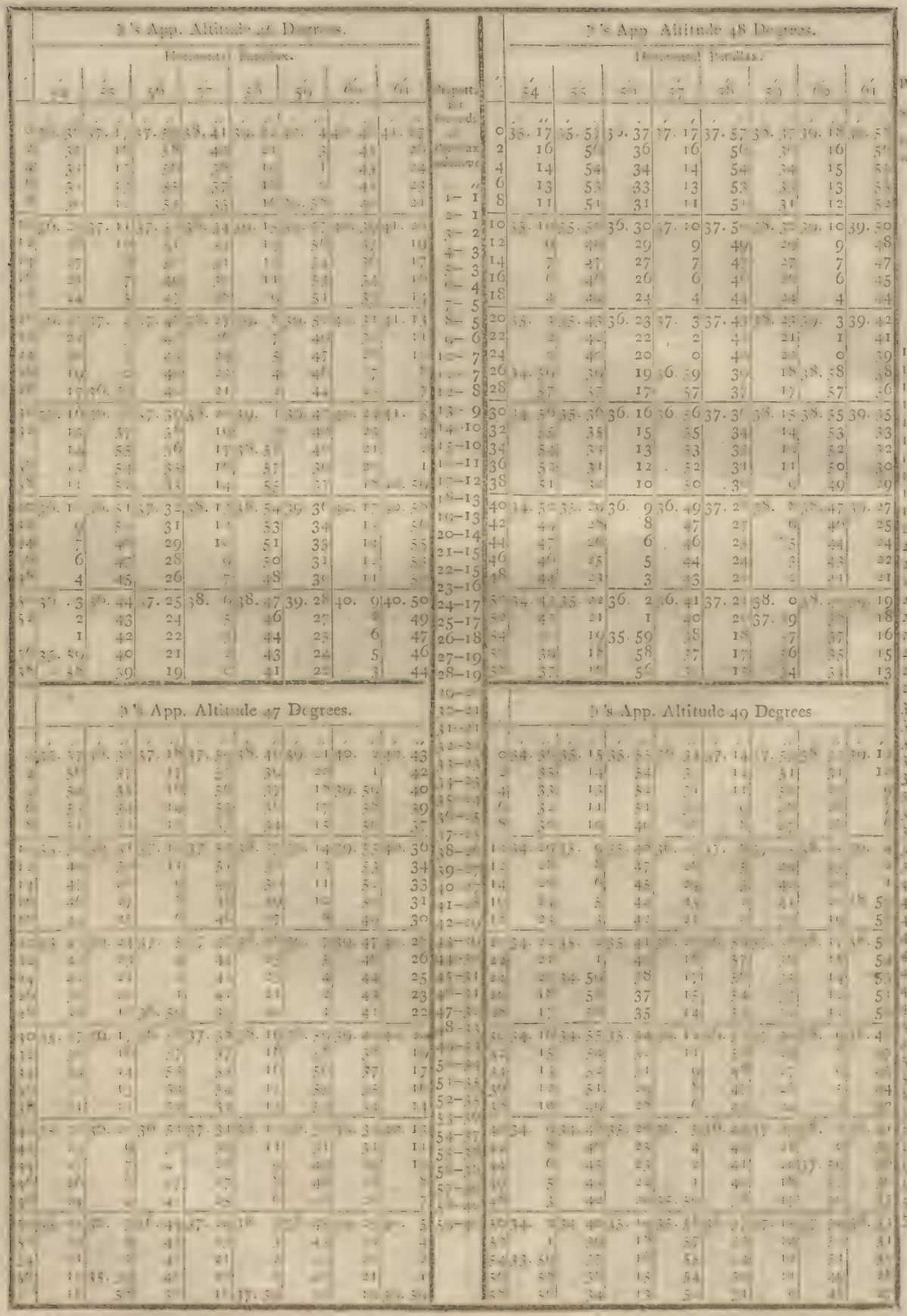
Horizontal Parallax

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 20. 39 | 21. 3 | 21. 27 | 21. 52 | 22. 16 | 22. 40 | 23. 5 | 23. 29 |
| 2 | 40 | 4 | 28 | 53 | 17 | 41 | 6 | 30 |
| 4 | 41 | 5 | 29 | 54 | 18 | 42 | 7 | 31 |
| 6 | 41 | 5 | 29 | 54 | 18 | 42 | 7 | 31 |
| 8 | 42 | 6 | 30 | 55 | 19 | 43 | 8 | 32 |
| 10 | 20. 43 | 21. 7 | 21. 31 | 21. 56 | 22. 20 | 22. 44 | 23. 9 | 23. 33 |
| 12 | 44 | 8 | 32 | 57 | 21 | 45 | 10 | 34 |
| 14 | 45 | 9 | 33 | 58 | 22 | 46 | 11 | 35 |
| 16 | 45 | 9 | 33 | 58 | 22 | 46 | 11 | 36 |
| 18 | 46 | 10 | 34 | 59 | 23 | 47 | 12 | 37 |
| 20 | 20. 47 | 21. 11 | 21. 35 | 22. 0 | 22. 24 | 22. 48 | 23. 13 | 23. 38 |
| 22 | 48 | 12 | 36 | 1 | 25 | 49 | 14 | 39 |
| 24 | 49 | 13 | 37 | 2 | 26 | 50 | 15 | 40 |
| 26 | 49 | 13 | 37 | 2 | 27 | 51 | 16 | 40 |
| 28 | 50 | 14 | 38 | 3 | 28 | 52 | 17 | 41 |
| 30 | 20. 51 | 21. 15 | 21. 39 | 22. 4 | 22. 29 | 22. 53 | 23. 18 | 23. 43 |
| 32 | 52 | 16 | 40 | 5 | 30 | 54 | 19 | 43 |
| 34 | 52 | 17 | 41 | 6 | 31 | 55 | 20 | 44 |
| 36 | 53 | 17 | 41 | 6 | 31 | 55 | 20 | 44 |
| 38 | 53 | 18 | 42 | 7 | 32 | 56 | 21 | 45 |
| 40 | 20. 54 | 21. 18 | 21. 43 | 22. 8 | 22. 33 | 22. 57 | 23. 22 | 23. 47 |
| 42 | 55 | 20 | 44 | 9 | 34 | 58 | 23 | 47 |
| 44 | 56 | 21 | 45 | 10 | 35 | 59 | 24 | 48 |
| 46 | 56 | 21 | 45 | 10 | 35 | 59 | 24 | 49 |
| 48 | 57 | 22 | 46 | 11 | 36 | 23. 0 | 25 | 50 |
| 50 | 20. 58 | 21. 23 | 21. 47 | 22. 12 | 22. 37 | 23. 1 | 23. 26 | 23. 51 |
| 52 | 59 | 24 | 48 | 13 | 38 | 2 | 27 | 52 |
| 54 | 21. 0 | 25 | 49 | 14 | 39 | 3 | 28 | 53 |
| 56 | 0 | 25 | 49 | 14 | 39 | 3 | 28 | 53 |
| 58 | 1 | 26 | 50 | 15 | 40 | 4 | 29 | 54 |

## ☽'s App. Altitude 45 Degrees.

Horizontal Parallax

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 21. 2 | 21. 27 | 21. 51 | 22. 16 | 22. 41 | 23. 5 | 23. 30 | 23. 55 |
| 2 | 3 | 28 | 52 | 17 | 42 | 6 | 31 | 56 |
| 4 | 4 | 29 | 53 | 18 | 43 | 7 | 32 | 57 |
| 6 | 4 | 29 | 53 | 18 | 43 | 7 | 32 | 57 |
| 8 | 5 | 30 | 54 | 19 | 44 | 8 | 33 | 58 |
| 10 | 21. 6 | 21. 31 | 21. 55 | 22. 20 | 22. 45 | 23. 9 | 23. 34 | 23. 59 |
| 12 | 7 | 32 | 56 | 21 | 46 | 10 | 35 | 24. 0 |
| 14 | 7 | 33 | 57 | 22 | 47 | 11 | 36 | 1 |
| 16 | 8 | 33 | 57 | 22 | 47 | 11 | 36 | 1 |
| 18 | 8 | 34 | 58 | 23 | 48 | 12 | 37 | 2 |
| 20 | 21. 9 | 21. 35 | 22. 0 | 22. 25 | 22. 49 | 23. 14 | 23. 39 | 24. 4 |
| 22 | 10 | 36 | 22. 0 | 25 | 50 | 14 | 39 | 4 |
| 24 | 11 | 37 | 1 | 26 | 51 | 15 | 40 | 5 |
| 26 | 11 | 37 | 1 | 26 | 51 | 16 | 41 | 6 |
| 28 | 12 | 38 | 2 | 27 | 52 | 17 | 42 | 7 |
| 30 | 21. 13 | 21. 39 | 22. 3 | 22. 28 | 22. 53 | 23. 18 | 23. 43 | 24. 8 |
| 32 | 14 | 40 | 4 | 29 | 54 | 19 | 44 | 9 |
| 34 | 15 | 41 | 5 | 30 | 55 | 20 | 45 | 10 |
| 36 | 15 | 41 | 5 | 30 | 55 | 20 | 45 | 10 |
| 38 | 16 | 42 | 6 | 31 | 56 | 21 | 46 | 11 |
| 40 | 21. 17 | 21. 43 | 22. 7 | 22. 32 | 22. 57 | 23. 22 | 23. 47 | 24. 12 |
| 42 | 18 | 43 | 8 | 33 | 58 | 23 | 48 | 13 |
| 44 | 18 | 44 | 9 | 34 | 59 | 24 | 49 | 14 |
| 46 | 19 | 44 | 9 | 34 | 59 | 24 | 49 | 14 |
| 48 | 19 | 45 | 10 | 35 | 23. 0 | 25 | 50 | 15 |
| 50 | 21. 20 | 21. 46 | 22. 11 | 22. 36 | 23. 1 | 23. 26 | 23. 51 | 24. 16 |
| 52 | 21 | 47 | 12 | 37 | 2 | 27 | 52 | 17 |
| 54 | 22 | 48 | 13 | 38 | 3 | 28 | 53 | 18 |
| 56 | 22 | 48 | 13 | 38 | 3 | 28 | 53 | 18 |
| 58 | 23 | 49 | 14 | 39 | 4 | 29 | 54 | 19 |



### ☽'s App. Altitude 46 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prom. 1′ |
|---|---|---|---|---|---|---|---|---|---|
| | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 0 | 21. 24 | 21. 54 | 22. 15 | 22. 46 | 23. 5 | 23. 36 | 23. 55 | 24. 20 | 0 |
| 2 | 28 | 58 | 19 | 50 | 9 | 40 | 59 | 24 | 1 |
| 4 | 32 | 2 | 23 | 54 | 13 | 44 | 3 | 28 | 2 |
| 6 | 36 | 6 | 27 | 58 | 17 | 48 | 7 | 32 | 3 |
| 8 | 40 | 10 | 31 | 2 | 21 | 52 | 11 | 36 | 4 |
| 10 | 21. 44 | 22. 14 | 22. 35 | 23. 6 | 23. 25 | 23. 56 | 24. 15 | 24. 40 | 5 |
| 12 | 48 | 18 | 39 | 10 | 29 | 0 | 19 | 44 | 6 |
| 14 | 52 | 22 | 43 | 14 | 33 | 4 | 23 | 48 | 7 |
| 16 | 56 | 26 | 47 | 18 | 37 | 8 | 27 | 52 | 8 |
| 18 | 22. 0 | 30 | 51 | 22 | 41 | 12 | 31 | 56 | 9 |
| 20 | 21. 31 | 21. 57 | 22. 23 | 22. 48 | 23. 13 | 23. 38 | 24. 3 | 24. 28 | 10 |
| 22 | 32 | 58 | 24 | 49 | 14 | 39 | 4 | 29 | 11 |
| 24 | 33 | 59 | 25 | 50 | 15 | 40 | 5 | 30 | 12 |
| 26 | 33 | 59 | 25 | 50 | 15 | 40 | 6 | 31 | 13 |
| 28 | 34 | 22. 0 | 26 | 51 | 16 | 41 | 7 | 32 | 14 |
| 30 | 21. 35 | 22. 1 | 22. 27 | 22. 52 | 23. 17 | 23. 42 | 24. 8 | 24. 33 | 15 |
| 32 | 36 | 2 | 28 | 53 | 18 | 43 | 9 | 34 | 16 |
| 34 | 37 | 3 | 28 | 53 | 19 | 44 | 10 | 35 | 17 |
| 36 | 37 | 3 | 29 | 54 | 19 | 44 | 10 | 35 | 18 |
| 38 | 38 | 4 | 29 | 54 | 20 | 45 | 11 | 36 | 19 |
| 40 | 21. 39 | 22. 5 | 22. 30 | 22. 55 | 23. 21 | 23. 46 | 24. 12 | 24. 37 | 20 |
| 42 | 40 | 6 | 31 | 56 | 22 | 47 | 13 | 38 | 21 |
| 44 | 40 | 6 | 32 | 57 | 23 | 48 | 14 | 39 | 22 |
| 46 | 41 | 7 | 32 | 57 | 23 | 48 | 14 | 39 | 23 |
| 48 | 41 | 7 | 33 | 58 | 24 | 49 | 15 | 40 | 24 |
| 50 | 21. 42 | 22. 8 | 22. 34 | 22. 59 | 23. 25 | 23. 50 | 24. 16 | 24. 41 | 25 |
| 52 | 43 | 9 | 35 | 23. 0 | 26 | 51 | 17 | 42 | 26 |
| 54 | 44 | 10 | 36 | 1 | 27 | 52 | 18 | 43 | 27 |
| 56 | 44 | 10 | 36 | 1 | 27 | 52 | 18 | 43 | 28 |
| 58 | 45 | 11 | 37 | 2 | 28 | 53 | 19 | 44 | 29 |

### ☽'s App. Altitude 47 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prom. 1′ |
|---|---|---|---|---|---|---|---|---|---|
| | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 0 | 21. 46 | 22. 12 | 22. 38 | 23. 3 | 23. 29 | 23. 54 | 24. 20 | 24. 45 | 0 |
| 2 | 47 | 13 | 39 | 4 | 30 | 55 | 21 | 46 | 1 |
| 4 | 48 | 14 | 40 | 5 | 31 | 56 | 22 | 47 | 2 |
| 6 | 48 | 14 | 40 | 5 | 31 | 56 | 22 | 47 | 3 |
| 8 | 49 | 15 | 41 | 6 | 32 | 57 | 23 | 48 | 4 |
| 10 | 21. 50 | 22. 16 | 22. 42 | 23. 7 | 23. 33 | 23. 58 | 24. 24 | 24. 49 | 5 |
| 12 | 51 | 17 | 43 | 8 | 34 | 59 | 25 | 50 | 6 |
| 14 | 51 | 17 | 43 | 9 | 35 | 24. 0 | 26 | 51 | 7 |
| 16 | 52 | 18 | 44 | 9 | 35 | 0 | 26 | 51 | 8 |
| 18 | 52 | 18 | 44 | 10 | 36 | 1 | 27 | 52 | 9 |
| 20 | 21. 53 | 22. 19 | 22. 45 | 23. 11 | 23. 37 | 24. 2 | 24. 28 | 24. 53 | 10 |
| 22 | 54 | 20 | 46 | 12 | 38 | 3 | 29 | 54 | 11 |
| 24 | 55 | 21 | 47 | 13 | 39 | 4 | 30 | 55 | 12 |
| 26 | 55 | 21 | 47 | 13 | 39 | 4 | 30 | 56 | 13 |
| 28 | 56 | 22 | 48 | 14 | 40 | 5 | 31 | 57 | 14 |
| 30 | 21. 57 | 22. 23 | 22. 49 | 23. 15 | 23. 41 | 24. 6 | 24. 32 | 24. 58 | 15 |
| 32 | 58 | 24 | 50 | 16 | 42 | 7 | 33 | 59 | 16 |
| 34 | 59 | 25 | 51 | 16 | 42 | 8 | 34 | 25. 0 | 17 |
| 36 | 59 | 25 | 51 | 17 | 43 | 8 | 34 | 0 | 18 |
| 38 | 22. 0 | 26 | 52 | 17 | 43 | 9 | 35 | 1 | 19 |
| 40 | 22. 1 | 22. 27 | 22. 53 | 23. 18 | 23. 44 | 24. 10 | 24. 36 | 25. 2 | 20 |
| 42 | 2 | 28 | 54 | 19 | 45 | 11 | 37 | 3 | 21 |
| 44 | 2 | 28 | 54 | 20 | 46 | 12 | 38 | 4 | 22 |
| 46 | 3 | 29 | 55 | 20 | 46 | 12 | 38 | 4 | 23 |
| 48 | 3 | 29 | 55 | 21 | 47 | 13 | 39 | 5 | 24 |
| 50 | 22. 4 | 22. 30 | 22. 56 | 23. 21 | 23. 47 | 24. 14 | 24. 40 | 25. 6 | 25 |
| 52 | 5 | 31 | 57 | 23 | 49 | 15 | 41 | 7 | 26 |
| 54 | 6 | 32 | 58 | 24 | 50 | 16 | 42 | 8 | 27 |
| 56 | 6 | 32 | 58 | 24 | 50 | 16 | 42 | 8 | 28 |
| 58 | 7 | 33 | 59 | 25 | 51 | 17 | 43 | 9 | 29 |

### ☽'s App. Altitude 48 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prom. 1′ |
|---|---|---|---|---|---|---|---|---|---|
| | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 0 | 22. 8 | 22. 34 | 23. 0 | 23. 25 | 23. 50 | 24. 15 | 24. 44 | 25. 10 | 0 |
| 2 | 9 | 35 | 1 | 27 | 52 | 17 | 45 | 11 | 1 |
| 4 | 10 | 36 | 2 | 28 | 54 | 20 | 47 | 12 | 2 |
| 6 | 10 | 37 | 2 | 28 | 54 | 20 | 47 | 13 | 3 |
| 8 | 11 | 37 | 3 | 29 | 55 | 21 | 47 | 13 | 4 |
| 10 | 22. 12 | 22. 38 | 23. 4 | 23. 30 | 23. 56 | 24. 22 | 24. 48 | 25. 14 | 5 |
| 12 | 13 | 39 | 5 | 31 | 57 | 23 | 49 | 15 | 6 |
| 14 | 13 | 39 | 5 | 32 | 58 | 24 | 50 | 16 | 7 |
| 16 | 14 | 40 | 6 | 32 | 58 | 24 | 50 | 17 | 8 |
| 18 | 14 | 40 | 6 | 33 | 59 | 25 | 51 | 17 | 9 |
| 20 | 22. 15 | 22. 41 | 23. 7 | 23. 34 | 24. 0 | 24. 26 | 24. 52 | 25. 18 | 10 |
| 22 | 16 | 42 | 8 | 35 | 1 | 27 | 53 | 19 | 11 |
| 24 | 17 | 43 | 9 | 36 | 2 | 28 | 54 | 20 | 12 |
| 26 | 17 | 43 | 9 | 36 | 2 | 28 | 54 | 20 | 13 |
| 28 | 18 | 44 | 10 | 37 | 3 | 29 | 55 | 21 | 14 |
| 30 | 22. 19 | 22. 45 | 23. 11 | 23. 37 | 24. 4 | 24. 30 | 24. 56 | 25. 22 | 15 |
| 32 | 20 | 46 | 12 | 39 | 5 | 31 | 57 | 23 | 16 |
| 34 | 21 | 47 | 13 | 39 | 5 | 31 | 58 | 24 | 17 |
| 36 | 21 | 47 | 13 | 40 | 6 | 32 | 58 | 24 | 18 |
| 38 | 22 | 48 | 14 | 40 | 6 | 32 | 59 | 25 | 19 |
| 40 | 22. 23 | 22. 49 | 23. 15 | 23. 41 | 24. 7 | 24. 33 | 25. 0 | 25. 26 | 20 |
| 42 | 24 | 50 | 16 | 42 | 8 | 34 | 1 | 27 | 21 |
| 44 | 24 | 50 | 16 | 43 | 9 | 35 | 2 | 28 | 22 |
| 46 | 25 | 51 | 17 | 43 | 9 | 35 | 2 | 28 | 23 |
| 48 | 25 | 51 | 17 | 44 | 10 | 36 | 3 | 29 | 24 |
| 50 | 22. 26 | 22. 52 | 23. 18 | 23. 45 | 24. 11 | 24. 37 | 25. 4 | 25. 30 | 25 |
| 52 | 27 | 53 | 19 | 46 | 12 | 38 | 5 | 31 | 26 |
| 54 | 28 | 54 | 20 | 47 | 13 | 39 | 6 | 32 | 27 |
| 56 | 28 | 54 | 20 | 47 | 13 | 39 | 6 | 32 | 28 |
| 58 | 29 | 55 | 21 | 48 | 14 | 40 | 7 | 33 | 29 |

### ☽'s App. Altitude 49 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prom. 1′ |
|---|---|---|---|---|---|---|---|---|---|
| | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 0 | 22. 30 | 22. 56 | 23. 22 | 23. 49 | 24. 15 | 24. 41 | 25. 8 | 25. 34 | 0 |
| 2 | 31 | 57 | 23 | 50 | 16 | 42 | 9 | 35 | 1 |
| 4 | 32 | 58 | 24 | 51 | 17 | 43 | 10 | 36 | 2 |
| 6 | 32 | 58 | 24 | 51 | 17 | 43 | 10 | 36 | 3 |
| 8 | 33 | 59 | 25 | 52 | 18 | 44 | 11 | 37 | 4 |
| 10 | 22. 34 | 23. 0 | 23. 26 | 23. 53 | 24. 19 | 24. 45 | 25. 12 | 25. 38 | 5 |
| 12 | 35 | 1 | 27 | 54 | 20 | 46 | 13 | 39 | 6 |
| 14 | 35 | 1 | 27 | 54 | 20 | 47 | 14 | 40 | 7 |
| 16 | 36 | 2 | 28 | 55 | 21 | 47 | 14 | 40 | 8 |
| 18 | 36 | 2 | 28 | 55 | 21 | 48 | 15 | 41 | 9 |
| 20 | 22. 37 | 23. 3 | 23. 29 | 23. 56 | 24. 22 | 24. 49 | 25. 16 | 25. 42 | 10 |
| 22 | 38 | 4 | 30 | 57 | 23 | 50 | 17 | 43 | 11 |
| 24 | 39 | 5 | 31 | 58 | 24 | 51 | 18 | 44 | 12 |
| 26 | 39 | 5 | 31 | 58 | 24 | 51 | 18 | 44 | 13 |
| 28 | 40 | 6 | 32 | 59 | 25 | 52 | 19 | 45 | 14 |
| 30 | 22. 41 | 23. 7 | 23. 33 | 24. 0 | 24. 26 | 24. 53 | 25. 20 | 25. 46 | 15 |
| 32 | 42 | 8 | 34 | 1 | 27 | 54 | 21 | 47 | 16 |
| 34 | 42 | 8 | 35 | 2 | 28 | 54 | 21 | 47 | 17 |
| 36 | 43 | 9 | 35 | 2 | 28 | 55 | 22 | 48 | 18 |
| 38 | 43 | 9 | 36 | 3 | 29 | 55 | 22 | 48 | 19 |
| 40 | 22. 44 | 23. 10 | 23. 37 | 24. 4 | 24. 30 | 24. 56 | 25. 23 | 25. 49 | 20 |
| 42 | 45 | 11 | 38 | 5 | 31 | 57 | 24 | 50 | 21 |
| 44 | 46 | 12 | 38 | 5 | 31 | 58 | 25 | 51 | 22 |
| 46 | 46 | 12 | 39 | 6 | 32 | 58 | 25 | 51 | 23 |
| 48 | 47 | 13 | 39 | 6 | 32 | 59 | 26 | 52 | 24 |
| 50 | 22. 48 | 23. 14 | 23. 40 | 24. 7 | 24. 33 | 25. 0 | 25. 27 | 25. 53 | 25 |
| 52 | 49 | 15 | 41 | 8 | 34 | 1 | 28 | 54 | 26 |
| 54 | 49 | 15 | 42 | 9 | 35 | 2 | 29 | 55 | 27 |
| 56 | 50 | 16 | 42 | 9 | 35 | 2 | 29 | 55 | 28 |
| 58 | 50 | 16 | 43 | 10 | 36 | 3 | 30 | 56 | 29 |

Correct. Cr. Sum. Add. Sub. ☉ * ☽

☽'s App. Altitude 50 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prop. Parts for 1 Second of Parallax. |
|---|---|---|---|---|---|---|---|---|---|
| | ″ | ″ | ″ | ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 33. 35 | 34. 33 | 35. 31 | 36. 31 | 36. 29 | 37. 28 | 38. 26 | 39. 25 | 0 |
| 2 | 34 | 32 | 30 | 30 | 28 | 27 | 25 | 23 | |
| 4 | 32 | 31 | 29 | 28 | 26 | 25 | 23 | 22 | |
| 6 | 31 | 29 | 28 | 26 | 25 | 23 | 22 | 20 | |
| 8 | 29 | 28 | 26 | 25 | 23 | 22 | 20 | 19 | 1– 1 |
| 10 | 33. 28 | 34. 26 | 35. 25 | 36. 23 | 36. 22 | 37. 20 | 38. 19 | 39. 17 | 2– 1 |
| 12 | 27 | 25 | 24 | 22 | 36. 58 | 37. 17 | 37. 15 | 38. 14 | 3– 2 |
| 14 | 25 | 23 | 22 | 20 | 19 | 57 | 37. 12 | 13 | 4– 2 |
| 16 | 24 | 22 | 21 | 19 | 17 | 55 | 34 | 12 | 5– 3 |
| 18 | 22 | 21 | 34. 19 | 37 | 16 | 54 | 33 | 11 | 6– 4 |
| 20 | 33. 21 | 34. 19 | 34. 18 | 35. 16 | 36. 14 | 36. 52 | 37. 31 | 38. 9 | 7– 4 |
| 22 | 19 | 18 | 17 | 15 | 13 | 51 | 29 | 8 | 8– 5 |
| 24 | 18 | 16 | 15 | 13 | 11 | 49 | 28 | 6 | 9– 6 |
| 26 | 17 | 15 | 13 | 12 | 10 | 48 | 26 | 4 | 10– 6 |
| 28 | 15 | 13 | 12 | 10 | 8 | 46 | 25 | 3 | 11– 7 |
| 30 | 33. 14 | 34. 12 | 34. 11 | 35. 9 | 36. 7 | 36. 45 | 37. 23 | 38. 1 | 12– 8 |
| 32 | 13 | 11 | 10 | 8 | 5 | 43 | 21 | 37. 59 | 13– 8 |
| 34 | 11 | 9 | 8 | 6 | 4 | 42 | 20 | 58 | 14– 9 |
| 36 | 10 | 8 | 6 | 4 | 2 | 40 | 18 | 56 | 15–10 |
| 38 | 8 | 6 | 34. 4 | 34. 2 | 1 | 39 | 17 | 55 | 16–10 |
| 40 | 33. 7 | 34. 5 | 34. 3 | 35. 1 | 35. 59 | 36. 37 | 37. 15 | 37. 53 | 17–11 |
| 42 | 6 | 4 | 34. 2 | 35. 0 | 58 | 35 | 13 | 51 | 18–11 |
| 44 | 4 | 2 | 34. 0 | 34. 58 | 56 | 34 | 12 | 50 | 19–12 |
| 46 | 3 | 1 | 33. 59 | 57 | 55 | 32 | 10 | 48 | 20–13 |
| 48 | 1 | 33. 59 | 57 | 55 | 53 | 31 | 9 | 47 | 21–13 |
| 50 | 33. 0 | 33. 58 | 34. 56 | 35. 54 | 35. 52 | 36. 29 | 37. 7 | 37. 45 | 22–14 |
| 52 | 32. 58 | 57 | 55 | 53 | 50 | 28 | 6 | 44 | 23–15 |
| 54 | 57 | 55 | 53 | 51 | 49 | 26 | 4 | 42 | 24–15 |
| 56 | 55 | 54 | 52 | 50 | 47 | 25 | 3 | 41 | 25–16 |
| 58 | 54 | 52 | 50 | 48 | 46 | 23 | 1 | 39 | 26–17 |

☽'s App. Altitude 51 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prop. Parts for 1 Second of Parallax. |
|---|---|---|---|---|---|---|---|---|---|
| | ″ | ″ | ″ | ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 33. 13 | 33. 51 | 34. 49 | 35. 47 | 35. 44 | 36. 22 | 36. 59 | 37. 37 | 27–21 |
| 2 | 12 | 49 | 47 | 45 | 43 | 20 | 58 | 35 | 28–22 |
| 4 | 10 | 48 | 46 | 44 | 41 | 19 | 56 | 34 | 29–22 |
| 6 | 9 | 46 | 44 | 42 | 39 | 17 | 55 | 32 | 30–23 |
| 8 | 7 | 45 | 43 | 41 | 38 | 16 | 53 | 31 | 31–24 |
| 10 | 33. 6 | 33. 45 | 34. 41 | 35. 39 | 35. 36 | 36. 14 | 36. 52 | 37. 29 | 32–25 |
| 12 | 5 | 43 | 40 | 38 | 35 | 12 | 50 | 27 | 33–25 |
| 14 | 3 | 42 | 38 | 36 | 33 | 11 | 49 | 26 | 34–26 |
| 16 | 2 | 40 | 37 | 35 | 32 | 9 | 47 | 24 | 35–27 |
| 18 | 33. 0 | 39 | 35 | 33 | 31 | 8 | 46 | 23 | 36–28 |
| 20 | 32. 59 | 33. 37 | 34. 34 | 35. 32 | 35. 29 | 36. 6 | 36. 44 | 37. 21 | 37–29 |
| 22 | 57 | 36 | 33 | 30 | 27 | 5 | 43 | 19 | 38–29 |
| 24 | 56 | 34 | 31 | 29 | 26 | 3 | 41 | 18 | 39–30 |
| 26 | 54 | 33 | 30 | 27 | 24 | 2 | 39 | 16 | 40–31 |
| 28 | 53 | 31 | 28 | 26 | 23 | 0 | 38 | 15 | 41–32 |
| 30 | 32. 51 | 33. 30 | 34. 27 | 35. 25 | 35. 21 | 35. 59 | 36. 36 | 37. 13 | 42–33 |
| 32 | 50 | 28 | 26 | 23 | 20 | 57 | 34 | 11 | 43–33 |
| 34 | 48 | 27 | 24 | 22 | 18 | 56 | 33 | 10 | 44–34 |
| 36 | 47 | 25 | 23 | 20 | 17 | 54 | 31 | 8 | 45–35 |
| 38 | 45 | 24 | 21 | 19 | 16 | 53 | 29 | 6 | 46–36 |
| 40 | 32. 44 | 33. 22 | 34. 20 | 35. 17 | 35. 14 | 35. 51 | 36. 28 | 37. 5 | 47–37 |
| 42 | 43 | 21 | 19 | 16 | 13 | 49 | 26 | 3 | 48–37 |
| 44 | 41 | 19 | 17 | 15 | 11 | 48 | 25 | 2 | 49–38 |
| 46 | 40 | 18 | 16 | 13 | 10 | 46 | 23 | 0 | 50–39 |
| 48 | 38 | 17 | 14 | 12 | 9 | 44 | 22 | 36. 59 | 51–40 |
| 50 | 32. 37 | 33. 14 | 34. 12 | 34. 10 | 35. 6 | 35. 43 | 36. 20 | 36. 57 | 52–41 |
| 52 | 35 | 13 | 11 | 8 | 4 | 41 | 18 | 55 | 53–41 |
| 54 | 34 | 11 | 9 | 7 | 3 | 39 | 17 | 54 | 54–42 |
| 56 | 33 | 10 | 8 | 5 | 2 | 38 | 15 | 52 | 55–43 |
| 58 | 31 | 8 | 6 | 4 | 1 | 36 | 14 | 51 | 56–44 |

☽'s App. Altitude 52 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 6 | 61′ | Prop. Parts for 1 Second of Parallax. |
|---|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 32. 30 | 33. 7 | 33. 44 | 34. 21 | 34. 58 | 35. 34 | 36. 11 | 36. 48 | 0 |
| 2 | 29 | 6 | 43 | 19 | 56 | 33 | 10 | 47 | |
| 4 | 27 | 4 | 41 | 18 | 55 | 31 | 8 | 45 | |
| 6 | 26 | 3 | 40 | 16 | 53 | 30 | 7 | 44 | |
| 8 | 24 | 1 | 38 | 15 | 52 | 28 | 5 | 43 | 1– 1 |
| 10 | 32. 23 | 33. 0 | 33. 37 | 34. 13 | 34. 50 | 35. 27 | 36. 4 | 36. 41 | 2– 1 |
| 12 | 22 | 32. 59 | 35 | 12 | 49 | 26 | 3 | 39 | 3– 2 |
| 14 | 20 | 57 | 34 | 10 | 47 | 25 | 1 | 38 | 4– 2 |
| 16 | 19 | 56 | 32 | 9 | 46 | 23 | 35. 59 | 36 | 5– 3 |
| 18 | 17 | 54 | 31 | 7 | 44 | 21 | 58 | 35 | 6– 4 |
| 20 | 32. 16 | 32. 53 | 33. 29 | 34. 6 | 34. 43 | 35. 19 | 35. 56 | 36. 33 | 7– 4 |
| 22 | 15 | 51 | 28 | 4 | 41 | 17 | 54 | 31 | 8– 5 |
| 24 | 13 | 50 | 26 | 3 | 40 | 16 | 53 | 29 | 9– 6 |
| 26 | 12 | 48 | 25 | 1 | 38 | 14 | 51 | 28 | 10– 6 |
| 28 | 10 | 47 | 23 | 0 | 37 | 13 | 50 | 26 | 11– 7 |
| 30 | 32. 9 | 32. 45 | 33. 22 | 33. 58 | 34. 35 | 35. 11 | 35. 48 | 36. 24 | 12– 8 |
| 32 | 7 | 44 | 20 | 57 | 33 | 10 | 47 | 23 | 13– 8 |
| 34 | 6 | 42 | 19 | 55 | 32 | 8 | 45 | 21 | 14– 9 |
| 36 | 4 | 41 | 17 | 54 | 30 | 7 | 43 | 19 | 15–10 |
| 38 | 3 | 39 | 16 | 52 | 29 | 5 | 42 | 18 | 16–10 |
| 40 | 32. 1 | 32. 38 | 33. 14 | 33. 51 | 34. 27 | 35. 3 | 35. 40 | 36. 16 | 17–11 |
| 42 | 0 | 36 | 13 | 49 | 25 | 1 | 38 | 14 | 18–11 |
| 44 | 31. 58 | 35 | 11 | 48 | 24 | 0 | 37 | 13 | 19–12 |
| 46 | 57 | 33 | 10 | 46 | 22 | 34. 59 | 35 | 11 | 20–13 |
| 48 | 55 | 32 | 8 | 45 | 21 | 57 | 34 | 10 | 21–13 |
| 50 | 31. 54 | 32. 30 | 33. 7 | 33. 43 | 34. 19 | 34. 55 | 35. 32 | 36. 8 | 22–14 |
| 52 | 53 | 29 | 5 | 41 | 17 | 54 | 31 | 6 | 23–15 |
| 54 | 51 | 27 | 4 | 40 | 16 | 52 | 29 | 5 | 24–15 |
| 56 | 50 | 26 | 2 | 38 | 14 | 51 | 27 | 3 | 25–16 |
| 58 | 48 | 24 | 1 | 37 | 13 | 49 | 26 | 2 | 26–17 |

☽'s App. Altitude 53 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prop. Parts for 1 Second of Parallax. |
|---|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 31. 47 | 32. 23 | 32. 59 | 33. 35 | 34. 11 | 34. 47 | 35. 24 | 36. 0 | 27–21 |
| 2 | 46 | 22 | 58 | 34 | 10 | 46 | 23 | 35. 58 | 28–22 |
| 4 | 44 | 20 | 56 | 32 | 8 | 45 | 20 | 56 | 29–22 |
| 6 | 43 | 19 | 55 | 31 | 7 | 43 | 19 | 55 | 30–23 |
| 8 | 41 | 17 | 53 | 29 | 5 | 42 | 17 | 53 | 31–24 |
| 10 | 31. 40 | 32. 16 | 32. 52 | 33. 28 | 34. 4 | 34. 41 | 35. 17 | 35. 51 | 32–25 |
| 12 | 38 | 14 | 50 | 26 | 2 | 38 | 15 | 49 | 33–25 |
| 14 | 37 | 13 | 49 | 25 | 1 | 37 | 14 | 48 | 34–26 |
| 16 | 35 | 11 | 47 | 23 | 33. 59 | 35 | 12 | 46 | 35–27 |
| 18 | 34 | 10 | 46 | 22 | 58 | 34 | 11 | 45 | 36–28 |
| 20 | 31. 32 | 32. 8 | 32. 44 | 33. 20 | 33. 56 | 34. 33 | 35. 7 | 35. 43 | 37–29 |
| 22 | 31 | 7 | 42 | 18 | 54 | 32 | 5 | 41 | 38–29 |
| 24 | 29 | 5 | 41 | 17 | 53 | 30 | 4 | 40 | 39–30 |
| 26 | 28 | 4 | 39 | 15 | 51 | 29 | 2 | 38 | 40–31 |
| 28 | 26 | 2 | 38 | 14 | 50 | 27 | 1 | 37 | 41–32 |
| 30 | 31. 25 | 32. 1 | 32. 37 | 33. 13 | 33. 49 | 34. 24 | 35. 0 | 35. 36 | 42–33 |
| 32 | 24 | 31. 59 | 35 | 11 | 47 | 22 | 57 | 34 | 43–33 |
| 34 | 23 | 58 | 33 | 9 | 45 | 21 | 56 | 32 | 44–34 |
| 36 | 21 | 56 | 32 | 7 | 43 | 19 | 54 | 31 | 45–35 |
| 38 | 20 | 55 | 30 | 6 | 42 | 17 | 53 | 29 | 46–36 |
| 40 | 31. 18 | 31. 53 | 32. 29 | 33. 4 | 33. 40 | 34. 15 | 34. 51 | 35. 27 | 47–37 |
| 42 | 17 | 52 | 27 | 3 | 39 | 14 | 50 | 26 | 48–37 |
| 44 | 15 | 50 | 26 | 1 | 37 | 13 | 49 | 24 | 49–38 |
| 46 | 13 | 49 | 24 | 31. 59 | 35 | 11 | 47 | 23 | 50–39 |
| 48 | 12 | 47 | 23 | 58 | 34 | 10 | 46 | 21 | 51–40 |
| 50 | 31. 10 | 31. 46 | 32. 21 | 32. 57 | 33. 33 | 34. 8 | 34. 44 | 35. 20 | 52–41 |
| 52 | 9 | 44 | 19 | 55 | 32 | 7 | 43 | 18 | 53–41 |
| 54 | 7 | 43 | 18 | 54 | 30 | 5 | 41 | 17 | 54–42 |
| 56 | 6 | 41 | 17 | 52 | 27 | 4 | 40 | 15 | 55–43 |
| 58 | 4 | 40 | 15 | 51 | 26 | 2 | 38 | 14 | 56–44 |

Correct. for Sun's ... Star's Altit. *addit.* ☉ * ☽

### ☽'s App. Altitude 50 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 22. 51 | 23. 17 | 23. 44 | 24. 11 | 24. 37 | 25. 4 | 25. 31 | 25. 57 |
| 2 | 52 | 18 | 45 | 12 | 38 | 5 | 32 | 58 |
| 4 | 52 | 19 | 46 | 13 | 39 | 6 | 33 | 59 |
| 6 | 53 | 19 | 46 | 13 | 39 | 6 | 33 | 59 |
| 8 | 53 | 20 | 47 | 14 | 40 | 7 | 34 | 26. 0 |
| 10 | 22. 54 | 23. 21 | 23. 48 | 24. 15 | 24. 41 | 25. 8 | 25. 35 | 26. 1 |
| 12 | 55 | 22 | 49 | 16 | 42 | 9 | 36 | 2 |
| 14 | 56 | 22 | 49 | 16 | 42 | 9 | 36 | 3 |
| 16 | 56 | 23 | 50 | 17 | 43 | 10 | 37 | 3 |
| 18 | 57 | 23 | 50 | 17 | 43 | 10 | 37 | 4 |
| 20 | 22. 58 | 23. 24 | 23. 51 | 24. 18 | 24. 44 | 25. 11 | 25. 38 | 26. 5 |
| 22 | 59 | 25 | 52 | 19 | 45 | 12 | 39 | 6 |
| 24 | 59 | 26 | 53 | 20 | 46 | 13 | 40 | 7 |
| 26 | 23. 0 | 26 | 53 | 20 | 46 | 13 | 40 | 7 |
| 28 | 0 | 27 | 54 | 21 | 47 | 14 | 41 | 8 |
| 30 | 23. 1 | 23. 28 | 23. 55 | 24. 22 | 24. 48 | 25. 15 | 25. 42 | 26. 9 |
| 32 | 2 | 29 | 56 | 23 | 49 | 16 | 43 | 10 |
| 34 | 2 | 29 | 56 | 23 | 50 | 17 | 44 | 10 |
| 36 | 3 | 30 | 57 | 24 | 50 | 17 | 44 | 11 |
| 38 | 3 | 30 | 57 | 24 | 51 | 18 | 45 | 11 |
| 40 | 23. 4 | 23. 31 | 23. 58 | 24. 25 | 24. 52 | 25. 19 | 25. 46 | 26. 12 |
| 42 | 5 | 32 | 59 | 26 | 53 | 20 | 47 | 13 |
| 44 | 6 | 33 | 24. 0 | 27 | 53 | 20 | 47 | 14 |
| 46 | 6 | 33 | 0 | 27 | 54 | 21 | 48 | 14 |
| 48 | 7 | 34 | 1 | 28 | 54 | 21 | 48 | 15 |
| 50 | 23. 8 | 23. 35 | 24. 2 | 24. 29 | 24. 55 | 25. 22 | 25. 49 | 26. 16 |
| 52 | 9 | 36 | 3 | 30 | 56 | 23 | 50 | 17 |
| 54 | 9 | 36 | 3 | 30 | 57 | 24 | 51 | 18 |
| 56 | 10 | 37 | 4 | 31 | 57 | 24 | 51 | 18 |
| 58 | 10 | 37 | 4 | 31 | 58 | 25 | 52 | 19 |

Pr. parts for ... of Parallax

| ″ | ″ |
|---|---|
| 1 | 0 |
| 2 | 1 |
| 3 | 1 |
| 4 | 2 |
| 5 | 2 |
| 6 | 3 |
| 7 | 3 |
| 8 | 4 |
| 9 | 4 |
| 10 | 5 |
| 11 | 5 |
| 12 | 5 |
| 13 | 6 |
| 14 | 6 |
| 15 | 7 |
| 16 | 7 |
| 17 | 8 |
| 18 | 8 |
| 19 | 9 |
| 20 | 9 |
| 21 | 10 |
| 22 | 10 |
| 23 | 10 |
| 24 | 11 |
| 25 | 11 |
| 26 | 12 |
| 27 | 12 |
| 28 | 13 |
| 29 | 13 |
| 30 | 14 |
| 31 | 14 |
| 32 | 14 |
| 33 | 15 |
| 34 | 15 |
| 35 | 16 |
| 36 | 16 |
| 37 | 17 |
| 38 | 17 |
| 39 | 18 |
| 40 | 18 |
| 41 | 19 |
| 42 | 19 |
| 43 | 19 |
| 44 | 20 |
| 45 | 20 |
| 46 | 21 |
| 47 | 21 |
| 48 | 22 |
| 49 | 22 |
| 50 | 23 |
| 51 | 23 |
| 52 | 24 |
| 53 | 24 |
| 54 | 24 |
| 55 | 25 |
| 56 | 25 |
| 57 | 26 |
| 58 | 26 |
| 59 | 27 |

### ☽'s App. Altitude 51 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 23. 11 | 23. 38 | 24. 5 | 24. 32 | 24. 59 | 25. 26 | 25. 53 | 26. 20 |
| 2 | 12 | 39 | 6 | 33 | 25. 0 | 27 | 54 | 21 |
| 4 | 12 | 40 | 7 | 34 | 1 | 28 | 55 | 22 |
| 6 | 13 | 40 | 7 | 34 | 1 | 28 | 55 | 22 |
| 8 | 13 | 41 | 8 | 35 | 2 | 29 | 56 | 23 |
| 10 | 23. 14 | 23. 42 | 24. 9 | 24. 36 | 25. 3 | 25. 30 | 25. 57 | 26. 24 |
| 12 | 15 | 43 | 10 | 37 | 4 | 31 | 58 | 25 |
| 14 | 16 | 43 | 10 | 37 | 4 | 31 | 58 | 26 |
| 16 | 16 | 44 | 11 | 38 | 5 | 32 | 59 | 26 |
| 18 | 17 | 44 | 11 | 38 | 5 | 32 | 59 | 27 |
| 20 | 23. 18 | 23. 45 | 24. 12 | 24. 39 | 25. 6 | 25. 33 | 26. 0 | 26. 28 |
| 22 | 19 | 46 | 13 | 40 | 7 | 34 | 1 | 29 |
| 24 | 19 | 47 | 14 | 41 | 8 | 35 | 2 | 30 |
| 26 | 20 | 47 | 14 | 41 | 8 | 35 | 2 | 30 |
| 28 | 20 | 48 | 15 | 42 | 9 | 36 | 3 | 31 |
| 30 | 23. 21 | 23. 48 | 24. 15 | 24. 42 | 25. 9 | 25. 36 | 26. 4 | 26. 32 |
| 32 | 22 | 50 | 17 | 44 | 11 | 38 | 5 | 33 |
| 34 | 22 | 50 | 17 | 44 | 12 | 39 | 6 | 33 |
| 36 | 23 | 51 | 18 | 45 | 12 | 39 | 6 | 34 |
| 38 | 23 | 51 | 18 | 45 | 13 | 40 | 7 | 34 |
| 40 | 23. 24 | 23. 52 | 24. 19 | 24. 46 | 25. 14 | 25. 41 | 26. 8 | 26. 35 |
| 42 | 25 | 53 | 20 | 47 | 15 | 42 | 9 | 36 |
| 44 | 26 | 54 | 21 | 48 | 15 | 42 | 9 | 37 |
| 46 | 26 | 54 | 21 | 48 | 16 | 43 | 10 | 37 |
| 48 | 27 | 55 | 22 | 49 | 16 | 43 | 10 | 38 |
| 50 | 23. 28 | 23. 56 | 24. 23 | 24. 50 | 25. 17 | 25. 44 | 26. 11 | 26. 39 |
| 52 | 29 | 57 | 24 | 51 | 18 | 45 | 12 | 40 |
| 54 | 29 | 57 | 24 | 51 | 19 | 46 | 13 | 41 |
| 56 | 30 | 58 | 25 | 52 | 19 | 46 | 13 | 41 |
| 58 | 30 | 58 | 25 | 52 | 19 | 47 | 14 | 42 |

### ☽'s App. Altitude 52 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 23. 31 | 23. 59 | 24. 26 | 24. 53 | 25. 21 | 25. 48 | 26. 15 | 26. 43 |
| 2 | 32 | 24. 0 | 27 | 54 | 22 | 49 | 16 | 44 |
| 4 | 32 | 0 | 27 | 55 | 23 | 50 | 17 | 45 |
| 6 | 33 | 1 | 28 | 55 | 23 | 50 | 17 | 45 |
| 8 | 33 | 1 | 28 | 56 | 24 | 51 | 18 | 46 |
| 10 | 23. 34 | 24. 2 | 24. 29 | 24. 57 | 25. 25 | 25. 52 | 26. 19 | 26. 47 |
| 12 | 35 | 3 | 30 | 58 | 26 | 53 | 20 | 48 |
| 14 | 36 | 4 | 31 | 58 | 26 | 53 | 21 | 48 |
| 16 | 36 | 4 | 31 | 59 | 27 | 54 | 21 | 49 |
| 18 | 37 | 5 | 32 | 59 | 27 | 54 | 22 | 49 |
| 20 | 23. 38 | 24. 6 | 24. 33 | 25. 0 | 25. 28 | 25. 55 | 26. 23 | 26. 50 |
| 22 | 39 | 7 | 34 | 1 | 29 | 56 | 24 | 51 |
| 24 | 39 | 7 | 34 | 2 | 30 | 57 | 24 | 52 |
| 26 | 40 | 8 | 35 | 2 | 30 | 57 | 25 | 52 |
| 28 | 40 | 8 | 35 | 3 | 31 | 58 | 25 | 53 |
| 30 | 23. 41 | 24. 9 | 24. 36 | 25. 4 | 25. 32 | 25. 59 | 26. 26 | 26. 54 |
| 32 | 42 | 10 | 37 | 5 | 33 | 26. 0 | 27 | 55 |
| 34 | 42 | 10 | 37 | 5 | 33 | 1 | 28 | 56 |
| 36 | 43 | 11 | 38 | 6 | 34 | 1 | 28 | 56 |
| 38 | 43 | 11 | 38 | 6 | 34 | 2 | 29 | 57 |
| 40 | 23. 44 | 24. 12 | 24. 39 | 25. 7 | 25. 35 | 26. 3 | 26. 30 | 26. 58 |
| 42 | 45 | 13 | 40 | 8 | 36 | 4 | 31 | 59 |
| 44 | 46 | 14 | 41 | 9 | 37 | 4 | 31 | 59 |
| 46 | 46 | 14 | 41 | 9 | 37 | 5 | 32 | 27. 0 |
| 48 | 47 | 15 | 42 | 10 | 38 | 5 | 33 | 1 |
| 50 | 23. 48 | 24. 16 | 24. 43 | 25. 11 | 25. 39 | 26. 6 | 26. 34 | 27. 1 |
| 52 | 49 | 17 | 44 | 12 | 40 | 7 | 34 | 2 |
| 54 | 49 | 17 | 44 | 12 | 40 | 8 | 35 | 3 |
| 56 | 50 | 18 | 45 | 13 | 41 | 8 | 35 | 3 |
| 58 | 50 | 18 | 45 | 13 | 41 | 9 | 36 | 4 |

### ☽'s App. Altitude 53 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 23. 51 | 24. 19 | 24. 46 | 25. 14 | 25. 42 | 26. 10 | 26. 37 | 27. 5 |
| 2 | 52 | 20 | 47 | 15 | 43 | 11 | 38 | 6 |
| 4 | 52 | 20 | 47 | 15 | 43 | 11 | 39 | 7 |
| 6 | 53 | 21 | 48 | 16 | 44 | 12 | 39 | 7 |
| 8 | 53 | 21 | 48 | 16 | 44 | 12 | 40 | 8 |
| 10 | 23. 54 | 24. 22 | 24. 49 | 25. 17 | 25. 45 | 26. 13 | 26. 41 | 27. 9 |
| 12 | 55 | 23 | 50 | 18 | 46 | 14 | 42 | 10 |
| 14 | 55 | 23 | 51 | 19 | 47 | 15 | 42 | 10 |
| 16 | 56 | 24 | 51 | 19 | 47 | 15 | 43 | 11 |
| 18 | 56 | 24 | 52 | 20 | 48 | 16 | 43 | 11 |
| 20 | 23. 57 | 24. 25 | 24. 52 | 25. 21 | 25. 49 | 26. 17 | 26. 44 | 27. 12 |
| 22 | 58 | 26 | 54 | 22 | 50 | 18 | 45 | 13 |
| 24 | 59 | 27 | 54 | 22 | 50 | 18 | 46 | 14 |
| 26 | 59 | 27 | 55 | 23 | 51 | 19 | 46 | 14 |
| 28 | 24. 0 | 28 | 55 | 23 | 51 | 19 | 47 | 15 |
| 30 | 24. 1 | 24. 28 | 24. 55 | 25. 24 | 25. 52 | 26. 20 | 26. 48 | 27. 16 |
| 32 | 2 | 30 | 57 | 25 | 53 | 21 | 49 | 17 |
| 34 | 2 | 30 | 57 | 25 | 53 | 21 | 50 | 18 |
| 36 | 3 | 31 | 58 | 26 | 54 | 22 | 50 | 18 |
| 38 | 3 | 31 | 58 | 26 | 54 | 22 | 51 | 19 |
| 40 | 24. 4 | 24. 32 | 24. 59 | 25. 27 | 25. 55 | 26. 23 | 26. 52 | 27. 20 |
| 42 | 5 | 33 | 25. 0 | 28 | 56 | 24 | 53 | 21 |
| 44 | 5 | 33 | 1 | 29 | 57 | 25 | 53 | 21 |
| 46 | 6 | 34 | 1 | 29 | 57 | 25 | 54 | 22 |
| 48 | 6 | 34 | 2 | 30 | 58 | 26 | 54 | 22 |
| 50 | 24. 7 | 24. 35 | 25. 3 | 25. 31 | 25. 59 | 26. 27 | 26. 55 | 27. 23 |
| 52 | 8 | 36 | 4 | 32 | 26. 0 | 28 | 56 | 24 |
| 54 | 8 | 36 | 4 | 32 | 0 | 29 | 57 | 25 |
| 56 | 9 | 37 | 5 | 33 | 1 | 29 | 57 | 25 |
| 58 | 9 | 37 | 5 | 33 | 1 | 30 | 58 | 26 |

Pr. parts for ... of Parallax

| ″ | ″ |
|---|---|
| 1 | 0 |
| 2 | 1 |
| 3 | 1 |
| 4 | 2 |
| 5 | 2 |
| 6 | 3 |
| 7 | 3 |
| 8 | 4 |
| 9 | 4 |
| 10 | 5 |
| 11 | 5 |
| 12 | 6 |
| 13 | 6 |
| 14 | 6 |
| 15 | 7 |
| 16 | 7 |
| 17 | 8 |
| 18 | 8 |
| 19 | 9 |
| 20 | 10 |
| 21 | 10 |
| 22 | 11 |
| 23 | 11 |
| 24 | 11 |
| 25 | 12 |
| 26 | 12 |
| 27 | 13 |
| 28 | 13 |
| 29 | 13 |
| 30 | 14 |
| 31 | 14 |
| 32 | 15 |
| 33 | 15 |
| 34 | 16 |
| 35 | 16 |
| 36 | 17 |
| 37 | 17 |
| 38 | 18 |
| 39 | 18 |
| 40 | 19 |
| 41 | 19 |
| 42 | 20 |
| 43 | 20 |
| 44 | 20 |
| 45 | 21 |
| 46 | 21 |
| 47 | 22 |
| 48 | 22 |
| 49 | 23 |
| 50 | 23 |
| 51 | 24 |
| 52 | 24 |
| 53 | 25 |
| 54 | 25 |
| 55 | 26 |
| 56 | 26 |
| 57 | 27 |
| 58 | 27 |
| 59 | 27 |

### ☽'s App. Altitude 54 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 31. 3 | 31. 38 | 32. 13 | 32. 49 | 33. 24 | 33. 59 | 34. 35 | 35. 10 |
| 2 | 2 | 37 | 12 | 47 | 22 | 57 | 33 | 8 |
| 4 | 0 | 35 | 10 | 46 | 21 | 56 | 31 | 7 |
| 6 | 30. 59 | 34 | 9 | 44 | 19 | 54 | 30 | 5 |
| 8 | 57 | 32 | 7 | 43 | 18 | 53 | 28 | 4 |
| 10 | 30. 56 | 31. 31 | 32. 6 | 32. 41 | 33. 16 | 33. 51 | 34. 26 | 35. 2 |
| 12 | 54 | 29 | 4 | 39 | 14 | 49 | 24 | 0 |
| 14 | 53 | 28 | 3 | 38 | 13 | 48 | 23 | 34. 58 |
| 16 | 51 | 26 | 1 | 36 | 11 | 46 | 21 | 57 |
| 18 | 50 | 25 | 0 | 35 | 10 | 45 | 20 | 55 |
| 20 | 30. 48 | 31. 23 | 31. 58 | 32. 33 | 33. 8 | 33. 43 | 34. 18 | 34. 52 |
| 22 | 47 | 22 | 57 | 31 | 6 | 41 | 16 | 51 |
| 24 | 45 | 20 | 55 | 30 | 5 | 40 | 15 | 50 |
| 26 | 44 | 19 | 54 | 28 | 3 | 38 | 13 | 48 |
| 28 | 42 | 17 | 52 | 27 | 2 | 37 | 12 | 47 |
| 30 | 30. 41 | 31. 16 | 31. 51 | 32. 25 | 33. 0 | 33. 35 | 34. 10 | 34. 45 |
| 32 | 39 | 14 | 49 | 24 | 32. 58 | 33 | 8 | 43 |
| 34 | 38 | 13 | 48 | 22 | 57 | 32 | 7 | 41 |
| 36 | 36 | 11 | 46 | 21 | 55 | 30 | 5 | 40 |
| 38 | 35 | 10 | 45 | 19 | 54 | 29 | 4 | 38 |
| 40 | 30. 33 | 31. 8 | 31. 43 | 32. 18 | 32. 52 | 33. 27 | 34. 2 | 34. 36 |
| 42 | 32 | 7 | 41 | 16 | 50 | 25 | 0 | 34 |
| 44 | 30 | 5 | 40 | 15 | 49 | 24 | 33. 58 | 33 |
| 46 | 29 | 4 | 38 | 13 | 47 | 22 | 57 | 31 |
| 48 | 27 | 2 | 37 | 12 | 46 | 21 | 55 | 30 |
| 50 | 30. 26 | 31. 1 | 31. 35 | 32. 10 | 32. 44 | 33. 19 | 33. 53 | 34. 28 |
| 52 | 25 | 30. 59 | 33 | 8 | 42 | 17 | 51 | 26 |
| 54 | 23 | 58 | 32 | 7 | 41 | 16 | 50 | 24 |
| 56 | 22 | 56 | 30 | 5 | 39 | 14 | 48 | 23 |
| 58 | 20 | 55 | 29 | 4 | 38 | 13 | 47 | 21 |

### ☽'s App. Altitude 55 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 30. 16 | 30. 53 | 31. 27 | 32. 2 | 32. 36 | 33. 11 | 33. 45 | 34. 19 |
| 2 | 17 | 51 | 26 | 0 | 34 | 9 | 43 | 17 |
| 4 | 16 | 50 | 24 | 31. 59 | 33 | 7 | 42 | 16 |
| 6 | 14 | 48 | 23 | 57 | 31 | 6 | 40 | 14 |
| 8 | 13 | 47 | 21 | 56 | 30 | 4 | 39 | 13 |
| 10 | 30. 11 | 30. 45 | 31. 20 | 31. 54 | 32. 28 | 33. 2 | 33. 37 | 34. 11 |
| 12 | 10 | 44 | 18 | 53 | 26 | 0 | 35 | 9 |
| 14 | 8 | 43 | 17 | 51 | 25 | 32. 59 | 33 | 7 |
| 16 | 7 | 41 | 15 | 49 | 23 | 57 | 32 | 6 |
| 18 | 5 | 40 | 14 | 48 | 22 | 56 | 30 | 4 |
| 20 | 30. 4 | 30. 38 | 31. 12 | 31. 46 | 32. 20 | 32. 54 | 33. 28 | 34. 2 |
| 22 | 2 | 36 | 10 | 44 | 18 | 52 | 26 | 0 |
| 24 | 1 | 35 | 9 | 43 | 17 | 51 | 25 | 33. 59 |
| 26 | 29. 59 | 33 | 7 | 41 | 15 | 49 | 23 | 57 |
| 28 | 58 | 32 | 6 | 40 | 14 | 48 | 22 | 56 |
| 30 | 29. 56 | 30. 30 | 31. 4 | 31. 38 | 32. 12 | 32. 46 | 33. 20 | 33. 54 |
| 32 | 54 | 28 | 2 | 36 | 10 | 44 | 18 | 52 |
| 34 | 53 | 27 | 1 | 35 | 9 | 43 | 17 | 50 |
| 36 | 51 | 25 | 30. 59 | 33 | 7 | 41 | 15 | 49 |
| 38 | 50 | 24 | 58 | 32 | 6 | 40 | 14 | 47 |
| 40 | 29. 48 | 30. 22 | 30. 56 | 31. 30 | 32. 4 | 32. 38 | 33. 12 | 33. 45 |
| 42 | 47 | 21 | 54 | 28 | 2 | 36 | 10 | 45 |
| 44 | 45 | 19 | 53 | 27 | 1 | 34 | 8 | 43 |
| 46 | 44 | 18 | 51 | 25 | 31. 59 | 33 | 7 | 41 |
| 48 | 42 | 16 | 50 | 24 | 58 | 31 | 5 | 40 |
| 50 | 29. 41 | 30. 15 | 30. 49 | 31. 23 | 31. 57 | 32. 31 | 33. 5 | 33. 37 |
| 52 | 39 | 13 | 48 | 22 | 56 | 30 | 1 | 35 |
| 54 | 38 | 12 | 46 | 20 | 54 | 27 | 32. 59 | 33 |
| 56 | 37 | 10 | 45 | 19 | 53 | 26 | 58 | 32 |
| 58 | 35 | 9 | 43 | 17 | 51 | 24 | 32. 56 | 30 |

### ☽'s App. Altitude 56 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 29. 33 | 30. 7 | 30. 40 | 31. 14 | 31. 48 | 32. 21 | 32. 55 | 33. 28 |
| 2 | 32 | 5 | 39 | 12 | 46 | 19 | 53 | 26 |
| 4 | 30 | 4 | 37 | 11 | 44 | 18 | 51 | 25 |
| 6 | 29 | 2 | 36 | 9 | 43 | 16 | 50 | 23 |
| 8 | 27 | 1 | 34 | 8 | 41 | 15 | 48 | 22 |
| 10 | 29. 26 | 29. 59 | 30. 33 | 31. 7 | 31. 39 | 32. 13 | 32. 46 | 33. 20 |
| 12 | 24 | 57 | 31 | 4 | 37 | 11 | 44 | 18 |
| 14 | 23 | 56 | 30 | 3 | 36 | 9 | 43 | 16 |
| 16 | 21 | 54 | 28 | 1 | 34 | 8 | 41 | 15 |
| 18 | 20 | 53 | 27 | 0 | 33 | 6 | 40 | 13 |
| 20 | 29. 18 | 29. 51 | 30. 25 | 30. 58 | 31. 31 | 32. 4 | 32. 38 | 33. 11 |
| 22 | 17 | 50 | 23 | 56 | 29 | 2 | 36 | 9 |
| 24 | 15 | 48 | 22 | 55 | 28 | 1 | 34 | 7 |
| 26 | 14 | 47 | 20 | 53 | 26 | 31. 59 | 33 | 6 |
| 28 | 12 | 45 | 19 | 52 | 25 | 58 | 31 | 4 |
| 30 | 29. 11 | 29. 44 | 30. 17 | 30. 50 | 31. 23 | 31. 56 | 32. 29 | 33. 2 |
| 32 | 9 | 42 | 15 | 48 | 21 | 54 | 27 | 0 |
| 34 | 8 | 41 | 14 | 47 | 20 | 53 | 26 | 32. 59 |
| 36 | 6 | 39 | 12 | 45 | 18 | 51 | 24 | 57 |
| 38 | 5 | 38 | 11 | 44 | 17 | 50 | 23 | 56 |
| 40 | 29. 3 | 29. 36 | 30. 9 | 30. 42 | 31. 15 | 31. 48 | 32. 21 | 32. 54 |
| 42 | 1 | 34 | 7 | 40 | 13 | 46 | 19 | 52 |
| 44 | 0 | 33 | 6 | 39 | 12 | 44 | 17 | 50 |
| 46 | 28. 58 | 31 | 4 | 37 | 10 | 43 | 16 | 49 |
| 48 | 57 | 30 | 3 | 36 | 9 | 41 | 14 | 47 |
| 50 | 28. 55 | 29. 28 | 30. 1 | 30. 34 | 31. 7 | 31. 39 | 32. 12 | 32. 45 |
| 52 | 54 | 27 | 29. 59 | 33 | 5 | 37 | 10 | 43 |
| 54 | 52 | 25 | 56 | 31 | 3 | 36 | 9 | 41 |
| 56 | 51 | 23 | 56 | 29 | 2 | 34 | 7 | 40 |
| 58 | 49 | 22 | 55 | 28 | 0 | 33 | 6 | 38 |

### ☽'s App. Altitude 57 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 28. 48 | 29. 20 | 29. 53 | 30. 26 | 30. 58 | 31. 31 | 32. 4 | 32. 36 |
| 2 | 46 | 18 | 51 | 24 | 56 | 29 | 2 | 34 |
| 4 | 45 | 17 | 50 | 23 | 55 | 28 | 0 | 33 |
| 6 | 43 | 15 | 48 | 21 | 53 | 26 | 31. 59 | 31 |
| 8 | 42 | 14 | 47 | 20 | 52 | 25 | 57 | 30 |
| 10 | 28. 40 | 29. 12 | 29. 45 | 30. 18 | 30. 50 | 31. 23 | 31. 55 | 32. 28 |
| 12 | 38 | 11 | 43 | 16 | 48 | 21 | 53 | 26 |
| 14 | 37 | 9 | 42 | 14 | 47 | 19 | 52 | 24 |
| 16 | 35 | 8 | 40 | 13 | 45 | 18 | 50 | 23 |
| 18 | 34 | 6 | 39 | 11 | 44 | 16 | 49 | 21 |
| 20 | 28. 32 | 29. 5 | 29. 37 | 30. 9 | 30. 42 | 31. 14 | 31. 47 | 32. 19 |
| 22 | 31 | 3 | 35 | 7 | 40 | 12 | 45 | 17 |
| 24 | 29 | 2 | 34 | 6 | 39 | 11 | 43 | 15 |
| 26 | 28 | 0 | 32 | 4 | 37 | 9 | 42 | 14 |
| 28 | 26 | 28. 59 | 31 | 3 | 36 | 8 | 40 | 12 |
| 30 | 28. 25 | 28. 57 | 29. 29 | 30. 1 | 30. 34 | 31. 6 | 31. 38 | 32. 10 |
| 32 | 23 | 55 | 27 | 29. 59 | 32 | 4 | 36 | 8 |
| 34 | 22 | 54 | 26 | 58 | 30 | 2 | 34 | 6 |
| 36 | 20 | 52 | 24 | 56 | 29 | 1 | 33 | 5 |
| 38 | 19 | 51 | 23 | 55 | 27 | 28. 58 | 31 | 3 |
| 40 | 28. 17 | 28. 49 | 29. 21 | 29. 53 | 30. 25 | 30. 57 | 31. 29 | 32. 1 |
| 42 | 15 | 47 | 19 | 51 | 23 | 55 | 27 | 31. 59 |
| 44 | 14 | 46 | 18 | 50 | 22 | 54 | 26 | 58 |
| 46 | 12 | 44 | 17 | 48 | 21 | 52 | 24 | 56 |
| 48 | 11 | 43 | 15 | 47 | 19 | 51 | 23 | 55 |
| 50 | 28. 9 | 28. 41 | 29. 13 | 29. 45 | 30. 17 | 30. 49 | 31. 21 | 31. 53 |
| 52 | 7 | 39 | 11 | 43 | 15 | 47 | 19 | 51 |
| 54 | 6 | 38 | 10 | 42 | 13 | 45 | 17 | 49 |
| 56 | 4 | 37 | 8 | 40 | 12 | 44 | 16 | 47 |
| 58 | 3 | 35 | 7 | 39 | 11 | 42 | 14 | 46 |

| Pr. parts for Seconds of Parallax *additive* | |
|---|---|
| ″ | ″ |
| 0 | 1 |
| 1 | 2 |
| 2 | 3 |
| 3 | 4 |
| 4 | 5 |
| 5 | 6 |
| 6 | 7 |
| 7 | 8 |
| 8 | 9 |
| 9 | 10 |
| 10 | 11 |
| 11 | 12 |
| 12 | 13 |
| 13 | 14 |
| 14 | 15 |
| 15 | 16 |
| 16 | 17 |
| 17 | 18 |
| 18 | 19 |
| 19 | 20 |
| 20 | 21 |
| 21 | 22 |
| 22 | 23 |
| 23 | 24 |
| 24 | 25 |
| 25 | 26 |
| 26 | 27 |
| 27 | 28 |
| 28 | 29 |
| 29 | 30 |
| 30 | 31 |
| 31 | 32 |
| 32 | 33 |
| 33 | 34 |
| 34 | 35 |
| 35 | 36 |
| 36 | 37 |
| 37 | 38 |
| 38 | 39 |
| 39 | 40 |
| 40 | 41 |
| 41 | 42 |
| 42 | 43 |
| 43 | 44 |
| 44 | 45 |
| 45 | 46 |
| 46 | 47 |
| 47 | 48 |
| 48 | 49 |
| 49 | 50 |
| 50 | 51 |
| 51 | 52 |
| 52 | 53 |
| 53 | 54 |
| 54 | 55 |
| 55 | 56 |
| 56 | 57 |
| 57 | 58 |
| 58 | 59 |
| 59 | 60 |

| Pr. parts for Seconds of Parallax *additive* | |
|---|---|
| ″ | ″ |
| 0 | 1 |
| 1 | 2 |
| 2 | 3 |
| 3 | 4 |
| 4 | 5 |
| 5 | 6 |
| 6 | 7 |
| 7 | 8 |
| 8 | 9 |
| 9 | 10 |
| 10 | 11 |
| 11 | 12 |
| 12 | 13 |
| 13 | 14 |
| 14 | 15 |
| 15 | 16 |
| 16 | 17 |
| 17 | 18 |
| 18 | 19 |
| 19 | 20 |
| 20 | 21 |
| 21 | 22 |
| 22 | 23 |
| 23 | 24 |
| 24 | 25 |
| 25 | 26 |
| 26 | 27 |
| 27 | 28 |
| 28 | 29 |
| 29 | 30 |
| 30 | 31 |
| 31 | 32 |
| 32 | 33 |
| 33 | 34 |
| 34 | 35 |
| 35 | 36 |
| 36 | 37 |
| 37 | 38 |
| 38 | 39 |
| 39 | 40 |
| 40 | 41 |
| 41 | 42 |
| 42 | 43 |
| 43 | 44 |
| 44 | 45 |
| 45 | 46 |
| 46 | 47 |
| 47 | 48 |
| 48 | 49 |
| 49 | 50 |
| 50 | 51 |
| 51 | 52 |
| 52 | 53 |
| 53 | 54 |
| 54 | 55 |
| 55 | 56 |
| 56 | 57 |
| 57 | 58 |
| 58 | 59 |
| 59 | 60 |

☽'s App. Altitude 54 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prop. Pts. for Seconds of Parallax |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 24. 10 | 24. 38 | 25. 6 | 25. 34 | 26. 2 | 26. 31 | 27. 0 | 27. 27 | 0 |
| 2 | 11 | 39 | 7 | 35 | 3 | 32 | 1 | 28 | 0–1 |
| 4 | 11 | 39 | 7 | 35 | 3 | 32 | 1 | 28 | 1–2 |
| 6 | 12 | 40 | 8 | 36 | 4 | 33 | 1 | 29 | 2–3 |
| 8 | 12 | 40 | 8 | 36 | 4 | 33 | 2 | 29 | 3–4 |
| 10 | 24. 13 | 24. 41 | 25. 9 | 25. 37 | 26. 5 | 26. 34 | 27. 3 | 27. 31 | 4–5 |
| 12 | 14 | 42 | 10 | 38 | 6 | 35 | 4 | 32 | 5–6 |
| 14 | 14 | 42 | 10 | 39 | 7 | 36 | 4 | 32 | 6–7 |
| 16 | 15 | 43 | 11 | 39 | 7 | 36 | 5 | 33 | 7–8 |
| 18 | 16 | 43 | 11 | 40 | 8 | 37 | 5 | 33 | 8–9 |
| 20 | 24. 16 | 24. 44 | 25. 12 | 25. 41 | 26. 9 | 26. 38 | 27. 6 | 27. 34 | 9–10 |
| 22 | 17 | 45 | 13 | 42 | 10 | 39 | 7 | 35 | 10–11 |
| 24 | 18 | 46 | 14 | 43 | 11 | 40 | 8 | 36 | 11–12 |
| 26 | 18 | 47 | 14 | 43 | 11 | 40 | 8 | 37 | 12–13 |
| 28 | 19 | 47 | 15 | 44 | 12 | 41 | 9 | 37 | 13–14 |
| 30 | 24. 20 | 24. 48 | 25. 16 | 25. 44 | 26. 12 | 26. 41 | 27. 10 | 27. 38 | 14–15 |
| 32 | 21 | 49 | 17 | 46 | 13 | 42 | 11 | 39 | 15–16 |
| 34 | 21 | 49 | 17 | 46 | 13 | 42 | 11 | 39 | 16–17 |
| 36 | 22 | 50 | 18 | 47 | 14 | 43 | 12 | 40 | 17–18 |
| 38 | 22 | 50 | 18 | 47 | 14 | 43 | 12 | 41 | 18–19 |
| 40 | 24. 23 | 24. 51 | 25. 19 | 25. 47 | 26. 15 | 26. 44 | 27. 13 | 27. 41 | 19–20 |
| 42 | 24 | 52 | 20 | 48 | 16 | 45 | 14 | 42 | 20–21 |
| 44 | 24 | 52 | 20 | 49 | 17 | 46 | 15 | 43 | 21–22 |
| 46 | 25 | 53 | 21 | 49 | 17 | 46 | 15 | 43 | 22–23 |
| 48 | 25 | 53 | 21 | 50 | 18 | 47 | 16 | 44 | 23–24 |
| 50 | 24. 26 | 24. 54 | 25. 22 | 25. 51 | 26. 19 | 26. 48 | 27. 17 | 27. 45 | 24–25 |
| 52 | 27 | 55 | 23 | 51 | 20 | 49 | 18 | 46 | 25–26 |
| 54 | 27 | 55 | 23 | 52 | 21 | 49 | 18 | 46 | 26–27 |
| 56 | 28 | 56 | 24 | 53 | 21 | 50 | 19 | 47 | 27–28 |
| 58 | 28 | 56 | 24 | 53 | 21 | 50 | 19 | 47 | 28–29 |

☽'s App. Altitude 55 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prop. Pts. for Seconds of Parallax |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 24. 20 | 24. 57 | 25. 26 | 25. 54 | 26. 23 | 26. 51 | 27. 20 | 27. 48 | 0 |
| 2 | 21 | 58 | 27 | 55 | 23 | 52 | 21 | 49 | 0–1 |
| 4 | 22 | 58 | 27 | 55 | 23 | 52 | 21 | 49 | 1–2 |
| 6 | 23 | 59 | 27 | 56 | 24 | 53 | 22 | 50 | 2–3 |
| 8 | 23 | 59 | 28 | 56 | 24 | 53 | 22 | 50 | 3–4 |
| 10 | 24. 24 | 25. 0 | 25. 28 | 25. 57 | 26. 25 | 26. 54 | 27. 23 | 27. 51 | 4–5 |
| 12 | 25 | 1 | 29 | 58 | 27 | 55 | 24 | 52 | 5–6 |
| 14 | 25 | 1 | 29 | 58 | 27 | 56 | 25 | 53 | 6–7 |
| 16 | 26 | 2 | 30 | 59 | 28 | 56 | 25 | 53 | 7–8 |
| 18 | 26 | 2 | 30 | 59 | 28 | 57 | 26 | 54 | 8–9 |
| 20 | 24. 27 | 25. 3 | 25. 31 | 26. 0 | 26. 29 | 26. 58 | 27. 27 | 27. 55 | 9–10 |
| 22 | 28 | 4 | 32 | 1 | 30 | 59 | 28 | 57 | 10–11 |
| 24 | 28 | 5 | 33 | 2 | 30 | 59 | 28 | 57 | 11–12 |
| 26 | 29 | 5 | 33 | 2 | 31 | 27. 0 | 29 | 58 | 12–13 |
| 28 | 29 | 6 | 34 | 3 | 31 | 0 | 29 | 58 | 13–14 |
| 30 | 24. 30 | 25. 7 | 25. 35 | 26. 4 | 26. 32 | 27. 1 | 27. 31 | 27. 59 | 14–15 |
| 32 | 30 | 8 | 36 | 5 | 33 | 2 | 31 | 28. 0 | 15–16 |
| 34 | 31 | 8 | 36 | 5 | 33 | 2 | 32 | 1 | 16–17 |
| 36 | 32 | 9 | 37 | 6 | 34 | 3 | 33 | 1 | 17–18 |
| 38 | 32 | 9 | 37 | 6 | 34 | 3 | 33 | 2 | 18–19 |
| 40 | 24. 33 | 25. 10 | 25. 38 | 26. 7 | 26. 35 | 27. 4 | 27. 34 | 28. 2 | 19–20 |
| 42 | 34 | 11 | 39 | 8 | 37 | 5 | 35 | 3 | 20–21 |
| 44 | 34 | 11 | 39 | 8 | 37 | 5 | 35 | 3 | 21–22 |
| 46 | 35 | 12 | 40 | 9 | 37 | 6 | 36 | 4 | 22–23 |
| 48 | 35 | 12 | 40 | 9 | 38 | 6 | 36 | 4 | 23–24 |
| 50 | 24. 36 | 25. 13 | 25. 41 | 26. 10 | 26. 39 | 27. 7 | 27. 36 | 28. 4 | 24–25 |
| 52 | 37 | 14 | 42 | 11 | 40 | 8 | 37 | 5 | 25–26 |
| 54 | 38 | 14 | 42 | 11 | 40 | 8 | 38 | 5 | 26–27 |
| 56 | 38 | 15 | 43 | 12 | 41 | 9 | 38 | 6 | 27–28 |
| 58 | 39 | 15 | 43 | 12 | 41 | 9 | 39 | 6 | 28–29 |

☽'s App. Altitude 56 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prop. Pts. for Seconds of Parallax |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 24. 47 | 25. 16 | 25. 44 | 26. 13 | 26. 42 | 27. 11 | 27. 40 | 28. 8 | 0 |
| 2 | 48 | 17 | 45 | 14 | 43 | 12 | 41 | 9 | 0–1 |
| 4 | 48 | 17 | 45 | 14 | 43 | 12 | 41 | 9 | 1–2 |
| 6 | 49 | 18 | 46 | 15 | 44 | 13 | 42 | 10 | 2–3 |
| 8 | 49 | 18 | 46 | 15 | 44 | 13 | 42 | 10 | 3–4 |
| 10 | 24. 50 | 25. 19 | 25. 47 | 26. 16 | 26. 45 | 27. 14 | 27. 43 | 28. 11 | 4–5 |
| 12 | 51 | 20 | 48 | 17 | 46 | 15 | 44 | 12 | 5–6 |
| 14 | 51 | 20 | 48 | 17 | 46 | 15 | 44 | 12 | 6–7 |
| 16 | 52 | 21 | 49 | 18 | 47 | 16 | 45 | 13 | 7–8 |
| 18 | 52 | 21 | 49 | 18 | 47 | 16 | 45 | 13 | 8–9 |
| 20 | 24. 53 | 25. 22 | 25. 50 | 26. 19 | 26. 48 | 27. 17 | 27. 46 | 28. 15 | 9–10 |
| 22 | 54 | 23 | 51 | 20 | 49 | 18 | 47 | 14 | 10–11 |
| 24 | 54 | 23 | 52 | 21 | 50 | 19 | 48 | 14 | 11–12 |
| 26 | 55 | 24 | 52 | 21 | 50 | 19 | 48 | 15 | 12–13 |
| 28 | 55 | 24 | 53 | 22 | 51 | 20 | 49 | 15 | 13–14 |
| 30 | 24. 56 | 25. 25 | 25. 54 | 26. 23 | 26. 52 | 27. 21 | 27. 50 | 28. 18 | 14–15 |
| 32 | 57 | 26 | 55 | 24 | 53 | 22 | 51 | 16 | 15–16 |
| 34 | 57 | 26 | 55 | 24 | 53 | 22 | 51 | 16 | 16–17 |
| 36 | 58 | 27 | 56 | 25 | 54 | 23 | 52 | 17 | 17–18 |
| 38 | 58 | 27 | 56 | 25 | 54 | 23 | 53 | 17 | 18–19 |
| 40 | 24. 59 | 25. 28 | 25. 57 | 26. 26 | 26. 55 | 27. 24 | 27. 53 | 28. 21 | 19–20 |
| 42 | 25. 0 | 29 | 58 | 27 | 56 | 25 | 54 | 22 | 20–21 |
| 44 | 0 | 29 | 58 | 27 | 56 | 25 | 54 | 22 | 21–22 |
| 46 | 1 | 30 | 59 | 28 | 57 | 26 | 55 | 23 | 22–23 |
| 48 | 1 | 30 | 59 | 28 | 57 | 26 | 55 | 23 | 23–24 |
| 50 | 25. 2 | 25. 31 | 26. 0 | 26. 29 | 26. 58 | 27. 27 | 27. 56 | 28. 25 | 24–25 |
| 52 | 3 | 32 | 1 | 30 | 27. 0 | 28 | 57 | 25 | 25–26 |
| 54 | 3 | 32 | 1 | 30 | 27. 0 | 28 | 57 | 25 | 26–27 |
| 56 | 4 | 33 | 2 | 31 | 1 | 29 | 58 | 26 | 27–28 |
| 58 | 4 | 33 | 2 | 31 | 1 | 29 | 58 | 26 | 28–29 |

☽'s App. Altitude 57 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prop. Pts. for Seconds of Parallax |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 25. 5 | 25. 34 | 26. 3 | 26. 32 | 27. 1 | 27. 30 | 27. 59 | 28. 28 | 0 |
| 2 | 6 | 35 | 4 | 33 | 2 | 31 | 28. 0 | 29 | 0–1 |
| 4 | 6 | 35 | 4 | 33 | 2 | 31 | 0 | 29 | 1–2 |
| 6 | 7 | 36 | 5 | 34 | 3 | 32 | 1 | 30 | 2–3 |
| 8 | 7 | 36 | 5 | 34 | 3 | 32 | 1 | 30 | 3–4 |
| 10 | 25. 8 | 25. 37 | 26. 6 | 26. 35 | 27. 4 | 27. 33 | 28. 2 | 28. 31 | 4–5 |
| 12 | 9 | 38 | 7 | 36 | 5 | 34 | 3 | 32 | 5–6 |
| 14 | 9 | 38 | 7 | 36 | 5 | 34 | 3 | 32 | 6–7 |
| 16 | 10 | 39 | 8 | 37 | 6 | 35 | 4 | 33 | 7–8 |
| 18 | 10 | 39 | 8 | 37 | 6 | 35 | 4 | 33 | 8–9 |
| 20 | 25. 11 | 25. 40 | 26. 9 | 26. 38 | 27. 7 | 27. 36 | 28. 5 | 28. 34 | 9–10 |
| 22 | 12 | 41 | 10 | 39 | 8 | 37 | 6 | 34 | 10–11 |
| 24 | 12 | 41 | 10 | 39 | 8 | 37 | 7 | 35 | 11–12 |
| 26 | 13 | 42 | 11 | 40 | 9 | 38 | 7 | 35 | 12–13 |
| 28 | 13 | 42 | 11 | 40 | 9 | 38 | 7 | 35 | 13–14 |
| 30 | 25. 14 | 25. 43 | 26. 12 | 26. 41 | 27. 10 | 27. 39 | 28. 8 | 28. 37 | 14–15 |
| 32 | 15 | 44 | 13 | 42 | 11 | 41 | 10 | 38 | 15–16 |
| 34 | 15 | 44 | 13 | 43 | 11 | 41 | 10 | 38 | 16–17 |
| 36 | 16 | 45 | 14 | 43 | 12 | 42 | 11 | 39 | 17–18 |
| 38 | 16 | 45 | 14 | 43 | 12 | 42 | 11 | 40 | 18–19 |
| 40 | 25. 17 | 25. 46 | 26. 15 | 26. 44 | 27. 13 | 27. 43 | 28. 12 | 28. 41 | 19–20 |
| 42 | 17 | 46 | 15 | 45 | 14 | 44 | 13 | 41 | 20–21 |
| 44 | 18 | 47 | 16 | 45 | 14 | 44 | 13 | 42 | 21–22 |
| 46 | 18 | 47 | 17 | 46 | 15 | 45 | 14 | 43 | 22–23 |
| 48 | 19 | 48 | 17 | 46 | 15 | 45 | 14 | 43 | 23–24 |
| 50 | 25. 19 | 25. 48 | 26. 17 | 26. 46 | 27. 15 | 27. 45 | 28. 14 | 28. 43 | 24–25 |
| 52 | 20 | 49 | 18 | 47 | 16 | 46 | 15 | 44 | 25–26 |
| 54 | 20 | 49 | 18 | 48 | 17 | 47 | 16 | 45 | 26–27 |
| 56 | 21 | 50 | 20 | 49 | 18 | 48 | 17 | 47 | 27–28 |
| 58 | 21 | 50 | 20 | 49 | 18 | 48 | 17 | 47 | 28–29 |

☽'s App. Altitude 58 Degrees.

Horizontal Parallax.

| | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prop. Pts. |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 26. 1 | 26. 32 | 26. 59 | 27. 26 | 27. 53 | 28. 20 | 28. 47 | 29. 14 | |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | 27. 0 | 27. 3 | 27. 31 | 27. 58 | 28. 25 | 28. 52 | 29. 19 | 29. 46 | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | 1— 1 |
| 6 | | | 27. 32 | 27. 59 | 28. 26 | 28. 53 | 29. 20 | 29. 47 | 2— 1 |
| 7 | 27. 1 | 27. 28 | 27. 55 | 28. 22 | 28. 49 | 29. 16 | 29. 43 | 30. 10 | 3— 2 |
| 8 | | | | | | | | | 4— 2 |
| 9 | | | | | | | | | 5— 3 |
| 10 | | | | | | | | | 6— 3 |
| 11 | | | | | | | | | 7— 4 |
| 12 | 27. 2 | 27. 29 | 27. 56 | 28. 23 | 28. 50 | 29. 17 | 29. 44 | 30. 11 | 8— 4 |
| 13 | | | | | | | | | 9— 5 |
| 14 | | | | | | | | | 10— 5 |
| 15 | | | | | | | | | 11— 6 |
| 16 | | | | | | | | | 12— 6 |
| 17 | 27. 3 | 27. 30 | 27. 57 | 28. 24 | 28. 51 | 29. 18 | 29. 45 | 30. 12 | 13— 7 |
| 18 | | | | | | | | | 14— 7 |
| 19 | | | | | | | | | 15— 8 |
| 20 | | | | | | | | | 16— 8 |
| 21 | | | | | | | | | 17— 9 |
| 22 | | | | | | | | | 18— 9 |
| 23 | 27. 4 | 27. 31 | 27. 58 | 28. 25 | 28. 52 | 29. 19 | 29. 46 | 30. 13 | 19— 10 |
| 24 | | | | | | | | | 20—10 |
| 25 | | | | | | | | | 21—11 |
| 26 | | | | | | | | | 22—11 |
| 27 | | | | | | | | | 23—12 |
| 28 | | | | | | | | | 24—12 |
| 29 | 27. 5 | 27. 32 | 27. 59 | 28. 26 | 28. 53 | 29. 20 | 29. 47 | 30. 14 | 25—13 |
| 30 | | | | | | | | | 26—13 |
| 31 | | | | | | | | | 27—14 |
| 32 | | | | | | | | | 28—14 |
| 33 | | | | | | | | | 29—15 |
| 34 | | | | | | | | | 30—15 |
| 35 | | | | | | | | | 31—16 |
| 36 | | | | | | | | | 32—16 |
| 37 | 27. 6 | 27. 33 | 28. 0 | 28. 27 | 28. 54 | 29. 21 | 29. 48 | 30. 15 | 33—17 |
| 38 | | | | | | | | | 34—17 |
| 39 | | | | | | | | | 35—18 |
| 40 | | | | | | | | | 36—18 |
| 41 | | | | | | | | | 37—19 |
| 42 | | | | | | | | | 38—19 |
| 43 | 27. 7 | 27. 34 | 28. 1 | 28. 28 | 28. 55 | 29. 22 | 29. 49 | 30. 16 | 39—20 |
| 44 | | | | | | | | | 40—20 |
| 45 | | | | | | | | | 41—21 |
| 46 | | | | | | | | | 42—21 |
| 47 | | | | | | | | | 43—22 |
| 48 | | | | | | | | | 44—22 |
| 49 | 27. 8 | 27. 35 | 28. 2 | 28. 29 | 28. 56 | 29. 23 | 29. 50 | 30. 17 | 45—23 |
| 50 | | | | | | | | | 46—23 |
| 51 | | | | | | | | | 47—24 |
| 52 | | | | | | | | | 48—24 |
| 53 | | | | | | | | | 49—25 |
| 54 | | | | | | | | | 50—25 |
| 55 | 27. 9 | 27. 36 | 28. 3 | 28. 30 | 28. 57 | 29. 24 | 29. 51 | 30. 18 | 51—26 |
| 56 | | | | | | | | | 52—26 |
| 57 | | | | | | | | | 53—27 |
| 58 | | | | | | | | | 54—27 |
| 59 | | | | | | | | | 55—28 |
| 60 | 27. 10 | 27. 37 | 28. 4 | 28. 31 | 28. 58 | 29. 25 | 29. 52 | 30. 19 | 56—28 |

☽'s App. Altitude 59 Degrees.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 27. 13 | 27. 40 | 28. 7 | 28. 34 | 29. 1 | 29. 28 | 29. 55 | 30. 22 | |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | 1— 1 |
| 6 | | | | | | | | | 2— 1 |
| 7 | 27. 14 | 27. 41 | 28. 8 | 28. 35 | 29. 2 | 29. 29 | 29. 56 | 30. 23 | 3— 2 |
| 8 | | | | | | | | | 4— 2 |
| 9 | | | | | | | | | 5— 3 |
| 10 | | | | | | | | | 6— 3 |
| 11 | | | | | | | | | 7— 4 |
| 12 | 27. 15 | 27. 42 | 28. 9 | 28. 36 | 29. 3 | 29. 30 | 29. 57 | 30. 24 | 8— 4 |
| 13 | | | | | | | | | 9— 5 |
| 14 | | | | | | | | | 10— 5 |
| 15 | | | | | | | | | 11— 6 |
| 16 | | | | | | | | | 12— 6 |
| 17 | 27. 16 | 27. 43 | 28. 10 | 28. 37 | 29. 4 | 29. 31 | 29. 58 | 30. 25 | 13— 7 |
| 18 | | | | | | | | | 14— 7 |
| 19 | | | | | | | | | 15— 8 |
| 20 | | | | | | | | | 16— 8 |
| 21 | | | | | | | | | 17— 9 |
| 22 | | | | | | | | | 18— 9 |
| 23 | 27. 17 | 27. 44 | 28. 11 | 28. 38 | 29. 5 | 29. 32 | 29. 59 | 30. 26 | 19— 10 |
| 24 | | | | | | | | | 20—10 |
| 25 | | | | | | | | | 21—11 |
| 26 | | | | | | | | | 22—11 |
| 27 | | | | | | | | | 23—12 |
| 28 | | | | | | | | | 24—12 |
| 29 | 27. 18 | 27. 45 | 28. 12 | 28. 39 | 29. 6 | 29. 33 | 30. 0 | 30. 27 | 25—13 |
| 30 | | | | | | | | | 26—13 |
| 31 | | | | | | | | | 27—14 |
| 32 | | | | | | | | | 28—14 |
| 33 | | | | | | | | | 29—15 |
| 34 | | | | | | | | | 30—15 |
| 35 | | | | | | | | | 31—16 |
| 36 | | | | | | | | | 32—16 |
| 37 | 27. 19 | 27. 46 | 28. 13 | 28. 40 | 29. 7 | 29. 34 | 30. 1 | 30. 28 | 33—17 |
| 38 | | | | | | | | | 34—17 |
| 39 | | | | | | | | | 35—18 |
| 40 | | | | | | | | | 36—18 |
| 41 | | | | | | | | | 37—19 |
| 42 | | | | | | | | | 38—19 |
| 43 | 27. 20 | 27. 47 | 28. 14 | 28. 41 | 29. 8 | 29. 35 | 30. 2 | 30. 29 | 39—20 |
| 44 | | | | | | | | | 40—20 |
| 45 | | | | | | | | | 41—21 |
| 46 | | | | | | | | | 42—21 |
| 47 | | | | | | | | | 43—22 |
| 48 | | | | | | | | | 44—22 |
| 49 | 27. 21 | 27. 48 | 28. 15 | 28. 42 | 29. 9 | 29. 36 | 30. 3 | 30. 30 | 45—23 |
| 50 | | | | | | | | | 46—23 |
| 51 | | | | | | | | | 47—24 |
| 52 | | | | | | | | | 48—24 |
| 53 | | | | | | | | | 49—25 |
| 54 | | | | | | | | | 50—25 |
| 55 | 27. 22 | 27. 49 | 28. 16 | 28. 43 | 29. 10 | 29. 37 | 30. 4 | 30. 31 | 51—26 |
| 56 | | | | | | | | | 52—26 |
| 57 | | | | | | | | | 53—27 |
| 58 | | | | | | | | | 54—27 |
| 59 | | | | | | | | | 55—28 |
| 60 | 27. 23 | 27. 50 | 28. 17 | 28. 44 | 29. 11 | 29. 38 | 30. 5 | 30. 32 | 56—28 |

☽'s App. Altitude 60 Degrees.

Horizontal Parallax.

| | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prop. Pts. for 60″ |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 26. 27 | 26. 57 | 27. 27 | 27. 57 | 28. 27 | 28. 57 | 29. 27 | 29. 57 | |
| 1 | 26 | 56 | 26 | 56 | 25 | 55 | 25 | 55 | |
| 2 | 25 | 54 | 24 | 54 | 24 | 53 | 23 | 53 | |
| 3 | 24 | 53 | 23 | 52 | 22 | 52 | 22 | 52 | 1— 1 |
| 4 | 23 | 52 | 22 | 51 | 21 | 51 | 20 | 50 | 2— 1 |
| 5 | 22 | 51 | 21 | 50 | 20 | 49 | 19 | 49 | 3— 2 |
| 6 | 21 | 50 | 20 | 49 | 19 | 48 | 18 | 48 | 4— 2 |
| 7 | 20 | 49 | 19 | 48 | 18 | 47 | 17 | 47 | 5— 3 |
| 8 | 19 | 48 | 18 | 47 | 17 | 46 | 16 | 46 | 6— 3 |
| 9 | 18 | 47 | 17 | 46 | 16 | 45 | 15 | 45 | 7— 4 |
| 10 | 17 | 46 | 16 | 45 | 15 | 45 | 14 | 44 | 8— 4 |
| 11 | 16 | 45 | 15 | 44 | 14 | 43 | 13 | 43 | 9— 5 |
| 12 | 15 | 44 | 14 | 43 | 13 | 42 | 12 | 42 | 10— 5 |
| 13 | 14 | 43 | 13 | 42 | 12 | 41 | 11 | 41 | 11— 6 |
| 14 | 13 | 42 | 12 | 41 | 11 | 40 | 10 | 40 | 12— 6 |
| 15 | 12 | 41 | 11 | 40 | 10 | 39 | 9 | 39 | 13— 7 |
| 16 | 11 | 40 | 10 | 39 | 9 | 38 | 8 | 38 | 14— 7 |
| 17 | 10 | 39 | 9 | 38 | 8 | 37 | 7 | 37 | 15— 8 |
| 18 | 9 | 38 | 8 | 37 | 7 | 36 | 6 | 36 | 16— 8 |
| 19 | 8 | 37 | 7 | 36 | 6 | 35 | 5 | 35 | 17— 9 |
| 20 | 7 | 36 | 6 | 35 | 5 | 35 | 4 | 34 | 18— 9 |
| 21 | 6 | 35 | 5 | 34 | 4 | 33 | 3 | 33 | 19— 10 |
| 22 | 5 | 34 | 4 | 33 | 3 | 32 | 2 | 32 | 20—10 |
| 23 | 4 | 33 | 3 | 32 | 2 | 31 | 1 | 31 | 21—11 |
| 24 | 3 | 32 | 2 | 31 | 1 | 30 | 0 | 30 | 22—11 |
| 25 | 26. 2 | 26. 32 | 27. 2 | 27. 32 | 28. 1 | 28. 31 | 29. 0 | 29. 30 | 23—12 |
| 26 | 1 | 31 | 1 | 31 | 0 | 30 | 27. 59 | 29 | 24—12 |
| 27 | 26. 0 | 30 | 26. 59 | 28 | 27. 58 | 29 | 28. 58 | 28 | 25—13 |
| 28 | 25. 59 | 29 | 58 | 27 | 57 | 28 | 57 | 27 | 26—13 |
| 29 | 58 | 28 | 57 | 27 | 56 | 25 | 55 | 24 | 27—14 |
| 30 | 57 | 27 | 56 | 25 | 55 | 24 | 54 | 23 | 28—14 |
| 31 | 56 | 26 | 55 | 24 | 54 | 23 | 53 | 22 | 29—15 |
| 32 | 55 | 25 | 54 | 23 | 53 | 22 | 52 | 21 | 30—15 |
| 33 | 54 | 24 | 53 | 22 | 52 | 21 | 51 | 20 | 31—16 |
| 34 | 53 | 23 | 52 | 21 | 51 | 20 | 50 | 19 | 32—16 |
| 35 | 52 | 22 | 51 | 20 | 49 | 18 | 48 | 17 | 33—17 |
| 36 | 51 | 21 | 50 | 19 | 48 | 17 | 47 | 16 | 34—17 |
| 37 | 50 | 20 | 49 | 18 | 47 | 16 | 46 | 15 | 35—18 |
| 38 | 49 | 19 | 48 | 17 | 46 | 15 | 45 | 14 | 36—18 |
| 39 | 48 | 18 | 47 | 16 | 45 | 14 | 44 | 13 | 37—19 |
| 40 | 47 | 17 | 46 | 15 | 44 | 13 | 43 | 12 | 38—19 |
| 41 | 46 | 16 | 45 | 14 | 43 | 12 | 42 | 11 | 39—20 |
| 42 | 45 | 15 | 44 | 13 | 42 | 11 | 41 | 10 | 40—20 |
| 43 | 44 | 14 | 43 | 12 | 41 | 10 | 40 | 9 | 41—21 |
| 44 | 43 | 13 | 42 | 11 | 40 | 9 | 39 | 8 | 42—21 |
| 45 | 42 | 12 | 41 | 10 | 39 | 8 | 38 | 7 | 43—22 |
| 46 | 41 | 11 | 40 | 9 | 38 | 7 | 37 | 6 | 44—22 |
| 47 | 40 | 10 | 39 | 8 | 37 | 6 | 36 | 5 | 45—23 |
| 48 | 39 | 9 | 38 | 7 | 36 | 5 | 35 | 4 | 46—23 |
| 49 | 38 | 8 | 37 | 6 | 35 | 4 | 34 | 3 | 47—24 |
| 50 | 37 | 7 | 36 | 5 | 34 | 3 | 33 | 2 | 48—24 |
| 51 | 36 | 6 | 35 | 4 | 33 | 2 | 32 | 1 | 49—25 |
| 52 | 35 | 5 | 34 | 3 | 32 | 1 | 31 | 0 | 50—25 |
| 53 | 34 | 4 | 33 | 2 | 31 | 0 | 29. 58 | 28. 57 | 51—26 |
| 54 | 33 | 3 | 32 | 1 | 30 | 27. 59 | 57 | 56 | 52—26 |
| 55 | 32 | 2 | 31 | 0 | 29. 58 | 57 | 56 | 55 | 53—27 |
| 56 | 31 | 1 | 30 | 27. 59 | 57 | 56 | 55 | 54 | 54—27 |
| 57 | 30 | 0 | 29. 59 | 58 | 57 | 55 | 54 | 53 | 55—28 |
| 58 | 29. 29 | 28. 58 | 28. 57 | 27. 57 | 56 | 54 | 53 | 52 | 56—28 |

☽'s App. Altitude 61 Degrees.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 25. 30 | 26. 0 | 26. 30 | 27. 0 | 27. 30 | 28. 0 | 28. 30 | 29. 0 | |
| 1 | | | | | | | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | 1— 1 |
| 6 | | | | | | | | | 2— 1 |
| 7 | 25. 31 | 26. 1 | 26. 31 | 27. 1 | 27. 31 | 28. 1 | 28. 31 | 29. 1 | 3— 2 |
| 8 | | | | | | | | | 4— 2 |
| 9 | | | | | | | | | 5— 3 |
| 10 | | | | | | | | | 6— 3 |
| 11 | | | | | | | | | 7— 4 |
| 12 | 25. 32 | 26. 2 | 26. 32 | 27. 2 | 27. 32 | 28. 2 | 28. 32 | 29. 2 | 8— 4 |
| 13 | | | | | | | | | 9— 5 |
| 14 | | | | | | | | | 10— 5 |
| 15 | | | | | | | | | 11— 6 |
| 16 | | | | | | | | | 12— 6 |
| 17 | 25. 33 | 26. 3 | 26. 33 | 27. 3 | 27. 33 | 28. 3 | 28. 33 | 29. 3 | 13— 7 |
| 18 | | | | | | | | | 14— 7 |
| 19 | | | | | | | | | 15— 8 |
| 20 | | | | | | | | | 16— 8 |
| 21 | | | | | | | | | 17— 9 |
| 22 | | | | | | | | | 18— 9 |
| 23 | 25. 34 | 26. 4 | 26. 34 | 27. 4 | 27. 34 | 28. 4 | 28. 34 | 29. 4 | 19— 10 |
| 24 | | | | | | | | | 20—10 |
| 25 | | | | | | | | | 21—11 |
| 26 | | | | | | | | | 22—11 |
| 27 | | | | | | | | | 23—12 |
| 28 | | | | | | | | | 24—12 |
| 29 | 25. 35 | 26. 5 | 26. 35 | 27. 5 | 27. 35 | 28. 5 | 28. 35 | 29. 5 | 25—13 |
| 30 | | | | | | | | | 26—13 |
| 31 | | | | | | | | | 27—14 |
| 32 | | | | | | | | | 28—14 |
| 33 | | | | | | | | | 29—15 |
| 34 | | | | | | | | | 30—15 |
| 35 | | | | | | | | | 31—16 |
| 36 | | | | | | | | | 32—16 |
| 37 | 25. 36 | 26. 6 | 26. 36 | 27. 6 | 27. 36 | 28. 6 | 28. 36 | 29. 6 | 33—17 |
| 38 | | | | | | | | | 34—17 |
| 39 | | | | | | | | | 35—18 |
| 40 | | | | | | | | | 36—18 |
| 41 | | | | | | | | | 37—19 |
| 42 | | | | | | | | | 38—19 |
| 43 | 25. 37 | 26. 7 | 26. 37 | 27. 7 | 27. 37 | 28. 7 | 28. 37 | 29. 7 | 39—20 |
| 44 | | | | | | | | | 40—20 |
| 45 | | | | | | | | | 41—21 |
| 46 | | | | | | | | | 42—21 |
| 47 | | | | | | | | | 43—22 |
| 48 | | | | | | | | | 44—22 |
| 49 | 25. 38 | 26. 8 | 26. 38 | 27. 8 | 27. 38 | 28. 8 | 28. 38 | 29. 8 | 45—23 |
| 50 | | | | | | | | | 46—23 |
| 51 | | | | | | | | | 47—24 |
| 52 | | | | | | | | | 48—24 |
| 53 | | | | | | | | | 49—25 |
| 54 | | | | | | | | | 50—25 |
| 55 | 25. 39 | 26. 9 | 26. 39 | 27. 9 | 27. 39 | 28. 9 | 28. 39 | 29. 9 | 51—26 |
| 56 | | | | | | | | | 52—26 |
| 57 | | | | | | | | | 53—27 |
| 58 | | | | | | | | | 54—27 |
| 59 | | | | | | | | | 55—28 |
| 60 | 25. 40 | 26. 10 | 26. 40 | 27. 10 | 27. 40 | 28. 10 | 28. 40 | 29. 10 | 56—28 |

Correct. Sun's and Star's Altit. *addit.* ⊙

### ☽'s App. Altitude 58 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | [illegible] | 25. 51 | [illegible] | [illegible] | [illegible] | 27. 19 | 27. 49 | 28. 18 |
| 2 | [illegible] | 51 | 22 | [illegible] | [illegible] | 50 | [illegible] | 48 |
| 4 | [illegible] | 51 | 22 | [illegible] | [illegible] | 50 | [illegible] | 48 |
| 6 | [illegible] | 51 | 23 | [illegible] | [illegible] | 51 | [illegible] | 50 |
| 8 | [illegible] | 51 | 23 | 54 | [illegible] | 51 | [illegible] | 52 |
| 10 | [illegible] | 25. 54 | [illegible] | [illegible] | [illegible] | 27. 52 | 28. 21 | 28. 51 |
| 12 | 25 | 55 | 25 | 54 | 23 | 53 | 22 | 52 |
| 14 | 26 | 55 | 25 | 54 | 23 | 53 | 22 | 52 |
| 16 | 26 | 56 | 26 | 55 | 24 | 54 | 23 | 53 |
| 18 | 27 | 56 | 26 | 55 | 24 | 54 | 23 | 53 |
| 20 | 25. 27 | 25. 57 | 26. 27 | 26. 56 | 27. 25 | 27. 55 | 28. 24 | 28. 54 |
| 22 | 28 | 58 | 28 | 57 | 26 | 56 | 25 | 55 |
| 24 | 28 | 58 | 28 | 57 | 26 | 56 | 26 | 56 |
| 26 | 29 | 59 | 29 | 58 | 27 | 57 | 26 | 56 |
| 28 | 29 | [illegible] | 29 | 58 | 27 | 57 | 27 | 57 |
| [illegible] | [illegible] | 25. 30 | 26. 0 | 26. 30 | 26. 59 | 27. 28 | 27. 58 | 28. 28 | 28. 58 |
| 32 | 31 | 0 | 30 | 27. 0 | 29 | 59 | 29 | 59 |
| 34 | 31 | 1 | 31 | 0 | 29 | 59 | 29 | 59 |
| 36 | 32 | 1 | 31 | 1 | 30 | 28. 0 | 30 | 29. 0 |
| 38 | 32 | 2 | 32 | 1 | 30 | 0 | 30 | 0 |
| [illegible] | [illegible] | [illegible] | 26. 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2 |
| [illegible] | [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2 |
| [illegible] | [illegible] | 4 | [illegible] | [illegible] | 33 | [illegible] | [illegible] | 3 |
| [illegible] | [illegible] | 4 | [illegible] | [illegible] | 33 | [illegible] | [illegible] | 3 |
| 50 | 25. 35 | 26. 5 | 26. 35 | 27. 5 | 27. 34 | 28. 4 | 28. 34 | 29. 4 |
| 52 | 36 | 6 | 36 | 6 | 35 | 5 | 35 | 5 |
| 54 | 36 | 6 | 36 | 6 | 35 | 5 | 35 | 5 |
| 56 | 37 | 7 | 37 | 7 | 36 | 6 | 36 | 6 |
| 58 | 37 | 7 | 37 | 7 | 36 | 6 | 36 | 6 |

### ☽'s App. Altitude 59 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | 26. 8 | 26. 38 | 27. 8 | 27. 37 | 28. 7 | 28. 37 | 29. 7 |
| [illegible] | [illegible] | [illegible] | 9 | 39 | 9 | 38 | 8 | 38 | 8 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 39 | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 39 | 9 | 39 | 9 |
| 10 | 25. 41 | 26. 11 | 26. 41 | 27. 11 | 27. 40 | 28. 10 | 28. 40 | 29. 10 |
| 12 | 42 | 12 | 42 | 12 | 41 | 11 | 41 | 11 |
| 14 | 42 | 12 | 42 | 12 | 41 | 11 | 41 | 11 |
| 16 | 43 | 13 | 43 | 13 | 42 | 12 | 42 | 12 |
| 18 | 43 | 13 | 43 | 13 | 42 | 12 | 42 | 12 |
| 20 | 25. 44 | 26. 14 | 26. 44 | 27. 14 | 27. 43 | 28. 13 | 28. 43 | 29. 13 |
| 22 | 45 | 15 | 45 | 15 | 44 | 14 | 44 | 14 |
| 24 | 45 | 15 | 45 | 15 | 44 | 14 | 44 | 14 |
| 26 | 46 | 16 | 46 | 16 | 45 | 15 | 45 | 15 |
| 28 | 46 | 16 | 46 | 16 | 45 | 15 | 45 | 15 |
| 30 | 25. 47 | 26. 17 | 26. 47 | 27. 17 | 27. 46 | 28. 16 | 28. 46 | 29. 16 |
| 32 | 47 | 17 | 47 | 17 | 47 | 17 | 47 | 17 |
| 34 | 48 | 18 | 48 | 18 | 47 | 17 | 47 | 17 |
| 36 | 48 | 18 | 48 | 18 | 48 | 18 | 48 | 18 |
| 38 | 49 | 19 | 49 | 19 | 48 | 18 | 48 | 18 |
| 40 | 25. 49 | 26. 19 | 26. 49 | 27. 19 | 27. 49 | 28. 19 | 28. 49 | 29. 19 |
| [illegible] | 50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 50 | [illegible] | [illegible] | 20 | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 51 | [illegible] | [illegible] | 21 | [illegible] | [illegible] | [illegible] | 21 |
| [illegible] | 51 | [illegible] | [illegible] | 21 | 51 | 21 | 51 | 21 |
| [illegible] | 52 | 26. [illegible] | [illegible] | 7. 22 | 27. 52 | [illegible] | [illegible] | [illegible] |
| [illegible] | 53 | [illegible] | [illegible] | 23 | 53 | [illegible] | [illegible] | [illegible] |
| [illegible] | 53 | [illegible] | [illegible] | 23 | 53 | [illegible] | [illegible] | [illegible] |
| [illegible] | 54 | [illegible] | [illegible] | 24 | 54 | [illegible] | [illegible] | [illegible] |
| [illegible] | 54 | [illegible] | [illegible] | 24 | 54 | [illegible] | [illegible] | [illegible] |

### ☽'s App. Altitude 60 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | 26 | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | 26 | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | 27 | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | 27 | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | 28 | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | 28 | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | 29 | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | 29 | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible]

☽'s App. Altitude 62 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 24. 51 | 25. 10 | 25. 47 | 26. 15 | 26. 43 | 27. 12 | 27. 40 | 28. 8 |
| 2 | 49 | 17 | 45 | 13 | 41 | 10 | 38 | 6 |
| 4 | 48 | 16 | 44 | 12 | 40 | 8 | 36 | 4 |
| 6 | 46 | 14 | 42 | 10 | 38 | 7 | 35 | 3 |
| 8 | 45 | 13 | 41 | 9 | 37 | 5 | 33 | 1 |
| 10 | 24. 43 | 25. 11 | 25. 39 | 26. 7 | 26. 35 | 27. 3 | 27. 31 | 27. 59 |
| 12 | 41 | 9 | 37 | 5 | 33 | 1 | 29 | 57 |
| 14 | 40 | 7 | 35 | 3 | 31 | 26. 59 | 27 | 55 |
| 16 | 38 | 0 | 34 | 2 | 30 | 58 | 26 | 54 |
| 18 | 37 | 4 | 32 | 0 | 28 | 56 | 24 | 52 |
| 20 | 24. 35 | 25. 2 | 25. 30 | 25. 58 | 26. 26 | 26. 54 | 27. 22 | 27. 50 |
| 22 | 33 | 0 | 28 | 56 | 24 | 52 | 20 | 48 |
| 24 | 31 | 24. 59 | 27 | 55 | 22 | 50 | 18 | 46 |
| 26 | 30 | 57 | 25 | 53 | 21 | 49 | 17 | 44 |
| 28 | 28 | 56 | 24 | 52 | 19 | 47 | 15 | 42 |
| 30 | 24. 26 | 24. 54 | 25. 22 | 25. 50 | 26. 17 | 26. 45 | 27. 13 | 27. 40 |
| 32 | 24 | 52 | 20 | 48 | 15 | 43 | 11 | 38 |
| 34 | 23 | 51 | 18 | 46 | 13 | 41 | 9 | 36 |
| 36 | 21 | 49 | 17 | 45 | 12 | 40 | 8 | 35 |
| 38 | 20 | 48 | 15 | 43 | 10 | 38 | 6 | 33 |
| 40 | 24. 18 | 24. 46 | 25. 13 | 25. 41 | 26. 8 | 26. 36 | 27. 4 | 27. 31 |
| 42 | 16 | 44 | 11 | 39 | 6 | 34 | 2 | 29 |
| 44 | 15 | 42 | 10 | 37 | 5 | 32 | 0 | 27 |
| 46 | 13 | 41 | 8 | 36 | 3 | 31 | 26. 58 | 26 |
| 48 | 12 | 39 | 7 | 34 | 2 | 29 | 56 | 24 |
| 50 | 24. 10 | 24. 37 | 25. 5 | 25. 33 | 26. 0 | 26. 27 | 26. 54 | 27. 22 |
| 52 | 8 | 35 | 3 | 30 | 25. 58 | 25 | 52 | 20 |
| 54 | 7 | 34 | 1 | 29 | 56 | 23 | 50 | 18 |
| 56 | 5 | 32 | 0 | 27 | 55 | 22 | 49 | 17 |
| 58 | 4 | 31 | 24. 58 | 26 | 53 | 20 | 47 | 15 |

Pr. parts for Seconds of Parallax additive

| ″ | ′ |
|---|---|
| 1 | 0 |
| 2 | 1 |
| 3 | 1 |
| 4 | 2 |
| 5 | 2 |
| 6 | 3 |
| 7 | 3 |
| 8 | 4 |
| 9 | 4 |
| 10 | 4 |
| 11 | 5 |
| 12 | 5 |
| 13 | 6 |
| 14 | 6 |
| 15 | 6 |
| 16 | 7 |
| 17 | 7 |
| 18 | 8 |
| 19 | 9 |
| 20 | 9 |
| 21 | 9 |
| 22 | 10 |
| 23 | 10 |
| 24 | 11 |
| 25 | 11 |
| 26 | 12 |
| 27 | 12 |
| 28 | 13 |
| 29 | 13 |
| 30 | 13 |
| 31 | 14 |
| 32 | 14 |
| 33 | 15 |
| 34 | 15 |
| 35 | 16 |
| 36 | 16 |
| 37 | 17 |
| 38 | 17 |
| 39 | 18 |
| 40 | 18 |
| 41 | 19 |
| 42 | 19 |
| 43 | 19 |
| 44 | 20 |
| 45 | 20 |
| 46 | 21 |
| 47 | 21 |
| 48 | 22 |
| 49 | 22 |
| 50 | 22 |
| 51 | 23 |
| 52 | 23 |
| 53 | 24 |
| 54 | 24 |
| 55 | 25 |
| 56 | 25 |
| 57 | 26 |
| 58 | 26 |
| 59 | 27 |

☽'s App. Altitude 63 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 24. 2 | 24. 21 | 24. 39 | 25. 24 | 25. 51 | 26. 18 | 26. 45 | 27. 13 |
| 2 | 0 | 27 | 54 | 22 | 49 | 16 | 43 | 11 |
| 4 | 23. 59 | 26 | 53 | 20 | 47 | 14 | 41 | 9 |
| 6 | 57 | 24 | 51 | 19 | 46 | 13 | 40 | 7 |
| 8 | 56 | 23 | 50 | 17 | 44 | 11 | 38 | 5 |
| 10 | 23. 54 | 24 | 21 | 48 | 26. 15 | 25. 42 | 26. 9 | 26. 36 |
| 12 | 52 | 1 | 48 | 15 | 42 | 7 | 34 | 1 |
| 14 | 50 | 17 | 44 | 11 | 38 | 5 | 32 | 26. 59 |
| 16 | 49 | 16 | 43 | 10 | 37 | 4 | 31 | 58 |
| 18 | 47 | 14 | 41 | 8 | 35 | 2 | 29 | 56 |
| 20 | 23. 45 | 24 | 12 | 39 | 25. 6 | 25. 33 | 26. 0 | 26. 27 |
| 22 | 44 | 11 | 37 | 4 | 31 | 25. 58 | 25 | 52 |
| 24 | 42 | 9 | 35 | 2 | 29 | 56 | 23 | 50 |
| 26 | 41 | 7 | 34 | 1 | 27 | 55 | 22 | 49 |
| 28 | 39 | 6 | 32 | 0 | 26 | 53 | 20 | 47 |
| 30 | 23. 37 | 24. 4 | 24. 31 | 24. 58 | 25. 24 | 25. 51 | 26. 18 | 26. 45 |
| 32 | 36 | 2 | 29 | 56 | 22 | 49 | 16 | 43 |
| 34 | 34 | 1 | 27 | 54 | 21 | 47 | 14 | 41 |
| 36 | 33 | 23. 59 | 26 | 53 | 19 | 46 | 13 | 40 |
| 38 | 31 | 58 | 24 | 51 | 17 | 44 | 11 | 37 |
| 40 | 23. 29 | 23. 56 | 24. 23 | 24. 49 | 25. 15 | 25. 42 | 26. 9 | 26. 35 |
| 42 | 27 | 54 | 22 | 47 | 13 | 40 | 7 | 33 |
| 44 | 26 | 52 | 19 | 45 | 12 | 38 | 5 | 31 |
| 46 | 24 | 51 | 17 | 44 | 10 | 37 | 4 | 30 |
| 48 | 23 | 49 | 16 | 42 | 9 | 35 | 2 | 28 |
| 50 | 23. 21 | 23. 47 | 24. 14 | 24. 41 | 25. 7 | 25. 33 | 26. 0 | 26. 26 |
| 52 | 19 | 45 | 12 | 38 | 5 | 31 | 25. 58 | 24 |
| 54 | 18 | 44 | 11 | 37 | 3 | 30 | 56 | 22 |
| 56 | 16 | 42 | 9 | 35 | 2 | 28 | 54 | 21 |
| 58 | 14 | 41 | 7 | 33 | 0 | 26 | 53 | 19 |

☽'s App. Altitude 64 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 23. 13 | 23. 39 | 24. 5 | 24. 31 | 24. 58 | 25. 24 | 25. 50 | 26. 17 |
| 2 | 11 | 37 | 3 | 29 | 56 | 22 | 48 | 15 |
| 4 | 9 | 35 | 2 | 27 | 54 | 20 | 46 | 13 |
| 6 | 8 | 34 | 0 | 26 | 53 | 19 | 45 | 11 |
| 8 | 6 | 32 | 23. 59 | 24 | 51 | 17 | 43 | 9 |
| 10 | 23. 4 | 23. 30 | 23. 57 | 24. 22 | 24. 49 | 25. 15 | 25. 41 | 26. 7 |
| 12 | 2 | 28 | 55 | 20 | 47 | 13 | 39 | 5 |
| 14 | 1 | 27 | 53 | 19 | 45 | 11 | 37 | 3 |
| 16 | 22. 59 | 25 | 52 | 17 | 44 | 10 | 36 | 2 |
| 18 | 58 | 24 | 50 | 16 | 42 | 8 | 34 | 0 |
| 20 | 22. 56 | 23. 22 | 23. 48 | 24. 14 | 24. 41 | 25. 6 | 25. 32 | 25. 58 |
| 22 | 54 | 20 | 46 | 12 | 38 | 4 | 30 | 56 |
| 24 | 53 | 19 | 44 | 10 | 36 | 2 | 28 | 54 |
| 26 | 51 | 17 | 43 | 9 | 35 | 1 | 27 | 52 |
| 28 | 50 | 16 | 41 | 7 | 33 | 24. 59 | 25 | 50 |
| 30 | 22. 48 | 23. 14 | 23. 39 | 24. 5 | 24. 31 | 24. 57 | 25. 23 | 25. 49 |
| 32 | 46 | 12 | 37 | 3 | 29 | 55 | 21 | 46 |
| 34 | 44 | 10 | 36 | 1 | 27 | 53 | 19 | 44 |
| 36 | 43 | 9 | 34 | 0 | 26 | 52 | 17 | 43 |
| 38 | 41 | 7 | 33 | 23. 58 | 24 | 50 | 15 | 41 |
| 40 | 22. 39 | 23. 5 | 23. 31 | 23. 56 | 24. 22 | 24. 48 | 25. 13 | 25. 39 |
| 42 | 37 | 3 | 29 | 54 | 20 | 46 | 11 | 37 |
| 44 | 36 | 2 | 27 | 53 | 18 | 44 | 9 | 35 |
| 46 | 34 | 0 | 26 | 51 | 17 | 43 | 8 | 34 |
| 48 | 33 | 22. 59 | 24 | 50 | 15 | 41 | 6 | 32 |
| 50 | 22. 31 | 22. 57 | 23. 22 | 23. 48 | 24. 14 | 24. 39 | 25. 4 | 25. 30 |
| 52 | 29 | 55 | 20 | 46 | 11 | 37 | 2 | 28 |
| 54 | 28 | 53 | 18 | 44 | 9 | 35 | 0 | 26 |
| 56 | 26 | 52 | 17 | 43 | 8 | 34 | 24. 59 | 24 |
| 58 | 25 | 50 | 15 | 41 | 6 | 32 | 57 | 22 |

Pr. parts for Seconds of Parallax additive

| ″ | ′ |
|---|---|
| 1 | 0 |
| 2 | 1 |
| 3 | 1 |
| 4 | 2 |
| 5 | 2 |
| 6 | 3 |
| 7 | 3 |
| 8 | 3 |
| 9 | 4 |
| 10 | 4 |
| 11 | 5 |
| 12 | 5 |
| 13 | 5 |
| 14 | 6 |
| 15 | 6 |
| 16 | 7 |
| 17 | 7 |
| 18 | 8 |
| 19 | 8 |
| 20 | 8 |
| 21 | 9 |
| 22 | 9 |
| 23 | 10 |
| 24 | 10 |
| 25 | 11 |
| 26 | 11 |
| 27 | 11 |
| 28 | 12 |
| 29 | 12 |
| 30 | 13 |
| 31 | 13 |
| 32 | 14 |
| 33 | 14 |
| 34 | 14 |
| 35 | 15 |
| 36 | 15 |
| 37 | 16 |
| 38 | 16 |
| 39 | 17 |
| 40 | 17 |
| 41 | 17 |
| 42 | 18 |
| 43 | 18 |
| 44 | 19 |
| 45 | 19 |
| 46 | 20 |
| 47 | 20 |
| 48 | 21 |
| 49 | 21 |
| 50 | 22 |
| 51 | 22 |
| 52 | 23 |
| 53 | 23 |
| 54 | 24 |
| 55 | 24 |
| 56 | 25 |
| 57 | 25 |
| 58 | 26 |
| 59 | 26 |

☽'s App. Altitude 65 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 22. 2 | 22. 28 | 22. 48 | 23. 15 | 23. 39 | 24. 4 | 24. 31 | 24. 55 | 25. 20 |
| 2 | 21 | 40 | 11 | 37 | 2 | 28 | 53 | 18 |
| 4 | 19 | 45 | 10 | 35 | 0 | 26 | 51 | 16 |
| 6 | 18 | 43 | 8 | 34 | 23. 59 | 24 | 50 | 15 |
| 8 | 16 | 42 | 7 | 32 | 57 | 23 | 48 | 13 |
| 10 | 22. 14 | 22. 40 | 23. 5 | 23. 30 | 23. 55 | 24. 22 | 24. 48 | 25. 11 |
| 12 | 12 | 38 | 3 | 28 | 53 | 19 | 44 | 9 |
| 14 | 11 | 37 | 1 | 26 | 51 | 17 | 42 | 7 |
| 16 | 9 | 35 | 22. 50 | 25 | 50 | 15 | 41 | 6 |
| 18 | 8 | 33 | 58 | 23 | 48 | 13 | 38 | 4 |
| 20 | 22. 6 | 22. 31 | 22. 56 | 23. 21 | 23. 46 | 24. 11 | 24. 36 | 25. 1 |
| 22 | 4 | 29 | 54 | 18 | 44 | 9 | 34 | 24. 59 |
| 24 | 3 | 28 | 52 | 17 | 42 | 7 | 32 | 57 |
| 26 | 1 | 26 | 51 | 15 | 41 | 6 | 31 | 55 |
| 28 | 0 | 25 | 49 | 14 | 39 | 4 | 29 | 54 |
| 30 | 21. 58 | 22. 23 | 22. 47 | 23. 13 | 23. 37 | 24. 2 | 24. 27 | 24. 52 |
| 32 | 56 | 21 | 45 | 11 | 36 | 0 | 26 | 50 |
| 34 | 54 | 19 | 44 | 9 | 34 | 23. 58 | 25 | 49 |
| 36 | 53 | 18 | 42 | 7 | 33 | 57 | 23 | 47 |
| 38 | 51 | 16 | 41 | 6 | 30 | 55 | 22 | 45 |
| 40 | 21. 49 | 22. 14 | 22. 38 | 23. 3 | 23. 28 | 23. 53 | 24. 18 | 24. 43 |
| 42 | 47 | 12 | 37 | 1 | 26 | 51 | 16 | 41 |
| 44 | 46 | 10 | 35 | 23. 59 | 25 | 49 | 14 | 39 |
| 46 | 44 | 9 | 34 | 58 | 23 | 48 | 13 | 37 |
| 48 | 43 | 7 | 32 | 57 | 21 | 46 | 11 | 36 |
| 50 | 21. 41 | 22. 5 | 22. 30 | 22. 55 | 23. 19 | 23. 44 | 24. 9 | 24. 33 |
| 52 | 39 | 3 | 28 | 53 | 17 | 42 | 7 | 31 |
| 54 | 37 | 2 | 26 | 51 | 16 | 40 | 4 | 29 |
| 56 | 36 | 0 | 25 | 50 | 14 | 39 | 3 | 27 |
| 58 | 34 | 21. 59 | 23 | 48 | 13 | 37 | 1 | 25 |

Pr. parts for Seconds of Parallax additive

| ″ | ′ |
|---|---|
| 1 | 0 |
| 2 | 1 |
| 3 | 1 |
| 4 | 2 |
| 5 | 2 |
| 6 | 3 |
| 7 | 3 |
| 8 | 3 |
| 9 | 4 |
| 10 | 4 |
| 11 | 5 |
| 12 | 5 |
| 13 | 5 |
| 14 | 6 |
| 15 | 6 |
| 16 | 7 |
| 17 | 7 |
| 18 | 8 |
| 19 | 8 |
| 20 | 8 |
| 21 | 9 |
| 22 | 9 |
| 23 | 10 |
| 24 | 10 |
| 25 | 11 |
| 26 | 11 |
| 27 | 11 |
| 28 | 12 |
| 29 | 12 |
| 30 | 13 |
| 31 | 13 |
| 32 | 14 |
| 33 | 14 |
| 34 | 14 |
| 35 | 15 |
| 36 | 15 |
| 37 | 16 |
| 38 | 16 |
| 39 | 17 |
| 40 | 17 |
| 41 | 17 |
| 42 | 18 |
| 43 | 18 |
| 44 | 19 |
| 45 | 19 |
| 46 | 20 |
| 47 | 20 |
| 48 | 21 |
| 49 | 21 |
| 50 | 22 |
| 51 | 22 |
| 52 | 23 |
| 53 | 23 |
| 54 | 24 |
| 55 | 24 |
| 56 | 25 |
| 57 | 25 |
| 58 | 26 |
| 59 | 26 |

☽'s App. Altitude 62 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Proparts for ″ |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 26. 2 | 26. 50 | 27. 27 | 27. 57 | 28. 28 | 28. 50 | 29. 20 | 30. 0 | |
| 2 | 27 | 57 | 28 | 58 | 29 | 29. [illegible] | 30 | 1 | |
| 4 | 27 | 57 | 28 | 58 | 29 | 0 | 30 | 1 | |
| 6 | 28 | 58 | 29 | 59 | 30 | 1 | 31 | 2 | |
| 8 | 28 | 58 | 29 | 59 | 30 | 1 | 31 | 2 | |
| 10 | 26. 29 | 26. 59 | 27. 30 | 28. 0 | 28. 31 | 29. 2 | 29. 32 | 30. 3 | |
| 12 | 29 | 59 | 30 | 0 | 31 | 2 | 33 | 3 | |
| 14 | 30 | 27. 0 | 31 | 1 | 32 | 3 | 33 | 4 | |
| 16 | 30 | 0 | 31 | 1 | 32 | 3 | 34 | 4 | |
| 18 | 31 | 1 | 32 | 2 | 33 | 4 | 34 | 5 | |
| 20 | 26. 31 | 27. 1 | 27. 32 | 28. 2 | 28. 33 | 29. 4 | 29. 35 | 30. 5 | |
| 22 | 32 | 2 | 33 | 3 | 34 | 5 | 36 | 6 | |
| 24 | 32 | 2 | 33 | 3 | 34 | 5 | 36 | 6 | |
| 26 | 33 | 3 | 34 | 4 | 35 | 6 | 37 | 7 | |
| 28 | 33 | 3 | 34 | 4 | 35 | 6 | 37 | 7 | |
| 30 | 26. 34 | 27. 4 | 27. 35 | 28. 5 | 28. 36 | 29. 7 | 29. 38 | 30. 8 | |
| 32 | 34 | 4 | 35 | 6 | 37 | 8 | 38 | 9 | |
| 34 | 35 | 5 | 36 | 6 | 37 | 8 | 39 | 9 | |
| 36 | 35 | 5 | 36 | 7 | 38 | 9 | 39 | 10 | |
| 38 | 36 | 6 | 37 | 7 | 38 | 9 | 40 | 10 | |
| 40 | 26. 36 | 27. 6 | 27. 37 | 28. 8 | 28. 39 | 29. 10 | 29. 40 | 30. 11 | |
| 42 | 37 | 7 | 38 | 8 | 39 | 10 | 41 | 11 | |
| 44 | 37 | 7 | 38 | 9 | 40 | 11 | 41 | 12 | |
| 46 | 38 | 8 | 39 | 9 | 40 | 11 | 42 | 12 | |
| 48 | 38 | 8 | 39 | 10 | 41 | 12 | 42 | 13 | |
| 50 | 26. 39 | 27. 9 | 27. 40 | 28. 10 | 28. 41 | 29. 12 | 29. 43 | 30. 13 | |
| 52 | 39 | 9 | 40 | 11 | 42 | 13 | 44 | 14 | |
| 54 | 40 | 10 | 41 | 11 | 42 | 13 | 44 | 14 | |
| 56 | 40 | 10 | 41 | 12 | 43 | 14 | 45 | 15 | |
| 58 | 41 | 11 | 42 | 12 | 43 | 14 | 45 | 15 | |

Correct. for Sun's

| ° | |
|---|---|
| 3 | 8 |
| 4 | 5 |
| 5 | 4 |
| 6 | 2 |
| 7 | |
| 8 | |
| 9 | 1 |
| 10 | 1 |
| 20 | 0 |
| 30 | 0 |
| 40 | |
| 50 | 0 |
| 60 | 0 |
| 70 | 0 |
| 80 | |
| 90 | 0 |

☽'s App. Altitude 63 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Proparts for ″ |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 26. 41 | 27. 11 | 27. 42 | 28. 13 | 28. 44 | 29. 15 | 29. 46 | 30. 16 | |
| 2 | 41 | 12 | 43 | 14 | 45 | 16 | 47 | 17 | |
| 4 | 42 | 12 | 43 | 14 | 45 | 16 | 47 | 17 | |
| 6 | 42 | 13 | 44 | 15 | 46 | 17 | 48 | 18 | |
| 8 | 43 | 13 | 44 | 15 | 46 | 17 | 48 | 19 | |
| 10 | 26. 43 | 27. 14 | 27. 45 | 28. 16 | 28. 47 | 29. 18 | 29. 49 | 30. 19 | |
| 12 | 44 | 14 | 45 | 16 | 47 | 18 | 49 | 19 | |
| 14 | 44 | 15 | 46 | 17 | 48 | 19 | 50 | 20 | |
| 16 | 45 | 15 | 46 | 17 | 48 | 19 | 50 | 20 | |
| 18 | 45 | 16 | 47 | 18 | 49 | 20 | 51 | 21 | |
| 20 | 26. 46 | 27. 16 | 27. 47 | 28. 18 | 28. 49 | 29. 20 | 29. 51 | 30. 21 | |
| 22 | 46 | 17 | 48 | 19 | 50 | 21 | 52 | 22 | |
| 24 | 47 | 17 | 48 | 19 | 50 | 21 | 52 | 22 | |
| 26 | 47 | 18 | 49 | 20 | 51 | 22 | 53 | 23 | |
| 28 | 48 | 18 | 49 | 20 | 51 | 22 | 53 | 23 | |
| 30 | 26. 48 | 27. 19 | 27. 50 | 28. 21 | 28. 52 | 29. 23 | 29. 54 | 30. 24 | |
| 32 | 49 | 19 | 50 | 21 | 52 | 24 | 55 | 25 | |
| 34 | 49 | 20 | 51 | 22 | 53 | 24 | 55 | 25 | |
| 36 | 49 | 20 | 51 | 22 | 53 | 24 | 56 | 26 | |
| 38 | 50 | 21 | 52 | 23 | 54 | 25 | 56 | 26 | |
| 40 | 26. 50 | 27. 21 | 27. 52 | 28. 23 | 28. 54 | 29. 26 | 29. 57 | 30. 27 | |
| 42 | 51 | 21 | 53 | 24 | 55 | 26 | 57 | 27 | |
| 44 | 51 | 22 | 53 | 24 | 55 | 27 | 58 | 28 | |
| 46 | 52 | 22 | 54 | 25 | 56 | 27 | 58 | 28 | |
| 48 | 52 | 23 | 54 | 25 | 56 | 28 | 59 | 29 | |
| 50 | 26. 53 | 27. 24 | 27. 55 | 28. 26 | 28. 57 | 29. 28 | 29. 59 | 30. 30 | |
| 52 | 53 | 24 | 55 | 26 | 57 | 28 | 30 | 1 | |
| 54 | 54 | 25 | 56 | 27 | 58 | 29 | 31 | 2 | |
| 56 | 54 | 25 | 56 | 27 | 58 | 30 | 1 | 31 | |
| 58 | 55 | 26 | 57 | 28 | 59 | 30 | 1 | 31 | |

Proparts for ″

| ″ | |
|---|---|
| 1 | 1 |
| 2 | 1 |
| 3 | 2 |
| 4 | 2 |
| 5 | 3 |
| 6 | 3 |
| 7 | 4 |
| 8 | 4 |
| 9 | 5 |
| 10 | 5 |
| 11 | 6 |
| 12 | 6 |
| 13 | 7 |
| 14 | 7 |
| 15 | 8 |
| 16 | 8 |
| 17 | 9 |
| 18 | 9 |
| 19 | 10 |
| 20 | 10 |
| 21 | 11 |
| 22 | 11 |
| 23 | 12 |
| 24 | 12 |
| 25 | 13 |
| 26 | 13 |
| 27 | 14 |
| 28 | 14 |
| 29 | 15 |
| 30 | 15 |
| 31 | 16 |
| 32 | 16 |
| 33 | 17 |
| 34 | 17 |
| 35 | 18 |
| 36 | 18 |
| 37 | 19 |
| 38 | 19 |
| 39 | 20 |
| 40 | 20 |
| 41 | 21 |
| 42 | 21 |
| 43 | 22 |
| 44 | 22 |
| 45 | 23 |
| 46 | 23 |
| 47 | 24 |
| 48 | 24 |
| 49 | 25 |
| 50 | 25 |
| 51 | 26 |
| 52 | 26 |
| 53 | 27 |
| 54 | 27 |
| 55 | 28 |
| 56 | 28 |
| 57 | 29 |
| 58 | 29 |
| 59 | 30 |
| 60 | 30 |
| 61 | 31 |

☽'s App. Altitude 64 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Proparts for ″ |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 26. 55 | 27. 26 | 27. 57 | 28. 28 | 28. 59 | 29. 31 | 30. 2 | 30. 34 | |
| 2 | 55 | 26 | 57 | 29 | 29. 0 | 32 | 3 | 33 | |
| 4 | 56 | 27 | 58 | 29 | 0 | 32 | 3 | 33 | |
| 6 | 56 | 27 | 58 | 30 | 1 | 33 | 4 | 34 | |
| 8 | 57 | 28 | 59 | 30 | 1 | 33 | 4 | 34 | |
| 10 | 26. 57 | 27. 28 | 27. 59 | 28. 31 | 29. 2 | 29. 34 | 30. 5 | 30. 35 | |
| 12 | 58 | 29 | 28. 0 | 31 | 2 | 34 | 5 | 35 | |
| 14 | 58 | 29 | 0 | 32 | 3 | 35 | 6 | 36 | |
| 16 | 59 | 30 | 1 | 32 | 3 | 35 | 6 | 36 | |
| 18 | 59 | 30 | 1 | 33 | 4 | 36 | 7 | 37 | |
| 20 | 27. 0 | 27. 31 | 28. 2 | 28. 33 | 29. 4 | 29. 35 | 30. 7 | 30. 37 | |
| 22 | 0 | 31 | 2 | 34 | 5 | 37 | 8 | 38 | |
| 24 | 1 | 32 | 3 | 34 | 5 | 37 | 8 | 38 | |
| 26 | 1 | 32 | 3 | 35 | 6 | 38 | 9 | 39 | |
| 28 | 2 | 33 | 4 | 35 | 6 | 38 | 9 | 39 | |
| 30 | 27. 2 | 27. 33 | 28. 4 | 28. 36 | 29. 7 | 29. 38 | 30. 10 | 30. 40 | |
| 32 | 2 | 33 | 4 | 36 | 7 | 39 | 10 | 41 | |
| 34 | 3 | 34 | 5 | 37 | 8 | 40 | 11 | 41 | |
| 36 | 3 | 34 | 5 | 37 | 8 | 40 | 11 | 42 | |
| 38 | 4 | 35 | 6 | 38 | 9 | 41 | 12 | 42 | |
| 40 | 27. 4 | 27. 35 | 28. 6 | 28. 38 | 29. 9 | 29. 41 | 30. 12 | 30. 43 | |
| 42 | 5 | 36 | 7 | 39 | 10 | 42 | 13 | 43 | |
| 44 | 5 | 36 | 7 | 39 | 10 | 42 | 13 | 44 | |
| 46 | 6 | 37 | 8 | 40 | 11 | 43 | 14 | 44 | |
| 48 | 6 | 37 | 8 | 40 | 11 | 43 | 14 | 45 | |
| 50 | 27. 7 | 27. 38 | 28. 9 | 28. 41 | 29. 12 | 29. 44 | 30. 15 | 30. 45 | |
| 52 | 7 | 38 | 9 | 41 | 12 | 44 | 15 | 46 | |
| 54 | 8 | 39 | 10 | 42 | 13 | 45 | 16 | 46 | |
| 56 | 8 | 39 | 10 | 42 | 13 | 45 | 16 | 47 | |
| 58 | 9 | 40 | 11 | 43 | 14 | 46 | 17 | 47 | |

☽'s App. Altitude 65 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Proparts for ″ |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 27. 9 | 27. 40 | 28. 11 | 28. 43 | 29. 14 | 29. 46 | 30. 17 | 30. 48 | |
| 2 | 9 | 40 | 11 | 43 | 14 | 46 | 18 | 49 | |
| 4 | 10 | 41 | 12 | 44 | 15 | 47 | 18 | 49 | |
| 6 | 10 | 41 | 12 | 44 | 15 | 47 | 19 | 50 | |
| 8 | 11 | 42 | 13 | 45 | 16 | 48 | 19 | 50 | |
| 10 | 27. 11 | 27. 43 | 28. 14 | 28. 45 | 29. 16 | 29. 48 | 30. 20 | 30. 51 | |
| 12 | 11 | 43 | 14 | 46 | 17 | 49 | 20 | 51 | |
| 14 | 12 | 43 | 14 | 46 | 17 | 49 | 21 | 52 | |
| 16 | 12 | 44 | 15 | 47 | 18 | 50 | 21 | 52 | |
| 18 | 13 | 44 | 15 | 47 | 18 | 50 | 22 | 53 | |
| 20 | 27. 13 | 27. 45 | 28. 16 | 28. 48 | 29. 19 | 29. 51 | 30. 23 | 30. 53 | |
| 22 | 14 | 45 | 16 | 48 | 19 | 51 | 23 | 54 | |
| 24 | 14 | 46 | 17 | 49 | 20 | 52 | 23 | 54 | |
| 26 | 15 | 46 | 17 | 49 | 20 | 52 | 24 | 55 | |
| 28 | 15 | 47 | 18 | 50 | 21 | 53 | 24 | 55 | |
| 30 | 27. 16 | 27. 47 | 28. 18 | 28. 50 | 29. 21 | 29. 53 | 30. 25 | 30. 56 | |
| 32 | 17 | 48 | 19 | 51 | 22 | 54 | 26 | 57 | |
| 34 | 17 | 48 | 19 | 51 | 22 | 54 | 26 | 57 | |
| 36 | 17 | 48 | 19 | 51 | 22 | 54 | 26 | 57 | |
| 38 | 18 | 49 | 20 | 52 | 23 | 55 | 27 | 58 | |
| 40 | 27. 18 | 27. 49 | 28. 20 | 28. 52 | 29. 23 | 29. 55 | 30. 27 | 30. 58 | |
| 42 | 18 | 50 | 21 | 53 | 24 | 56 | 28 | 59 | |
| 44 | 19 | 50 | 21 | 53 | 24 | 56 | 28 | 59 | |
| 46 | 19 | 51 | 22 | 54 | 25 | 57 | 29 | 30. 0 | |
| 48 | 20 | 51 | 22 | 54 | 25 | 57 | 29 | 30. 0 | |
| 50 | 27. 20 | 27. 52 | 28. 23 | 28. 55 | 29. 26 | 29. 58 | 30. 30 | 31. 1 | |
| 52 | 21 | 53 | 24 | 56 | 27 | 59 | 31 | 2 | |
| 54 | 21 | 53 | 24 | 56 | 27 | 59 | 31 | 2 | |
| 56 | 21 | 54 | 25 | 57 | 28 | 30. 0 | 31 | 2 | |
| 58 | 22 | 54 | 25 | 57 | 28 | 30. 0 | 31 | 3 | |

Proparts for ″

| ″ | |
|---|---|
| 1 | 1 |
| 2 | 1 |
| 3 | 2 |
| 4 | 2 |
| 5 | 3 |
| 6 | 3 |
| 7 | 4 |
| 8 | 4 |
| 9 | 5 |
| 10 | 5 |
| 11 | 6 |
| 12 | 6 |
| 13 | 7 |
| 14 | 7 |
| 15 | 8 |
| 16 | 8 |
| 17 | 9 |
| 18 | 9 |
| 19 | 10 |
| 20 | 10 |
| 21 | 11 |
| 22 | 11 |
| 23 | 12 |
| 24 | 12 |
| 25 | 13 |
| 26 | 13 |
| 27 | 14 |
| 28 | 15 |
| 29 | 15 |
| 30 | 16 |
| 31 | 16 |
| 32 | 17 |
| 33 | 17 |
| 34 | 18 |
| 35 | 18 |
| 36 | 19 |
| 37 | 19 |
| 38 | 20 |
| 39 | 20 |
| 40 | 21 |
| 41 | 21 |
| 42 | 22 |
| 43 | 22 |
| 44 | 23 |
| 45 | 23 |
| 46 | 24 |
| 47 | 24 |
| 48 | 25 |
| 49 | 25 |
| 50 | 26 |
| 51 | 26 |
| 52 | 27 |
| 53 | 27 |
| 54 | 28 |
| 55 | 28 |
| 56 | 29 |
| 57 | 29 |
| 58 | 30 |
| 59 | 31 |

☽'s App. Altitude 66 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Pr. parts for Seconds of Parallax |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 21. 32 | 21. 57 | 22. 21 | 22. 45 | 23. 10 | 23. 34 | 23. 59 | 24. 23 | |
| 2 | 33 | 58 | 22 | 46 | 11 | 35 | 24 | 48 | |
| 4 | 34 | 59 | 23 | 47 | 12 | 36 | 25 | 49 | |
| 6 | 35 | 22. 0 | 24 | 48 | 13 | 37 | 26 | 50 | |
| 8 | 36 | 1 | 25 | 49 | 14 | 38 | 27 | 51 | |
| 10 | 21. 37 | 22. 2 | 22. 26 | 22. 50 | 23. 15 | 23. 39 | 24. 4 | 24. 28 | |
| 12 | 38 | 3 | 27 | 51 | 16 | 40 | 5 | 29 | |
| 14 | 39 | 4 | 28 | 52 | 17 | 41 | 6 | 30 | |
| 16 | 40 | 5 | 29 | 53 | 18 | 42 | 7 | 31 | |
| 18 | 41 | 6 | 30 | 54 | 19 | 43 | 8 | 32 | |
| 20 | 21. 42 | 22. 7 | 22. 31 | 22. 55 | 23. 20 | 23. 44 | 24. 9 | 24. 33 | |
| 22 | 43 | 8 | 32 | 56 | 21 | 45 | 10 | 34 | |
| 24 | 44 | 9 | 33 | 57 | 22 | 46 | 11 | 35 | |
| 26 | 45 | 10 | 34 | 58 | 23 | 47 | 12 | 36 | |
| 28 | 46 | 11 | 35 | 59 | 24 | 48 | 13 | 37 | |
| 30 | 21. 47 | 22. 12 | 22. 36 | 23. 0 | 23. 25 | 23. 49 | 24. 14 | 24. 38 | |
| 32 | 48 | 13 | 37 | 1 | 26 | 50 | 15 | 39 | |
| 34 | 49 | 14 | 38 | 2 | 27 | 51 | 16 | 40 | |
| 36 | 50 | 15 | 39 | 3 | 28 | 52 | 17 | 41 | |
| 38 | 51 | 16 | 40 | 4 | 29 | 53 | 18 | 42 | |
| 40 | 21. 52 | 22. 17 | 22. 41 | 23. 5 | 23. 30 | 23. 54 | 24. 19 | 24. 43 | |
| 42 | 53 | 18 | 42 | 6 | 31 | 55 | 20 | 44 | |
| 44 | 54 | 19 | 43 | 7 | 32 | 56 | 21 | 45 | |
| 46 | 55 | 20 | 44 | 8 | 33 | 57 | 22 | 46 | |
| 48 | 56 | 21 | 45 | 9 | 34 | 58 | 23 | 47 | |
| 50 | 21. 57 | 22. 22 | 22. 46 | 23. 10 | 23. 35 | 23. 59 | 24. 24 | 24. 48 | |
| 52 | 58 | 23 | 47 | 11 | 36 | 24. 0 | 25 | 49 | |
| 54 | 59 | 24 | 48 | 12 | 37 | 1 | 26 | 50 | |
| 56 | 22. 0 | 25 | 49 | 13 | 38 | 2 | 27 | 51 | |
| 58 | 1 | 26 | 50 | 14 | 39 | 3 | 28 | 52 | |

☽'s App. Altitude 67 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Pr. parts for Seconds of Parallax |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 20. 42 | 21. 5 | 21. 29 | 21. 52 | 22. 16 | 22. 39 | 23. 2 | 23. 26 | |
| 2 | 43 | 6 | 27 | 53 | 17 | 40 | 3 | 27 | |
| 4 | 44 | 7 | 28 | 54 | 18 | 41 | 4 | 28 | |
| 6 | 45 | 8 | 29 | 55 | 19 | 42 | 5 | 29 | |
| 8 | 46 | 9 | 30 | 56 | 20 | 43 | 6 | 30 | |
| 10 | 20. 47 | 21. 10 | 21. 31 | 21. 57 | 22. 21 | 22. 44 | 23. 7 | 23. 31 | |
| 12 | 48 | 11 | 32 | 58 | 22 | 45 | 8 | 32 | |
| 14 | 49 | 12 | 33 | 59 | 23 | 46 | 9 | 33 | |
| 16 | 50 | 13 | 34 | 22. 0 | 24 | 47 | 10 | 34 | |
| 18 | 51 | 14 | 35 | 1 | 25 | 48 | 11 | 35 | |
| 20 | 20. 52 | 21. 15 | 21. 36 | 21. 58 | 22. 26 | 22. 49 | 23. 12 | 23. 36 | |
| 22 | 53 | 16 | 37 | 59 | 27 | 50 | 13 | 37 | |
| 24 | 54 | 17 | 38 | 22. 0 | 28 | 51 | 14 | 38 | |
| 26 | 55 | 18 | 39 | 1 | 29 | 52 | 15 | 39 | |
| 28 | 56 | 19 | 40 | 2 | 30 | 53 | 16 | 40 | |
| 30 | 20. 57 | 21. 20 | 21. 43 | 22. 6 | 22. 30 | 22. 53 | 23. 17 | 23. 40 | |
| 32 | 58 | 21 | 41 | 4 | 31 | 54 | 18 | 41 | |
| 34 | 59 | 22 | 42 | 5 | 32 | 55 | 19 | 42 | |
| 36 | 21. 0 | 23 | 43 | 6 | 33 | 56 | 20 | 43 | |
| 38 | 1 | 24 | 44 | 7 | 34 | 57 | 21 | 44 | |
| 40 | 21. 2 | 21. 25 | 21. 45 | 22. 8 | 22. 35 | 22. 58 | 23. 22 | 23. 45 | |
| 42 | 3 | 26 | 46 | 9 | 36 | 59 | 23 | 46 | |
| 44 | 4 | 27 | 47 | 10 | 37 | 23. 0 | 24 | 47 | |
| 46 | 5 | 28 | 48 | 11 | 38 | 1 | 25 | 48 | |
| 48 | 6 | 29 | 49 | 12 | 39 | 2 | 26 | 49 | |
| 50 | 21. 7 | 21. 30 | 21. 50 | 22. 13 | 22. 40 | 23. 3 | 23. 27 | 23. 50 | |
| 52 | 8 | 31 | 51 | 14 | 41 | 4 | 28 | 51 | |
| 54 | 9 | 32 | 52 | 15 | 42 | 5 | 29 | 52 | |
| 56 | 10 | 33 | 53 | 16 | 43 | 6 | 30 | 53 | |
| 58 | 11 | 34 | 54 | 17 | 44 | 7 | 31 | 54 | |

☽'s App Altitude 68 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Pr parts for Seconds of Parallax |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 19. 51 | 20. 13 | 20. 36 | 20. 58 | 21. 21 | 21. 43 | 22. 6 | 22. 28 | |
| 2 | 52 | 14 | 37 | 59 | 22 | 44 | 7 | 29 | |
| 4 | 53 | 15 | 38 | 20. 0 | 23 | 45 | 8 | 30 | |
| 6 | 54 | 16 | 39 | 1 | 24 | 46 | 9 | 31 | |
| 8 | 55 | 17 | 40 | 2 | 25 | 47 | 10 | 32 | |
| 10 | 19. 56 | 20. 18 | 20. 41 | 21. 3 | 21. 26 | 21. 48 | 22. 11 | 22. 33 | |
| 12 | 57 | 19 | 42 | 4 | 27 | 49 | 12 | 34 | |
| 14 | 58 | 20 | 43 | 5 | 28 | 50 | 13 | 35 | |
| 16 | 59 | 21 | 44 | 6 | 29 | 51 | 14 | 36 | |
| 18 | 20. 0 | 22 | 45 | 7 | 30 | 52 | 15 | 37 | |
| 20 | 19. 34 | 19. 57 | 20. 19 | 20. 41 | 21. 4 | 21. 26 | 21. 47 | 22. 9 | |
| 22 | 32 | 54 | 17 | 38 | 0 | 22 | 45 | 7 | |
| 24 | 30 | 52 | 14 | 36 | 20. 58 | 20 | 43 | 5 | |
| 26 | 27 | 51 | 13 | 35 | 57 | 19 | 41 | 3 | |
| 28 | 27 | 49 | 11 | 33 | 55 | 17 | 39 | 1 | |
| 30 | 19. 25 | 19. 47 | 20. 9 | 20. 31 | 20. 53 | 21. 15 | 21. 37 | 21. 59 | |
| 32 | 23 | 45 | 7 | 29 | 51 | 13 | 35 | 57 | |
| 34 | 21 | 43 | 5 | 27 | 49 | 11 | 33 | 55 | |
| 36 | 20 | 42 | 4 | 26 | 47 | 10 | 31 | 53 | |
| 38 | 18 | 40 | 2 | 24 | 46 | 8 | 29 | 51 | |
| 40 | 19. 16 | 19. 38 | 20. 0 | 20. 21 | 20. 44 | 21. 6 | 21. 27 | 21. 49 | |
| 42 | 14 | 36 | 19. 59 | 20 | 42 | 4 | 25 | 47 | |
| 44 | 13 | 35 | 58 | 18 | 40 | 2 | 23 | 45 | |
| 46 | 11 | 33 | 55 | 17 | 39 | 0 | 22 | 43 | |
| 48 | 10 | 32 | 53 | 15 | 37 | 20. 58 | 20 | 41 | |
| 50 | 19. 8 | 19. 30 | 19. 51 | 20. 13 | 20. 35 | 20. 56 | 21. 18 | 21. 39 | |
| 52 | 6 | 28 | 49 | 11 | 33 | 54 | 16 | 37 | |
| 54 | 4 | 26 | 47 | 9 | 31 | 54 | 14 | 36 | |
| 56 | 3 | 25 | 46 | 8 | 29 | 51 | 12 | 34 | |
| 58 | 1 | 23 | 44 | 6 | 27 | 49 | 10 | 32 | |

☽'s App. Altitude 69 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Pr parts for Seconds of Parallax |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 18. 56 | 19. 21 | 19. 45 | 20. 4 | 20. 25 | 20. 47 | 21. 8 | 21. 30 | |
| 2 | 57 | 19 | 46 | 2 | 23 | 45 | 6 | 28 | |
| 4 | 54 | 17 | 39 | 0 | 21 | 43 | 4 | 26 | |
| 6 | 54 | 16 | 37 | 19. 59 | 20 | 41 | 2 | 24 | |
| 8 | 53 | 14 | 35 | 57 | 18 | 39 | 0 | 22 | |
| 10 | 18. 51 | 19. 12 | 19. 33 | 19. 55 | 20. 16 | 20. 37 | 20. 58 | 21. 20 | |
| 12 | 49 | 10 | 31 | 53 | 14 | 35 | 56 | 18 | |
| 14 | 47 | 8 | 29 | 51 | 12 | 33 | 54 | 16 | |
| 16 | 46 | 7 | 28 | 50 | 11 | 32 | 53 | 14 | |
| 18 | 44 | 5 | 26 | 48 | 9 | 30 | 51 | 12 | |
| 20 | 18. 43 | 19. 3 | 19. 24 | 19. 47 | 20. 7 | 20. 28 | 20. 49 | 21. 10 | |
| 22 | 40 | 1 | 22 | 44 | 5 | 26 | 47 | 8 | |
| 24 | 39 | 18. 59 | 21 | 42 | 3 | 24 | 45 | 6 | |
| 26 | 37 | 57 | 19 | 40 | 1 | 22 | 43 | 4 | |
| 28 | 36 | 55 | 17 | 38 | 19. 59 | 21 | 41 | 2 | |
| 30 | 18. 34 | 18. 54 | 19. 15 | 19. 36 | 19. 57 | 20. 18 | 20. 39 | 21. 0 | |
| 32 | 32 | 52 | 13 | 34 | 55 | 16 | 37 | 58 | |
| 34 | 31 | 51 | 11 | 32 | 53 | 14 | 35 | 56 | |
| 36 | 29 | 49 | 10 | 31 | 52 | 13 | 34 | 54 | |
| 38 | 27 | 48 | 8 | 29 | 50 | 11 | 32 | 52 | |
| 40 | 18. 25 | 18. 47 | 19. 8 | 19. 27 | 19. 47 | 20. 8 | 20. 28 | 20. 49 | |
| 42 | 23 | 44 | 4 | 25 | 46 | 7 | 28 | 47 | |
| 44 | 21 | 42 | 3 | 23 | 44 | 5 | 26 | 47 | |
| 46 | 19 | 41 | 1 | 22 | 43 | 3 | 24 | 45 | |
| 48 | 17 | 39 | 18. 59 | 20 | 41 | 1 | 22 | 43 | |
| 50 | 18. 16 | 18. 37 | 18. 57 | 19. 18 | 19. 38 | 19. 59 | 20. 20 | 20. 41 | |
| 52 | 14 | 35 | 55 | 16 | 37 | 57 | 18 | 39 | |
| 54 | 13 | 33 | 53 | 14 | 35 | 56 | 17 | 38 | |
| 56 | 11 | 32 | 52 | 13 | 34 | 54 | 15 | 35 | |
| 58 | 9 | 31 | 50 | 11 | 32 | 52 | 13 | 33 | |

Pr parts for Seconds of Parallax

0–0
1–0
2–1
3–1
4–1
5–2
6–2
7–3
8–3
9–4
10–4
11–4
12–5
13–5
14–5
15–5
16–6
17–6
18–6
19–7
20–7
21–8
22–8
23–8
24–9
25–9
26–9
27–10
28–10
29–10
30–11
31–11
32–11
33–12
34–12
35–13
36–13
37–13
38–14
39–14
40–14
41–15
42–15
43–15
44–16
45–16
46–16
47–17
48–17
49–18
50–18
51–18
52–19
53–19
54–19
55–20
56–20
57–20
58–21
59–21

☽'s App. Altitude 66 Degrees.

| | Horizontal Parallax. | | | | | | | | Proport. Parts |
|---|---|---|---|---|---|---|---|---|---|
| | 52′ | 53′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | |
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 27. 20 | 27. 54 | 28. 28 | 28. 57 | 29. 28 | 30. 0 | 30. 32 | 31. 5 | 0 |
| 1 | 22 | 56 | 30 | 57 | 28 | 1 | 32 | 4 | 1 |
| 2 | 23 | 56 | 29 | 58 | 29 | 1 | 33 | 4 | 2 |
| 3 | 23 | 56 | 29 | 58 | 29 | 1 | 33 | 5 | 3 |
| 4 | 24 | 57 | 29 | 59 | 30 | 2 | 34 | 5 | 4 |
| 5 | 25 | 57 | 29 | 59 | 30 | 2 | 34 | 6 | 5 |
| 6 | 25 | 57 | 29 | 0 | 31 | 3 | 35 | 7 | 6 |
| 7 | 25 | 57 | 29 | 0 | 31 | 4 | 36 | 7 | 7 |
| 8 | 26 | 58 | 29 | 1 | 32 | 4 | 36 | 8 | 8 |
| 9 | 27. 27 | 27. 58 | 28. 29 | 29. 1 | 29. 33 | 30. 5 | 30. 37 | 31. 8 | 9 |
| 10 | 27 | 59 | 30 | 2 | 33 | 5 | 37 | 9 | 10 |
| 11 | 27 | 59 | 30 | 2 | 34 | 6 | 38 | 9 | 11 |
| 12 | 28 | 28. 0 | 31 | 3 | 34 | 6 | 38 | 10 | 12 |
| 13 | 28 | 0 | 31 | 3 | 35 | 7 | 39 | 10 | 13 |
| 14 | 27. 29 | 28. 1 | 28. 32 | 29. 4 | 29. 35 | 30. 7 | 30. 39 | 31. 11 | 14 |
| 15 | 29 | 1 | 32 | 4 | 35 | 7 | 39 | 11 | 15 |
| 16 | 30 | 2 | 33 | 5 | 36 | 8 | 40 | 12 | 16 |
| 17 | 30 | 2 | 33 | 5 | 36 | 8 | 40 | 12 | 17 |
| 18 | 31 | 3 | 34 | 6 | 37 | 9 | 41 | 13 | 18 |
| 19 | 27. 31 | 28. 3 | 28. 34 | 29. 6 | 29. 37 | 30. 9 | 30. 41 | 31. 13 | 19 |
| 20 | 31 | 3 | 34 | 6 | 38 | 10 | 42 | 14 | 20 |
| 21 | 32 | 4 | 35 | 7 | 38 | 10 | 42 | 14 | 21 |
| 22 | 32 | 4 | 35 | 7 | 39 | 11 | 43 | 15 | 22 |
| 23 | 33 | 5 | 36 | 8 | 39 | 11 | 43 | 15 | 23 |
| 24 | 27. 33 | 28. 5 | 28. 36 | 29. 8 | 29. 40 | 30. 12 | 30. 44 | 31. 16 | 24 |
| 25 | 33 | 5 | 36 | 8 | 40 | 12 | 44 | 16 | 25 |
| 26 | 34 | 6 | 37 | 9 | 41 | 13 | 45 | 17 | 26 |
| 27 | 34 | 6 | 37 | 9 | 41 | 13 | 45 | 17 | 27 |
| 28 | 35 | 7 | 38 | 10 | 42 | 14 | 46 | 18 | 28 |

☽'s App. Altitude 67 Degrees.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 27. 35 | 28. 7 | 28. 38 | 29. 10 | 29. 42 | 30. 14 | 30. 46 | 31. 18 | 0 |
| 1 | 35 | 7 | 38 | 11 | 41 | 14 | 46 | 18 | 1 |
| 2 | 36 | 8 | 39 | 11 | 43 | 15 | 47 | 19 | 2 |
| 3 | 36 | 8 | 39 | 11 | 43 | 15 | 47 | 19 | 3 |
| 4 | 37 | 9 | 40 | 12 | 44 | 16 | 48 | 20 | 4 |
| 5 | 27. 37 | 28. 9 | 28. 40 | 29. 12 | 29. 44 | 30. 16 | 30. 48 | 31. 21 | 5 |
| 6 | 37 | 9 | 40 | 13 | 44 | 16 | 49 | 21 | 6 |
| 7 | 38 | 10 | 41 | 13 | 45 | 17 | 49 | 21 | 7 |
| 8 | 38 | 10 | 41 | 13 | 45 | 17 | 50 | 22 | 8 |
| 9 | 39 | 11 | 42 | 14 | 46 | 18 | 50 | 22 | 9 |
| 10 | 27. 39 | 28. 11 | 28. 42 | 29. 14 | 29. 47 | 30. 19 | 30. 51 | 31. 23 | 10 |
| 11 | 39 | 11 | 43 | 15 | 47 | 19 | 51 | 23 | 11 |
| 12 | 40 | 12 | 43 | 15 | 47 | 19 | 51 | 24 | 12 |
| 13 | 40 | 12 | 44 | 16 | 48 | 20 | 52 | 24 | 13 |
| 14 | 41 | 13 | 44 | 16 | 48 | 20 | 53 | 25 | 14 |
| 15 | 27. 41 | 28. 13 | 28. 45 | 29. 17 | 29. 49 | 30. 21 | 30. 53 | 31. 25 | 15 |
| 16 | 41 | 13 | 45 | 17 | 49 | 21 | 53 | 25 | 16 |
| 17 | 42 | 14 | 46 | 18 | 50 | 22 | 54 | 26 | 17 |
| 18 | 42 | 14 | 46 | 18 | 50 | 22 | 54 | 26 | 18 |
| 19 | 43 | 15 | 47 | 19 | 51 | 23 | 55 | 27 | 19 |
| 20 | 27. 43 | 28. 15 | 28. 47 | 29. 19 | 29. 51 | 30. 23 | 30. 55 | 31. 27 | 20 |
| 21 | 44 | 15 | 47 | 19 | 51 | 23 | 56 | 28 | 21 |
| 22 | 44 | 16 | 48 | 20 | 52 | 24 | 56 | 28 | 22 |
| 23 | 44 | 16 | 48 | 20 | 52 | 24 | 57 | 29 | 23 |
| 24 | 45 | 17 | 49 | 21 | 53 | 25 | 57 | 29 | 24 |
| 25 | 27. 45 | 28. 17 | 28. 49 | 29. 21 | 29. 53 | 30. 25 | 30. 58 | 31. 30 | 25 |
| 26 | 46 | 17 | 49 | 21 | 53 | 25 | 58 | 30 | 26 |
| 27 | 46 | 18 | 50 | 22 | 54 | 26 | 59 | 31 | 27 |
| 28 | 47 | 18 | 50 | 22 | 54 | 26 | 59 | 31 | 28 |

☽'s App. Altitude 68 Degrees.

| | Horizontal Parallax. | | | | | | | | Proport. Parts |
|---|---|---|---|---|---|---|---|---|---|
| | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | |
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 27. 47 | 28. 19 | 28. 51 | 29. 23 | 29. 55 | 30. 27 | 31. 0 | 31. 34 | 0 |
| 1 | 47 | 19 | 51 | 23 | 55 | 27 | 0 | 34 | 1 |
| 2 | 47 | 20 | 52 | 24 | 56 | 28 | 1 | 35 | 2 |
| 3 | 48 | 20 | 52 | 24 | 56 | 28 | 1 | 35 | 3 |
| 4 | 48 | 21 | 53 | 25 | 57 | 29 | 2 | 36 | 4 |
| 5 | 27. 49 | 28. 21 | 28. 53 | 29. 25 | 29. 57 | 30. 29 | 31. 2 | 31. 36 | 5 |
| 6 | 49 | 21 | 53 | 25 | 57 | 29 | 2 | 36 | 6 |
| 7 | 50 | 22 | 54 | 26 | 58 | 30 | 3 | 37 | 7 |
| 8 | 50 | 22 | 54 | 26 | 58 | 30 | 3 | 37 | 8 |
| 9 | 51 | 23 | 55 | 27 | 59 | 31 | 4 | 38 | 9 |
| 10 | 27. 51 | 28. 23 | 28. 55 | 29. 27 | 29. 59 | 30. 31 | 31. 4 | 31. 38 | 10 |
| 11 | 51 | 23 | 55 | 27 | 30. 0 | 31 | 5 | 38 | 11 |
| 12 | 52 | 24 | 56 | 28 | 0 | 32 | 5 | 39 | 12 |
| 13 | 52 | 24 | 56 | 28 | 1 | 33 | 6 | 39 | 13 |
| 14 | 53 | 25 | 57 | 29 | 1 | 33 | 6 | 40 | 14 |
| 15 | 27. 53 | 28. 25 | 28. 57 | 29. 29 | 30. 2 | 30. 34 | 31. 7 | 31. 41 | 15 |
| 16 | 53 | 25 | 57 | 29 | 2 | 34 | 7 | 39 | 16 |
| 17 | 54 | 26 | 58 | 31 | 3 | 35 | 8 | 42 | 17 |
| 18 | 54 | 26 | 58 | 31 | 3 | 35 | 8 | 42 | 18 |
| 19 | 55 | 27 | 59 | 32 | 4 | 36 | 9 | 43 | 19 |
| 20 | 27. 55 | 28. 27 | 28. 59 | 29. 32 | 30. 4 | 30. 36 | 31. 9 | 31. 43 | 20 |
| 21 | 55 | 27 | 30. 0 | 32 | 4 | 36 | 9 | 43 | 21 |
| 22 | 56 | 28 | 29. 0 | 33 | 5 | 37 | 10 | 44 | 22 |
| 23 | 56 | 28 | 0 | 33 | 5 | 37 | 10 | 44 | 23 |
| 24 | 57 | 29 | 1 | 34 | 6 | 38 | 11 | 45 | 24 |
| 25 | 27. 57 | 28. 29 | 29. 1 | 29. 34 | 30. 6 | 30. 38 | 31. 11 | 31. 45 | 25 |
| 26 | 57 | 29 | 1 | 34 | 6 | 38 | 11 | 45 | 26 |
| 27 | 58 | 30 | 2 | 35 | 7 | 39 | 12 | 46 | 27 |
| 28 | 58 | 30 | 2 | 35 | 7 | 39 | 12 | 46 | 28 |
| 29 | 59 | 31 | 3 | 36 | 8 | 40 | 13 | 47 | 29 |

☽'s App. Altitude 69 Degrees.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 27. 50 | 28. 31 | 29. 3 | 29. 35 | 30. 8 | 30. 40 | 31. 13 | 31. 48 | 0 |
| 1 | 50 | 31 | 3 | 35 | 8 | 40 | 13 | 48 | 1 |
| 2 | 28. 0 | 31 | 4 | 37 | 9 | 41 | 14 | 47 | 2 |
| 3 | 0 | 32 | 4 | 37 | 9 | 41 | 14 | 47 | 3 |
| 4 | 1 | 32 | 5 | 38 | 10 | 42 | 15 | 47 | 4 |
| 5 | 28. 1 | 28. 33 | 29. 5 | 29. 38 | 30. 10 | 30. 42 | 31. 15 | 31. 47 | 5 |
| 6 | 1 | 33 | 5 | 38 | 10 | 42 | 15 | 47 | 6 |
| 7 | 2 | 34 | 6 | 39 | 11 | 43 | 16 | 48 | 7 |
| 8 | 2 | 34 | 6 | 39 | 11 | 43 | 16 | 48 | 8 |
| 9 | 3 | 35 | 7 | 40 | 12 | 44 | 17 | 49 | 9 |
| 10 | 28. 3 | 28. 35 | 29. 7 | 29. 40 | 30. 12 | 30. 44 | 31. 17 | 31. 49 | 10 |
| 11 | 3 | 35 | 7 | 40 | 12 | 44 | 17 | 50 | 11 |
| 12 | 4 | 36 | 8 | 41 | 13 | 45 | 18 | 50 | 12 |
| 13 | 4 | 37 | 8 | 41 | 13 | 45 | 18 | 51 | 13 |
| 14 | 5 | 37 | 9 | 42 | 14 | 46 | 19 | 51 | 14 |
| 15 | 28. 5 | 28. 37 | 29. 9 | 29. 42 | 30. 14 | 30. 46 | 31. 19 | 31. 52 | 15 |
| 16 | 5 | 37 | 9 | 43 | 14 | 46 | 19 | 52 | 16 |
| 17 | 5 | 38 | 10 | 43 | 15 | 47 | 20 | 53 | 17 |
| 18 | 6 | 38 | 10 | 43 | 15 | 47 | 20 | 53 | 18 |
| 19 | 6 | 39 | 11 | 44 | 16 | 48 | 21 | 54 | 19 |
| 20 | 28. 6 | 28. 39 | 29. 11 | 29. 44 | 30. 16 | 30. 48 | 31. 21 | 31. 54 | 20 |
| 21 | 7 | 40 | 11 | 44 | 17 | 49 | 21 | 54 | 21 |
| 22 | 7 | 40 | 12 | 45 | 17 | 49 | 22 | 55 | 22 |
| 23 | 7 | 41 | 13 | 46 | 18 | 50 | 23 | 56 | 23 |
| 24 | 28. 8 | 28. 41 | 29. 13 | 29. 46 | 30. 18 | 30. 50 | 31. 23 | 31. 56 | 24 |
| 25 | 8 | 42 | 13 | 46 | 19 | 50 | 23 | 56 | 25 |
| 26 | 9 | 42 | 14 | 47 | 19 | 51 | 24 | 57 | 26 |
| 27 | 9 | 43 | 14 | 47 | 20 | 52 | 25 | 58 | 27 |

### ☽'s App. Altitude 70 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 18. 7 | 18. 28 | 18. 48 | 19. 9 | 19. 30 | 19. 50 | 20. 11 | 20. 31 |
| 2 | 5 | 26 | 46 | 7 | 28 | 48 | 9 | 29 |
| 4 | 4 | 24 | 44 | 5 | 26 | 46 | 7 | 27 |
| | | 23 | 43 | 4 | 24 | 45 | 5 | 25 |
| | 1 | 21 | 41 | 2 | 22 | 43 | 3 | 23 |
| 10 | 17. 59 | 18. 19 | 18. 39 | 19. 0 | 19. 20 | 19. 41 | 20. 1 | 20. 21 |
| | 57 | 17 | 37 | 18. 58 | 18 | 39 | 19. 59 | 19 |
| 14 | 55 | 15 | 35 | 56 | 16 | 37 | 57 | 17 |
| | 54 | 14 | 34 | 55 | 15 | 35 | 55 | 15 |
| | 52 | 12 | 32 | 53 | 13 | 33 | 53 | 13 |
| | | 18. 10 | 18. 30 | 18. 51 | 19. 11 | 19. 31 | 19. 51 | 20. 11 |
| | | 8 | 28 | 49 | 9 | 29 | 49 | 9 |
| | | 6 | 26 | 47 | 7 | 27 | 47 | 7 |
| | | 5 | 25 | 45 | 5 | 26 | 46 | 6 |
| 28 | 43 | 3 | 23 | 43 | 3 | 24 | 44 | 4 |
| 30 | 17. 41 | 18. 1 | 18. 21 | 18. 41 | 19. 1 | 19. 22 | 19. 42 | 20. 2 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | 17. 33 | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| 46 | 28 | 48 | 7 | 27 | 47 | 6 | 26 | 46 |
| 48 | 26 | 46 | 5 | 25 | 45 | 4 | 24 | 44 |
| 50 | 17. 24 | 17. 44 | 18. 3 | 18. 23 | 18. 43 | 19. 2 | 19. 22 | 19. 42 |
| 52 | 22 | 42 | 1 | 21 | 41 | 0 | 20 | 40 |
| 54 | 20 | 40 | 17. 59 | 19 | 39 | 18. 58 | 18 | 38 |
| 56 | 19 | 39 | 58 | 18 | 37 | 57 | 16 | 36 |
| 58 | 17 | 37 | 56 | 16 | 35 | 55 | 14 | 34 |

### ☽'s App. Altitude 71 Degrees.

| ′ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 17. 15 | 17. 35 | 17. 54 | 18. 14 | 18. 33 | 18. 53 | 19. 13 | 19. 32 |
| | 13 | | | 12 | 31 | 51 | 11 | |
| | 11 | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| |

☽'s App. Altitude 70 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prop. Pts. |
|---|---|---|---|---|---|---|---|---|---|
| | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | |
| 0 | 28. 10 | 28. 43 | 29. 15 | 29. 48 | 30. 21 | 30. 52 | 31. 25 | 31. 58 | |
| 2 | 10 | 43 | 15 | 48 | 21 | 52 | 25 | 58 | |
| 4 | 11 | 44 | 16 | 49 | 21 | 53 | 26 | 59 | |
| 6 | 11 | 44 | 16 | 49 | 21 | 53 | 26 | 59 | |
| 8 | 12 | 45 | 17 | 50 | 22 | 54 | 27 | 32. 0 | |
| 10 | 28. 12 | 28. 45 | 29. 17 | 29. 50 | 30. 22 | 30. 54 | 31. 27 | 32. 0 | |
| 12 | 12 | 45 | 17 | 50 | 22 | 54 | 27 | 0 | |
| 14 | 13 | 46 | 18 | 51 | 23 | 55 | 28 | 1 | |
| 16 | 13 | 46 | 18 | 51 | 23 | 55 | 28 | 1 | |
| 18 | 14 | 47 | 19 | 52 | 24 | 56 | 29 | 2 | |
| 20 | 28. 14 | 28. 47 | 29. 19 | 29. 52 | 30. 24 | 30. 56 | 31. 29 | 32. 2 | |
| 22 | 14 | 47 | 19 | 52 | 24 | 56 | 29 | 2 | |
| 24 | 15 | 48 | 20 | 53 | 25 | 57 | 30 | 3 | |
| 26 | 15 | 48 | 20 | 53 | 25 | 57 | 30 | 3 | |
| 28 | 16 | 49 | 21 | 54 | 26 | 58 | 31 | 4 | |
| 30 | 28. 16 | 28. 49 | 29. 21 | 29. 54 | 30. 26 | 30. 58 | 31. 31 | 32. 4 | |
| 32 | 16 | 49 | 21 | 54 | 26 | 58 | 31 | 4 | |
| 34 | 16 | 49 | 21 | 54 | 26 | 59 | 32 | 5 | |
| 36 | 17 | 50 | 22 | 55 | 27 | 59 | 32 | 5 | |
| 38 | 17 | 50 | 22 | 55 | 27 | 31. 0 | 33 | 6 | |
| 40 | 28. 17 | 28. 50 | 29. 22 | 29. 55 | 30. 27 | 31. 0 | 31. 33 | 32. 6 | |
| 42 | 17 | 50 | 22 | 55 | 27 | 0 | 33 | 6 | |
| 44 | 18 | 51 | 23 | 56 | 28 | 1 | 34 | 7 | |
| 46 | 18 | 51 | 23 | 56 | 28 | 1 | 34 | 7 | |
| 48 | 19 | 52 | 24 | 57 | 29 | 2 | 35 | 8 | |
| 50 | 28. 19 | 28. 52 | 29. 24 | 29. 57 | 30. 29 | 31. 2 | 31. 35 | 32. 8 | |
| 52 | 19 | 52 | 24 | 57 | 29 | 2 | 35 | 8 | |
| 54 | 20 | 53 | 25 | 58 | 30 | 3 | 36 | 9 | |
| 56 | 20 | 53 | 25 | 58 | 30 | 3 | 36 | 9 | |
| 58 | 21 | 54 | 26 | 59 | 31 | 4 | 37 | 10 | |

☽'s App. Altitude 71 Degrees.

| ′ | | | | | | | | | Prop. Pts. |
|---|---|---|---|---|---|---|---|---|---|
| | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | |
| 0 | 28. 21 | 28. 54 | 29. 27 | 29. 59 | 30. 31 | 31. 4 | 31. 37 | 32. 10 | |
| 2 | 21 | 54 | 27 | 59 | 31 | 4 | 37 | 10 | |
| 4 | 22 | 55 | 27 | 0 | 32 | 5 | 38 | 11 | |
| 6 | 22 | 55 | 27 | 0 | 32 | 5 | 38 | 11 | |
| 8 | 23 | 56 | 28 | 1 | 33 | 6 | 39 | 12 | |
| 10 | 28. 23 | 28. 56 | 29. 28 | 30. 1 | 30. 33 | 31. 6 | 31. 39 | 32. 12 | |
| 12 | 23 | 57 | 28 | 1 | 33 | 6 | 39 | 12 | |
| 14 | 24 | 57 | 29 | 2 | 34 | 7 | 40 | 13 | |
| 16 | 24 | 57 | 29 | 2 | 34 | 7 | 40 | 13 | |
| 18 | 25 | 58 | 30 | 3 | 35 | 8 | 41 | 14 | |
| 20 | 28. 25 | 28. 58 | 29. 30 | 30. 3 | 30. 35 | 31. 8 | 31. 41 | 32. 14 | |
| 22 | 25 | 58 | 30 | 3 | 35 | 8 | 41 | 14 | |
| 24 | 26 | 59 | 31 | 4 | 36 | 9 | 42 | 15 | |
| 26 | 26 | 59 | 31 | 4 | 36 | 9 | 42 | 15 | |
| 28 | 27 | 30. 0 | 32 | 5 | 37 | 10 | 43 | 16 | |
| 30 | 28. 27 | 29. 30. 0 | 30. 32 | 30. 5 | 30. 37 | 31. 10 | 31. 43 | 32. 16 | |
| 32 | 28 | 0 | 32 | 5 | 37 | 10 | 43 | 16 | |
| 34 | 28 | 1 | 33 | 6 | 37 | 11 | 43 | 16 | |
| 36 | 29 | 1 | 33 | 6 | 38 | 11 | 44 | 17 | |
| 38 | 29 | 1 | 33 | 6 | 38 | 11 | 44 | 17 | |
| 40 | 28. 29 | 29. 1 | 30. 33 | 30. 6 | 30. 38 | 31. 11 | 31. 44 | 32. 17 | |
| 42 | 29 | 1 | 33 | 6 | 38 | 11 | 44 | 17 | |
| 44 | 30 | 2 | 34 | 7 | 39 | 12 | 45 | 18 | |
| 46 | 30 | 2 | 34 | 7 | 39 | 12 | 45 | 18 | |
| 48 | 31 | 3 | 35 | 8 | 40 | 13 | 46 | 19 | |
| 50 | 28. 31 | 29. 3 | 30. 35 | 30. 8 | 30. 40 | 31. 13 | 31. 46 | 32. 19 | |
| 52 | 32 | 3 | 35 | 8 | 41 | 14 | 47 | 20 | |
| 54 | 32 | 4 | 36 | 9 | 41 | 14 | 47 | 20 | |
| 56 | 33 | 4 | 36 | 9 | 41 | 14 | 47 | 20 | |
| 58 | 33 | 4 | 37 | 10 | 42 | 15 | 48 | 21 | |

☽'s App. Altitude 72 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Prop. Pts. |
|---|---|---|---|---|---|---|---|---|---|
| | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | |
| 0 | 28. 31 | 29. 4 | 29. 37 | 30. 10 | 30. 42 | 31. 15 | 31. 48 | 32. 21 | |
| 2 | 31 | 4 | 37 | 10 | 42 | 15 | 48 | 21 | |
| 4 | 32 | 5 | 38 | 11 | 43 | 16 | 49 | 22 | |
| 6 | 32 | 5 | 38 | 11 | 43 | 16 | 49 | 22 | |
| 8 | 33 | 6 | 39 | 12 | 44 | 17 | 50 | 23 | |
| 10 | 28. 33 | 29. 6 | 29. 39 | 30. 12 | 30. 44 | 31. 17 | 31. 50 | 32. 23 | |
| 12 | 33 | 6 | 39 | 12 | 44 | 17 | 50 | 23 | |
| 14 | 33 | 6 | 39 | 12 | 45 | 18 | 51 | 24 | |
| 16 | 34 | 7 | 40 | 13 | 45 | 18 | 51 | 24 | |
| 18 | 34 | 7 | 40 | 13 | 46 | 19 | 52 | 25 | |
| 20 | 28. 34 | 29. 7 | 29. 40 | 30. 13 | 30. 46 | 31. 19 | 31. 52 | 32. 25 | |
| 22 | 34 | 7 | 41 | 13 | 46 | 19 | 52 | 25 | |
| 24 | 35 | 8 | 41 | 14 | 47 | 20 | 53 | 26 | |
| 26 | 35 | 8 | 41 | 14 | 47 | 20 | 53 | 26 | |
| 28 | 36 | 9 | 42 | 15 | 48 | 21 | 54 | 27 | |
| 30 | 28. 36 | 29. 9 | 29. 42 | 30. 15 | 30. 48 | 31. 21 | 31. 54 | 32. 27 | |
| 32 | 36 | 9 | 42 | 15 | 48 | 21 | 54 | 27 | |
| 34 | 37 | 10 | 43 | 16 | 49 | 22 | 55 | 28 | |
| 36 | 37 | 10 | 43 | 16 | 49 | 22 | 55 | 28 | |
| 38 | 38 | 11 | 44 | 17 | 50 | 23 | 56 | 29 | |
| 40 | 28. 38 | 29. 11 | 29. 44 | 30. 17 | 30. 50 | 31. 23 | 31. 56 | 32. 29 | |
| 42 | 38 | 11 | 44 | 17 | 50 | 23 | 56 | 29 | |
| 44 | 39 | 11 | 45 | 18 | 51 | 24 | 57 | 30 | |
| 46 | 39 | 12 | 45 | 18 | 51 | 24 | 57 | 30 | |
| 48 | 40 | 12 | 46 | 19 | 52 | 25 | 58 | 31 | |
| 50 | 28. 40 | 29. 13 | 29. 46 | 30. 19 | 30. 52 | 31. 25 | 31. 58 | 32. 31 | |
| 52 | 40 | 13 | 47 | 19 | 53 | 26 | 59 | 32 | |
| 54 | 41 | 13 | 47 | 20 | 53 | 26 | 59 | 32 | |
| 56 | 41 | 14 | 48 | 20 | 54 | 27 | 32. 0 | 33 | |
| 58 | 42 | 14 | 48 | 21 | 54 | 27 | 0 | 33 | |

☽'s App. Altitude 73 Degrees.

| ′ | | | | | | | | | Prop. Pts. |
|---|---|---|---|---|---|---|---|---|---|
| | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | |
| 0 | 28. 41 | 29. 14 | 29. 47 | 30. 20 | 30. 53 | 31. 26 | 31. 59 | 32. 32 | |
| 2 | 41 | 14 | 47 | 20 | 53 | 26 | 59 | 32 | |
| 4 | 42 | 15 | 48 | 21 | 54 | 27 | 32. 0 | 33 | |
| 6 | 42 | 15 | 48 | 21 | 54 | 27 | 0 | 33 | |
| 8 | 43 | 16 | 48 | 22 | 55 | 28 | 1 | 34 | |
| 10 | 28. 43 | 29. 16 | 29. 49 | 30. 22 | 30. 55 | 31. 28 | 32. 1 | 32. 34 | |
| 12 | 43 | 16 | 49 | 22 | 55 | 28 | 1 | 34 | |
| 14 | 44 | 17 | 50 | 23 | 56 | 29 | 2 | 35 | |
| 16 | 44 | 17 | 50 | 23 | 56 | 29 | 2 | 35 | |
| 18 | 45 | 18 | 51 | 24 | 57 | 30 | 3 | 36 | |
| 20 | 28. 44 | 29. 17 | 29. 50 | 30. 23 | 30. 56 | 31. 29 | 32. 2 | 32. 35 | |
| 22 | 45 | 18 | 50 | 23 | 57 | 30 | 2 | 36 | |
| 24 | 45 | 18 | 51 | 24 | 57 | 30 | 3 | 36 | |
| 26 | 46 | 18 | 51 | 24 | 58 | 31 | 3 | 37 | |
| 28 | 46 | 19 | 52 | 25 | 58 | 31 | 4 | 37 | |
| 30 | 28. 47 | 29. 19 | 29. 52 | 30. 25 | 30. 59 | 31. 32 | 32. 4 | 32. 38 | |
| 32 | 47 | 20 | 53 | 25 | 59 | 32 | 4 | 38 | |
| 34 | 48 | 20 | 53 | 26 | 32. 0 | 33 | 5 | 39 | |
| 36 | 48 | 20 | 53 | 26 | 0 | 33 | 5 | 39 | |
| 38 | 49 | 21 | 54 | 27 | 1 | 34 | 6 | 40 | |
| 40 | 28. 49 | 29. 22 | 29. 55 | 30. 27 | 31. 2 | 31. 35 | 32. 7 | 32. 40 | |
| 42 | 50 | 22 | 55 | 27 | 2 | 35 | 7 | 41 | |
| 44 | 50 | 22 | 56 | 28 | 2 | 36 | 7 | 41 | |
| 46 | 51 | 23 | 56 | 28 | 3 | 36 | 8 | 42 | |
| 48 | 52 | 23 | 57 | 29 | 3 | 37 | 8 | 42 | |
| 50 | 28. 52 | 29. 24 | 29. 57 | 30. 29 | 31. 4 | 31. 37 | 32. 9 | 32. 43 | |
| 52 | 53 | 24 | 58 | 29 | 4 | 38 | 9 | 43 | |
| 54 | 53 | 25 | 58 | 30 | 5 | 38 | 9 | 44 | |
| 56 | 54 | 25 | 59 | 31 | 5 | 39 | 10 | 44 | |
| 58 | 55 | 26 | 32. 0 | 31 | 6 | 40 | 10 | 45 | |

☽'s App. Altitude 74 Degrees.

| ′ | Horizontal Parallax. 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 14. 37 | 14. 53 | 15. 10 | 15. 26 | 15. 43 | 15. 59 | 16. 16 | 16. 33 |
| 2 | 35 | 51 | 8 | 24 | 41 | 57 | 14 | 31 |
| 4 | 33 | 49 | 6 | 22 | 39 | 55 | 12 | 29 |
| 6 | 32 | 48 | 5 | 21 | 37 | 54 | 10 | 26 |
| 8 | 30 | 46 | 3 | 19 | 35 | 52 | 8 | 24 |
| 10 | 14. 28 | 14. 44 | 15. 1 | 15. 17 | 15. 33 | 15. 50 | 16. 6 | 16. 22 |
| 12 | 26 | 42 | 14. 59 | 15 | 31 | 48 | 4 | 20 |
| 14 | 24 | 40 | 57 | 13 | 29 | 46 | 2 | 18 |
| 16 | 23 | 39 | 55 | 12 | 28 | 44 | 0 | 16 |
| 18 | 21 | 37 | 53 | 10 | 26 | 42 | 15. 58 | 14 |
| 20 | 14. 19 | 14. 35 | 14. 51 | 15. 8 | 15. 24 | 15 4 | 15. 56 | 16. 12 |
| 22 | 17 | 33 | 49 | 6 | 22 | 38 | 54 | 10 |
| 24 | 15 | 31 | 47 | 4 | 20 | 36 | 52 | 8 |
| 26 | 14 | 30 | 46 | 2 | 18 | 34 | 50 | 6 |
| 28 | 12 | 28 | 44 | 0 | 16 | 32 | 48 | 4 |
| 30 | 14. 10 | 14. 26 | 14. 42 | 14. 58 | 15. 14 | 15. 30 | 15. 46 | 16. 2 |
| 32 | 8 | 24 | 40 | 50 | 12 | 28 | 44 | 0 |
| 34 | 6 | 22 | 38 | 54 | 10 | 26 | 42 | 15. 58 |
| 36 | 5 | 21 | 37 | 53 | 9 | 24 | 40 | 56 |
| 38 | 3 | 19 | 35 | 51 | 7 | 22 | 38 | 54 |
| 40 | 14. 1 | 14. 17 | 14. 33 | 14. 49 | 15. 5 | 15. 21 | 15. 37 | 15. 52 |
| 42 | 13. 59 | 15 | 31 | 47 | 3 | 18 | 34 | 50 |
| 44 | 57 | 13 | 29 | 45 | 1 | 16 | 32 | 48 |
| 46 | 56 | 12 | 28 | 43 | 14. 59 | 15 | 30 | 46 |
| 48 | 54 | 10 | 26 | 41 | 57 | 13 | 28 | 44 |
| 50 | 13. 52 | 14. 8 | 14. 24 | 14. 39 | 14. 55 | 15. 11 | 15. 26 | 15. 42 |
| 52 | 50 | 6 | 22 | 37 | 53 | 9 | 24 | 40 |
| 54 | 48 | 4 | 20 | 35 | 51 | 7 | 22 | 38 |
| 56 | 47 | 3 | 18 | 34 | 49 | 5 | 20 | 36 |
| 58 | 45 | 1 | 16 | 32 | 47 | 3 | 18 | 34 |

☽'s App. Altitude 75 Degrees.

| ′ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 13. 43 | 13. 59 | 14. 14 | 14. 30 | 14. 45 | 15. 1 | 15. 16 | 15. 32 |
| 2 | 41 | 57 | 12 | 28 | 43 | 14. 59 | 14 | 30 |
| 4 | 39 | 55 | 10 | 26 | 41 | 57 | 12 | 28 |
| 6 | 38 | 54 | 9 | 24 | 40 | 55 | 11 | 26 |
| 8 | 36 | 52 | 7 | 22 | 38 | 53 | 9 | 24 |
| 10 | 13. 34 | 13. 50 | 14. 5 | 14. 20 | 14. 36 | 14. 51 | 15. 7 | 15. 22 |
| 12 | 32 | 48 | 3 | 18 | 34 | 49 | 5 | 20 |
| 14 | 30 | 46 | 1 | 16 | 32 | 47 | 3 | 18 |
| 16 | 29 | 45 | 0 | 15 | 30 | 45 | 1 | 16 |
| 18 | 27 | 43 | 13. 58 | 13 | 28 | 43 | 14. 59 | 14 |
| 20 | 13. 25 | 13. 41 | 13. 56 | 14. 11 | 14. 26 | 14. 41 | 14. 57 | 15. 12 |
| 22 | 23 | 39 | 54 | 9 | 24 | 39 | 55 | 10 |
| 24 | 21 | 37 | 52 | 7 | 22 | 37 | 53 | 8 |
| 26 | 20 | 36 | 51 | 6 | 21 | 36 | 51 | 6 |
| 28 | 18 | 34 | 49 | 4 | 19 | 34 | 49 | 4 |
| 30 | 13. 16 | 13. 32 | 13. 47 | 14. 2 | 14. 17 | 14. 32 | 14. 47 | 15. 2 |
| 32 | 14 | 30 | 45 | 0 | 15 | 30 | 45 | 0 |
| 34 | 13 | 28 | 43 | 13. 58 | 13 | 28 | 43 | 14. 58 |
| 36 | 11 | 26 | 41 | 56 | 11 | 26 | 41 | 56 |
| 38 | 10 | 24 | 39 | 54 | 9 | 24 | 39 | 54 |
| 40 | 13. 8 | 13 22 | 13. 37 | 13. 52 | 14. 7 | 14. 22 | 14. 37 | 14. 52 |
| 42 | 6 | 20 | 35 | 50 | 5 | 20 | 35 | 50 |
| 44 | 4 | 18 | 33 | 48 | 3 | 18 | 33 | 48 |
| 46 | 3 | 17 | 32 | 47 | 1 | 16 | 31 | 45 |
| 48 | 1 | 15 | 30 | 45 | 13. 50 | 14 | 29 | 43 |
| 50 | 12. 59 | 13. 13 | 13. 28 | 13. 43 | 13 57 | 14. 12 | 14 27 | 14 41 |
| 52 | 57 | 11 | 26 | 41 | 55 | 10 | 25 | 39 |
| 54 | 55 | 9 | 24 | 39 | 53 | 8 | 23 | 37 |
| 56 | 54 | 8 | 23 | 37 | 52 | 6 | 21 | 35 |
| 58 | 52 | 6 | 21 | 35 | 50 | 4 | 19 | 33 |

Prop. parts for Seconds of Parallax *additive*

| ″ | ″ |
|---|---|
| 1 | 0 |
| 2 | 1 |
| 3 | 1 |
| 4 | 1 |
| 5 | 1 |
| 6 | 2 |
| 7 | 2 |
| 8 | 2 |
| 9 | 2 |
| 10 | 3 |
| 11 | 3 |
| 12 | 3 |
| 13 | 3 |
| 14 | 4 |
| 15 | 4 |
| 16 | 4 |
| 17 | 4 |
| 18 | 5 |
| 19 | 5 |
| 20 | 5 |
| 21 | 5 |
| 22 | 6 |
| 23 | 6 |
| 24 | 6 |
| 25 | 6 |
| 26 | 7 |
| 27 | 7 |
| 28 | 7 |
| 29 | 7 |
| 30 | 8 |
| 31 | 8 |
| 32 | 8 |
| 33 | 9 |
| 34 | 9 |
| 35 | 9 |
| 36 | 9 |
| 37 | 10 |
| 38 | 10 |
| 39 | 10 |
| 40 | 10 |
| 41 | 11 |
| 42 | 11 |
| 43 | 11 |
| 44 | 11 |
| 45 | 12 |
| 46 | 12 |
| 47 | 12 |
| 48 | 12 |
| 49 | 13 |
| 50 | 13 |
| 51 | 13 |
| 52 | 13 |
| 53 | 14 |
| 54 | 14 |
| 55 | 14 |
| 56 | 14 |
| 57 | 15 |
| 58 | 15 |
| 59 | 15 |

☽'s App. Altitude 76 Degrees.

| ′ | Horizontal Parallax. 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 12. 50 | 13. 4 | 13. 19 | 13. 33 | 13. 48 | 14. 2 | 14. 17 | 14. 31 |
| 2 | 48 | 2 | 17 | 31 | 46 | 0 | 15 | 29 |
| 4 | 46 | 0 | 15 | 29 | 44 | 13. 58 | 13 | 27 |
| 6 | 45 | 12. 59 | 13 | 28 | 42 | 56 | 11 | 25 |
| 8 | 43 | 57 | 11 | 26 | 40 | 54 | 9 | 23 |
| 10 | 12. 41 | 12. 55 | 13. 9 | 13. 24 | 13. 38 | 13. 52 | 14. 7 | 14. 21 |
| 12 | 39 | 53 | 7 | 22 | 36 | 50 | 5 | 19 |
| 14 | 37 | 51 | 5 | 20 | 34 | 48 | 3 | 17 |
| 16 | 36 | 50 | 4 | 18 | 32 | 47 | 1 | 15 |
| 18 | 34 | 48 | 2 | 16 | 30 | 45 | 13. 59 | 13 |
| 20 | 12. 32 | 12. 46 | 13. 0 | 13. 14 | 13. 28 | 13. 43 | 13. 57 | 14. 11 |
| 22 | 30 | 44 | 12. 58 | 12 | 26 | 41 | 55 | 9 |
| 24 | 28 | 42 | 56 | 10 | 24 | 39 | 53 | 7 |
| 26 | 27 | 41 | 55 | 9 | 23 | 37 | 51 | 5 |
| 28 | 25 | 39 | 53 | 7 | 21 | 35 | 49 | 3 |
| 30 | 12. 23 | 12. 37 | 12. 51 | 13. 5 | 13. 19 | 13. 33 | 13. 47 | 14. 1 |
| 32 | 21 | 35 | 49 | 3 | 17 | 31 | 45 | 13. 59 |
| 34 | 19 | 33 | 47 | 1 | 15 | 29 | 43 | 57 |
| 36 | 18 | 32 | 45 | 12. 59 | 13 | 27 | 41 | 55 |
| 38 | 16 | 30 | 43 | 57 | 11 | 25 | 39 | 53 |
| 40 | 12. 14 | 12. 28 | 12. 41 | 12. 55 | 13. 9 | 13. 23 | 13. 37 | 13. 51 |
| 42 | 12 | 26 | 39 | 53 | 7 | 21 | 35 | 49 |
| 44 | 10 | 24 | 37 | 51 | 5 | 19 | 33 | 47 |
| 46 | 9 | 22 | 36 | 50 | 3 | 17 | 31 | 44 |
| 48 | 7 | 20 | 34 | 48 | 1 | 15 | 29 | 42 |
| 50 | 12. 5 | 12. 18 | 12. 32 | 12. 46 | 12. 59 | 13. 13 | 13. 27 | 13. 40 |
| 52 | 3 | 16 | 30 | 44 | 57 | 11 | 25 | 38 |
| 54 | 1 | 14 | 28 | 42 | 55 | 9 | 23 | 36 |
| 56 | 0 | 13 | 27 | 40 | 54 | 7 | 21 | 34 |
| 58 | 11. 58 | 11 | 25 | 38 | 52 | 5 | 19 | 32 |

☽'s App. Altitude 77 Degrees.

| ′ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 0 | 11. 56 | 12. 9 | 12. 23 | 12. 36 | 12. 50 | 13. 3 | 13. 17 | 13. 30 |
| 2 | 54 | 7 | 21 | 34 | 48 | 1 | 15 | 28 |
| 4 | 52 | 5 | 19 | 32 | 46 | 12. 59 | 13 | 26 |
| 6 | 51 | 4 | 17 | 31 | 44 | 57 | 11 | 24 |
| 8 | 49 | 2 | 15 | 29 | 42 | 55 | 9 | 22 |
| 10 | 11. 47 | 12. 0 | 12. 13 | 12. 27 | 12. 40 | 12. 53 | 13. 7 | 13. 20 |
| 12 | 45 | 11. 58 | 11 | 25 | 38 | 51 | 5 | 18 |
| 14 | 43 | 56 | 9 | 23 | 36 | 49 | 3 | 16 |
| 16 | 42 | 55 | 8 | 21 | 34 | 47 | 1 | 14 |
| 18 | 40 | 53 | 6 | 19 | 32 | 45 | 12. 59 | 12 |
| 20 | 11. 38 | 11. 51 | 12. 4 | 12. 17 | 12. 30 | 12. 43 | 12. 57 | 13. 10 |
| 22 | 36 | 49 | 2 | 15 | 28 | 41 | 55 | 8 |
| 24 | 34 | 47 | 0 | 13 | 26 | 39 | 53 | 6 |
| 26 | 33 | 46 | 11. 59 | 12 | 25 | 38 | 51 | 4 |
| 28 | 31 | 44 | 57 | 10 | 23 | 36 | 49 | 2 |
| 30 | 11. 29 | 11. 42 | 11. 55 | 12. 8 | 12. 21 | 12. 34 | 12. 47 | 13. 0 |
| 32 | 27 | 40 | 53 | 6 | 19 | 32 | 45 | 12. 58 |
| 34 | 25 | 38 | 51 | 4 | 17 | 30 | 43 | 56 |
| 36 | 24 | 36 | 49 | 2 | 15 | 28 | 41 | 54 |
| 38 | 22 | 34 | 47 | 0 | 13 | 26 | 39 | 51 |
| 40 | 11. 20 | 11. 32 | 11. 45 | 11. 58 | 12. 11 | 12. 24 | 12. 37 | 12. 49 |
| 42 | 18 | 30 | 43 | 56 | 9 | 22 | 35 | 47 |
| 44 | 16 | 28 | 41 | 54 | 7 | 20 | 33 | 45 |
| 46 | 15 | 27 | 40 | 53 | 5 | 18 | 30 | 43 |
| 48 | 13 | 25 | 38 | 51 | 3 | 16 | 28 | 41 |
| 50 | 11. 11 | 11. 23 | 11. 36 | 11. 49 | 12. 1 | 12. 14 | 12. 27 | 12. 39 |
| 52 | 9 | 21 | 34 | 47 | 11. 59 | 12 | 24 | 37 |
| 54 | 7 | 19 | 32 | 45 | 57 | 10 | 22 | 35 |
| 56 | 6 | 18 | 30 | 43 | 55 | 8 | 20 | 33 |
| 58 | 4 | 16 | 28 | 41 | 53 | 6 | 18 | 31 |

Prop. parts for Seconds of Parallax *additive*

| ″ | ″ |
|---|---|
| 1 | 0 |
| 2 | 0 |
| 3 | 1 |
| 4 | 1 |
| 5 | 1 |
| 6 | 1 |
| 7 | 2 |
| 8 | 2 |
| 9 | 2 |
| 10 | 2 |
| 11 | 2 |
| 12 | 3 |
| 13 | 3 |
| 14 | 3 |
| 15 | 3 |
| 16 | 4 |
| 17 | 4 |
| 18 | 4 |
| 19 | 4 |
| 20 | 4 |
| 21 | 5 |
| 22 | 5 |
| 23 | 5 |
| 24 | 5 |
| 25 | 6 |
| 26 | 6 |
| 27 | 6 |
| 28 | 6 |
| 29 | 7 |
| 30 | 7 |
| 31 | 7 |
| 32 | 7 |
| 33 | 7 |
| 34 | 8 |
| 35 | 8 |
| 36 | 8 |
| 37 | 8 |
| 38 | 9 |
| 39 | 9 |
| 40 | 9 |
| 41 | 9 |
| 42 | 10 |
| 43 | 10 |
| 44 | 10 |
| 45 | 10 |
| 46 | 11 |
| 47 | 11 |
| 48 | 11 |
| 49 | 11 |
| 50 | 11 |
| 51 | 11 |
| 52 | 12 |
| 53 | 12 |
| 54 | 12 |
| 55 | 12 |
| 56 | 13 |
| 57 | 13 |
| 58 | 13 |
| 59 | 13 |

Correct. for Sun's and Star's Alt. add. ☉

Proport. Parts of Parallax additive

### ☽'s App. Altitude 74 Degrees.

Horizontal Parallax.

| | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 28. 50 | 29. 23 | 29. 56 | 30. 30 | 31. 3 | 31. 36 | 32. 9 | 32. 42 |
| 2 | 50 | 23 | 56 | 30 | 3 | 36 | 9 | 42 |
| 4 | 51 | 24 | 57 | 31 | 4 | 37 | 10 | 43 |
| 6 | 51 | 24 | 57 | 31 | 4 | 37 | 10 | 43 |
| 8 | 52 | 25 | 58 | 32 | 5 | 38 | 11 | 44 |
| 10 | 28. 52 | 29. 25 | 29. 58 | 30. 32 | 31. 5 | 31. 38 | 32. 11 | 32. 44 |
| 12 | 52 | 25 | 58 | 32 | 5 | 38 | 11 | 44 |
| 14 | 52 | 25 | 58 | 32 | 5 | 38 | 11 | 44 |
| 16 | 53 | 26 | 59 | 33 | 6 | 39 | 12 | 45 |
| 18 | 53 | 26 | 59 | 33 | 6 | 39 | 12 | 45 |
| 20 | 28. 53 | 29. 26 | 29. 59 | 30. 33 | 31. 6 | 31. 39 | 32. 12 | 32. 45 |
| 22 | 53 | 26 | 59 | 33 | 6 | 39 | 12 | 45 |
| 24 | 54 | 27 | 30. 0 | 34 | 7 | 40 | 13 | 46 |
| 26 | 54 | 27 | 0 | 34 | 7 | 40 | 13 | 46 |
| 28 | 55 | 28 | 1 | 35 | 8 | 41 | 14 | 47 |
| 30 | 28. 55 | 29. 28 | 30. 1 | 30. 35 | 31. 8 | 31. 41 | 32. 14 | 32. 47 |
| 32 | 55 | 28 | 1 | 35 | 8 | 41 | 14 | 47 |
| 34 | 55 | 28 | 1 | 35 | 8 | 41 | 15 | 48 |
| 36 | 56 | 29 | 2 | 36 | 9 | 42 | 15 | 48 |
| 38 | 56 | 29 | 2 | 36 | 9 | 42 | 16 | 49 |
| 40 | 28. 56 | 29. 29 | 30. 2 | 30. 36 | 31. 9 | 31. 42 | 32. 16 | 32. 49 |
| 42 | 56 | 29 | 2 | 36 | 9 | 42 | 16 | 49 |
| 44 | 57 | 30 | 3 | 37 | 10 | 43 | 16 | 49 |
| 46 | 57 | 30 | 3 | 37 | 10 | 43 | 17 | 50 |
| 48 | 58 | 31 | 4 | 38 | 11 | 44 | 17 | 50 |
| 50 | 28. 58 | 29. 31 | 30. 4 | 30. 38 | 31. 11 | 31. 44 | 32. 17 | 32. 50 |
| 52 | 58 | 31 | 4 | 38 | 11 | 44 | 17 | 50 |
| 54 | 58 | 31 | 4 | 38 | 11 | 44 | 18 | 51 |
| 56 | 59 | 32 | 5 | 39 | 12 | 45 | 18 | 51 |
| 58 | 59 | 32 | 5 | 39 | 12 | 45 | 19 | 52 |

### ☽'s App. Altitude 75 Degrees.

Horizontal Parallax.

| | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 28. 59 | 29. 32 | 30. 5 | 30. 39 | 31. 12 | 31. 45 | 32. 19 | 32. 52 |
| 2 | 59 | 32 | 5 | 39 | 12 | 45 | 19 | 52 |
| 4 | 59 | 32 | 5 | 39 | 13 | 46 | 20 | 53 |
| 6 | 29. 0 | 33 | 6 | 40 | 13 | 46 | 20 | 53 |
| 8 | 0 | 33 | 6 | 40 | 13 | 47 | 21 | 54 |
| 10 | 29. 0 | 29. 33 | 30. 6 | 30. 40 | 31. 14 | 31. 47 | 32. 21 | 32. 54 |
| 12 | 0 | 33 | 6 | 40 | 14 | 47 | 21 | 54 |
| 14 | 1 | 34 | 7 | 41 | 14 | 47 | 21 | 54 |
| 16 | 1 | 34 | 7 | 41 | 15 | 48 | 22 | 55 |
| 18 | 2 | 35 | 8 | 42 | 15 | 48 | 22 | 55 |
| 20 | 29. 2 | 29. 35 | 30. 8 | 30. 42 | 31. 15 | 31. 48 | 32. 23 | 32. 56 |
| 22 | 2 | 35 | 8 | 42 | 15 | 48 | 22 | 55 |
| 24 | 2 | 35 | 8 | 42 | 16 | 49 | 23 | 56 |
| 26 | 3 | 36 | 9 | 43 | 16 | 49 | 23 | 56 |
| 28 | 3 | 36 | 9 | 43 | 17 | 50 | 24 | 57 |
| 30 | 29. 3 | 29. 36 | 30. 9 | 30. 43 | 31. 17 | 31. 50 | 32. 24 | 32. 57 |
| 32 | 3 | 36 | 9 | 43 | 17 | 50 | 24 | 57 |
| 34 | 3 | 36 | 9 | 43 | 17 | 50 | 24 | 57 |
| 36 | 4 | 37 | 10 | 44 | 18 | 51 | 25 | 58 |
| 38 | 4 | 37 | 10 | 44 | 18 | 51 | 25 | 58 |
| 40 | 29. 4 | 29. 37 | 30. 10 | 30. 44 | 31. 18 | 31. 51 | 32. 25 | 32. 58 |
| 42 | 4 | 37 | 10 | 44 | 18 | 51 | 25 | 58 |
| 44 | 5 | 38 | 11 | 45 | 19 | 52 | 26 | 59 |
| 46 | 5 | 38 | 11 | 45 | 19 | 52 | 26 | 59 |
| 48 | 6 | 39 | 12 | 46 | 20 | 53 | 27 | 33. 0 |
| 50 | 29. 6 | 29. 39 | 30. 12 | 30. 46 | 31. 20 | 31. 53 | 32. 27 | 33. 0 |
| 52 | 6 | 39 | 12 | 46 | 20 | 53 | 27 | 0 |
| 54 | 6 | 39 | 12 | 46 | 20 | 53 | 27 | 0 |
| 56 | 7 | 40 | 13 | 47 | 21 | 54 | 28 | 1 |
| 58 | 7 | 40 | 13 | 47 | 21 | 54 | 28 | 1 |

### ☽'s App. Altitude 76 Degrees.

Horizontal Parallax.

| | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 29. 7 | 29. 40 | 30. 13 | 30. 47 | 31. 21 | 31. 54 | 32. 28 | 33. 1 |
| 2 | 7 | 40 | 13 | 47 | 21 | 54 | 28 | 1 |
| 4 | 7 | 40 | 13 | 47 | 21 | 54 | 28 | 1 |
| 6 | 8 | 41 | 14 | 48 | 22 | 55 | 29 | 2 |
| 8 | 8 | 41 | 14 | 48 | 22 | 55 | 29 | 2 |
| 10 | 29. 8 | 29. 41 | 30. 14 | 30. 48 | 31. 22 | 31. 55 | 32. 29 | 33. 2 |
| 12 | 8 | 41 | 14 | 48 | 22 | 55 | 29 | 2 |
| 14 | 8 | 42 | 15 | 49 | 23 | 56 | 30 | 3 |
| 16 | 9 | 42 | 15 | 49 | 23 | 56 | 30 | 3 |
| 18 | 9 | 43 | 16 | 50 | 24 | 57 | 31 | 4 |
| 20 | 29. 9 | 29. 43 | 30. 16 | 30. 50 | 31. 24 | 31. 57 | 32. 31 | 33. 4 |
| 22 | 9 | 43 | 16 | 50 | 24 | 57 | 31 | 4 |
| 24 | 10 | 44 | 16 | 50 | 25 | 58 | 32 | 5 |
| 26 | 10 | 44 | 17 | 51 | 25 | 58 | 32 | 5 |
| 28 | 11 | 44 | 17 | 51 | 25 | 58 | 32 | 5 |
| 30 | 29. 11 | 29. 44 | 30. 17 | 30. 51 | 31. 25 | 31. 58 | 32. 32 | 33. 5 |
| 32 | 11 | 44 | 17 | 51 | 25 | 58 | 32 | 5 |
| 34 | 11 | 44 | 17 | 51 | 25 | 58 | 32 | 5 |
| 36 | 12 | 45 | 18 | 52 | 26 | 59 | 33 | 6 |
| 38 | 12 | 45 | 18 | 52 | 26 | 59 | 33 | 6 |
| 40 | 29. 12 | 29. 45 | 30. 18 | 30. 52 | 31. 26 | 31. 59 | 32. 33 | 33. 6 |
| 42 | 12 | 45 | 18 | 52 | 26 | 59 | 33 | 6 |
| 44 | 12 | 46 | 19 | 53 | 27 | 32. 0 | 34 | 7 |
| 46 | 13 | 46 | 19 | 53 | 27 | 0 | 34 | 7 |
| 48 | 13 | 47 | 20 | 54 | 28 | 1 | 35 | 8 |
| 50 | 29. 13 | 29. 47 | 30. 20 | 30. 54 | 31. 28 | 32. 1 | 32. 35 | 33. 8 |
| 52 | 13 | 47 | 20 | 54 | 28 | 1 | 35 | 8 |
| 54 | 13 | 47 | 20 | 54 | 28 | 1 | 35 | 8 |
| 56 | 14 | 48 | 21 | 55 | 29 | 2 | 36 | 9 |
| 58 | 14 | 48 | 21 | 55 | 29 | 2 | 36 | 9 |

### ☽'s App. Altitude 77 Degrees.

Horizontal Parallax.

| | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 29. 14 | 29. 47 | 30. 21 | 30. 55 | 31. 29 | 32. 2 | 32. 36 | 33. 9 |
| 2 | 14 | 47 | 21 | 55 | 29 | 2 | 36 | 9 |
| 4 | 14 | 48 | 21 | 55 | 29 | 2 | 36 | 9 |
| 6 | 15 | 49 | 22 | 56 | 30 | 3 | 37 | 10 |
| 8 | 15 | 49 | 22 | 56 | 30 | 3 | 37 | 10 |
| 10 | 29. 15 | 29. 49 | 30. 22 | 30. 56 | 31. 30 | 32. 3 | 32. 37 | 33. 10 |
| 12 | 15 | 49 | 22 | 56 | 30 | 3 | 37 | 10 |
| 14 | 15 | 49 | 22 | 56 | 30 | 4 | 37 | 11 |
| 16 | 16 | 50 | 23 | 57 | 31 | 4 | 38 | 11 |
| 18 | 16 | 50 | 23 | 57 | 31 | 5 | 38 | 12 |
| 20 | 29. 16 | 29. 50 | 30. 23 | 30. 57 | 31. 31 | 32. 5 | 32. 38 | 33. 11 |
| 22 | 16 | 50 | 23 | 57 | 31 | 5 | 38 | 12 |
| 24 | 17 | 51 | 24 | 58 | 32 | 5 | 39 | 12 |
| 26 | 17 | 51 | 24 | 58 | 32 | 6 | 39 | 13 |
| 28 | 17 | 51 | 25 | 59 | 33 | 6 | 40 | 13 |
| 30 | 29. 17 | 29. 51 | 30. 25 | 30. 59 | 31. 33 | 32. 6 | 32. 40 | 33. 13 |
| 32 | 18 | 52 | 25 | 59 | 33 | 6 | 40 | 13 |
| 34 | 18 | 52 | 25 | 59 | 33 | 6 | 40 | 13 |
| 36 | 19 | 53 | 26 | 31. 0 | 34 | 7 | 41 | 14 |
| 38 | 19 | 53 | 26 | 0 | 34 | 7 | 41 | 14 |
| 40 | 29. 19 | 29. 53 | 30. 26 | 31. 0 | 31. 34 | 32. 7 | 32. 41 | 33. 14 |
| 42 | 19 | 53 | 26 | 0 | 34 | 7 | 41 | 14 |
| 44 | 19 | 53 | 26 | 0 | 34 | 8 | 41 | 15 |
| 46 | 20 | 54 | 27 | 1 | 35 | 8 | 42 | 15 |
| 48 | 20 | 54 | 27 | 1 | 35 | 9 | 42 | 16 |
| 50 | 29. 20 | 29. 54 | 30. 27 | 31. 1 | 31. 35 | 32. 9 | 32. 42 | 33. 16 |
| 52 | 20 | 54 | 27 | 1 | 35 | 9 | 43 | 16 |
| 54 | 20 | 54 | 27 | 1 | 35 | 9 | 43 | 17 |
| 56 | 21 | 55 | 28 | 2 | 36 | 10 | 43 | 17 |
| 58 | 21 | 55 | 28 | 2 | 36 | 10 | 43 | 17 |

☽'s App. Altitude 78 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Proparts for Seconds of Parallax additive |
|---|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 11. | 11. 1 | 11. 20 | 11. 39 | 11. 51 | 12. 4 | 12. 16 | 12. 29 | |
| 2 | | 1 | 24 | 37 | 40 | 2 | 14 | 27 | |
| 4 | 10. 5 | 1 | 22 | 35 | 47 | 0 | 12 | 25 | |
| 6 | | 0 | 21 | 33 | 46 | 11. 58 | 10 | 23 | |
| 8 | | 51 | 19 | 31 | 44 | 56 | 8 | 21 | |
| 10 | | 11. | 11. 17 | 11. 29 | 11. 42 | 11. 54 | 12. 6 | 12. 19 | |
| 12 | | | 15 | 27 | 40 | 52 | 4 | 17 | |
| 14 | | 1 | 13 | 25 | 38 | 50 | 2 | 15 | |
| 16 | 47 | 0 | 12 | 24 | 36 | 48 | 0 | 12 | |
| 18 | 45 | 10. 58 | 10 | 22 | 34 | 46 | 11. 58 | 10 | |
| 20 | 10. 43 | 10. 56 | 11. 8 | 11. 20 | 11. 32 | 11. 44 | 11. 56 | 12. 8 | |
| 22 | 41 | 54 | 6 | 18 | 30 | 42 | 54 | 6 | |
| 24 | 39 | 52 | 4 | 16 | 28 | 40 | 52 | 4 | |
| 26 | 38 | 50 | 2 | 14 | 26 | 38 | 50 | 2 | |
| 28 | 36 | 48 | 0 | 12 | 24 | 36 | 48 | 0 | |
| 30 | 10. 34 | 10. 46 | 10. 58 | 11. 10 | 11. 22 | 11. 34 | 11. 46 | 11. 58 | |
| 32 | 32 | 44 | 56 | 8 | 20 | 32 | 44 | 56 | |
| 34 | 30 | 42 | 54 | 6 | 18 | 30 | 42 | 54 | |
| 36 | 29 | 41 | 53 | 5 | 16 | 28 | 40 | 52 | |
| 38 | 27 | 39 | 51 | 3 | 14 | 26 | 38 | 50 | |
| 40 | 10. 25 | 10. 37 | 10. 49 | 11. 1 | 11. 13 | 11. 24 | 11. 36 | 11. 48 | |
| 42 | 23 | 35 | 47 | 10. 59 | 10 | 22 | 34 | 46 | |
| 44 | 21 | 33 | 45 | 57 | 8 | 20 | 32 | 44 | |
| 46 | 20 | 32 | 43 | 55 | 7 | 18 | 30 | 42 | |
| 48 | 18 | 30 | 41 | 53 | 5 | 16 | 28 | 40 | |
| 50 | 10. 16 | 10. 28 | 10. 39 | 10. 51 | 11. 3 | 11. 14 | 11. 26 | 11. 38 | |
| 52 | 14 | 26 | 37 | 49 | 1 | 12 | 24 | 36 | |
| 54 | 12 | 24 | 35 | 47 | 10. 59 | 10 | 22 | 34 | |
| 56 | 11 | 23 | 34 | 45 | 57 | 8 | 20 | 31 | |
| 58 | 9 | 21 | 32 | 43 | 55 | 6 | 18 | 29 | |

☽'s App. Altitude 79 Degrees.

| ′ | 55″ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | |
| 0 | 10. 7 | 10. 19 | 10. 30 | 10. 41 | 10. 53 | 11. 4 | 11. 16 | 11. 27 | |
| 2 | 5 | 17 | 28 | 39 | 51 | 2 | 14 | 25 | |
| 4 | 3 | 15 | 26 | 37 | 49 | 0 | 12 | 23 | |
| 6 | 2 | 13 | 25 | 36 | 47 | 10. 58 | 10 | 21 | |
| 8 | 0 | 11 | 23 | 34 | 45 | 56 | 8 | 19 | |
| 10 | 9. 58 | 10. 9 | 10. 21 | 10. 32 | 10. 43 | 10. 54 | 11. 6 | 11. 17 | |
| 12 | 56 | 7 | 19 | 30 | 41 | 52 | 4 | 15 | |
| 14 | 54 | 5 | 17 | 28 | 39 | 50 | 2 | 13 | |
| 16 | 53 | 4 | 15 | 26 | 37 | 48 | 0 | 11 | |
| 18 | 51 | 2 | 13 | 24 | 35 | 46 | 10. 58 | 9 | |
| 20 | 9. 49 | 10. | 10. 11 | 10. 22 | 10. 33 | 10. 44 | 10. 56 | 11. 7 | |
| 22 | 47 | 9. 58 | 9 | 20 | 31 | 42 | 54 | 5 | |
| 24 | 45 | 56 | 7 | 18 | 29 | 40 | 52 | 3 | |
| 26 | 44 | 55 | 6 | 17 | 28 | 39 | 50 | 1 | |
| 28 | 42 | 53 | 4 | 15 | 26 | 37 | 48 | 10. 59 | |
| 30 | 9. 40 | 9. 51 | 10. 2 | 10. 13 | 10. 24 | 10. 35 | 10. 46 | 10. 57 | |
| | 38 | 49 | 0 | 11 | 22 | 33 | 44 | 55 | |
| 34 | 36 | 47 | 9. 58 | 9 | 20 | 31 | 42 | 53 | |
| 36 | 35 | 46 | 56 | 7 | 18 | 29 | 39 | 50 | |
| | 33 | 44 | 54 | 5 | 16 | 27 | 37 | 48 | |
| 40 | 9. 31 | 9. 42 | 9. 52 | 10. 3 | 10. 14 | 10. 25 | 10. 35 | 10. 46 | |
| 42 | 29 | 40 | 50 | 1 | 12 | 23 | 33 | 44 | |
| 44 | 27 | 38 | 48 | 9. 59 | 10 | 21 | 31 | 42 | |
| | | | 47 | 57 | 8 | 19 | 29 | 40 | |
| 48 | 24 | 34 | 45 | 55 | 6 | 17 | 27 | 38 | |
| | 9. 22 | 9. 32 | 9. 43 | 9. 53 | 10. 4 | 10. 15 | 10. 25 | 10. 36 | |
| | | | 41 | | | | | 34 | |
| 54 | 16 | | 39 | | | | 21 | 32 | |
| | 15 | | 37 | | | | | 30 | |
| 58 | 13 | 23 | 35 | 46 | 57 | 8 | 19 | 29 | |

Proparts for Seconds of Parallax additive

| | |
|---|---|
| ″ | ″ |
| 1– 0 | 1– 0 |
| 2– 0 | 2– 0 |
| 3– 1 | 3– 0 |
| 4– 1 | 4– 1 |
| 5– 1 | 5– 1 |
| 6– 1 | 6– 1 |
| 7– 1 | 7– 1 |
| 8– 2 | 8– 1 |
| 9– 2 | 9– 1 |
| 10– 2 | 10– 2 |
| 11– 2 | 11– 2 |
| 12– 2 | 12– 2 |
| 13– 2 | 13– 2 |
| 14– 3 | 14– 2 |
| 15– 3 | 15– 2 |
| 16– 3 | 16– 3 |
| 17– 3 | 17– 3 |
| 18– 3 | 18– 3 |
| 19– 4 | 19– 3 |
| 20– 4 | 20– 3 |
| 21– 4 | 21– 3 |
| 22– 4 | 22– 3 |
| 23– 4 | 23– 4 |
| 24– 5 | 24– 4 |
| 25– 5 | 25– 4 |
| 26– 5 | 26– 4 |
| 27– 5 | 27– 4 |
| 28– 5 | 28– 4 |
| 29– 6 | 29– 5 |
| 30– 6 | 30– 5 |
| 31– 6 | 31– 5 |
| 32– 6 | 32– 5 |
| 33– 6 | 33– 5 |
| 34– 7 | 34– 5 |
| 35– 7 | 35– 6 |
| 36– 7 | 36– 6 |
| 37– 7 | 37– 6 |
| 38– 7 | 38– 6 |
| 39– 7 | 39– 6 |
| 40– 8 | 40– 6 |
| 41– 8 | 41– 6 |
| 42– 8 | 42– 7 |
| 43– 8 | 43– 7 |
| 44– 8 | 44– 7 |
| 45– 9 | 45– 7 |
| 46– 9 | 46– 7 |
| 47– 9 | 47– 7 |
| 48– 9 | 48– 8 |
| 49– 9 | 49– 8 |
| 50–10 | 50– 8 |
| 51–10 | 51– 8 |
| 52–10 | 52– 8 |
| 53–10 | 53– 8 |
| 54–10 | 54– 9 |
| 55–11 | 55– 9 |
| 56–11 | 56– 9 |
| 57–11 | 57– 9 |
| 58–11 | 58– 9 |
| 59–11 | 59– 9 |

☽'s App. Altitude 80 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
| 0 | 9. 13 | 9. 23 | 9. 33 | 9. 44 | 9. 54 | 10. 5 | 10. 15 | 10. 25 |
| 2 | 11 | 21 | 31 | 42 | 52 | 3 | 13 | 23 |
| 4 | 9 | 19 | 29 | 40 | 50 | 1 | 11 | 21 |
| 6 | 7 | 18 | 28 | 38 | 48 | 9. 59 | 9 | 19 |
| 8 | 5 | 16 | 26 | 36 | 46 | 57 | 7 | 17 |
| 10 | 9. 3 | 9. 14 | 9. 24 | 9. 34 | 9. 44 | 9. 55 | 10. 5 | 10. 15 |
| 12 | 1 | 12 | 22 | 32 | 42 | 53 | 3 | 13 |
| 14 | 8. 59 | 10 | 20 | 30 | 40 | 51 | 1 | 11 |
| 16 | 58 | 8 | 19 | 29 | 39 | 49 | 9. 59 | 9 |
| 18 | 56 | 6 | 17 | 27 | 37 | 47 | 57 | 7 |
| 20 | 8. 54 | 9. 4 | 9. 15 | 9. 25 | 9. 35 | 9. 45 | 9. 55 | 10. 5 |
| 22 | 52 | 2 | 13 | 23 | 33 | 43 | 53 | 3 |
| 24 | 50 | 0 | 11 | 21 | 31 | 41 | 51 | 1 |
| 26 | 49 | 8. 59 | 9 | 19 | 29 | 39 | 49 | 9. 59 |
| 28 | 47 | 57 | 7 | 17 | 27 | 37 | 47 | 57 |
| 30 | 8. 45 | 8. 55 | 9. 5 | 9. 15 | 9. 25 | 9. 35 | 9. 45 | 9. 55 |
| 32 | 43 | 53 | 3 | 13 | 23 | 33 | 43 | 53 |
| 34 | 41 | 51 | 1 | 11 | 21 | 31 | 41 | 51 |
| 36 | 40 | 50 | 0 | 9 | 19 | 29 | 38 | 48 |
| 38 | 38 | 48 | 8. 58 | 7 | 17 | 27 | 36 | 46 |
| 40 | 8. 36 | 8. 46 | 8. 56 | 9. 5 | 9. 15 | 9. 25 | 9. 34 | 9. 44 |
| 42 | 34 | 44 | 54 | 3 | 13 | 23 | 32 | 42 |
| 44 | 32 | 42 | 52 | 1 | 11 | 21 | 30 | 40 |
| 46 | 31 | 41 | 50 | 0 | 9 | 19 | 28 | 38 |
| 48 | 29 | 39 | 48 | 8. 58 | 7 | 17 | 26 | 36 |
| 50 | 8. 27 | 8. 37 | 8. 46 | 8. 56 | 9. 5 | 9. 15 | 9. 24 | 9. 34 |
| 52 | 25 | 35 | 44 | 54 | 3 | 13 | 22 | 32 |
| 54 | 23 | 33 | 42 | 52 | 1 | 11 | 20 | 30 |
| 56 | 22 | 31 | 41 | 50 | 8. 59 | 9 | 18 | 28 |
| 58 | 20 | 29 | 39 | 48 | 57 | 7 | 16 | 26 |

☽'s App. Altitude 81 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
| 0 | 8. 18 | 8. 27 | 8. 37 | 8. 46 | 8. 55 | 9. 5 | 9. 14 | 9. 24 |
| 2 | 16 | 25 | 35 | 44 | 53 | 3 | 12 | 22 |
| 4 | 14 | 23 | 33 | 42 | 51 | 1 | 10 | 20 |
| 6 | 13 | 22 | 31 | 40 | 50 | 8. 59 | 8 | 17 |
| 8 | 11 | 20 | 29 | 38 | 48 | 57 | 6 | 15 |
| 10 | 8. 9 | 8. 18 | 8. 27 | 8. 36 | 8. 46 | 8. 55 | 9. 4 | 9. 13 |
| 12 | 7 | 16 | 25 | 34 | 44 | 53 | 2 | 11 |
| 14 | 5 | 14 | 23 | 32 | 42 | 51 | 0 | 9 |
| 16 | 4 | 13 | 22 | 31 | 40 | 49 | 8. 58 | 7 |
| 18 | 2 | 11 | 20 | 29 | 38 | 47 | 56 | 5 |
| 20 | 8. 0 | 8. 9 | 8. 18 | 8. 27 | 8. 36 | 8. 45 | 8. 54 | 9. 3 |
| 22 | 7. 58 | 7 | 16 | 25 | 34 | 43 | 52 | 1 |
| 24 | 56 | 5 | 14 | 23 | 32 | 41 | 50 | 8. 59 |
| 26 | 54 | 3 | 12 | 21 | 30 | 39 | 48 | 56 |
| 28 | 52 | 1 | 10 | 19 | 28 | 37 | 46 | 54 |
| 30 | 7. 50 | 7. 59 | 8. 8 | 8. 17 | 8. 26 | 8. 35 | 8. 44 | 8. 52 |
| 32 | 48 | 57 | 6 | 15 | 24 | 33 | 42 | 50 |
| 34 | 46 | 55 | 4 | 13 | 22 | 31 | 40 | 48 |
| 36 | 45 | 54 | 3 | 11 | 20 | 29 | 37 | 46 |
| 38 | 43 | 52 | 1 | 9 | 18 | 27 | 35 | 44 |
| 40 | 7. 41 | 7. 50 | 7. 59 | 8. 7 | 8. 16 | 8. 25 | 8. 33 | 8. 42 |
| 42 | 39 | 48 | 57 | 5 | 14 | 23 | 31 | 40 |
| 44 | 37 | 46 | 55 | 3 | 12 | 21 | 29 | 38 |
| 46 | 36 | 45 | 53 | 2 | 10 | 19 | 27 | 36 |
| 48 | 34 | 43 | 51 | 0 | 8 | 17 | 25 | 34 |
| 50 | 7. 32 | 7. 41 | 7. 49 | 7. 58 | 8. 6 | 8. 15 | 8. 23 | 8. 32 |
| 52 | 30 | 39 | 47 | 56 | 4 | 13 | 21 | 30 |
| 54 | 29 | 37 | 45 | 54 | 2 | 11 | 19 | 28 |
| 56 | 27 | 35 | 44 | 52 | 0 | 9 | 17 | 25 |
| 58 | 25 | 33 | 42 | 50 | 7. 58 | 7 | 15 | 23 |

Correct. for Star's and Star's Altit. add'v. ☉ * ☽

☽'s App. Altitude 78 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Pr. parts for Seconds of Parallax additive |
|---|---|---|---|---|---|---|---|---|---|
| | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ″ ″ |
| 0 | 29. 21 | 29. 55 | 30. 28 | 31. 2 | 31. 36 | 32. 10 | 32. 43 | 33. 17 | 1– 1 |
| 2 | 21 | 55 | 28 | 2 | 36 | 10 | 43 | 17 | 2– 1 |
| 4 | 21 | 55 | 28 | 2 | 36 | 10 | 43 | 17 | 3– 2 |
| 6 | 22 | 56 | 29 | 3 | 37 | 11 | 44 | 18 | 4– 2 |
| 8 | 22 | 56 | 29 | 3 | 37 | 11 | 44 | 18 | 5– 3 |
| 10 | 29. 22 | 29. 56 | 30. 29 | 31. 3 | 31. 37 | 32. 11 | 32. 44 | 33. 18 | 6– 3 |
| 12 | 22 | 56 | 29 | 3 | 37 | 11 | 44 | 18 | 7– 4 |
| 14 | 22 | 56 | 29 | 3 | 37 | 11 | 44 | 18 | 8– 4 |
| 16 | 23 | 57 | 30 | 4 | 38 | 12 | 45 | 19 | 9– 5 |
| 18 | 23 | 57 | 30 | 4 | 38 | 12 | 45 | 19 | 10– 6 |
| 20 | 29. 23 | 29. 57 | 30. 30 | 31. 4 | 31. 38 | 32. 12 | 32. 45 | 33. 19 | 11– 6 |
| 22 | 23 | 57 | 30 | 4 | 38 | 12 | 45 | 19 | 12– 7 |
| 24 | 23 | 57 | 31 | 5 | 39 | 13 | 46 | 20 | 13– 7 |
| 26 | 24 | 58 | 31 | 5 | 39 | 13 | 46 | 20 | 14– 8 |
| 28 | 24 | 58 | 32 | 6 | 40 | 14 | 47 | 21 | 15– 9 |
| 30 | 29. 24 | 29. 58 | 30. 32 | 31. 6 | 31. 40 | 32. 14 | 32. 47 | 33. 21 | 16– 9 |
| 32 | 24 | 58 | 32 | 6 | 40 | 14 | 47 | 21 | 17–10 |
| 34 | 24 | 58 | 32 | 6 | 40 | 14 | 47 | 21 | 18–11 |
| 36 | 25 | 59 | 33 | 7 | 41 | 15 | 48 | 22 | 19–12 |
| 38 | 25 | 59 | 33 | 7 | 41 | 15 | 48 | 22 | 20–12 |
| 40 | 29. 25 | 29. 59 | 30. 33 | 31. 7 | 31. 41 | 32. 15 | 32. 48 | 33. 22 | 21–13 |
| 42 | 25 | 59 | 33 | 7 | 41 | 15 | 48 | 22 | 22–14 |
| 44 | 25 | 59 | 33 | 7 | 41 | 15 | 48 | 22 | 23–15 |
| 46 | 26 | 30. 0 | 34 | 8 | 42 | 16 | 49 | 23 | 24–15 |
| 48 | 26 | 0 | 34 | 8 | 42 | 16 | 49 | 23 | 25–16 |
| 50 | 29. 26 | 30. 0 | 30. 34 | 31. 8 | 31. 42 | 32. 16 | 32. 49 | 33. 23 | 26–17 |
| 52 | 26 | 0 | 34 | 8 | 42 | 16 | 49 | 23 | 27–18 |
| 54 | 26 | 0 | 34 | 8 | 42 | 16 | 49 | 23 | 28–18 |
| 56 | 27 | 1 | 35 | 9 | 43 | 17 | 50 | 24 | 29–19 |
| 58 | 27 | 1 | 35 | 9 | 43 | 17 | 50 | 24 | 30–20 |

☽'s App. Altitude 79 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Pr. parts for Seconds of Parallax additive |
|---|---|---|---|---|---|---|---|---|---|
| | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ″ ″ |
| 0 | 29. 27 | 30. 1 | 30. 35 | 31. 9 | 31. 43 | 32. 17 | 32. 50 | 33. 24 | 31–17 |
| 2 | 27 | 1 | 35 | 9 | 43 | 17 | 50 | 24 | 32–18 |
| 4 | 27 | 1 | 35 | 9 | 43 | 17 | 50 | 24 | 33–18 |
| 6 | 28 | 2 | 36 | 10 | 44 | 18 | 51 | 25 | 34–19 |
| 8 | 28 | 2 | 36 | 10 | 44 | 18 | 51 | 25 | 35–20 |
| 10 | 29. 28 | 30. 2 | 30. 36 | 31. 10 | 31. 44 | 32. 18 | 32. 51 | 33. 25 | 36–20 |
| 12 | 28 | 2 | 36 | 10 | 44 | 18 | 51 | 25 | 37–21 |
| 14 | 28 | 2 | 36 | 10 | 44 | 18 | 51 | 25 | 38–21 |
| 16 | 29 | 3 | 37 | 11 | 45 | 19 | 52 | 26 | 39–22 |
| 18 | 29 | 3 | 37 | 11 | 45 | 19 | 52 | 26 | 40–23 |
| 20 | 29. 29 | 30. 3 | 30. 37 | 31. 11 | 31. 45 | 32. 19 | 32. 52 | 33. 26 | 41–23 |
| 22 | 29 | 3 | 37 | 11 | 45 | 19 | 52 | 26 | 42–24 |
| 24 | 29 | 3 | 37 | 11 | 45 | 19 | 53 | 27 | 43–25 |
| 26 | 30 | 4 | 38 | 12 | 46 | 20 | 53 | 27 | 44–25 |
| 28 | 30 | 4 | 38 | 12 | 46 | 20 | 53 | 27 | 45–26 |
| 30 | 29. 30 | 30. 4 | 30. 38 | 31. 12 | 31. 46 | 32. 20 | 32. 54 | 33. 28 | 46–27 |
| 32 | 30 | 4 | 38 | 12 | 46 | 20 | 54 | 28 | 47–27 |
| 34 | 30 | 4 | 38 | 12 | 46 | 20 | 54 | 28 | 48–28 |
| 36 | 31 | 5 | 39 | 13 | 47 | 21 | 55 | 29 | 49–28 |
| 38 | 31 | 5 | 39 | 13 | 47 | 21 | 55 | 29 | 50–29 |
| 40 | 29. 31 | 30. 5 | 30. 39 | 31. 13 | 31. 47 | 32. 21 | 32. 55 | 33. 29 | 51–29 |
| 42 | 31 | 5 | 39 | 13 | 47 | 21 | 55 | 29 | 52–30 |
| 44 | 31 | 5 | 39 | 13 | 47 | 21 | 55 | 29 | 53–30 |
| 46 | 32 | 6 | 40 | 14 | 48 | 22 | 56 | 30 | 54–31 |
| 48 | 32 | 6 | 40 | 14 | 48 | 22 | 56 | 30 | 55–31 |
| 50 | 29. 32 | 30. 6 | 30. 40 | 31. 14 | 31. 48 | 32. 22 | 32. 57 | 33. 31 | 56–32 |
| 52 | 32 | 6 | 40 | 14 | 48 | 22 | 56 | 30 | 57–32 |
| 54 | 32 | 6 | 40 | 14 | 48 | 22 | 56 | 30 | 58–33 |
| 56 | 33 | 7 | 41 | 15 | 49 | 23 | 57 | 31 | 59–34 |
| 58 | 33 | 7 | 41 | 15 | 49 | 23 | 57 | 31 | |

☽'s App. Altitude 80 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Pr. parts for Seconds of Parallax additive |
|---|---|---|---|---|---|---|---|---|---|
| | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ″ ″ |
| 0 | 29. 33 | 30. 7 | 30. 41 | 31. 15 | 31. 49 | 32. 23 | 32. 57 | 33. 31 | 1– 1 |
| 2 | 33 | 7 | 41 | 15 | 49 | 23 | 57 | 31 | 2– 1 |
| 4 | 33 | 7 | 41 | 15 | 49 | 23 | 57 | 31 | 3– 2 |
| 6 | 34 | 8 | 42 | 16 | 50 | 24 | 58 | 32 | 4– 2 |
| 8 | 34 | 8 | 42 | 16 | 50 | 24 | 58 | 32 | 5– 3 |
| 10 | 29. 34 | 30. 8 | 30. 42 | 31. 16 | 31. 50 | 32. 24 | 32. 58 | 33. 32 | 6– 3 |
| 12 | 34 | 8 | 42 | 16 | 50 | 24 | 58 | 32 | 7– 4 |
| 14 | 34 | 8 | 42 | 16 | 50 | 24 | 58 | 32 | 8– 5 |
| 16 | 35 | 9 | 43 | 17 | 51 | 25 | 59 | 33 | 9– 5 |
| 18 | 35 | 9 | 43 | 17 | 51 | 25 | 59 | 33 | 10– 6 |
| 20 | 29. 35 | 30. 9 | 30. 43 | 31. 17 | 31. 51 | 32. 25 | 32. 59 | 33. 33 | 11– 6 |
| 22 | 35 | 9 | 43 | 17 | 51 | 25 | 59 | 33 | 12– 7 |
| 24 | 35 | 9 | 43 | 17 | 51 | 25 | 59 | 33 | 13– 7 |
| 26 | 36 | 10 | 44 | 18 | 52 | 26 | 33. 0 | 34 | 14– 8 |
| 28 | 36 | 10 | 44 | 18 | 52 | 26 | 0 | 34 | 15– 9 |
| 30 | 29. 36 | 30. 10 | 30. 44 | 31. 18 | 31. 52 | 32. 26 | 33. 0 | 33. 34 | 16– 9 |
| 32 | 36 | 10 | 44 | 18 | 52 | 26 | 0 | 34 | 17–10 |
| 34 | 36 | 10 | 44 | 18 | 52 | 26 | 0 | 34 | 18–11 |
| 36 | 36 | 10 | 44 | 18 | 52 | 26 | 1 | 35 | 19–12 |
| 38 | 36 | 10 | 44 | 18 | 52 | 26 | 1 | 35 | 20–12 |
| 40 | 29. 36 | 30. 10 | 30. 44 | 31. 18 | 31. 52 | 32. 26 | 33. 1 | 33. 35 | 21–13 |
| 42 | 36 | 10 | 44 | 18 | 52 | 26 | 1 | 35 | 22–14 |
| 44 | 36 | 10 | 44 | 18 | 52 | 26 | 1 | 35 | 23–15 |
| 46 | 37 | 11 | 45 | 19 | 53 | 27 | 2 | 36 | 24–15 |
| 48 | 37 | 11 | 45 | 19 | 53 | 27 | 2 | 36 | 25–16 |
| 50 | 29. 37 | 30. 11 | 30. 45 | 31. 19 | 31. 53 | 32. 27 | 33. 2 | 33. 36 | 26–17 |
| 52 | 37 | 11 | 45 | 19 | 53 | 27 | 2 | 36 | 27–18 |
| 54 | 37 | 11 | 45 | 19 | 53 | 27 | 2 | 36 | 28–18 |
| 56 | 38 | 12 | 46 | 20 | 54 | 28 | 3 | 37 | 29–19 |
| 58 | 38 | 12 | 46 | 20 | 54 | 28 | 3 | 37 | 30–20 |

☽'s App. Altitude 81 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ | Pr. parts for Seconds of Parallax additive |
|---|---|---|---|---|---|---|---|---|---|
| | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ″ ″ |
| 0 | 29. 38 | 30. 12 | 30. 46 | 31. 20 | 31. 54 | 32. 28 | 33. 3 | 33. 37 | 33–19 |
| 2 | 38 | 12 | 46 | 20 | 54 | 28 | 3 | 37 | 34–20 |
| 4 | 38 | 12 | 46 | 20 | 54 | 28 | 3 | 37 | 35–20 |
| 6 | 39 | 13 | 47 | 21 | 55 | 29 | 4 | 38 | 36–21 |
| 8 | 39 | 13 | 47 | 21 | 55 | 29 | 4 | 38 | 37–21 |
| 10 | 29. 39 | 30. 13 | 30. 47 | 31. 21 | 31. 55 | 32. 29 | 33. 4 | 33. 38 | 38–22 |
| 12 | 39 | 13 | 47 | 21 | 55 | 29 | 4 | 38 | 39–22 |
| 14 | 39 | 13 | 47 | 21 | 55 | 29 | 4 | 38 | 40–23 |
| 16 | 40 | 14 | 48 | 22 | 56 | 30 | 5 | 39 | 41–24 |
| 18 | 40 | 14 | 48 | 22 | 56 | 30 | 5 | 39 | 42–24 |
| 20 | 29. 40 | 30. 14 | 30. 48 | 31. 22 | 31. 56 | 32. 30 | 33. 5 | 33. 39 | 43–25 |
| 22 | 40 | 14 | 48 | 22 | 56 | 30 | 5 | 39 | 44–25 |
| 24 | 40 | 14 | 48 | 22 | 56 | 30 | 5 | 39 | 45–26 |
| 26 | 41 | 15 | 49 | 23 | 57 | 31 | 6 | 40 | 46–26 |
| 28 | 41 | 15 | 49 | 23 | 57 | 31 | 6 | 40 | 47–27 |
| 30 | 29. 41 | 30. 15 | 30. 49 | 31. 23 | 31. 57 | 32. 31 | 33. 6 | 33. 40 | 48–28 |
| 32 | 41 | 15 | 49 | 23 | 57 | 31 | 6 | 40 | 49–28 |
| 34 | 41 | 15 | 49 | 23 | 57 | 31 | 6 | 40 | 50–29 |
| 36 | 41 | 15 | 49 | 23 | 57 | 31 | 6 | 40 | 51–29 |
| 38 | 41 | 15 | 49 | 23 | 57 | 31 | 6 | 40 | 52–30 |
| 40 | 29. 41 | 30. 15 | 30. 49 | 31. 23 | 31. 57 | 32. 31 | 33. 6 | 33. 40 | 53–30 |
| 42 | 41 | 15 | 49 | 23 | 57 | 31 | 6 | 40 | 54–31 |
| 44 | 41 | 15 | 49 | 23 | 57 | 31 | 6 | 40 | 55–31 |
| 46 | 42 | 16 | 50 | 24 | 58 | 32 | 7 | 41 | 56–32 |
| 48 | 42 | 16 | 50 | 24 | 58 | 32 | 7 | 41 | 57–33 |
| 50 | 29. 42 | 30. 16 | 30. 50 | 31. 24 | 31. 58 | 32. 32 | 33. 7 | 33. 41 | 58–33 |
| 52 | 42 | 16 | 50 | 24 | 58 | 32 | 7 | 41 | 59–34 |
| 54 | 42 | 16 | 50 | 24 | 58 | 32 | 7 | 41 | |
| 56 | 43 | 17 | 51 | 25 | 59 | 33 | 8 | 42 | |
| 58 | 43 | 17 | 51 | 25 | 59 | 33 | 8 | 42 | |

### ☽'s App. Altitude 82 Degrees.

| ′ | Horizontal Parallax. 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 7. 23 | 7. 31 | 7. 39 | 7. 47 | 7. 55 | 8. 3 | 8. 11 | 8. 19 |
| 2 | 21 | 29 | 37 | 45 | 53 | 1 | 9 | 17 |
| 4 | 19 | 27 | 35 | 43 | 51 | 59 | 7 | 15 |
| 6 | 17 | 25 | 33 | 41 | 49 | 7. 57 | 5 | 13 |
| 8 | 15 | 23 | 31 | 39 | 47 | 55 | 3 | 11 |
| 10 | 7. 13 | 7. 21 | 7. 29 | 7. 37 | 7. 45 | 7. 53 | 8. 1 | 8. 9 |
| 12 | 11 | 19 | 27 | 35 | 43 | 51 | 7. 59 | 7 |
| 14 | 9 | 17 | 25 | 33 | 41 | 49 | 57 | 5 |
| 16 | 7 | 15 | 23 | 31 | 39 | 47 | 55 | 3 |
| 18 | 5 | 13 | 21 | 29 | 37 | 45 | 53 | 1 |
| 20 | 7. 3 | 7. 11 | 7. 19 | 7. 27 | 7. 35 | 7. 43 | 7. 51 | 7. 59 |
| 22 | 1 | 9 | 17 | 25 | 33 | 41 | 49 | 57 |
| 24 | 7. 59 | 7 | 15 | 23 | 31 | 39 | 47 | 55 |
| 26 | 57 | 5 | 13 | 21 | 29 | 37 | 45 | 53 |
| 28 | 55 | 7. 3 | 11 | 19 | 27 | 35 | 43 | 51 |
| 30 | 7. 53 | 7. 1 | 7. 9 | 7. 17 | 7. 25 | 7. 33 | 7. 40 | 7. 48 |
| 32 | 51 | 7. 59 | 7 | 15 | 23 | 31 | 38 | 46 |
| 34 | 49 | 57 | 7. 5 | 13 | 21 | 29 | 36 | 44 |
| 36 | 47 | 55 | 3 | 11 | 19 | 27 | 34 | 42 |
| 38 | 45 | 53 | 1 | 9 | 17 | 25 | 32 | 40 |
| 40 | 7. 43 | 7. 51 | 7. 59 | 7. 7 | 7. 15 | 7. 23 | 7. 30 | 7. 38 |
| 42 | 41 | 49 | 57 | 7. 5 | 13 | 21 | 28 | 36 |
| 44 | 39 | 47 | 7. 55 | 3 | 11 | 19 | 26 | 34 |
| 46 | 37 | 45 | 53 | 1 | 9 | 17 | 24 | 32 |
| 48 | 35 | 43 | 51 | 7. 59 | 7 | 15 | 22 | 30 |
| 50 | 7. 33 | 7. 41 | 7. 49 | 7. 57 | 7. 5 | 7. 13 | 7. 20 | 7. 28 |
| 52 | 31 | 39 | 47 | 55 | 3 | 11 | 18 | 26 |
| 54 | 29 | 37 | 45 | 53 | 1 | 9 | 16 | 24 |
| 56 | 27 | 35 | 43 | 51 | 7. 59 | 7 | 14 | 22 |
| 58 | 25 | 33 | 41 | 49 | 57 | 5 | 12 | 20 |

### ☽'s App. Altitude 83 Degrees.

| ′ | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 6. 28 | 6. 35 | 6. 42 | 6. 50 | 6. 57 | 7. 4 | 7. 12 | 7. 19 |
| 2 | 26 | 33 | 40 | 48 | 55 | 2 | 10 | 17 |
| 4 | 24 | 31 | 38 | 46 | 53 | 0 | 8 | 15 |
| 6 | 23 | 30 | 37 | 44 | 51 | 6. 58 | 6 | 13 |
| 8 | 21 | 28 | 35 | 42 | 49 | 56 | 4 | 11 |
| 10 | 6. 19 | 6. 26 | 6. 33 | 6. 40 | 6. 47 | 6. 54 | 7. 2 | 7. 9 |
| 12 | 17 | 24 | 31 | 38 | 45 | 52 | 0 | 7 |
| 14 | 15 | 22 | 29 | 36 | 43 | 50 | 6. 58 | 5 |
| 16 | 13 | 20 | 27 | 34 | 41 | 48 | 55 | 2 |
| 18 | 11 | 18 | 25 | 32 | 39 | 46 | 53 | 0 |
| 20 | 6. 9 | 6. 16 | 6. 23 | 6. 30 | 6. 37 | 6. 44 | 6. 51 | 6. 58 |
| 22 | 7 | 14 | 21 | 28 | 35 | 42 | 49 | 56 |
| 24 | 5 | 12 | 19 | 26 | 33 | 40 | 47 | 54 |
| 26 | 4 | 11 | 18 | 25 | 31 | 38 | 45 | 52 |
| 28 | 2 | 9 | 16 | 23 | 29 | 36 | 43 | 50 |
| 30 | 6. 0 | 6. 7 | 6. 14 | 6. 21 | 6. 27 | 6. 34 | 6. 41 | 6. 48 |
| 32 | 5. 58 | 5 | 12 | 19 | 25 | 32 | 39 | 46 |
| 34 | 56 | 3 | 10 | 17 | 23 | 30 | 37 | 44 |
| 36 | 55 | 2 | 8 | 15 | 22 | 28 | 35 | 41 |
| 38 | 53 | 5. 59 | 6 | 13 | 20 | 26 | 33 | 39 |
| 40 | 5. 51 | 5. 58 | 6. 4 | 6. 11 | 6. 18 | 6. 24 | 6. 31 | 6. 37 |
| 42 | 49 | 56 | 3 | 9 | 16 | 22 | 29 | 35 |
| 44 | 48 | 54 | 5. 59 | 7 | 14 | 20 | 27 | 33 |
| 46 | 46 | 52 | 57 | 5 | 12 | 18 | 25 | 31 |
| 48 | 44 | 5. 50 | 5. 57 | 6. 3 | 6. 10 | 6. 16 | 6. 23 | 6. 29 |
| 50 | 5. 42 | 5. 48 | 5. 55 | 6. 1 | 6. 8 | 6. 14 | 6. 21 | 6. 27 |
| 52 | 40 | 47 | 53 | 5. 59 | 6 | 12 | 19 | 25 |
| 54 | 38 | 45 | 51 | 57 | 4 | 10 | 17 | 23 |
| 56 | 37 | 43 | 49 | 55 | 2 | 8 | 15 | 21 |
| 58 | 35 | 41 | 47 | 53 | 0 | 6 | 13 | 19 |

### ☽'s App. Altitude 84 Degrees.

| ′ | Horizontal Parallax. 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 5. 33 | 5. 39 | 5. 45 | 5. 52 | 5. 58 | 6. 4 | 6. 10 | 6. 17 |
| 2 | 31 | 37 | 43 | 50 | 56 | 2 | 8 | 15 |
| 4 | 29 | 35 | 41 | 48 | 54 | 0 | 6 | 13 |
| 6 | 27 | 34 | 40 | 46 | 52 | 5. 58 | 4 | 10 |
| 8 | 25 | 32 | 38 | 44 | 50 | 56 | 2 | 8 |
| 10 | 5. 23 | 5. 30 | 5. 36 | 5. 42 | 5. 48 | 5. 54 | 6. 0 | 6. 6 |
| 12 | 21 | 28 | 34 | 40 | 46 | 52 | 5. 58 | 4 |
| 14 | 19 | 26 | 32 | 38 | 44 | 50 | 56 | 2 |
| 16 | 18 | 24 | 30 | 36 | 42 | 48 | 54 | 0 |
| 18 | 16 | 22 | 28 | 34 | 40 | 46 | 52 | 5. 58 |
| 20 | 5. 14 | 5. 20 | 5. 26 | 5. 32 | 5. 38 | 5. 44 | 5. 50 | 5. 56 |
| 22 | 12 | 18 | 24 | 30 | 36 | 42 | 48 | 54 |
| 24 | 10 | 16 | 22 | 28 | 34 | 40 | 46 | 52 |
| 26 | 9 | 15 | 21 | 26 | 32 | 38 | 44 | 49 |
| 28 | 7 | 13 | 19 | 24 | 30 | 36 | 42 | 47 |
| 30 | 5. 5 | 5. 11 | 5. 17 | 5. 22 | 5. 28 | 5. 34 | 5. 40 | 5. 45 |
| 32 | 3 | 9 | 15 | 20 | 26 | 32 | 38 | 43 |
| 34 | 1 | 7 | 13 | 18 | 24 | 30 | 36 | 41 |
| 36 | 4. 59 | 5 | 11 | 17 | 22 | 28 | 33 | 39 |
| 38 | 57 | 3 | 9 | 15 | 20 | 26 | 31 | 37 |
| 40 | 4. 55 | 5. 1 | 5. 7 | 5. 13 | 5. 18 | 5. 24 | 5. 29 | 5. 35 |
| 42 | 53 | 4. 59 | 5 | 11 | 16 | 22 | 27 | 33 |
| 44 | 51 | 57 | 3 | 9 | 14 | 20 | 25 | 31 |
| 46 | 50 | 56 | 1 | 7 | 12 | 18 | 23 | 28 |
| 48 | 48 | 54 | 4. 59 | 5 | 10 | 16 | 21 | 26 |
| 50 | 4. 46 | 4. 52 | 4. 57 | 5. 3 | 5. 8 | 5. 14 | 5. 19 | 5. 24 |
| 52 | 44 | 50 | 55 | 1 | 6 | 12 | 17 | 22 |
| 54 | 42 | 48 | 53 | 4. 59 | 4 | 10 | 15 | 20 |
| 56 | 41 | 47 | 52 | 57 | 2 | 8 | 13 | 18 |
| 58 | 39 | 45 | 50 | 55 | 0 | 6 | 11 | 16 |

### ☽'s App. Altitude 85 Degrees.

| ′ | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| 0 | 4 37 | 4. 43 | 4. 48 | 4. 53 | 4. 58 | 5. 4 | 5. 9 | 5. 14 |
| 2 | 35 | 41 | 46 | 51 | 56 | 2 | 7 | 12 |
| 4 | 33 | 39 | 44 | 49 | 54 | 0 | 5 | 10 |
| 6 | 32 | 37 | 42 | 47 | 52 | 4. 57 | 3 | 8 |
| 8 | 30 | 35 | 40 | 45 | 50 | 55 | 1 | 6 |
| 10 | 4. 28 | 4. 33 | 4. 38 | 4. 43 | 4. 48 | 4. 53 | 4. 59 | 5. 4 |
| 12 | 26 | 31 | 36 | 41 | 46 | 51 | 57 | 2 |
| 14 | 24 | [illegible] | [illegible] | 39 | 44 | [illegible] | [illegible] | [illegible] |
| 16 | 23 | [illegible] | 33 | 38 | 43 | 47 | 52 | 4. 57 |
| 18 | 21 | [illegible] | 31 | 36 | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 4. 19 | 4. 24 | [illegible] | 4. 34 | 4. 39 | 4. 43 | 4. 48 | 4. 53 |
| 22 | 17 | 22 | [illegible] | 32 | 37 | 41 | 46 | 51 |
| 24 | 15 | 20 | 25 | [illegible] | 34 | [illegible] | 44 | 49 |
| 26 | 14 | 18 | 23 | [illegible] | 33 | 37 | 42 | 47 |
| 28 | 12 | 16 | 21 | 26 | 31 | 35 | 40 | 45 |
| 30 | 4. 10 | 4. 14 | 4. 19 | 4. 24 | 4. 29 | 4. 33 | 4. 38 | 4. 43 |
| 32 | 8 | 12 | 17 | 22 | 27 | 31 | 36 | 41 |
| 34 | 6 | 10 | 15 | 20 | 25 | 29 | 34 | 39 |
| 36 | 4 | 9 | 14 | 18 | 23 | 27 | 32 | 36 |
| 38 | 2 | 7 | 12 | [illegible] | 21 | [illegible] | [illegible] | [illegible] |
| 40 | 4. 0 | 4. 5 | 4. 10 | 4. 14 | 4. 19 | 4. 23 | 4. 28 | 4. 32 |
| 42 | 3. 58 | 3 | 8 | 12 | 17 | 21 | 26 | 30 |
| 44 | 56 | 1 | 6 | 10 | 15 | 19 | 24 | 28 |
| 46 | 55 | [illegible] | 4 | [illegible] | 13 | [illegible] | [illegible] | [illegible] |
| 48 | 53 | [illegible] | 2 | 6 | 11 | 15 | 20 | 24 |
| 50 | 51 | 3. 56 | 4. 0 | 4. 4 | 4. 9 | 4. 13 | 4. 17 | 4. 22 |
| 52 | 49 | 54 | 3. 58 | 2 | 7 | 11 | 15 | 20 |
| 54 | 47 | 52 | 56 | [illegible] | 5 | 9 | 13 | 18 |
| 56 | 46 | [illegible] | 54 | 3. 58 | [illegible] | 7 | 11 | 16 |
| 58 | 44 | [illegible] | 52 | 56 | 1 | [illegible] | [illegible] | [illegible] |

| Pr. parts for Seconds | Pr. parts for Seconds of Parallax additive |
|---|---|
| ″ | ″ |
| 0 | 1 – 0 |
| 0 | 2 – 0 |
| 0 | 3 – 0 |
| 0 | 4 – 0 |
| 1 | 5 – 0 |
| 1 | 6 – 1 |
| 1 | 7 – 1 |
| 1 | 8 – 1 |
| 1 | 9 – 1 |
| 1 | 10 – 1 |
| 1 | 11 – 1 |
| 1 | 12 – 1 |
| 2 | 13 – 1 |
| 2 | 14 – 1 |
| 2 | 15 – 1 |
| 2 | 16 – 1 |
| 2 | 17 – 2 |
| 2 | 18 – 2 |
| 2 | 19 – 2 |
| 2 | 20 – 2 |
| 3 | 21 – 2 |
| 3 | 22 – 2 |
| 3 | 23 – 2 |
| 3 | 24 – 2 |
| 3 | 25 – 2 |
| 3 | 26 – 2 |
| 3 | 27 – 2 |
| 3 | 28 – 3 |
| 4 | 29 – 3 |
| 4 | 30 – 3 |
| 4 | 31 – 3 |
| 4 | 32 – 3 |
| 4 | 33 – 3 |
| 4 | 34 – 3 |
| 4 | 35 – 3 |
| 4 | 36 – 3 |
| 5 | 37 – 3 |
| 5 | 38 – 3 |
| 5 | 39 – 4 |
| 5 | 40 – 4 |
| 5 | 41 – 4 |
| 5 | 42 – 4 |
| 5 | 43 – 4 |
| 5 | 44 – 4 |
| 6 | 45 – 4 |
| 6 | 46 – 4 |
| 6 | 47 – 4 |
| 6 | 48 – 4 |
| 6 | 49 – 4 |
| 6 | 50 – 5 |
| 6 | 51 – 5 |
| 6 | 52 – 5 |
| 7 | 53 – 5 |
| 7 | 54 – 5 |
| 7 | 55 – 5 |
| 7 | 56 – 5 |
| 7 | 57 – 5 |
| 7 | 58 – 5 |
| 7 | 59 – 5 |

☽'s App. Altitude 83 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 29. 47 | 30. 21 | 30. 55 | 31. 30 | 32. 4 | 32. 38 | 33. 12 | 33. 46 |
| 2 | 47 | 21 | 55 | 30 | 4 | 38 | 12 | 46 |
| 4 | 47 | 21 | 55 | 30 | 4 | 38 | 12 | 46 |
| 6 | 48 | 22 | 56 | 31 | 5 | 39 | 13 | 47 |
| 8 | 48 | 22 | 56 | 31 | 5 | 39 | 13 | 47 |
| 10 | 29. 48 | 30. 22 | 30. 56 | 31. 31 | 32. 5 | 32. 39 | 33. 13 | 33. 47 |
| 12 | 48 | 22 | 56 | 31 | 5 | 39 | 13 | 47 |
| 14 | 48 | 22 | 56 | 31 | 5 | 39 | 13 | 47 |
| 16 | 48 | 22 | 56 | 31 | 5 | 39 | 13 | 47 |
| 18 | 48 | 22 | 56 | 31 | 5 | 39 | 13 | 47 |
| 20 | 29. 48 | 30. 22 | 30. 56 | 31. 31 | 32. 5 | 32. 39 | 33. 13 | 33. 47 |
| 22 | 48 | 22 | 56 | 31 | 5 | 39 | 13 | 47 |
| 24 | 48 | 22 | 56 | 31 | 5 | 39 | 13 | 47 |
| 26 | 49 | 23 | 57 | 32 | 6 | 40 | 14 | 48 |
| 28 | 49 | 23 | 57 | 32 | 6 | 40 | 14 | 48 |
| 30 | 29. 49 | 30. 23 | 30. 57 | 31. 32 | 32. 6 | 32. 40 | 33. 14 | 33. 48 |
| 32 | 49 | 23 | 57 | 32 | 6 | 40 | 14 | 48 |
| 34 | 49 | 23 | 57 | 32 | 6 | 40 | 14 | 48 |
| 36 | 49 | 24 | 58 | 33 | 7 | 41 | 15 | 49 |
| 38 | 49 | 24 | 58 | 33 | 7 | 41 | 15 | 49 |
| 40 | 29. 49 | 30. 24 | 30. 58 | 31. 33 | 32. 7 | 32. 41 | 33. 15 | 33. 49 |
| 42 | 49 | 24 | 58 | 33 | 7 | 41 | 15 | 49 |
| 44 | 49 | 24 | 58 | 33 | 7 | 41 | 15 | 49 |
| 46 | 50 | 24 | 58 | 33 | 7 | 41 | 15 | 49 |
| 48 | 50 | 24 | 58 | 33 | 7 | 41 | 15 | 49 |
| 50 | 29. 50 | 30. 24 | 30. 58 | 31. 33 | 32. 7 | 32. 41 | 33. 15 | 33. 49 |
| 52 | 50 | 24 | 58 | 33 | 7 | 41 | 15 | 49 |
| 54 | 50 | 24 | 58 | 33 | 7 | 41 | 15 | 49 |
| 56 | 50 | 25 | 59 | 34 | 8 | 42 | 16 | 50 |
| 58 | 50 | 25 | 59 | 34 | 8 | 42 | 16 | 50 |

Pr. parts for ′ of Parallax additive

| ″ | ″ |
|---|---|
| 1 | 1 |
| 2 | 1 |
| 3 | 2 |
| 4 | 2 |
| 5 | 3 |
| 6 | 3 |
| 7 | 4 |
| 8 | 5 |
| 9 | 5 |
| 10 | 6 |
| 11 | 6 |
| 12 | 7 |
| 13 | 8 |
| 14 | 8 |
| 15 | 9 |
| 16 | 9 |
| 17 | 10 |
| 18 | 11 |
| 19 | 11 |
| 20 | 11 |
| 21 | 12 |
| 22 | 13 |
| 23 | 13 |
| 24 | 14 |
| 25 | 14 |
| 26 | 15 |
| 27 | 16 |
| 28 | 16 |
| 29 | 17 |
| 30 | 17 |
| 31 | 18 |
| 32 | 19 |
| 33 | 19 |
| 34 | 20 |
| 35 | 20 |
| 36 | 21 |
| 37 | 21 |
| 38 | 22 |
| 39 | 22 |
| 40 | 23 |
| 41 | 24 |
| 42 | 24 |
| 43 | 25 |
| 44 | 25 |
| 45 | 26 |
| 46 | 26 |
| 47 | 27 |
| 48 | 28 |
| 49 | 28 |
| 50 | 29 |
| 51 | 29 |
| 52 | 30 |
| 53 | 31 |
| 54 | 31 |
| 55 | 32 |
| 56 | 32 |
| 57 | 33 |
| 58 | 33 |
| 59 | 34 |

Correct. for Sun's ☉ Altit. addit.

☽'s App. Altitude 84 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 29. 50 | 30. 25 | 30. 59 | 31. 34 | 32. 8 | 32. 42 | 33. 16 | 33. 50 |
| 2 | 50 | 25 | 59 | 34 | 8 | 42 | 16 | 50 |
| 4 | 50 | 25 | 59 | 34 | 8 | 42 | 16 | 50 |
| 6 | 51 | 26 | 31. 0 | 35 | 9 | 43 | 17 | 51 |
| 8 | 51 | 26 | 0 | 35 | 9 | 43 | 17 | 51 |
| 10 | 29. 51 | 30. 26 | 31. 0 | 31. 35 | 32. 9 | 32. 43 | 33. 17 | 33. 51 |
| 12 | 51 | 26 | 0 | 35 | 9 | 43 | 17 | 51 |
| 14 | 51 | 26 | 0 | 35 | 9 | 43 | 17 | 51 |
| 16 | 51 | 26 | 0 | 35 | 9 | 43 | 17 | 51 |
| 18 | 51 | 26 | 0 | 35 | 9 | 43 | 17 | 51 |
| 20 | 29. 51 | 30. 26 | 31. 0 | 31. 35 | 32. 9 | 32. 43 | 33. 17 | 33. 51 |
| 22 | 51 | 26 | 0 | 35 | 9 | 43 | 17 | 51 |
| 24 | 51 | 26 | 0 | 35 | 9 | 43 | 17 | 51 |
| 26 | 52 | 27 | 1 | 36 | 10 | 44 | 18 | 52 |
| 28 | 52 | 27 | 1 | 36 | 10 | 44 | 18 | 52 |
| 30 | 29. 52 | 30. 27 | 31. 1 | 31. 36 | 32. 10 | 32. 44 | 33. 18 | 33. 52 |
| 32 | 52 | 27 | 1 | 36 | 10 | 44 | 18 | 52 |
| 34 | 52 | 27 | 1 | 36 | 10 | 44 | 18 | 52 |
| 36 | 52 | 27 | 1 | 36 | 10 | 44 | 18 | 52 |
| 38 | 52 | 27 | 1 | 36 | 10 | 44 | 18 | 52 |
| 40 | 29. 52 | 30. 27 | 31. 1 | 31. 36 | 32. 10 | 32. 44 | 33. 18 | 33. 52 |
| 42 | 52 | 27 | 1 | 36 | 10 | 44 | 18 | 52 |
| 44 | 52 | 27 | 1 | 36 | 10 | 44 | 18 | 52 |
| 46 | 53 | 28 | 2 | 37 | 11 | 45 | 19 | 53 |
| 48 | 53 | 28 | 2 | 37 | 11 | 45 | 19 | 53 |
| 50 | 29. 53 | 30. 28 | 31. 2 | 31. 37 | 32. 11 | 32. 45 | 33. 19 | 33. 53 |
| 52 | 53 | 28 | 2 | 37 | 11 | 45 | 19 | 53 |
| 54 | 53 | 28 | 2 | 37 | 11 | 45 | 19 | 53 |
| 56 | 53 | 28 | 2 | 37 | 11 | 45 | 19 | 54 |
| 58 | 53 | 28 | 2 | 37 | 11 | 45 | 19 | 54 |

☽'s App. Altitude 85 Degrees.

Horizontal Parallax.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| 0 | 29. 53 | 30. 28 | 31. 2 | 31. 37 | 32. 11 | 32. 45 | 33. 19 | 33. 54 |
| 2 | 53 | 28 | 2 | 37 | 11 | 45 | 19 | 54 |
| 4 | 53 | 28 | 2 | 37 | 11 | 45 | 19 | 54 |
| 6 | 54 | 29 | 3 | 37 | 12 | 46 | 20 | 55 |
| 8 | 54 | 29 | 3 | 37 | 12 | 46 | 20 | 55 |
| 10 | 29. 54 | 30. 29 | 31. 3 | 31. 38 | 32. 12 | 32. 46 | 33. 20 | 33. 55 |
| 12 | 54 | 29 | 3 | 38 | 12 | 46 | 20 | 55 |
| 14 | 54 | 29 | 3 | 38 | 12 | 46 | 20 | 55 |
| 16 | 54 | 29 | 3 | 38 | 12 | 46 | 20 | 55 |
| 18 | 54 | 29 | 3 | 38 | 12 | 46 | 20 | 55 |
| 20 | 29. 54 | 30. 29 | 31. 3 | 31. 38 | 32. 12 | 32. 46 | 33. 20 | 33. 55 |
| 22 | 54 | 29 | 3 | 38 | 12 | 46 | 20 | 55 |
| 24 | 54 | 29 | 3 | 38 | 12 | 46 | 20 | 55 |
| 26 | 55 | 30 | 4 | 38 | 13 | 47 | 21 | 56 |
| 28 | 55 | 30 | 4 | 38 | 13 | 47 | 21 | 56 |
| 30 | 29. 55 | 30. 30 | 31. 4 | 31. 38 | 32. 13 | 32. 47 | 33. 21 | 33. 56 |
| 32 | 55 | 30 | 4 | 38 | 13 | 47 | 21 | 56 |
| 34 | 55 | 30 | 4 | 38 | 13 | 47 | 21 | 56 |
| 36 | 55 | 30 | 4 | 38 | 13 | 47 | 21 | 56 |
| 38 | 55 | 30 | 4 | 38 | 13 | 47 | 21 | 56 |
| 40 | 29. 55 | 30. 30 | 31. 4 | 31. 38 | 32. 13 | 32. 47 | 33. 21 | 33. 56 |
| 42 | 55 | 30 | 4 | 38 | 13 | 47 | 21 | 56 |
| 44 | 55 | 30 | 4 | 38 | 13 | 47 | 21 | 56 |
| 46 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |
| 48 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |
| 50 | 29. 56 | 30. 31 | 31. 5 | 31. 39 | 32. 14 | 32. 48 | 33. 22 | 33. 57 |
| 52 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |
| 54 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |
| 56 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |
| 58 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |

☽'s App. Altitude 86 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
| 0 | 3. 42 | 3. 46 | 3. 50 | 3. 55 | 3. 59 | 4. 3 | 4. 7 | 4. 11 |
| 2 | 40 | 44 | 48 | 53 | 57 | 1 | 5 | 9 |
| 4 | 38 | 42 | 46 | 51 | 55 | 3. 59 | 3 | 7 |
| 6 | 37 | 41 | 45 | 49 | 53 | 57 | 1 | 5 |
| 8 | 35 | 39 | 43 | 47 | 51 | 55 | 3. 59 | 3 |
| 10 | 3. 33 | 3. 37 | 3. 41 | 3. 45 | 3. 49 | 3. 53 | 3. 57 | 4. 1 |
| 12 | 31 | 35 | 39 | 43 | 47 | 51 | 55 | 3. 59 |
| 14 | 29 | 33 | 37 | 41 | 45 | 49 | 53 | 57 |
| 16 | 28 | 31 | 35 | 39 | 43 | 47 | 51 | 54 |
| 18 | 26 | 29 | 33 | 37 | 41 | 45 | 49 | 52 |
| 20 | 3. 24 | 3. 27 | 3. 31 | 3. 35 | 3. 39 | 3. 43 | 3. 47 | 3. 50 |
| 22 | 22 | 25 | 29 | 33 | 37 | 41 | 45 | 48 |
| 24 | 20 | 23 | 27 | 31 | 35 | 39 | 43 | 46 |
| 26 | 18 | 22 | 26 | 29 | 33 | 37 | 40 | 44 |
| 28 | 16 | 20 | 24 | 27 | 31 | 35 | 38 | 42 |
| 30 | 3. 14 | 3. 18 | 3. 22 | 3. 25 | 3. 29 | 3. 33 | 3. 36 | 3. 40 |
| 32 | 12 | 16 | 20 | 23 | 27 | 31 | 34 | 38 |
| 34 | 10 | 14 | 18 | 21 | 25 | 29 | 32 | 36 |
| 36 | 9 | 13 | 16 | 20 | 23 | 27 | 30 | 34 |
| 38 | 7 | 11 | 14 | 18 | 21 | 25 | 28 | 32 |
| 40 | 3. 5 | 3. 9 | 3. 12 | 3. 16 | 3. 19 | 3. 23 | 3. 26 | 3. 30 |
| 42 | 3 | 7 | 10 | 14 | 17 | 21 | 24 | 28 |
| 44 | 1 | 5 | 8 | 12 | 15 | 19 | 22 | 26 |
| 46 | 0 | 3 | 6 | 10 | 13 | 16 | 20 | 23 |
| 48 | 2. 58 | 1 | 4 | 8 | 11 | 14 | 18 | 21 |
| 50 | 2. 56 | 2. 59 | 3. 2 | 3. 6 | 3. 9 | 3. 12 | 3. 16 | 3. 19 |
| 52 | 54 | 57 | 0 | 4 | 7 | 10 | 14 | 17 |
| 54 | 52 | 55 | 2. 58 | 2 | 5 | 8 | 12 | 15 |
| 56 | 50 | 54 | 57 | 0 | 3 | 6 | 9 | 13 |
| 58 | 48 | 52 | 55 | 2. 58 | 1 | 4 | 7 | 11 |

☽'s App. Altitude 87 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
| 0 | 2. 40 | 2. 44 | 2. 48 | 2. 52 | 2. 56 | 3. 0 | 3. 5 | 3. 9 |
| 2 | 44 | 48 | 51 | 54 | 57 | 0 | 3 | 7 |
| 4 | 47 | 47 | 49 | 52 | 55 | 2. 58 | 1 | 5 |
| 6 | 41 | 44 | 47 | 50 | 53 | 56 | 2. 59 | 2 |
| 8 | 39 | 42 | 45 | 48 | 51 | 54 | 57 | 0 |
| 10 | 2. 37 | 2. 40 | 2. 43 | 2. 46 | 2. 49 | 2. 52 | 2. 55 | 2. 58 |
| 12 | 35 | 38 | 41 | 44 | 47 | 50 | 53 | 56 |
| 14 | 33 | 36 | 39 | 42 | 45 | 48 | 51 | 54 |
| 16 | 31 | 35 | 38 | 40 | 43 | 46 | 49 | 52 |
| 18 | 30 | 33 | 36 | 38 | 41 | 44 | 47 | 50 |
| 20 | 2. 28 | 2. 31 | 2. 34 | 2. 36 | 2. 39 | 2. 42 | 2. 45 | 2. 48 |
| 22 | 26 | 29 | 32 | 34 | 37 | 40 | 43 | 46 |
| 24 | 24 | 27 | 30 | 32 | 35 | 38 | 41 | 44 |
| 26 | 23 | 25 | 28 | 31 | 33 | 36 | 39 | 41 |
| 28 | 21 | 23 | 26 | 29 | 31 | 34 | 37 | 39 |
| 30 | 2. 19 | 2. 22 | 2. 24 | 2. 27 | 2. 29 | 2. 32 | 2. 35 | 2. 37 |
| 32 | 17 | 20 | 22 | 25 | 27 | 30 | 33 | 35 |
| 34 | 15 | 17 | 20 | 23 | 25 | 28 | 31 | 33 |
| 36 | 14 | 16 | 18 | 21 | 23 | 26 | 28 | 31 |
| 38 | 12 | 14 | 16 | 19 | 21 | 24 | 26 | 29 |
| 40 | 2. 10 | 2. 12 | 2. 14 | 2. 17 | 2. 19 | 2. 22 | 2. 24 | 2. 27 |
| 42 | 8 | 10 | 12 | 15 | 17 | 20 | 22 | 25 |
| 44 | 6 | 8 | 10 | 13 | 15 | 18 | 20 | 23 |
| 46 | 4 | 7 | 9 | 11 | 13 | 16 | 18 | 20 |
| 48 | 3 | 5 | 7 | 9 | 11 | 14 | 16 | 18 |
| 50 | 2. 1 | 2. 3 | 2. 5 | 2. 7 | 2. 9 | 2. 12 | 2. 14 | 2. 16 |
| 52 | 1 | 1 | 3 | 5 | 7 | 10 | 12 | 14 |
| 54 | 0 | 0 | 2 | 4 | 6 | 8 | 10 | 12 |
| 56 | 1. 58 | 1. 59 | 1 | 3 | 5 | 7 | 9 | 11 |
| 58 | 57 | 58 | 0 | 2 | 4 | 6 | 8 | 10 |

Proparts for Seconds of Parallax additive

| | |
|---|---|
| | ″ ″ |
| 1 | 0 |
| 2 | 0 |
| 3 | 0 |
| 4 | 0 |
| 5 | 0 |
| 6 | 0 |
| 7 | 0 |
| 8 | 0 |
| 9 | 1 |
| 10 | 1 |
| 11 | 1 |
| 12 | 1 |
| 13 | 1 |
| 14 | 1 |
| 15 | 1 |
| 16 | 1 |
| 17 | 1 |
| 18 | 1 |
| 19 | 1 |
| 20 | 1 |
| 21 | 1 |
| 22 | 1 |
| 23 | 1 |
| 24 | 1 |
| 25 | 1 |
| 26 | 2 |
| 27 | 2 |
| 28 | 2 |
| 29 | 2 |
| 30 | 2 |
| 31 | 2 |
| 32 | 2 |
| 33 | 2 |
| 34 | 2 |
| 35 | 2 |
| 36 | 2 |
| 37 | 2 |
| 38 | 2 |
| 39 | 2 |
| 40 | 2 |
| 41 | 2 |
| 42 | 2 |
| 43 | 2 |
| 44 | 3 |
| 45 | 3 |
| 46 | 3 |
| 47 | 3 |
| 48 | 3 |
| 49 | 3 |
| 50 | 3 |
| 51 | 3 |
| 52 | 3 |
| 53 | 3 |
| 54 | 3 |
| 55 | 3 |
| 56 | 3 |
| 57 | 3 |
| 58 | 3 |
| 59 | 3 |

☽'s App. Altitude 88 Degrees.

| ′ | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
| 0 | 1. 51 | 1. 53 | 1. 55 | 1. 57 | 1. 59 | 2. 2 | 2. 4 | 2. 6 |
| 2 | 49 | 51 | 53 | 55 | 57 | 0 | 2 | 4 |
| 4 | 47 | 49 | 51 | 53 | 55 | 1. 58 | 0 | 2 |
| 6 | 46 | 48 | 50 | 52 | 54 | 55 | 1. 57 | 1. 59 |
| 8 | 44 | 46 | 48 | 50 | 52 | 53 | 55 | 57 |
| 10 | 1. 42 | 1. 44 | 1. 46 | 1. 48 | 1. 50 | 1. 51 | 1. 53 | 1. 55 |
| 12 | 40 | 42 | 44 | 46 | 48 | 49 | 51 | 53 |
| 14 | 38 | 40 | 42 | 44 | 46 | 47 | 49 | 51 |
| 16 | 37 | 38 | 40 | 42 | 44 | 45 | 47 | 49 |
| 18 | 35 | 36 | 38 | 40 | 42 | 43 | 45 | 47 |
| 20 | 1. 33 | 1. 34 | 1. 36 | 1. 38 | 1. 40 | 1. 41 | 1. 43 | 1. 45 |
| 22 | 31 | 32 | 34 | 36 | 38 | 39 | 41 | 43 |
| 24 | 29 | 30 | 32 | 34 | 36 | 37 | 39 | 41 |
| 26 | 27 | 29 | 30 | 32 | 34 | 35 | 37 | 38 |
| 28 | 25 | 27 | 28 | 30 | 32 | 33 | 35 | 36 |
| 30 | 1. 23 | 1. 25 | 1. 26 | 1. 28 | 1. 30 | 1. 31 | 1. 33 | 1. 34 |
| 32 | 21 | 23 | 24 | 26 | 28 | 29 | 31 | 32 |
| 34 | 19 | 21 | 22 | 24 | 26 | 27 | 29 | 30 |
| 36 | 18 | 19 | 21 | 22 | 24 | 25 | 26 | 28 |
| 38 | 16 | 17 | 19 | 20 | 22 | 23 | 24 | 26 |
| 40 | 1. 14 | 1. 15 | 1. 17 | 1. 18 | 1. 20 | 1. 21 | 1. 22 | 1. 24 |
| 42 | 12 | 13 | 15 | 16 | 18 | 19 | 20 | 22 |
| 44 | 10 | 11 | 13 | 14 | 16 | 17 | 18 | 20 |
| 46 | 9 | 10 | 11 | 12 | 14 | 15 | 16 | 17 |
| 48 | 7 | 8 | 9 | 10 | 12 | 13 | 14 | 15 |
| 50 | 1. 5 | 1. 6 | 1. 7 | 1. 8 | 1. 10 | 1. 11 | 1. 12 | 1. 13 |
| 52 | 3 | 4 | 5 | 6 | 8 | 9 | 10 | 11 |
| 54 | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 9 |
| 56 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 58 | 0. 58 | 0. 59 | 0 | 1 | 2 | 3 | 4 | 5 |

☽'s App. Altitude 89 Degrees.

| ′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
| 0 | 0. 56 | 0. 57 | 0. 58 | 0. 59 | 1. 0 | 1. 1 | 1. 2 | 1. 3 |
| 2 | 54 | 55 | 56 | 57 | 0. 58 | 0. 59 | 0 | 1 |
| 4 | 52 | 53 | 54 | 55 | 56 | 57 | 0. 58 | 0. 59 |
| 6 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 56 |
| 8 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 54 |
| 10 | 0. 46 | 0. 47 | 0. 48 | 0. 49 | 0. 50 | 0. 51 | 0. 52 | 0. 52 |
| 12 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 50 |
| 14 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 48 |
| 16 | 41 | 42 | 42 | 43 | 44 | 45 | 45 | 46 |
| 18 | 39 | 40 | 40 | 41 | 42 | 43 | 43 | 44 |
| 20 | 0. 37 | 0. 38 | 0. 38 | 0. 39 | 0. 40 | 0. 41 | 0. 41 | 0. 42 |
| 22 | 35 | 36 | 36 | 37 | 38 | 39 | 39 | 40 |
| 24 | 33 | 34 | 34 | 35 | 36 | 37 | 37 | 38 |
| 26 | 32 | 32 | 33 | 33 | 34 | 34 | 35 | 35 |
| 28 | 30 | 30 | 31 | 31 | 32 | 32 | 33 | 33 |
| 30 | 0. 28 | 0. 28 | 0. 29 | 0. 29 | 0. 30 | 0. 30 | 0. 31 | 0. 31 |
| 32 | 26 | 26 | 27 | 27 | 28 | 28 | 29 | 29 |
| 34 | 24 | 24 | 25 | 25 | 26 | 26 | 27 | 27 |
| 36 | 22 | 23 | 23 | 24 | 24 | 24 | 25 | 25 |
| 38 | 20 | 21 | 21 | 22 | 22 | 22 | 23 | 23 |
| 40 | 0. 18 | 0. 19 | 0. 19 | 0. 20 | 0. 20 | 0. 20 | 0. 21 | 0. 21 |
| 42 | 16 | 17 | 17 | 18 | 18 | 18 | 19 | 19 |
| 44 | 14 | 15 | 15 | 16 | 16 | 16 | 17 | 17 |
| 46 | 13 | 13 | 14 | 14 | 14 | 14 | 14 | 14 |
| 48 | 11 | 11 | 12 | 12 | 12 | 12 | 12 | 12 |
| 50 | 0. 9 | 0. 9 | 0. 10 | 0. 10 | 0. 10 | 0. 10 | 0. 10 | 0. 10 |
| 52 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 |
| 54 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 |
| 56 | 3 | 3 | 4 | 4 | 4 | 4 | 4 | 4 |
| 58 | 1 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |

Correct for Sun's and Star's Altit. additive ☉ ✱

☽'s App. Altitude 86 Degrees.

| ′ | Horizontal Parallax. 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
| 0 | 29. 56 | 30. 31 | 31. 5 | 31. 39 | 32. 14 | 32. 48 | 33. 22 | 33. 57 |
| 2 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |
| 4 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |
| 6 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |
| 8 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |
| 10 | 29. 56 | 30. 31 | 31. 5 | 31. 39 | 32. 14 | 32. 48 | 33. 22 | 33. 57 |
| 12 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |
| 14 | 56 | 31 | 5 | 39 | 14 | 48 | 22 | 57 |
| 16 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 18 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 20 | 29. 57 | 30. 32 | 31. 6 | 31. 40 | 32. 15 | 32. 49 | 33. 23 | 33. 58 |
| 22 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 24 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 26 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 28 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 30 | 29. 57 | 30. 32 | 31. 6 | 31. 40 | 32. 15 | 32. 49 | 33. 23 | 33. 58 |
| 32 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 34 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 36 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 38 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 40 | 29. 57 | 30. 32 | 31. 6 | 31. 40 | 32. 15 | 32. 49 | 33. 23 | 33. 58 |
| 42 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 44 | 57 | 32 | 6 | 40 | 15 | 49 | 23 | 58 |
| 46 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |
| 48 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |
| 50 | 29. 58 | 30. 33 | 31. 7 | 31. 41 | 32. 16 | 32. 50 | 33. 24 | 33. 59 |
| 52 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |
| 54 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |
| 56 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |
| 58 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |

☽'s App. Altitude 87 Degrees.

| ′ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
|---|---|---|---|---|---|---|---|---|
| 0 | 29. 58 | 30. 33 | 31. 7 | 31. 41 | 32. 16 | 32. 50 | 33. 24 | 33. 59 |
| 2 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |
| 4 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |
| 6 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |
| 8 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |
| 10 | 29. 58 | 30. 33 | 31. 7 | 31. 41 | 32. 16 | 32. 50 | 33. 24 | 33. 59 |
| 12 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |
| 14 | 58 | 33 | 7 | 41 | 16 | 50 | 24 | 59 |
| 16 | 58 | 33 | 7 | 42 | 16 | 51 | 25 | 34. 0 |
| 18 | 58 | 33 | 7 | 42 | 16 | 51 | 25 | 0 |
| 20 | 29. 58 | 30. 33 | 31. 7 | 31. 42 | 32. 16 | 32. 51 | 33. 25 | 34. 0 |
| 22 | 58 | 33 | 7 | 42 | 16 | 51 | 25 | 0 |
| 24 | 58 | 33 | 7 | 42 | 16 | 51 | 25 | 0 |
| 26 | 59 | 34 | 8 | 42 | 17 | 51 | 25 | 0 |
| 28 | 59 | 34 | 8 | 42 | 17 | 51 | 25 | 0 |
| 30 | 29. 59 | 30. 34 | 31. 8 | 31. 42 | 32. 17 | 32. 51 | 33. 25 | 34. 0 |
| 32 | 59 | 34 | 8 | 42 | 17 | 51 | 25 | 0 |
| 34 | 59 | 34 | 8 | 42 | 17 | 51 | 25 | 0 |
| 36 | 59 | 34 | 8 | 42 | 17 | 51 | 25 | 0 |
| 38 | 59 | 34 | 8 | 42 | 17 | 51 | 25 | 0 |
| 40 | 29. 59 | 30. 34 | 31. 8 | 31. 42 | 32. 17 | 32. 51 | 33. 25 | 34. 0 |
| 42 | 59 | 34 | 8 | 42 | 17 | 51 | 25 | 0 |
| 44 | 59 | 34 | 8 | 42 | 17 | 51 | 25 | 0 |
| 46 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 0 |
| 48 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 0 |
| 50 | 29. 59 | 30. 34 | 31. 8 | 31. 43 | 32. 17 | 32. 52 | 33. 26 | 34. 1 |
| 52 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 54 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 56 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 58 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |

Pr. parts for Seconds of Parallax additive

| ″ | ″ |
|---|---|
| 1– 1 | |
| 2– 1 | |
| 3– 2 | |
| 4– 2 | |
| 5– 3 | |
| 6– 3 | |
| 7– 4 | |
| 8– 5 | |
| 9– 5 | |
| 10– 6 | |
| 11– 6 | |
| 12– 7 | |
| 13– 7 | |
| 14– 8 | |
| 15– 9 | |
| 16– 9 | |
| 17–10 | |
| 18–10 | |
| 19–11 | |
| 20–11 | |
| 21–12 | |
| 22–13 | |
| 23–13 | |
| 24–14 | |
| 25–14 | |
| 26–15 | |
| 27–16 | |
| 28–16 | |
| 29–17 | |
| 30–17 | |
| 31–18 | |
| 32–18 | |
| 33–19 | |
| 34–20 | |
| 35–20 | |
| 36–21 | |
| 37–21 | |
| 38–22 | |
| 39–22 | |
| 40–23 | |
| 41–24 | |
| 42–24 | |
| 43–25 | |
| 44–25 | |
| 45–26 | |
| 46–26 | |
| 47–27 | |
| 48–28 | |
| 49–28 | |
| 50–29 | |
| 51–29 | |
| 52–30 | |
| 53–30 | |
| 54–31 | |
| 55–32 | |
| 56–32 | |
| 57–33 | |
| 58–33 | |
| 59–34 | |

☽'s App. Altitude 88 Degrees.

| ′ | Horizontal Parallax. 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 |
|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
| 0 | 29. 59 | 30. 34 | 31. 8 | 31. 43 | 32. 17 | 32. 52 | 33. 26 | 34. 1 |
| 2 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 4 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 6 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 8 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 10 | 29. 59 | 30. 34 | 31. 8 | 31. 43 | 32. 17 | 32. 52 | 33. 26 | 34. 1 |
| 12 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 14 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 16 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 18 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 20 | 29. 59 | 30. 34 | 31. 8 | 31. 43 | 32. 17 | 32. 52 | 33. 26 | 34. 1 |
| 22 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 24 | 59 | 34 | 8 | 43 | 17 | 52 | 26 | 1 |
| 26 | 30. 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 28 | 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 30 | 30. 0 | 30. 35 | 31. 9 | 31. 44 | 32. 18 | 32. 53 | 33. 27 | 34. 1 |
| 32 | 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 34 | 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 36 | 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 38 | 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 40 | 30. 0 | 30. 35 | 31. 9 | 31. 44 | 32. 18 | 32. 53 | 33. 27 | 34. 1 |
| 42 | 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 44 | 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 46 | 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 48 | 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 50 | 30. 0 | 30. 35 | 31. 9 | 31. 44 | 32. 18 | 32. 53 | 33. 27 | 34. 1 |
| 52 | 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 54 | 0 | 35 | 9 | 44 | 18 | 53 | 27 | 1 |
| 56 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |
| 58 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |

☽'s App. Altitude 89 Degrees.

| ′ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
|---|---|---|---|---|---|---|---|---|
| 0 | 30. 0 | 30. 35 | 31. 9 | 31. 44 | 32. 18 | 32. 53 | 33. 27 | 34. 1 |
| 2 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |
| 4 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |
| 6 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |
| 8 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |
| 10 | 30. 0 | 30. 35 | 31. 9 | 31. 44 | 32. 19 | 32. 53 | 33. 27 | 34. 1 |
| 12 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |
| 14 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |
| 16 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |
| 18 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |
| 20 | 30. 0 | 30. 35 | 31. 9 | 31. 44 | 32. 19 | 32. 53 | 33. 27 | 34. 1 |
| 22 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |
| 24 | 0 | 35 | 9 | 44 | 19 | 53 | 27 | 1 |
| 26 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 28 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 30 | 30. 1 | 30. 35 | 31. 10 | 31. 44 | 32. 19 | 32. 53 | 33. 27 | 34. 2 |
| 32 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 34 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 36 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 38 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 40 | 30. 1 | 30. 35 | 31. 10 | 31. 44 | 32. 19 | 32. 53 | 33. 27 | 34. 2 |
| 42 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 44 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 46 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 48 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 50 | 30. 1 | 30. 35 | 31. 10 | 31. 44 | 32. 19 | 32. 53 | 33. 27 | 34. 2 |
| 52 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 54 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 56 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |
| 58 | 1 | 35 | 10 | 44 | 19 | 53 | 27 | 2 |

Pr. parts for Seconds of Parallax additive

| ″ | ″ |
|---|---|
| 1– 1 | |
| 2– 1 | |
| 3– 2 | |
| 4– 2 | |
| 5– 3 | |
| 6– 3 | |
| 7– 4 | |
| 8– 5 | |
| 9– 5 | |
| 10– 6 | |
| 11– 6 | |
| 12– 7 | |
| 13– 7 | |
| 14– 8 | |
| 15– 9 | |
| 16– 9 | |
| 17–10 | |
| 18–10 | |
| 19–11 | |
| 20–11 | |
| 21–12 | |
| 22–13 | |
| 23–13 | |
| 24–14 | |
| 25–14 | |
| 26–15 | |
| 27–16 | |
| 28–16 | |
| 29–17 | |
| 30–17 | |
| 31–18 | |
| 32–18 | |
| 33–19 | |
| 34–20 | |
| 35–20 | |
| 36–21 | |
| 37–21 | |
| 38–22 | |
| 39–22 | |
| 40–23 | |
| 41–24 | |
| 42–24 | |
| 43–25 | |
| 44–25 | |
| 45–26 | |
| 46–26 | |
| 47–27 | |
| 48–28 | |
| 49–28 | |
| 50–29 | |
| 51–29 | |
| 52–30 | |
| 53–30 | |
| 54–31 | |
| 55–32 | |
| 56–32 | |
| 57–33 | |
| 58–33 | |
| 59–34 | |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for 1′ | C. S. A. 10° | Numbers |
|---|---|---|
| | ′ | |
| 48 | 0 | 198 7643 |
| 47 | 1 | 7597 |
| 46 | 2 | 7551 |
| 46 | 3 | 7506 |
| 45 | 4 | 7460 |
| 44 | 5 | 198 7414 |
| 43 | 6 | 7368 |
| 42 | 7 | 7322 |
| 42 | 8 | 7275 |
| 41 | 9 | 7229 |
| 40 | 10 | 198 7183 |
| 39 | 11 | 7136 |
| 38 | 12 | 7090 |
| 38 | 13 | 7043 |
| 37 | 14 | 6997 |
| 36 | 15 | 196 6950 |
| 35 | 16 | 6903 |
| 34 | 17 | 6856 |
| 34 | 18 | 6809 |
| 33 | 19 | 6762 |
| 32 | 20 | 198 6714 |
| 31 | 21 | 6667 |
| 30 | 22 | 6620 |
| 30 | 23 | 6572 |
| 29 | 24 | 6525 |
| 28 | 25 | 6477 |
| 27 | 26 | 6429 |
| 26 | 27 | 6381 |
| 26 | 28 | 6334 |
| 25 | 29 | 6286 |
| 24 | 30 | 198 6238 |
| 23 | 31 | 6190 |
| 22 | 32 | 6141 |
| 22 | 33 | 6093 |
| 21 | 34 | 6045 |
| 20 | 35 | 198 5996 |
| 19 | 36 | 5947 |
| 18 | 37 | 5899 |
| 18 | 38 | 5850 |
| 17 | 39 | 5801 |
| 16 | 40 | 198 5752 |
| 15 | 41 | 5703 |
| 14 | 42 | 5654 |
| 14 | 43 | 5605 |
| 13 | 44 | 5556 |
| 12 | 45 | 198 5507 |
| 11 | 46 | 5457 |
| 10 | 47 | 5408 |
| 9 | 48 | 5358 |
| 9 | 49 | 5309 |
| 8 | 50 | 198 5259 |
| 7 | 51 | 5209 |
| 6 | 52 | 5159 |
| 5 | 53 | 5109 |
| 4 | 54 | 198 5059 |
| 3 | 55 | 5009 |
| 3 | 56 | 4959 |
| 2 | 57 | 4908 |
| 1 | 58 | 4858 |
| 0 | 59 | 4807 |

| Parts for Seconds of Auxil. Angles additive | C. S. A. & A. D. 10° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 101 (102) 5192 | 5688 | 6185 | 6681 | 7178 | 7674 | 8171 | 8668 | 9164 | 9661 | 0157 | 0653 | 1150 | 1646 | 2143 | 2639 | 3136 |
| 8 | 1 | 5243 | 5739 | 6235 | 6732 | 7228 | 7725 | 8221 | 8718 | 9215 | 9711 | 0208 | 0704 | 1201 | 1697 | 2194 | 2690 | 3187 |
| 17 | 2 | 5293 | 5790 | 6286 | 6782 | 7279 | 7775 | 8272 | 8768 | 9265 | 9762 | 0258 | 0755 | 1251 | 1748 | 2244 | 2741 | 3237 |
| 25 | 3 | 5344 | 5840 | 6336 | 6833 | 7329 | 7826 | 8322 | 8819 | 9316 | 9812 | 0309 | 0805 | 1302 | 1798 | 2295 | 2791 | 3288 |
| 33 | 4 | 5395 | 5891 | 6387 | 6884 | 7380 | 7876 | 8373 | 8869 | 9366 | 9863 | 0360 | 0857 | 1353 | 1849 | 2346 | 2842 | 3339 |
| 41 | 5 | 101 (102) 5446 | 5942 | 6438 | 6934 | 7431 | 7927 | 8424 | 8920 | 9417 | 9914 | 0411 | 0907 | 1404 | 1900 | 2397 | 2893 | 3390 |
| 50 | 6 | 5497 | 5993 | 6489 | 6985 | 7482 | 7978 | 8474 | 8971 | 9468 | 9964 | 0461 | 0958 | 1455 | 1951 | 2448 | 2944 | 3441 |
| 58 | 7 | 5548 | 6044 | 6540 | 7036 | 7532 | 8029 | 8525 | 9022 | 9519 | 0015 | 0512 | 1009 | 1505 | 2002 | 2498 | 2995 | 3492 |
| 66 | 8 | 5599 | 6095 | 6591 | 7087 | 7584 | 8080 | 8576 | 9073 | 9569 | 0066 | 0563 | 1060 | 1556 | 2053 | 2549 | 3046 | 3543 |
| 74 | 9 | 5650 | 6146 | 6642 | 7138 | 7635 | 8131 | 8627 | 9124 | 9620 | 0117 | 0614 | 1111 | 1607 | 2104 | 2600 | 3097 | 3593 |
| 83 | 10 | 101 (102) 5702 | 6197 | 6694 | 7192 | 7689 | 8185 | 8682 | 9178 | 9675 | 0171 | 0668 | 1165 | 1662 | 2158 | 2655 | 3151 | 3647 |
| 91 | 11 | 5753 | 6248 | 6745 | 7241 | 7737 | 8234 | 8730 | 9227 | 9723 | 0220 | 0716 | 1213 | 1710 | 2207 | 2703 | 3200 | 3696 |
| 99 | 12 | 5804 | 6300 | 6796 | 7292 | 7788 | 8285 | 8781 | 9277 | 9774 | 0271 | 0767 | 1264 | 1761 | 2257 | 2753 | 3250 | 3749 |
| 108 | 13 | 5856 | 6352 | 6848 | 7344 | 7840 | 8336 | 8832 | 9329 | 9825 | 0322 | 0818 | 1315 | 1812 | 2309 | 2805 | 3302 | 3800 |
| 116 | 14 | 5908 | 6403 | 6899 | 7395 | 7891 | 8388 | 8884 | 9380 | 9877 | 0373 | 0870 | 1367 | 1863 | 2360 | 2857 | 3354 | 3851 |
| 124 | 15 | 101 (102) 5959 | 6455 | 6951 | 7448 | 7944 | 8440 | 8937 | 9433 | 9929 | 0425 | 0921 | 1418 | 1915 | 2411 | 2908 | 3405 | 3903 |
| 132 | 16 | 6011 | 6507 | 7003 | 7499 | 7996 | 8492 | 8988 | 9485 | 9981 | 0477 | 0973 | 1470 | 1966 | 2463 | 2960 | 3457 | 3954 |
| 141 | 17 | 6063 | 6559 | 7055 | 7551 | 8047 | 8543 | 9040 | 9536 | 0032 | 0528 | 1025 | 1521 | 2018 | 2515 | 3011 | 3508 | 4005 |
| 149 | 18 | 6115 | 6611 | 7107 | 7602 | 8098 | 8595 | 9091 | 9587 | 0083 | 0580 | 1076 | 1573 | 2069 | 2566 | 3063 | 3560 | 4057 |
| 157 | 19 | 6167 | 6663 | 7159 | 7654 | 8150 | 8646 | 9143 | 9639 | 0135 | 0632 | 1128 | 1625 | 2121 | 2618 | 3115 | 3612 | 4110 |
| 165 | 20 | 101 (102) 6219 | 6715 | 7211 | 7706 | 8202 | 8698 | 9195 | 9691 | 0187 | 0684 | 1180 | 1676 | 2173 | 2670 | 3167 | 3663 | 4160 |
| 174 | 21 | 6271 | 6767 | 7263 | 7759 | 8255 | 8751 | 9247 | 9744 | 0239 | 0736 | 1232 | 1728 | 2225 | 2722 | 3218 | 3715 | 4212 |
| 182 | 22 | 6324 | 6819 | 7315 | 7811 | 8307 | 8803 | 9299 | 9796 | 0291 | 0788 | 1284 | 1781 | 2277 | 2774 | 3270 | 3767 | 4264 |
| 190 | 23 | 6376 | 6872 | 7367 | 7863 | 8359 | 8856 | 9352 | 9848 | 0344 | 0840 | 1337 | 1833 | 2330 | 2826 | 3322 | 3819 | 4316 |
| 199 | 24 | 6428 | 6924 | 7420 | 7916 | 8411 | 8907 | 9404 | 9900 | 0396 | 0893 | 1389 | 1885 | 2382 | 2878 | 3374 | 3871 | 4368 |
| 207 | 25 | 101 (102) 6481 | 6977 | 7472 | 7968 | 8464 | 8960 | 9456 | 9953 | 0448 | 0945 | 1441 | 1937 | 2434 | 2930 | 3427 | 3923 | 4420 |
| 215 | 26 | 6534 | 7029 | 7525 | 8021 | 8516 | 9012 | 9508 | 0004 | 0500 | 0997 | 1493 | 1989 | 2486 | 2982 | 3479 | 3976 | 4472 |
| 224 | 27 | 6586 | 7082 | 7577 | 8073 | 8569 | 9065 | 9561 | 0057 | 0553 | 1049 | 1545 | 2042 | 2538 | 3035 | 3531 | 4028 | 4525 |
| 232 | 28 | 6639 | 7135 | 7630 | 8126 | 8622 | 9117 | 9613 | 0109 | 0605 | 1102 | 1598 | 2094 | 2591 | 3087 | 3584 | 4080 | 4577 |
| 240 | 29 | 6692 | 7187 | 7683 | 8179 | 8674 | 9170 | 9666 | 0162 | 0658 | 1154 | 1650 | 2147 | 2643 | 3140 | 3637 | 4133 | 4630 |
| 249 | 30 | 101 (102) 6745 | 7241 | 7737 | 8232 | 8727 | 9223 | 9719 | 0215 | 0711 | 1207 | 1703 | 2199 | 2696 | 3192 | 3689 | 4185 | 4682 |
| 257 | 31 | 6797 | 7294 | 7790 | 8285 | 8780 | 9276 | 9772 | 0268 | 0764 | 1259 | 1755 | 2252 | 2748 | 3245 | 3741 | 4238 | 4735 |
| 265 | 32 | 6851 | 7347 | 7843 | 8338 | 8833 | 9329 | 9825 | 0320 | 0817 | 1313 | 1809 | 2305 | 2801 | 3298 | 3794 | 4291 | 4787 |
| 273 | 33 | 6904 | 7400 | 7896 | 8391 | 8886 | 9382 | 9878 | 0373 | 0869 | 1365 | 1861 | 2358 | 2854 | 3351 | 3847 | 4344 | 4840 |
| 281 | 34 | 6956 | 7453 | 7949 | 8444 | 8940 | 9435 | 9931 | 0427 | 0923 | 1418 | 1915 | 2411 | 2907 | 3404 | 3900 | 4396 | 4893 |
| 289 | 35 | 101 (102) 7011 | 7506 | 8002 | 8497 | 8993 | 9489 | 9984 | 0480 | 0976 | 1472 | 1968 | 2464 | 2960 | 3457 | 3953 | 4449 | 4946 |
| 298 | 36 | 7063 | 7559 | 8055 | 8551 | 9046 | 9542 | 0038 | 0533 | 1029 | 1525 | 2021 | 2517 | 3013 | 3510 | 4006 | 4502 | 4999 |
| 306 | 37 | 7118 | 7613 | 8109 | 8604 | 9100 | 9595 | 0091 | 0587 | 1083 | 1578 | 2074 | 2571 | 3067 | 3563 | 4059 | 4556 | 5052 |
| 314 | 38 | 7172 | 7667 | 8162 | 8658 | 9153 | 9649 | 0144 | 0640 | 1136 | 1632 | 2128 | 2624 | 3120 | 3616 | 4112 | 4609 | 5105 |
| 322 | 39 | 7226 | 7721 | 8216 | 8711 | 9207 | 9702 | 0198 | 0694 | 1189 | 1685 | 2181 | 2677 | 3173 | 3669 | 4165 | 4662 | 5158 |
| 331 | 40 | 101 (102) 7279 | 7774 | 8270 | 8765 | 9261 | 9757 | 0252 | 0747 | 1243 | 1739 | 2235 | 2731 | 3227 | 3723 | 4219 | 4716 | 5212 |
| 339 | 41 | 7333 | 7828 | 8324 | 8820 | 9314 | 9810 | 0305 | 0801 | 1297 | 1793 | 2289 | 2785 | 3281 | 3777 | 4273 | 4769 | 5265 |
| 347 | 42 | 7387 | 7882 | 8377 | 8873 | 9368 | 9864 | 0359 | 0855 | 1351 | 1847 | 2343 | 2839 | 3335 | 3831 | 4327 | 4823 | 5319 |
| 356 | 43 | 7441 | 7936 | 8432 | 8927 | 9422 | 9918 | 0413 | 0909 | 1404 | 1900 | 2396 | 2892 | 3388 | 3884 | 4380 | 4876 | 5373 |
| 364 | 44 | 7495 | 7990 | 8486 | 8981 | 9476 | 9971 | 0467 | 0963 | 1458 | 1954 | 2450 | 2946 | 3442 | 3938 | 4434 | 4930 | 5427 |
| 372 | 45 | 101 (102) 7549 | 8044 | 8539 | 9035 | 9531 | 0026 | 0522 | 1017 | 1513 | 2009 | 2505 | 3001 | 3497 | 3993 | 4489 | 4984 | 5480 |
| 380 | 46 | 7604 | 8099 | 8594 | 9089 | 9584 | 0080 | 0575 | 1071 | 1566 | 2062 | 2558 | 3053 | 3549 | 4045 | 4541 | 5038 | 5534 |
| 389 | 47 | 7658 | 8153 | 8648 | 9143 | 9639 | 0134 | 0629 | 1125 | 1620 | 2116 | 2612 | 3107 | 3603 | 4099 | 4595 | 5092 | 5588 |
| 397 | 48 | 7713 | 8208 | 8703 | 9198 | 9693 | 0188 | 0684 | 1179 | 1675 | 217 | | | | | | | |
| 405 | 49 | 7767 | 8262 | 8757 | 9252 | 9747 | 0243 | 0738 | | | | | | | | | | |
| 413 | 50 | 101 (102) 7822 | 8317 | 8812 | 9307 | | | | | | | | | | | | | |
| 422 | 51 | 7877 | 8371 | 8866 | 9361 | | | | | | | | | | | | | |
| 430 | 52 | 7931 | 8426 | 8921 | 9416 | | | | | | | | | | | | | |
| 438 | 53 | 7986 | 8481 | 8976 | 947 | | | | | | | | | | | | | |
| 447 | 54 | | | | | | | | | | | | | | | | | |
| 455 | 55 | | | | | | | | | | | | | | | | | |
| 463 | 56 | | | | | | | | | | | | | | | | | |
| 471 | 57 | | | | | | | | | | | | | | | | | |
| 480 | 58 | | | | | | | | | | | | | | | | | |
| 488 | 59 | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Seconds of Auxil. Angle *additive* | Sides & A. D. 10° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 17 | 2 | 3740 | 4237 | 4735 | 5233 | 5730 | 6228 | 6726 | 7224 | 7723 | 8221 | 8719 | 9218 | 9716 | 0215 | 0713 | 1212 | 1711 |
| 25 | 3 | 3790 | 4287 | 4785 | 5283 | 5781 | 6278 | 6776 | 7275 | 7773 | 8271 | 8769 | 9268 | 9766 | 0265 | 0763 | 1262 | 1761 |
| 33 | 4 | | | | | | | | | | | | | | | | | |
| 42 | 5 | | | | | | | | | | | | | | | | | |
| 50 | 6 | | | | | | | | | | | | | | | | | |
| 58 | 7 | 3992 | 4489 | 4987 | 5484 | 5982 | 6480 | 6978 | 7476 | 7974 | 8472 | 8970 | 9463 | 9967 | 0465 | 0964 | 1462 | 1961 |
| 67 | 8 | | | | | | | | | | | | | | | | | |
| 75 | 9 | | | | | | | | | | | | | | | | | |
| 83 | 10 | | | | | | | | | | | | | | | | | |
| 92 | 11 | | | | | | | | | | | | | | | | | |
| 100 | 12 | | | | | | | | | | | | | | | | | |
| 108 | 13 | | | | | | | | | | | | | | | | | |
| 116 | 14 | | | | | | | | | | | | | | | | | |
| 124 | 15 | | | | | | | | | | | | | | | | | |
| 133 | 16 | | | | | | | | | | | | | | | | | |
| 141 | 17 | 4503 | 5000 | 5497 | 5994 | 6492 | 6989 | 7487 | 7985 | 8482 | 8980 | 9478 | 9976 | 0474 | 0972 | 1471 | 1969 | 2467 |
| 149 | 18 | | | | | | | | | | | | | | | | | |
| 158 | 19 | | | | | | | | | | | | | | | | | |
| 166 | 20 | | | | | | | | | | | | | | | | | |
| 174 | 21 | | | | | | | | | | | | | | | | | |
| 182 | 22 | | | | | | | | | | | | | | | | | |
| 191 | 23 | 4813 | 5310 | 5807 | 6304 | 6801 | 7299 | 7796 | 8294 | 8792 | 9289 | 9787 | 0285 | 0783 | 1281 | 1779 | 2277 | 2775 |
| 199 | 24 | | | | | | | | | | | | | | | | | |
| 207 | 25 | | | | | | | | | | | | | | | | | |
| 216 | 26 | | | | | | | | | | | | | | | | | |
| 224 | 27 | | | | | | | | | | | | | | | | | |
| 232 | 28 | | | | | | | | | | | | | | | | | |
| 240 | 29 | | | | | | | | | | | | | | | | | |
| 248 | 30 | | | | | | | | | | | | | | | | | |
| 257 | 31 | | | | | | | | | | | | | | | | | |
| 265 | 32 | | | | | | | | | | | | | | | | | |
| 274 | 33 | | | | | | | | | | | | | | | | | |
| 282 | 34 | | | | | | | | | | | | | | | | | |
| 290 | 35 | | | | | | | | | | | | | | | | | |
| 298 | 36 | | | | | | | | | | | | | | | | | |
| 307 | 37 | | | | | | | | | | | | | | | | | |
| 315 | 38 | | | | | | | | | | | | | | | | | |
| 323 | 39 | | | | | | | | | | | | | | | | | |
| 332 | 40 | | | | | | | | | | | | | | | | | |
| 340 | 41 | | | | | | | | | | | | | | | | | |
| 348 | 42 | | | | | | | | | | | | | | | | | |
| 356 | 43 | | | | | | | | | | | | | | | | | |
| 365 | 44 | | | | | | | | | | | | | | | | | |
| 373 | 45 | | | | | | | | | | | | | | | | | |
| 381 | 46 | 6030 | 6527 | 7023 | 7520 | 8016 | 8513 | 9010 | 9507 | 0004 | 0501 | 0998 | 1495 | 1993 | 2490 | 2987 | 3485 | 3983 |
| 390 | 47 | | | | | | | | | | | | | | | | | |
| 398 | 48 | | | | | | | | | | | | | | | | | |
| 407 | 49 | | | | | | | | | | | | | | | | | |
| 415 | 50 | | | | | | | | | | | | | | | | | |
| 423 | 51 | 6301 | 6797 | 7293 | 7790 | 8286 | 8783 | 9279 | 9776 | 0273 | 0770 | 1267 | 1764 | 2261 | 2759 | 3256 | 3753 | 4251 |
| 431 | 52 | | | | | | | | | | | | | | | | | |
| 440 | 53 | | | | | | | | | | | | | | | | | |
| 448 | 54 | | | | | | | | | | | | | | | | | |
| 456 | 55 | | | | | | | | | | | | | | | | | |
| 465 | 56 | | | | | | | | | | | | | | | | | |
| 473 | 57 | | | | | | | | | | | | | | | | | |
| 481 | 58 | | | | | | | | | | | | | | | | | |
| 490 | 59 | | | | | | | | | | | | | | | | | |

Sums for finding the Corrected Distance.

| Parts for Sec. of C. D. *addit.* | C.D. 10° | Sums |
|---|---|---|
| | ′ | |
| 1 | 1 | 342 |
| 2 | 2 | 52 |
| 3 | 3 | 5544 |
| 4 | 4 | |
| 5 | 5 | |
| 6 | 7 | 5548 |
| 7 | 8 | |
| 8 | 9 | |
| 9 | 10 | |
| 1 | 11 | 5751 |
| 11 | 12 | |
| 11 | 13 | |
| 1 | 14 | |
| 12 | 15 | |
| 13 | 16 | |
| 15 | 17 | 6061 |
| 16 | 18 | 6275 |
| 17 | 19 | |
| 1 | 20 | |
| 19 | 21 | |
| 19 | 22 | |
| 20 | 23 | 6571 |
| 21 | 24 | |
| 22 | 25 | |
| 23 | 26 | |
| 24 | 27 | |
| 24 | 28 | |
| 25 | 29 | |
| 26 | 30 | |
| 27 | 31 | |
| 27 | 32 | |
| 28 | 33 | |
| 29 | 34 | |
| 31 | 35 | |
| 32 | 36 | |
| 33 | 37 | |
| 34 | 38 | |
| 34 | 39 | |
| 35 | 40 | |
| 36 | 41 | |
| 37 | 42 | |
| 38 | 43 | |
| 39 | 44 | |
| 40 | 45 | |
| 41 | 46 | |
| 41 | 47 | |
| 42 | 48 | |
| 43 | 49 | |
| 44 | 50 | |
| 45 | 51 | 7877 |
| 46 | 52 | |
| 47 | 53 | |
| 47 | 54 | |
| 48 | 55 | |
| 49 | 56 | |
| 50 | 57 | |
| 51 | 58 | |
| 52 | 59 | |
| 53 | 60 | |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Sec. of C.S.A. | ″ | Numbers |
|---|---|---|
| | 0 | 4757 |
| | 1 | 4756 |
| | 2 | 4755 |
| | 3 | 4753 |
| | 4 | 4752 |
| | 5 | 4751 |
| | 6 | 4750 |
| | 7 | 4749 |
| | 8 | 4748 |
| | 9 | 4747 |
| | 10 | 4746 |
| 42 | 11 | 4744 |
| | 12 | 4743 |
| | 13 | 4742 |
| | 14 | 4741 |
| | 15 | 4740 |
| | 16 | 4739 |
| | 17 | 4737 |
| | 18 | 4736 |
| | 19 | 4735 |
| | 20 | 4734 |
| | 21 | 4733 |
| 34 | 22 | 3024 |
| 33 | 23 | 3571 |
| | 24 | 3570 |
| | 25 | 3569 |
| 30 | 26 | 3414 |
| | 27 | 3361 |
| | 28 | 3308 |
| | 29 | 3255 |
| 26 | 30 | 3202 |
| | 31 | 3149 |
| | 32 | 3096 |
| | 33 | 3043 |
| | 34 | 2990 |
| | 35 | 2937 |
| | 36 | 2884 |
| | 37 | 2831 |
| 19 | 38 | 2774 |
| 19 | 39 | 2721 |
| | 40 | 2667 |
| 17 | 41 | 2613 |
| 16 | 42 | 2559 |
| 15 | 43 | 2505 |
| 14 | 44 | 2451 |
| 13 | 45 | 2397 |
| 12 | 46 | 2342 |
| 11 | 47 | 2287 |
| 11 | 48 | 2233 |
| 10 | 49 | 2178 |
| | 50 | 2123 |
| | 51 | 2068 |
| 7 | 52 | 2014 |
| 6 | 53 | 1959 |
| 5 | 54 | 1904 |
| 4 | 55 | 1849 |
| 3 | 56 | 1793 |
| 3 | 57 | 1738 |
| 2 | 58 | 1683 |
| 1 | 59 | 1627 |

| Parts for Sums of Angles additive | ° & A.D. ″ | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| | 0 | 101(102) | 8573 | 8560 | 0547 | 0535 | 0847 | 1344 | 1837 | 2332 | 2827 | 3323 | 3818 | 4314 | 4809 | 5305 | 5801 | 6297 |
| | 1 | | 8447 | 8435 | 0422 | 0410 | 0902 | 1397 | 1892 | 2387 | 2882 | 3378 | 3873 | 4369 | 4864 | 5360 | 5856 | 6351 |
| 17 | 2 | | 8461 | 8448 | 0435 | 0423 | 0958 | 1453 | 1948 | 2443 | 2938 | 3433 | 3929 | 4424 | 4920 | 5415 | 5911 | 6407 |
| 25 | 3 | | 8475 | 8462 | 0449 | 0437 | 1013 | 1508 | 2003 | 2499 | 2993 | 3489 | 3984 | 4479 | 4975 | 5471 | 5966 | 6462 |
| 33 | 4 | | 8489 | 8476 | 0463 | 0451 | 1069 | 1564 | 2059 | 2554 | 3049 | 3544 | 4040 | 4535 | 5030 | 5526 | 6022 | 6517 |
| 41 | 5 | 101(102) | 8151 | 8140 | 0128 | 0116 | 0633 | 1125 | 1616 | 2114 | 2609 | 3105 | 3600 | 4095 | 4591 | 5086 | 5582 | 6077 |
| 49 | 6 | | 8707 | 8695 | 0191 | 0180 | 0686 | 1180 | 1675 | 2170 | 2665 | 3160 | 3656 | 4151 | 4646 | 5142 | 5637 | 6133 |
| 58 | 7 | | 8763 | 9258 | 9752 | 0247 | 0741 | 1236 | 1731 | 2226 | 2721 | 3216 | 3711 | 4207 | 4702 | 5197 | 5693 | 6188 |
| 66 | 8 | | 8819 | 9314 | 9808 | 0303 | 0798 | 1292 | 1787 | 2282 | 2777 | 3272 | 3767 | 4262 | 4758 | 5253 | 5748 | 6244 |
| 74 | 9 | | 8876 | 9370 | 9864 | 0359 | 0854 | 1348 | 1843 | 2338 | 2833 | 3328 | 3823 | 4318 | 4814 | 5309 | 5804 | 6299 |
| 82 | 10 | 101(102) | 8532 | 9026 | 9521 | 0015 | 0510 | 1004 | 1499 | 1994 | 2488 | 2984 | 3479 | 3974 | 4469 | 4965 | 5460 | 5955 |
| 91 | 11 | | 8588 | 9082 | 9577 | 0072 | 0566 | 1061 | 1555 | 2050 | 2545 | 3040 | 3535 | 4030 | 4526 | 5021 | 5516 | 6011 |
| 99 | 12 | | 9045 | 9539 | 0033 | 0528 | 1022 | 1517 | 2012 | 2507 | 3001 | 3496 | 3991 | 4486 | 4982 | 5477 | 5972 | 6467 |
| 107 | 13 | | 9101 | 9596 | 0090 | 0584 | 1079 | 1573 | 2068 | 2563 | 3058 | 3553 | 4048 | 4543 | 5038 | 5533 | 6028 | 6524 |
| 115 | 14 | | 9158 | 9652 | 0146 | 0641 | 1135 | 1630 | 2125 | 2619 | 3114 | 3609 | 4104 | 4599 | 5094 | 5589 | 6085 | 6580 |
| 124 | 15 | 101(102) | 9215 | 9709 | 0203 | 0697 | 1192 | 1686 | 2181 | 2676 | 3171 | 3665 | 4160 | 4655 | 5150 | 5645 | 6141 | 6636 |
| 132 | 16 | | 9272 | 9766 | 0260 | 0754 | 1249 | 1743 | 2238 | 2732 | 3227 | 3722 | 4217 | 4712 | 5207 | 5702 | 6197 | 6693 |
| 140 | 17 | | 9328 | 9822 | 0317 | 0811 | 1305 | 1800 | 2294 | 2789 | 3284 | 3779 | 4273 | 4768 | 5263 | 5758 | 6254 | 6749 |
| 148 | 18 | | 9385 | 9879 | 0374 | 0868 | 1362 | 1857 | 2351 | 2846 | 3340 | 3835 | 4330 | 4825 | 5320 | 5815 | 6310 | 6805 |
| 156 | 19 | | 9442 | 9936 | 0431 | 0925 | 1419 | 1914 | 2408 | 2903 | 3397 | 3892 | 4387 | 4882 | 5377 | 5872 | 6367 | 6862 |
| 165 | 20 | 101(102) | 9500 | 9993 | 0488 | 0982 | 1476 | 1971 | 2465 | 2960 | 3454 | 3949 | 4444 | 4939 | 5434 | 5929 | 6424 | 6919 |
| 173 | 21 | | 9557 | 0051 | 0545 | 1039 | 1533 | 2028 | 2522 | 3017 | 3511 | 4006 | 4501 | 4996 | 5491 | 5986 | 6481 | 6977 |
| 181 | 22 | | 9614 | 0108 | 0602 | 1096 | 1590 | 2085 | 2579 | 3074 | 3568 | 4063 | 4558 | 5052 | 5547 | 6042 | 6537 | 7033 |
| 190 | 23 | | 9671 | 0165 | 0659 | 1153 | 1648 | 2142 | 2636 | 3131 | 3625 | 4120 | 4615 | 5110 | 5604 | 6099 | 6594 | 7089 |
| 198 | 24 | | 9728 | 0223 | 0717 | 1211 | 1705 | 2199 | 2694 | 3188 | 3683 | 4177 | 4672 | 5167 | 5661 | 6156 | 6651 | 7146 |
| 206 | 25 | 101(102) | 9785 | 0280 | 0774 | 1268 | 1762 | 2257 | 2751 | 3245 | 3740 | 4234 | 4729 | 5224 | 5718 | 6213 | 6708 | 7202 |
| 214 | 26 | | 9844 | 0338 | 0832 | 1326 | 1820 | 2314 | 2808 | 3303 | 3797 | 4292 | 4786 | 5281 | 5775 | 6270 | 6765 | 7259 |
| 223 | 27 | | 9902 | 0395 | 0889 | 1383 | 1878 | 2372 | 2866 | 3360 | 3855 | 4349 | 4844 | 5338 | 5833 | 6327 | 6822 | 7316 |
| 231 | 28 | | 0959 | 0453 | 0947 | 1441 | 1935 | 2429 | 2924 | 3418 | 3913 | 4407 | 4901 | 5396 | 5891 | 6385 | 6879 | 7373 |
| 239 | 29 | 102 | 0017 | 0511 | 1005 | 1499 | 1993 | 2487 | 2981 | 3475 | 3970 | 4464 | 4959 | 5453 | 5948 | 6442 | 6936 | 7430 |
| 247 | 30 | 102 | 0075 | 0569 | 1063 | 1557 | 2051 | 2545 | 3039 | 3533 | 4028 | 4522 | 5017 | 5511 | 6006 | 6501 | 6995 | 7488 |
| 255 | 31 | | 0133 | 0627 | 1121 | 1615 | 2109 | 2603 | 3097 | 3591 | 4085 | 4580 | 5074 | 5569 | 6063 | 6558 | 7052 | 7545 |
| 264 | 32 | | 0191 | 0685 | 1179 | 1673 | 2167 | 2661 | 3155 | 3649 | 4143 | 4638 | 5132 | 5626 | 6121 | 6615 | 7109 | 7602 |
| 272 | 33 | | 0250 | 0743 | 1237 | 1731 | 2225 | 2719 | 3213 | 3707 | 4202 | 4696 | 5190 | 5685 | 6179 | 6673 | 7166 | 7659 |
| 280 | 34 | | 0308 | 0802 | 1295 | 1789 | 2283 | 2777 | 3271 | 3765 | 4260 | 4754 | 5248 | 5743 | 6237 | 6730 | 7223 | 7716 |
| 288 | 35 | 102 | 0366 | 0860 | 1354 | 1847 | 2341 | 2835 | 3329 | 3823 | 4317 | 4812 | 5306 | 5800 | 6294 | 6787 | 7280 | 7773 |
| 297 | 36 | | 0425 | 0918 | 1412 | 1906 | 2399 | 2893 | 3387 | 3881 | 4375 | 4870 | 5364 | 5858 | 6351 | 6844 | 7337 | 7830 |
| 305 | 37 | | 0483 | 0977 | 1471 | 1964 | 2458 | 2952 | 3446 | 3940 | 4434 | 4928 | 5422 | 5916 | 6409 | 6902 | 7395 | 7887 |
| 313 | 38 | | 0542 | 1035 | 1529 | 2023 | 2516 | 3010 | 3504 | 3998 | 4492 | 4987 | 5481 | 5975 | 6470 | 6964 | 7457 | 7950 |
| 321 | 39 | | 0601 | 1094 | 1588 | 2081 | 2575 | 3069 | 3563 | 4057 | 4551 | 5045 | 5539 | 6033 | 6527 | 7021 | 7514 | 8007 |
| 330 | 40 | 102 | 0660 | 1153 | 1647 | 2140 | 2634 | 3128 | 3622 | 4115 | 4609 | 5103 | 5597 | 6091 | 6585 | 7078 | 7571 | 8064 |
| 338 | 41 | | 0718 | 1212 | 1705 | 2199 | 2692 | 3186 | 3680 | 4174 | 4668 | 5162 | 5656 | 6150 | 6643 | 7136 | 7629 | 8121 |
| 346 | 42 | | 0777 | 1271 | 1764 | 2258 | 2751 | 3245 | 3738 | 4232 | 4726 | 5220 | 5714 | 6207 | 6701 | 7194 | 7686 | 8178 |
| 355 | 43 | | 0836 | 1330 | 1823 | 2316 | 2810 | 3303 | 3797 | 4291 | 4784 | 5278 | 5772 | 6265 | 6758 | 7251 | 7743 | 8235 |
| 363 | 44 | | 0895 | 1389 | 1882 | 2375 | 2868 | 3362 | 3855 | 4349 | 4843 | 5336 | 5830 | 6323 | 6816 | 7308 | 7800 | 8292 |
| 371 | 45 | 102 | 0954 | 1448 | 1941 | 2434 | 2927 | 3420 | 3914 | 4407 | 4901 | 5394 | 5888 | 6381 | 6873 | 7365 | 7857 | 8349 |
| 379 | 46 | | 1014 | 1507 | 2000 | 2493 | 2986 | 3479 | 3972 | 4466 | 4959 | 5452 | 5946 | 6438 | 6931 | 7423 | 7914 | 8406 |
| 387 | 47 | | 1073 | 1566 | 2059 | 2553 | 3047 | 3540 | 4033 | 4526 | 5019 | 5512 | 6005 | 6497 | 6989 | 7480 | 7971 | 8463 |
| 396 | 48 | | 1133 | 1626 | 2119 | 2612 | 3106 | 3600 | 4093 | 4587 | 5081 | 5575 | 6068 | 6560 | 7052 | 7543 | 8034 | 8520 |
| 404 | 49 | | 1192 | 1685 | 2179 | 2672 | 3165 | 3659 | 4153 | 4646 | 5140 | 5634 | 6127 | 6620 | 7112 | 7603 | 8094 | 8577 |
| 413 | 50 | 102 | 1252 | 1745 | 2238 | 2731 | 3225 | 3718 | 4212 | 4706 | 5200 | 5693 | 6186 | 6679 | 7171 | 7663 | 8154 | 8634 |
| 421 | 51 | | 1311 | 1805 | 2298 | 2791 | 3285 | 3778 | 4271 | 4765 | 5259 | 5753 | 6246 | 6739 | 7231 | 7723 | 8214 | 8691 |
| 429 | 52 | | 1371 | 1864 | 2357 | 2851 | 3344 | 3838 | 4331 | 4825 | 5318 | 5812 | 6305 | 6798 | 7291 | 7783 | 8274 | 8748 |
| 437 | 53 | | 1431 | 1924 | 2417 | 2910 | 3404 | 3897 | 4391 | 4884 | 5378 | 5872 | 6365 | 6858 | 7351 | 7843 | 8334 | 8805 |
| 445 | 54 | | 1491 | 1984 | 2477 | 2970 | 3464 | 3957 | 4450 | 4944 | 5438 | 5931 | 6425 | 6918 | 7411 | 7903 | 8394 | 8862 |
| 453 | 55 | 102 | 1551 | 2044 | 2537 | 3030 | 3524 | 4017 | 4511 | 5004 | 5498 | 5991 | 6485 | 6978 | 7471 | 7963 | 8454 | 8919 |
| 462 | 56 | | 1611 | 2104 | 2597 | 3090 | 3584 | 4077 | 4571 | 5064 | 5558 | 6051 | 6545 | 7038 | 7531 | 8023 | 8514 | 8976 |
| 470 | 57 | | 1671 | 2164 | 2657 | 3150 | 3644 | 4137 | 4631 | 5124 | 5618 | 6111 | 6605 | 7098 | 7591 | 8083 | 8574 | 9033 |
| 478 | 58 | | 1732 | 2225 | 2717 | 3211 | 3704 | 4197 | 4691 | 5184 | 5678 | 6171 | 6665 | 7158 | 7651 | 8143 | 8634 | 9090 |
| 487 | 59 | | 1792 | 2285 | 2778 | 3271 | 3764 | 4257 | 4751 | 5244 | 5738 | 6231 | 6725 | 7218 | 7711 | 8203 | 8694 | 9147 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Parts for Seconds of Auxil. Angle

| A.A. & A.D. 11 | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 102 (103) 6793 | 7289 | 7785 | 8281 | 8777 | 9274 | 9770 | 0266 | 0763 | 1260 | 1756 | 2253 | 2750 | 3247 | 3744 | 4241 | 4739 |
| 8 | 1 | 6848 | 7344 | 7840 | 8336 | 8833 | 9329 | 9825 | 0321 | 0818 | 1315 | 1811 | 2308 | 2805 | 3302 | 3799 | 4296 |
| 17 | 2 | 6903 | 7399 | 7895 | 8391 | 8887 | 9383 | 9880 | 0376 | 0873 | 1369 | 1866 | 2363 | 2860 | 3357 | 3854 | 4351 |
| 25 | 3 | 6958 | 7454 | 7950 | 8446 | 8942 | 9438 | 9935 | 0431 | 0928 | 1424 | 1921 | 2418 | 2915 | 3412 | 3909 | 4407 |
| 33 | 4 | 7013 | 7509 | 8005 | 8501 | 8997 | 9494 | 9990 | 0486 | 0983 | 1479 | 1976 | 2473 | 2970 | 3467 | 3964 | 4461 |
| 41 | 5 | 102 (103) 7069 | 7565 | 8061 | 8557 | 9053 | 9549 | 0045 | 0541 | 1038 | 1535 | 2031 | 2528 | 3025 | 3522 | 4019 | 4516 |
| 50 | 6 | 7124 | 7620 | 8116 | 8612 | 9108 | 9605 | 0101 | 0597 | 1093 | 1590 | 2086 | 2583 | 3080 | 3577 | 4074 | 4571 |
| 58 | 7 | 7180 | 7676 | 8171 | 8667 | 9164 | 9660 | 0156 | 0652 | 1149 | 1645 | 2142 | 2638 | 3135 | 3632 | 4129 | 4626 |
| 66 | 8 | 7235 | 7731 | 8227 | 8723 | 9219 | 9715 | 0211 | 0708 | 1204 | 1701 | 2197 | 2694 | 3190 | 3687 | 4184 | 4681 | 5178 |
| 74 | 9 | 7291 | 7787 | 8283 | 8779 | 9275 | 9771 | 0267 | 0763 | 1260 | 1756 | 2253 | 2749 | 3246 | 3742 | 4239 | 4736 | 5233 |
| 83 | 10 | 102 (103) 7347 | 7843 | 8339 | 8834 | 9330 | 9826 | 0323 | 0819 | 1315 | 1812 | 2308 | 2805 | 3301 | 3798 | 4295 | 4792 | 5289 |
| 91 | 11 | 7403 | 7899 | 8394 | 8890 | 9386 | 9882 | 0378 | 0875 | 1371 | 1867 | 2364 | 2860 | 3357 | 3854 | 4351 | 4847 | 5344 |
| 99 | 12 | 7459 | 7954 | 8450 | 8946 | 9442 | 9938 | 0434 | 0930 | 1427 | 1923 | 2419 | 2916 | 3412 | 3909 | 4406 | 4903 | 5400 |
| 108 | 13 | 7515 | 8010 | 8506 | 9002 | 9498 | 9994 | 0490 | 0986 | 1482 | 1979 | 2475 | 2972 | 3468 | 3965 | 4462 | 4958 | 5455 |
| 116 | 14 | 7571 | 8067 | 8562 | 9058 | 9554 | 0050 | 0546 | 1042 | 1538 | 2035 | 2531 | 3027 | 3524 | 4021 | 4517 | 5014 | 5511 |
| 124 | 15 | 102 (103) 7627 | 8123 | 8619 | 9114 | 9610 | 0106 | 0602 | 1098 | 1594 | 2091 | 2587 | 3083 | 3580 | 4076 | 4573 | 5070 | 5567 |
| 132 | 16 | 7683 | 8179 | 8675 | 9171 | 9666 | 0162 | 0658 | 1154 | 1650 | 2147 | 2643 | 3139 | 3636 | 4132 | 4629 | 5126 | 5622 |
| 141 | 17 | 7740 | 8235 | 8731 | 9227 | 9723 | 0218 | 0714 | 1211 | 1706 | 2203 | 2699 | 3195 | 3692 | 4188 | 4685 | 5182 | 5678 |
| 149 | 18 | 7796 | 8292 | 8787 | 9283 | 9779 | 0275 | 0771 | 1267 | 1763 | 2259 | 2755 | 3252 | 3748 | 4244 | 4741 | 5238 | 5734 |
| 157 | 19 | 7853 | 8348 | 8844 | 9340 | 9835 | 0331 | 0827 | 1323 | 1819 | 2315 | 2811 | 3308 | 3804 | 4301 | 4797 | 5294 | 5790 |
| 166 | 20 | 102 (103) 7910 | 8405 | 8901 | 9396 | 9892 | 0388 | 0883 | 1380 | 1875 | 2372 | 2868 | 3364 | 3860 | 4357 | 4853 | 5350 | 5847 |
| 174 | 21 | 7966 | 8462 | 8957 | 9453 | 9948 | 0444 | 0940 | 1436 | 1932 | 2428 | 2924 | 3420 | 3917 | 4413 | 4910 | 5406 | 5903 |
| 183 | 22 | 8023 | 8518 | 9014 | 9509 | 0005 | 0501 | 0997 | 1493 | 1989 | 2485 | 2981 | 3477 | 3973 | 4470 | 4966 | 5463 | 5959 |
| 191 | 23 | 8079 | 8575 | 9071 | 9566 | 0062 | 0558 | 1053 | 1549 | 2045 | 2541 | 3037 | 3533 | 4030 | 4526 | 5023 | 5519 | 6016 |
| 199 | 24 | 8137 | 8632 | 9128 | 9623 | 0119 | 0614 | 1110 | 1606 | 2102 | 2598 | 3094 | 3590 | 4086 | 4583 | 5079 | 5576 | 6072 |
| 207 | 25 | 102 (103) 8194 | 8691 | 9187 | 9683 | 0179 | 0671 | 1167 | 1663 | 2159 | 2655 | 3151 | 3647 | 4143 | 4639 | 5136 | 5631 | 6129 |
| 215 | 26 | 8251 | 8748 | 9244 | 9737 | 0233 | 0728 | 1224 | 1720 | 2216 | 2712 | 3208 | 3704 | 4200 | 4696 | 5192 | 5689 | 6185 |
| 223 | 27 | 8308 | 8804 | 9300 | 9794 | 0290 | 0785 | 1281 | 1777 | 2273 | 2769 | 3265 | 3761 | 4257 | 4753 | 5249 | 5746 | 6242 |
| 232 | 28 | 8366 | 8863 | 9359 | 9852 | 0347 | 0843 | 1338 | 1834 | 2330 | 2826 | 3322 | 3818 | 4314 | 4810 | 5306 | 5803 | 6299 |
| 240 | 29 | 8423 | 8918 | 9413 | 9909 | 0404 | 0900 | 1395 | 1891 | 2387 | 2883 | 3379 | 3875 | 4371 | 4867 | 5363 | 5859 | 6356 |
| 248 | 30 | 102 (103) 8480 | 8977 | 9473 | 9966 | 0462 | 0957 | 1453 | 1948 | 2444 | 2940 | 3436 | 3932 | 4428 | 4924 | 5420 | 5917 | 6413 |
| 256 | 31 | 8538 | 9033 | 9529 | 0024 | 0516 | 1014 | 1510 | 2006 | 2501 | 2997 | 3493 | 3989 | 4485 | 4981 | 5477 | 5974 | 6470 |
| 265 | 32 | 8595 | 9090 | 9586 | 0081 | 0573 | 1071 | 1567 | 2063 | 2559 | 3055 | 3551 | 4047 | 4542 | 5038 | 5535 | 6031 | 6527 |
| 273 | 33 | 8653 | 9148 | 9643 | 9136 | 0630 | 1128 | 1625 | 2121 | 2616 | 3112 | 3608 | 4104 | 4600 | 5096 | 5592 | 6088 | 6584 |
| 281 | 34 | 8711 | 9206 | 9701 | 9196 | 0688 | 1187 | 1683 | 2178 | 2674 | 3170 | 3665 | 4161 | 4657 | 5153 | 5649 | 6145 | 6641 |
| 289 | 35 | 102 (103) 8769 | 9264 | 9759 | 0254 | 0746 | 1245 | 1741 | 2236 | 2731 | 3227 | 3723 | 4219 | 4715 | 5211 | 5707 | 6203 | 6699 |
| 298 | 36 | 8827 | 9322 | 9817 | 0312 | 0804 | 1303 | 1799 | 2295 | 2789 | 3285 | 3781 | 4276 | 4772 | 5268 | 5764 | 6260 | 6756 |
| 306 | 37 | 8886 | 9380 | 9875 | 0370 | 0863 | 1361 | 1858 | 2351 | 2847 | 3342 | 3838 | 4334 | 4830 | 5326 | 5822 | 6318 | 6814 |
| 314 | 38 | 8945 | 9438 | 9933 | 0428 | 0921 | 1418 | 1914 | 2409 | 2905 | 3400 | 3896 | 4392 | 4888 | 5384 | 5880 | 6376 | 6872 |
| 323 | 39 | 9004 | 9497 | 9991 | 0487 | 0981 | 1477 | 1973 | 2467 | 2963 | 3458 | 3954 | 4449 | 4945 | 5441 | 5937 | 6433 | 6929 |
| 331 | 40 | 102 (103) 9063 | 9556 | 0049 | 0544 | 1036 | 1535 | 2031 | 2526 | 3021 | 3517 | 4013 | 4507 | 5002 | 5498 | 5993 | 6491 | 6987 |
| 339 | 41 | 9123 | 9615 | 0108 | 0603 | 1095 | 1593 | 2090 | 2585 | 3080 | 3576 | 4071 | 4566 | 5061 | 5557 | 6052 | 6549 | 7045 |
| 347 | 42 | 9183 | 9675 | 0167 | 0662 | 1154 | 1652 | 2149 | 2644 | 3139 | 3635 | 4130 | 4625 | 5120 | 5616 | 6111 | 6608 | 7104 |
| 356 | 43 | 9243 | 9735 | 0227 | 0722 | 1214 | 1712 | 2209 | 2704 | 3199 | 3695 | 4190 | 4685 | 5180 | 5676 | 6171 | 6667 | 7163 |
| 364 | 44 | 9303 | 9795 | 0287 | 0782 | 1274 | 1772 | 2269 | 2764 | 3259 | 3755 | 4250 | 4745 | 5240 | 5736 | 6231 | 6727 | 7223 |
| 372 | 45 | 9363 | 9855 | 0347 | 0842 | 1334 | 1832 | 2329 | 2824 | 3319 | 3815 | 4310 | 4805 | 5300 | 5796 | 6291 | 6787 | 7283 |
| 381 | 46 | 9424 | 9916 | 0408 | 0903 | 1395 | 1893 | 2390 | 2885 | 3380 | 3876 | 4371 | 4866 | 5361 | 5857 | 6352 | 6848 | 7344 |
| 389 | 47 | 102 (103) 9485 | 9977 | 0469 | 0964 | 1457 | 1955 | 2451 | 2946 | 3441 | 3937 | 4433 | 4927 | 5422 | 5918 | 6413 | 6909 | 7405 |
| 397 | 48 | 9547 | 0039 | 0531 | 1026 | 1519 | 2017 | 2513 | 3008 | 3503 | 3999 | 4495 | 4989 | 5484 | 5980 | 6475 | 6971 | 7467 |
| 406 | 49 | 9609 | 0101 | 0593 | 1088 | 1581 | 2079 | 2575 | 3070 | 3565 | 4061 | 4557 | 5051 | 5546 | 6042 | 6537 | 7033 | 7529 |
| 414 | 50 | 102 (103) 9671 | 0163 | 0655 | 1150 | 1643 | 2141 | 2637 | 3132 | 3627 | 4123 | 4619 | 5113 | 5608 | 6104 | 6599 | 7095 | 7591 |
| 422 | 51 | 9733 | 0225 | 0717 | 1212 | 1705 | 2203 | 2699 | 3194 | 3689 | 4185 | 4681 | 5175 | 5670 | 6166 | 6661 | 7157 | 7653 |
| 431 | 52 | 9795 | 0287 | 0779 | 1274 | 1767 | 2265 | 2761 | 3256 | 3751 | 4247 | 4743 | 5237 | 5732 | 6228 | 6723 | 7219 | 7715 |
| 439 | 53 | 9857 | 0349 | 0841 | 1336 | 1829 | 2327 | 2823 | 3318 | 3813 | 4309 | 4805 | 5299 | 5794 | 6290 | 6785 | 7281 | 7777 |
| 447 | 54 | 9919 | 0411 | 0903 | 1398 | 1891 | 2389 | 2885 | 3380 | 3875 | 4371 | 4867 | 5361 | 5856 | 6352 | 6847 | 7343 | 7839 |
| 456 | 55 | 9981 | 0473 | 0965 | 1460 | 1953 | 2451 | 2947 | 3442 | 3937 | 4433 | 4929 | 5423 | 5918 | 6414 | 6909 | 7405 | 7901 |
| 464 | 56 | 102 (103) 0043 | 0535 | 1027 | 1522 | 2015 | 2513 | 3009 | 3504 | 3999 | 4495 | 4991 | 5485 | 5980 | 6476 | 6971 | 7467 | 7963 |
| 472 | 57 | 0105 | 0597 | 1089 | 1584 | 2077 | 2575 | 3071 | 3566 | 4061 | 4557 | 5053 | 5547 | 6042 | 6538 | 7033 | 7529 | 8025 |

Sums for finding the Corrected Distances

Parts for Seconds of C. D.

| C. D. 11 | Sums |
|---|---|
| ′ | |
| 0 | 0 401 8373 |
| 1 | 8774 |
| 2 | 9174 |
| 3 | 9575 |
| 4 | 9975 |
| 5 | 0 402 0376 |
| 6 | 0776 |
| 7 | 1176 |
| 8 | 1577 |
| 9 | 1977 |
| 10 | 0 402 2378 |
| 11 | 2778 |
| 12 | 3179 |
| 13 | 3579 |
| 14 | 3979 |
| 15 | 0 402 4380 |
| 16 | 4780 |
| 17 | 5181 |
| 18 | 5581 |
| 19 | 5981 |
| 20 | 0 402 6382 |
| 21 | 6782 |
| 22 | 7183 |
| 23 | 7583 |
| 24 | 7983 |
| 25 | 0 402 8384 |
| 26 | 8784 |
| 27 | 9185 |
| 28 | 9585 |
| 29 | 9985 |
| 30 | 0 403 0386 |
| 31 | 0786 |
| 32 | 1187 |
| 33 | 1587 |
| 34 | 1987 |
| 35 | 0 403 2388 |
| 36 | 2788 |
| 37 | 3189 |
| 38 | 3589 |
| 39 | 3989 |
| 40 | 0 403 4390 |
| 41 | 4790 |
| 42 | 5191 |
| 43 | 5591 |
| 44 | 5991 |
| 45 | 0 403 6392 |
| 46 | 6792 |
| 47 | 7193 |
| 48 | 7593 |
| 49 | 7993 |
| 50 | 0 403 8394 |
| 51 | 8794 |
| 52 | 9195 |
| 53 | 9595 |
| 54 | 9995 |
| 55 | 0 404 0396 |
| 56 | 0796 |
| 57 | 1197 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments

Auxiliary Arguments.

| Numbers | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | 3041 | 3579 | | | | | | | | |
| 1 | | | | | | | 3641 | 4179 | | | | | | | | |
| 2 | | | | | | | 4241 | 4779 | | | | | | | | |
| 3 | | | | 4006 | 4499 | 4992 | | | | | | | | | | |
| 4 | | | | 4066 | 4559 | 5053 | | | | | | | | | | |
| 5 | 2649 | 3141 | 3634 | 4127 | 4620 | 5113 | 5607 | 6100 | | | | 7500 | 8074 | 8567 | 9061 | 9555 | 0049 |
| 6 | 2709 | 3202 | 3695 | 4188 | 4681 | 5174 | 5667 | 6161 | 6654 | 7147 | 7641 | 8134 | 8628 | 9122 | 9616 | 0109 | |
| 7 | 2768 | 3263 | 3756 | 4249 | 4742 | 5235 | 5728 | 6221 | 6715 | 7208 | 7701 | 8195 | 8689 | 9182 | 9676 | 0171 | |
| 8 | | | 3817 | 4310 | 4803 | 5296 | 5789 | 6282 | | | | | | | | | |
| 9 | | | 3878 | 4371 | 4864 | 5357 | | | | | | | | | | | |
| 10 | | | | | 4925 | 5418 | 5911 | 6404 | 6897 | | | | | | | | |
| 11 | | | | | 4986 | 5479 | 5972 | 6465 | 6958 | | | | | | | | |
| 12 | | | | 4562 | 5047 | 5540 | 6033 | | | | | 8006 | 8499 | 8993 | | | |
| 13 | | 3631 | 4123 | 4616 | 5109 | 5602 | 6095 | 6588 | 7081 | | | 8067 | 8561 | 9054 | 9548 | | |
| 14 | | | 4185 | 4677 | 5170 | 5663 | 6156 | 6649 | 7142 | | | 8128 | 8622 | 9115 | 9609 | | |
| 15 | | | | | | | | | | | | 8190 | 8683 | 9177 | 9670 | 0164 | 0657 |
| 16 | | | | | | | | | | | | 8251 | 8745 | 0238 | 0731 | 0225 | 0718 |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | 6464 | 6957 | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | 3453 | 3945 | 4437 | 4929 | 5421 | 5914 | 6406 | 6899 | 7392 | 7884 | 8377 | 8870 | 9363 | 0856 | 0349 | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | 3515 | 4007 | 4500 | 4992 | 5484 | 5976 | 6469 | 6961 | 7454 | 7947 | 8439 | 8932 | 9425 | 9918 | 0411 | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | 3641 | 4133 | 4625 | 5117 | 5609 | 6102 | 6594 | 7086 | 7579 | 8072 | 8564 | 9057 | 9550 | 0043 | 0536 | 1029 | 1522 |
| 20 | | | | | | | | | | | | | | | | | |
| 1 | | 4259 | 4751 | 5243 | 5735 | 6227 | 6720 | 7212 | 7704 | 8197 | 8690 | 9182 | 9675 | 0168 | 0661 | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | 4814 | 5306 | 5798 | 6290 | 6782 | 7275 | 7767 | 8260 | 8752 | 9245 | 9738 | 0231 | 0724 | 1217 | 1710 |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | 5360 | 5861 | 6352 | 6845 | 7338 | 7830 | 8323 | 8815 | 9308 | 9801 | 0293 | 0786 | 1279 | 1772 |
| 6 | | 4448 | 4940 | 5432 | 5924 | 6416 | 6908 | 7401 | 7893 | 8386 | 8878 | 9371 | 9863 | 0356 | 0849 | 1342 | 1835 |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | 4020 | 4512 | 5003 | 5495 | 5987 | 6479 | 6972 | 7464 | 7956 | 8449 | 8941 | 9434 | 9926 | 0419 | 0912 | 1405 | 1898 |
| 9 | | | | | | | | | | | | 9497 | 9989 | 6482 | 0975 | 1468 | 1961 |
| 30 | | | | | | | | | | | | 9560 | 0053 | 0545 | 1038 | 1531 | 2024 |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |

# C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

Parts for Seconds of Auxil. Angle

S.A.A. & A. D. 12

Auxiliary Arguments.

| ′ 17 | ′ 18 | ′ 19 | ′ 20 | ′ 21 | ′ 22 | ′ 23 | ′ 24 | ′ 25 | ′ 26 | ′ 27 | ′ 28 | ′ 29 | ′ 30 | ′ 31 | ′ 32 | ′ 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 103 | 0241 | 0736 | 1231 | 1725 | 2220 | 2714 | 3209 | 3704 | 4199 | 4694 | 5188 | 5683 | 6178 | 6674 | 7169 | 7664 | 8160 |
| | 0302 | 0797 | 1291 | 1785 | 2280 | 2774 | 3269 | 3764 | 4259 | 4753 | 5248 | 5743 | 6238 | 6734 | 7229 | 7724 | 8220 |
| | 0362 | 0857 | 1351 | 1845 | 2340 | 2834 | 3329 | 3824 | 4318 | 4813 | 5308 | 5803 | 6298 | 6793 | 7289 | 7784 | 8279 |
| | 0422 | 0917 | 1411 | 1905 | 2400 | 2894 | 3389 | 3884 | 4378 | 4873 | 5368 | 5863 | 6358 | 6853 | 7348 | 7844 | 8339 |
| | 0483 | 0977 | 1471 | 1965 | 2460 | 2954 | 3449 | 3944 | 4438 | 4933 | 5428 | 5923 | 6418 | 6913 | 7408 | 7903 | 8399 |
| 103 | 0543 | 1037 | 1531 | 2026 | 2520 | 3014 | 3509 | 4004 | 4498 | 4993 | 5488 | 5983 | 6478 | 6973 | 7468 | 7963 | 8459 |
| | 0604 | 1098 | 1592 | 2086 | 2580 | 3075 | 3569 | 4064 | 4558 | 5053 | 5548 | 6043 | 6538 | 7033 | 7529 | 8023 | 8519 |
| | 0664 | 1158 | 1652 | 2146 | 2641 | 3135 | 3630 | 4124 | 4619 | 5113 | 5608 | 6103 | 6598 | 7093 | 7588 | 8083 | 8579 |
| | 0725 | 1219 | 1713 | 2207 | 2701 | 3195 | 3690 | 4184 | 4679 | 5174 | 5668 | 6163 | 6658 | 7153 | 7648 | 8143 | 8639 |
| | 0785 | 1279 | 1773 | 2267 | 2762 | 3256 | 3750 | 4245 | 4739 | 5234 | 5728 | 6223 | 6718 | 7214 | 7708 | 8204 | 8699 |
| 103 | 0846 | 1340 | 1834 | 2328 | 2822 | 3317 | 3811 | 4305 | 4800 | 5295 | 5789 | 6284 | 6779 | 7274 | 7769 | 8264 | 8759 |
| | 0907 | 1401 | 1895 | 2389 | 2883 | 3377 | 3872 | 4366 | 4860 | 5355 | 5850 | 6345 | 6839 | 7334 | 7829 | 8324 | 8819 |
| | 0967 | 1462 | 1956 | 2450 | 2944 | 3438 | 3932 | 4427 | 4921 | 5416 | 5910 | 6405 | 6900 | 7395 | 7889 | 8385 | 8880 |
| | 1029 | 1523 | 2016 | 2511 | 3005 | 3499 | 3993 | 4487 | 4982 | 5476 | 5971 | 6466 | 6960 | 7455 | 7950 | 8445 | 8940 |
| | 1090 | 1584 | 2078 | 2571 | 3066 | 3560 | 4054 | 4548 | 5043 | 5537 | 6032 | 6526 | 7021 | 7516 | 8011 | 8506 | 9001 |
| 103 | 1151 | 1645 | 2139 | 2633 | 3127 | 3621 | 4115 | 4609 | 5104 | 5598 | 6093 | 6587 | 7082 | 7577 | 8072 | 8567 | 9061 |
| | 1212 | 1706 | 2200 | 2694 | 3188 | 3682 | 4176 | 4670 | 5165 | 5659 | 6154 | 6648 | 7143 | 7637 | 8132 | 8627 | 9122 |
| | 1273 | 1767 | 2261 | 2755 | 3249 | 3743 | 4237 | 4731 | 5226 | 5720 | 6214 | 6709 | 7204 | 7698 | 8193 | 8688 | 9183 |
| | 1335 | 1829 | 2322 | 2816 | 3310 | 3804 | 4298 | 4792 | 5287 | 5781 | 6276 | 6770 | 7265 | 7759 | 8255 | 8749 | 9244 |
| | 1396 | 1890 | 2384 | 2878 | 3372 | 3866 | 4360 | 4854 | 5348 | 5842 | 6337 | 6831 | 7326 | 7822 | 8315 | 8811 | 9305 |
| 103 | 1458 | 1952 | 2445 | 2939 | 3433 | 3927 | 4421 | 4915 | 5409 | 5904 | 6398 | 6892 | 7387 | 7882 | 8376 | 8871 | 9366 |
| | 1520 | 2013 | 2507 | 3001 | 3494 | 3988 | 4482 | 4977 | 5471 | 5965 | 6459 | 6954 | 7448 | 7943 | 8438 | 8933 | 9427 |
| | 1581 | 2075 | 2568 | 3062 | 3556 | 4050 | 4544 | 5038 | 5532 | 6026 | 6521 | 7015 | 7510 | 8004 | 8499 | 8994 | 9488 |
| | 1643 | 2137 | 2630 | 3124 | 3618 | 4112 | 4606 | 5100 | 5594 | 6088 | 6582 | 7077 | 7571 | 8066 | 8560 | 9055 | 9550 |
| | 1705 | 2198 | 2692 | 3186 | 3679 | 4173 | 4667 | 5161 | 5655 | 6150 | 6644 | 7138 | 7633 | 8127 | 8622 | 9116 | 9611 |
| 103 | 1767 | 2260 | 2754 | 3247 | 3741 | 4235 | 4729 | 5223 | 5717 | 6211 | 6706 | 7200 | 7694 | 8189 | 8683 | 9178 | 9673 |
| | 1829 | 2322 | 2816 | 3310 | 3804 | 4297 | 4791 | 5285 | 5779 | 6273 | 6767 | 7262 | 7756 | 8251 | 8745 | 9239 | 9734 |
| | 1891 | 2384 | 2878 | 3372 | 3866 | 4359 | 4853 | 5347 | 5841 | 6335 | 6829 | 7323 | 7818 | 8312 | 8807 | 9301 | 9797 |
| | 1953 | 2447 | 2940 | 3434 | 3928 | 4421 | 4915 | 5409 | 5903 | 6397 | 6891 | 7385 | 7879 | 8374 | 8868 | 9363 | 9857 |
| | 2016 | 2509 | 3002 | 3496 | 3990 | 4483 | 4977 | 5471 | 5965 | 6459 | 6953 | 7447 | 7941 | 8436 | 8931 | 9425 | 9920 |
| 103 | 2078 | 2571 | 3065 | 3558 | 4052 | 4545 | 5039 | 5533 | 6027 | 6521 | 7015 | 7509 | 8003 | 8498 | 8992 | 9487 | 9981 |
| 103 (104) | 2140 | 2634 | 3127 | 3621 | 4114 | 4608 | 5101 | 5595 | 6089 | 6583 | 7077 | 7571 | 8065 | 8560 | 9054 | 9549 | 0043 |
| | 2203 | 2696 | 3189 | 3683 | 4177 | 4670 | 5164 | 5658 | 6151 | 6645 | 7139 | 7633 | 8127 | 8622 | 9116 | 9611 | 0105 |
| | 2265 | 2758 | 3252 | 3746 | 4239 | 4733 | 5227 | 5720 | 6214 | 6708 | 7202 | 7696 | 8190 | 8685 | 9179 | 9674 | 0167 |
| | 2327 | 2821 | 3314 | 3808 | 4302 | 4795 | 5289 | 5783 | 6277 | 6771 | 7264 | 7758 | 8253 | 8747 | 9241 | 9736 | 0230 |
| 103 (104) | 2390 | 2883 | 3377 | 3870 | 4364 | 4858 | 5351 | 5845 | 6339 | 6833 | 7326 | 7820 | 8315 | 8809 | 9303 | 9797 | 0292 |
| | 2452 | 2946 | 3439 | 3933 | 4427 | 4920 | 5414 | 5908 | 6401 | 6895 | 7389 | 7883 | 8377 | 8871 | 9365 | 9860 | 0354 |
| | 2515 | 3008 | 3502 | 3996 | 4489 | 4983 | 5477 | 5970 | 6464 | 6958 | 7452 | 7946 | 8440 | 8934 | 9428 | 9922 | 0416 |
| | 2578 | 3071 | 3565 | 4059 | 4553 | 5046 | 5540 | 6033 | 6527 | 7021 | 7514 | 8008 | 8502 | 8996 | 9490 | 9985 | 0479 |
| | 2643 | 3136 | 3629 | 4122 | 4616 | 5109 | 5603 | 6096 | 6590 | 7083 | 7577 | 8071 | 8565 | 9059 | 9553 | 0047 | 0542 |
| 103 (104) | 2706 | 3199 | 3693 | 4186 | 4679 | 5173 | 5666 | 6160 | 6653 | 7147 | 7640 | 8134 | 8628 | 9122 | 9616 | 0110 | 0604 |
| | 2770 | 3263 | 3756 | 4250 | 4743 | 5236 | 5730 | 6223 | 6717 | 7210 | 7703 | 8197 | 8691 | 9185 | 9679 | 0173 | 0667 |
| | 2833 | 3326 | 3820 | 4313 | 4806 | 5300 | 5793 | 6287 | 6780 | 7274 | 7767 | 8260 | 8754 | 9248 | 9742 | 0236 | 0730 |
| | 2897 | 3390 | 3883 | 4377 | 4870 | 5363 | 5857 | 6350 | 6844 | 7337 | 7830 | 8323 | 8817 | 9311 | 9805 | 0299 | 0793 |
| | 2961 | 3453 | 3947 | 4440 | 4933 | 5427 | 5920 | 6413 | 6907 | 7400 | 7892 | 8386 | 8880 | 9374 | 9868 | 0362 | 0856 |
| 103 (104) | 3025 | 3517 | 4010 | 4503 | 4997 | 5490 | 5982 | 6475 | 6969 | 7462 | 7956 | 8449 | 8943 | 9437 | 9931 | 0425 | 0919 |
| | 3088 | 3581 | 4074 | 4567 | 5060 | 5553 | 6045 | 6539 | 7032 | 7525 | 8019 | 8513 | 9006 | 9500 | 9994 | 0488 | 0982 |
| | 3151 | 3644 | 4137 | 4630 | 5123 | 5616 | 6109 | 6602 | 7095 | 7589 | 8082 | 8576 | 9069 | 9564 | 0057 | 0551 | 1045 |
| | 3215 | 3708 | 4201 | 4694 | 5187 | 5680 | 6172 | 6666 | 7159 | 7652 | 8146 | 8640 | 9133 | 9627 | 0121 | 0615 | 1109 |
| | 3279 | 3771 | 4264 | 4757 | 5250 | 5743 | 6236 | 6729 | 7223 | 7716 | 8210 | 8703 | 9197 | 9690 | 0184 | 0678 | 1172 |
| 103 (104) | 3343 | 3835 | 4328 | 4821 | 5314 | 5807 | 6300 | 6793 | 7286 | 7780 | 8273 | 8767 | 9260 | 9754 | 0247 | 0741 | 1235 |
| | 3407 | 3900 | 4392 | 4885 | 5378 | 5871 | 6364 | 6857 | 7350 | 7844 | 8337 | 8830 | 9324 | 9818 | 0311 | 0805 | 1299 |
| | 3471 | 3964 | 4456 | 4949 | 5442 | 5935 | 6428 | 6921 | 7414 | 7908 | 8401 | 8894 | 9388 | 9881 | 0375 | 0869 | 1363 |
| | 3535 | 4028 | 4521 | 5013 | 5506 | 5999 | 6492 | 6985 | 7478 | 7972 | 8465 | 8958 | 9452 | 9945 | 0439 | 0933 | 1427 |
| | 3600 | 4093 | 4585 | 5078 | 5571 | 6063 | 6556 | 7049 | 7542 | 8036 | 8529 | 9022 | 9516 | 0009 | 0503 | 0997 | 1491 |
| 103 (104) | 3664 | 4157 | 4649 | 5142 | 5635 | 6128 | 6620 | 7113 | 7607 | 8100 | 8593 | 9086 | 9580 | 0073 | 0567 | 1061 | 1554 |
| | 3728 | 4221 | 4713 | 5206 | 5699 | 6192 | 6685 | 7178 | 7671 | 8164 | 8657 | 9150 | 9644 | 0137 | 0631 | 1124 | 1618 |
| | 3793 | 4285 | 4778 | 5271 | 5764 | 6257 | 6750 | 7243 | 7736 | 8229 | 8721 | 9215 | 9708 | 0201 | 0695 | 1188 | 1682 |
| | 3858 | 4350 | 4843 | 5336 | 5829 | 6322 | 6814 | 7307 | 7800 | 8293 | 8786 | 9280 | 9772 | 0266 | 0759 | 1253 | 1746 |
| | 3923 | 4416 | 4909 | 5402 | 5895 | 6387 | 6878 | 7371 | 7864 | 8357 | 8850 | 9343 | 9837 | 0330 | 0823 | 1317 | 1811 |

Sums for finding the Corrected Distances.

Parts for Seconds of Addit.

| ′ 12 | Sums |
|---|---|
| 0 | 4322 |
| 1 | 1323 |
| 2 | 1324 |
| 3 | 2325 |
| 4 | 3326 |
| 5 | 4327 |
| 6 | 2327 |
| 7 | 2328 |
| 8 | 2329 |
| 9 | 2330 |
| 10 | 4332 |
| 11 | 2333 |
| 12 | 2334 |
| 13 | 2335 |
| 14 | 2336 |
| 15 | 2337 |
| 16 | 4342 |
| 17 | 2341 |
| 18 | 2342 |
| 19 | 2343 |
| 20 | 3346 |
| 21 | 4352 |
| 22 | 3351 |
| 23 | 3353 |
| 24 | 3355 |
| 25 | 4362 |
| 26 | 3359 |
| 27 | 3361 |
| 28 | 3363 |
| 29 | 3365 |
| 30 | 4372 |
| 31 | 3367 |
| 32 | 3370 |
| 33 | 3373 |
| 34 | 3376 |
| 35 | 4382 |
| 36 | 3379 |
| 37 | 3382 |
| 38 | 3385 |
| 39 | 3388 |
| 40 | 4392 |
| 41 | 3391 |
| 42 | 3394 |
| 43 | 3397 |
| 44 | 3400 |
| 45 | 4402 |
| 46 | 3403 |
| 47 | 3406 |
| 48 | 3409 |
| 49 | 3412 |
| 50 | 4412 |
| 51 | 3415 |
| 52 | 3418 |
| 53 | 3421 |
| 54 | 3424 |
| 55 | 3427 |
| 56 | 4432 |
| 57 | 3430 |
| 58 | 3433 |
| 59 | 3436 |
| 60 | 4442 |
| 61 | 3439 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Part for Sec. | 12° | Numbers |
|---|---|---|
| 01 | | 197 8087 |
| 02 | 1 | 8026 |
| 03 | 2 | 7965 |
| 04 | 3 | 7903 |
| 05 | 4 | 7842 |
| 06 | 5 | 197 7781 |
| 07 | 6 | 7721 |
| 08 | 7 | 7660 |
| 09 | 8 | 7599 |
| 10 | 9 | 7539 |
| 11 | 10 | 197 7477 |
| 12 | 11 | 7416 |
| 13 | 12 | 7354 |
| 14 | 13 | 7293 |
| 15 | 14 | 7231 |
| 16 | 15 | 197 7170 |
| 17 | 16 | 7108 |
| 18 | 17 | 7046 |
| 19 | 18 | 6984 |
| 20 | 19 | 6922 |
| 21 | 20 | 197 6860 |
| 22 | 21 | 6798 |
| 23 | 22 | 6736 |
| 24 | 23 | 6674 |
| 25 | 24 | 197 6612 |
| 26 | 25 | 6550 |
| 27 | 26 | 6488 |
| 28 | 27 | 6426 |
| 29 | 28 | 6364 |
| 30 | 29 | 197 6302 |
| 31 | 30 | 6240 |
| 32 | 31 | 6178 |
| 33 | 32 | 6116 |
| 34 | 33 | 6054 |
| 35 | 34 | 197 5992 |
| 36 | 35 | 5930 |
| 37 | 36 | 5868 |
| 38 | 37 | 5806 |
| 39 | 38 | 5744 |
| 40 | 39 | 197 5682 |
| 41 | 40 | 5620 |
| 42 | 41 | 5558 |
| 43 | 42 | 5497 |
| 44 | 43 | 5435 |
| 45 | 44 | 197 5373 |
| 46 | 45 | 5311 |
| 47 | 46 | 5249 |
| 48 | 47 | 5187 |
| 49 | 48 | 5125 |
| 50 | 49 | 197 5063 |
| 51 | 50 | 5001 |
| 52 | 51 | 4939 |
| 53 | 52 | 4877 |
| 54 | 53 | 4815 |
| 55 | 54 | 197 4753 |
| 56 | 55 | 4691 |
| 57 | 56 | 4629 |
| 58 | 57 | 4568 |
| 59 | 58 | 197 4506 |
| 60 | 59 | 4444 |

| Part for Second of Anvil. | A.M. & A.D. 13° | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 00 | 0 | 102(103) | 5632 | 0121 | 0612 | 7103 | 7594 | 8085 | 8577 | 9068 | 9559 | 0051 | 0543 | 1035 | 1527 | 2019 | 2511 | 3003 | 3495 |
| 01 | 1 | | 5683 | 6186 | 6677 | 7168 | 7660 | 8151 | 8642 | 9134 | 9625 | 0117 | 0608 | 1100 | 1592 | 2084 | 2576 | 3068 | 3560 |
| 02 | 2 | | 5701 | 6252 | 6743 | 7234 | 7725 | 8216 | 8708 | 9199 | 9690 | 0182 | 0674 | 1165 | 1657 | 2149 | 2641 | 3133 | 3625 |
| 03 | 3 | | 5882 | 6317 | 6808 | 7299 | 7790 | 8282 | 8773 | 9264 | 9756 | 0247 | 0738 | 1231 | 1722 | 2214 | 2706 | 3198 | 3690 |
| 04 | 4 | | 5880 | 6383 | 6874 | 7365 | 7856 | 8347 | 8838 | 9330 | 9821 | 0312 | 0804 | 1296 | 1788 | 2280 | 2771 | 3263 | 3755 |
| 05 | 5 | 102(103) | 5948 | 6449 | 6940 | 7431 | 7922 | 8413 | 8904 | 9395 | 9887 | 0378 | 0869 | 1361 | 1853 | 2345 | 2837 | 3329 | 3821 |
| 06 | 6 | | 6014 | 6515 | 7006 | 7497 | 7988 | 8479 | 8970 | 9461 | 9952 | 0444 | 0936 | 1427 | 1919 | 2411 | 2902 | 3394 | 3886 |
| 07 | 7 | | 6080 | 6581 | 7072 | 7562 | 8053 | 8544 | 9036 | 9527 | 0018 | 0509 | 1001 | 1492 | 1984 | 2476 | 2968 | 3460 | 3952 |
| 08 | 8 | | 6156 | 6647 | 7138 | 7628 | 8119 | 8610 | 9101 | 9593 | 0084 | 0575 | 1067 | 1558 | 2050 | 2542 | 3033 | 3525 | 4017 |
| 09 | 9 | | 6222 | 6713 | 7204 | 7694 | 8185 | 8676 | 9167 | 9659 | 0150 | 0641 | 1132 | 1624 | 2115 | 2607 | 3099 | 3591 | 4083 |
| 10 | 10 | 102(103) | 6288 | 6779 | 7270 | 7761 | 8251 | 8742 | 9233 | 9725 | 0216 | 0707 | 1198 | 1690 | 2181 | 2673 | 3165 | 3656 | 4148 |
| 11 | 11 | | 6355 | 6845 | 7336 | 7827 | 8318 | 8808 | 9300 | 9791 | 0282 | 0773 | 1264 | 1755 | 2247 | 2738 | 3230 | 3722 | 4214 |
| 12 | 12 | | 6421 | 6912 | 7402 | 7893 | 8384 | 8875 | 9366 | 9857 | 0348 | 0839 | 1330 | 1821 | 2313 | 2805 | 3296 | 3788 | 4280 |
| 13 | 13 | | 6488 | 6978 | 7469 | 7959 | 8450 | 8941 | 9432 | 9923 | 0414 | 0905 | 1397 | 1888 | 2379 | 2871 | 3362 | 3854 | 4347 |
| 14 | 14 | | 6554 | 7045 | 7535 | 8026 | 8517 | 9007 | 9498 | 9989 | 0480 | 0972 | 1463 | 1954 | 2445 | 2937 | 3428 | 3920 | 4412 |
| 15 | 15 | 102(103) | 6621 | 7111 | 7602 | 8092 | 8583 | 9074 | 9565 | 0056 | 0547 | 1038 | 1529 | 2020 | 2512 | 3003 | 3495 | 3987 | 4478 |
| 16 | 16 | | 6687 | 7177 | 7668 | 8158 | 8650 | 9140 | 9631 | 0122 | 0613 | 1104 | 1595 | 2086 | 2577 | 3069 | 3561 | 4052 | 4544 |
| 17 | 17 | | 6754 | 7245 | 7735 | 8226 | 8717 | 9207 | 9698 | 0189 | 0680 | 1171 | 1662 | 2153 | 2644 | 3136 | 3627 | 4119 | 4610 |
| 18 | 18 | | 6821 | 7311 | 7802 | 8292 | 8783 | 9274 | 9764 | 0255 | 0746 | 1237 | 1728 | 2219 | 2710 | 3202 | 3693 | 4185 | 4677 |
| 19 | 19 | | 6888 | 7378 | 7869 | 8359 | 8850 | 9340 | 9831 | 0322 | 0813 | 1304 | 1795 | 2286 | 2777 | 3269 | 3760 | 4252 | 4743 |
| 20 | 20 | 102(103) | 6955 | 7445 | 7936 | 8426 | 8917 | 9407 | 9898 | 0389 | 0880 | 1371 | 1862 | 2353 | 2844 | 3336 | 3827 | 4318 | 4810 |
| 21 | 21 | | 7022 | 7513 | 8003 | 8493 | 8984 | 9474 | 9965 | 0456 | 0947 | 1438 | 1929 | 2420 | 2911 | 3403 | 3894 | 4385 | 4876 |
| 22 | 22 | | 7089 | 7580 | 8070 | 8560 | 9051 | 9541 | 0032 | 0523 | 1014 | 1504 | 1995 | 2486 | 2978 | 3469 | 3960 | 4451 | 4943 |
| 23 | 23 | | 7157 | 7647 | 8137 | 8628 | 9118 | 9608 | 0099 | 0590 | 1081 | 1571 | 2062 | 2553 | 3044 | 3536 | 4027 | 4518 | 5010 |
| 24 | 24 | | 7224 | 7714 | 8204 | 8695 | 9185 | 9676 | 0166 | 0657 | 1148 | 1638 | 2129 | 2620 | 3111 | 3603 | 4094 | 4585 | 5077 |
| 25 | 25 | 102(103) | 7291 | 7781 | 8272 | 8762 | 9253 | 9743 | 0234 | 0724 | 1215 | 1705 | 2196 | 2687 | 3178 | 3670 | 4161 | 4652 | 5143 |
| 26 | 26 | | 7358 | 7848 | 8339 | 8830 | 9320 | 9810 | 0301 | 0791 | 1282 | 1773 | 2264 | 2755 | 3246 | 3737 | 4228 | 4719 | 5210 |
| 27 | 27 | | 7427 | 7917 | 8407 | 8897 | 9387 | 9878 | 0368 | 0859 | 1349 | 1840 | 2331 | 2822 | 3313 | 3804 | 4295 | 4787 | 5277 |
| 28 | 28 | | 7494 | 7984 | 8475 | 8965 | 9455 | 9945 | 0436 | 0926 | 1417 | 1908 | 2398 | 2889 | 3381 | 3872 | 4363 | 4853 | 5345 |
| 29 | 29 | | 7562 | 8052 | 8542 | 9032 | 9523 | 0013 | 0503 | 0994 | 1484 | 1975 | 2466 | 2957 | 3448 | 3939 | 4430 | 4921 | 5412 |
| 30 | 30 | 102(103) | 7630 | 8120 | 8611 | 9101 | 9592 | 0082 | 0571 | 1061 | 1552 | 2043 | 2534 | 3025 | 3515 | 4007 | 4498 | 4989 | 5480 |
| 31 | 31 | | 7697 | 8187 | 8678 | 9168 | 9659 | 0149 | 0639 | 1129 | 1620 | 2111 | 2602 | 3093 | 3584 | 4075 | 4566 | 5056 | 5547 |
| 32 | 32 | | 7766 | 8256 | 8746 | 9236 | 9726 | 0216 | 0707 | 1197 | 1687 | 2178 | 2669 | 3159 | 3650 | 4141 | 4632 | 5123 | 5614 |
| 33 | 33 | | 7834 | 8324 | 8814 | 9304 | 9794 | 0284 | 0774 | 1265 | 1755 | 2246 | 2736 | 3227 | 3718 | 4209 | 4700 | 5191 | 5682 |
| 34 | 34 | | 7902 | 8392 | 8883 | 9373 | 9863 | 0353 | 0843 | 1333 | 1823 | 2314 | 2804 | 3295 | 3787 | 4278 | 4767 | 5258 | 5749 |
| 35 | 35 | 102(103) | 7971 | 8460 | 8950 | 9440 | 9930 | 0420 | 0911 | 1401 | 1891 | 2382 | 2872 | 3363 | 3853 | 4344 | 4835 | 5326 | 5817 |
| 36 | 36 | | 8039 | 8529 | 9019 | 9508 | 9998 | 0489 | 0979 | 1469 | 1959 | 2450 | 2940 | 3431 | 3921 | 4412 | 4903 | 5394 | 5885 |
| 37 | 37 | | 8107 | 8597 | 9087 | 9577 | 0067 | 0557 | 1047 | 1537 | 2027 | 2518 | 3008 | 3499 | 3989 | 4480 | 4971 | 5462 | 5953 |
| 38 | 38 | | 8176 | 8666 | 9155 | 9645 | 0135 | 0625 | 1115 | 1605 | 2096 | 2586 | 3076 | 3567 | 4057 | 4548 | 5039 | 5530 | 6021 |
| 39 | 39 | | 8245 | 8734 | 9224 | 9714 | 0204 | 0694 | 1184 | 1674 | 2164 | 2654 | 3145 | 3635 | 4126 | 4617 | 5108 | 5598 | 6089 |
| 40 | 40 | 102(103) | 8313 | 8803 | 9293 | 9783 | 0273 | 0763 | 1253 | 1743 | 2232 | 2723 | 3213 | 3703 | 4194 | 4685 | 5175 | 5666 | 6157 |
| 41 | 41 | | 8382 | 8872 | 9361 | 9851 | 0341 | 0831 | 1321 | 1811 | 2301 | 2791 | 3281 | 3772 | 4262 | 4753 | 5243 | 5734 | 6225 |
| 42 | 42 | | 8451 | 8941 | 9430 | 9920 | 0410 | 0900 | 1390 | 1880 | 2370 | 2860 | 3350 | 3841 | 4331 | 4821 | 5311 | 5802 | 6293 |
| 43 | 43 | | 8520 | 9010 | 9499 | 9989 | 0479 | 0969 | 1459 | 1948 | 2438 | 2929 | 3419 | 3909 | 4399 | 4890 | 5380 | 5870 | 6361 |
| 44 | 44 | | 8589 | 9079 | 9568 | 0057 | 0547 | 1037 | 1527 | 2017 | 2507 | 2997 | 3487 | 3977 | 4468 | 4958 | 5449 | 5939 | 6430 |
| 45 | 45 | 102(103) | 8658 | 9148 | 9638 | 0127 | 0616 | 1106 | 1596 | 2086 | 2576 | 3066 | 3556 | 4046 | 4537 | 5027 | 5517 | 6008 | 6499 |
| 46 | 46 | | 8727 | 9217 | 9707 | 0196 | 0686 | 1176 | 1665 | 2155 | 2645 | 3135 | 3625 | 4115 | 4606 | 5096 | 5586 | 6077 | 6567 |
| 47 | 47 | | 8797 | 9286 | 9776 | 0266 | 0755 | 1245 | 1735 | 2224 | 2714 | 3204 | 3694 | 4184 | 4674 | 5165 | 5655 | 6145 | 6636 |
| 48 | 48 | | 8866 | 9356 | 9845 | 0335 | 0825 | 1314 | 1804 | 2294 | 2783 | 3273 | 3763 | 4253 | 4743 | 5233 | 5723 | 6214 | 6704 |
| 49 | 49 | | 8936 | 9425 | 9915 | 0404 | 0894 | 1384 | 1873 | 2363 | 2853 | 3343 | 3832 | 4322 | 4812 | 5302 | 5792 | 6282 | 6773 |
| 50 | 50 | 102(103) | 9006 | 9495 | 9984 | 0474 | 0963 | 1453 | 1943 | 2432 | 2922 | 3412 | 3902 | 4391 | 4881 | 5371 | 5861 | 6351 | 6841 |
| 51 | 51 | | 9076 | 9565 | 0054 | 0543 | 1033 | 1522 | 2012 | 2502 | 2991 | 3481 | 3971 | 4460 | 4950 | 5440 | 5931 | 6421 | 6912 |
| 52 | 52 | | 9146 | 9635 | 0124 | 0613 | 1102 | 1592 | 2081 | 2571 | 3061 | 3550 | 4040 | 4530 | 5019 | 5509 | 5999 | 6490 | 6981 |
| 53 | 53 | | 9216 | 9705 | 0194 | 0683 | 1172 | 1661 | 2151 | 2641 | 3130 | 3620 | 4109 | 4599 | 5089 | 5579 | 6069 | 6559 | 7050 |
| 54 | 54 | | 9286 | 9775 | 0264 | 0753 | 1242 | 1731 | 2221 | 2710 | 3200 | 3688 | 4178 | 4668 | 5158 | 5648 | 6139 | 6629 | 7120 |
| 55 | 55 | 102(103) | 9356 | 9845 | 0334 | 0823 | 1312 | 1802 | 2291 | 2781 | 3270 | 3760 | 4249 | 4739 | 5228 | 5718 | 6208 | 6698 | 7189 |
| 56 | 56 | | 9426 | 9915 | 0404 | 0893 | 1382 | 1872 | 2361 | 2851 | 3340 | 3830 | 4319 | 4809 | 5298 | 5788 | 6278 | 6768 | 7258 |
| 57 | 57 | | 9496 | 9985 | 0474 | 0963 | 1452 | 1942 | 2431 | 2921 | 3410 | 3900 | 4389 | 4879 | 5368 | 5857 | 6347 | 6837 | 7327 |
| 58 | 58 | | 9566 | 0055 | 0544 | 1033 | 1522 | 2012 | 2501 | 2991 | 3480 | 3970 | 4459 | 4949 | 5438 | 5928 | 6417 | 6907 | 7397 |
| 59 | 59 | | 9636 | 0125 | 0614 | 1103 | 1592 | 2082 | 2571 | 3061 | 3550 | 4040 | 4529 | 5019 | 5508 | 5998 | 6487 | 6977 | 7467 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

| Parts for Seconds of Auxil. Angle additive | S.A.A. & A. D. 13° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 103 (104)3967 | 4470 | 4974 | 5478 | 5982 | 6486 | 6990 | 7494 | 7998 | 8502 | 9006 | 9510 | 0014 | 0518 | 1022 | 1526 | 2030 |
| 8 | 1 | | | | | | | | | | | | | | | | | |
| 16 | 2 | 4117 | 4621 | 5125 | 5629 | 6133 | 6637 | 7141 | 7645 | 8149 | 8653 | 9157 | 9661 | 0165 | 0669 | 1173 | 1677 | 2181 |
| 24 | 3 | 4268 | 4772 | 5276 | 5780 | 6284 | 6788 | 7292 | 7796 | 8300 | 8804 | 9308 | 9812 | 0316 | 0820 | 1324 | 1828 | 2332 |
| 33 | 4 | 4419 | 4923 | 5427 | 5931 | 6435 | 6939 | 7443 | 7947 | 8451 | 8955 | 9459 | 9963 | 0467 | 0971 | 1475 | 1979 | 2483 |
| 41 | 5 | 103 (104)4570 | 5074 | 5578 | 6082 | 6586 | 7090 | 7594 | 8098 | 8602 | 9106 | 9610 | 0114 | 0618 | 1122 | 1626 | 2130 | 2634 |
| 49 | 6 | 4721 | 5225 | 5729 | 6233 | 6737 | 7241 | 7745 | 8249 | 8753 | 9257 | 9761 | 0265 | 0769 | 1273 | 1777 | 2281 | 2785 |
| 57 | 7 | 4872 | 5376 | 5880 | 6384 | 6888 | 7392 | 7896 | 8400 | 8904 | 9408 | 9912 | 0416 | 0920 | 1424 | 1928 | 2432 | 2936 |
| 66 | 8 | 5023 | 5527 | 6031 | 6535 | 7039 | 7543 | 8047 | 8551 | 9055 | 9559 | 0063 | 0567 | 1071 | 1575 | 2079 | 2583 | 3087 |
| 74 | 9 | 5174 | 5678 | 6182 | 6686 | 7190 | 7694 | 8198 | 8702 | 9206 | 9710 | 0214 | 0718 | 1222 | 1726 | 2230 | 2734 | 3238 |
| 82 | 10 | 103 (104)5325 | 5829 | 6333 | 6837 | 7341 | 7845 | 8349 | 8853 | 9357 | 9861 | 0365 | 0869 | 1373 | 1877 | 2381 | 2885 | 3389 |
| 90 | 11 | 5476 | 5980 | 6484 | 6988 | 7492 | 7996 | 8500 | 9004 | 9508 | 0012 | 0516 | 1020 | 1524 | 2028 | 2532 | 3036 | 3540 |
| 98 | 12 | 5627 | 6131 | 6635 | 7139 | 7643 | 8147 | 8651 | 9155 | 9659 | 0163 | 0667 | 1171 | 1675 | 2179 | 2683 | 3187 | 3691 |
| 107 | 13 | 5778 | 6282 | 6786 | 7290 | 7794 | 8298 | 8802 | 9306 | 9810 | 0314 | 0818 | 1322 | 1826 | 2330 | 2834 | 3338 | 3842 |
| 115 | 14 | 5929 | 6433 | 6937 | 7441 | 7945 | 8449 | 8953 | 9457 | 9961 | 0465 | 0969 | 1473 | 1977 | 2481 | 2985 | 3489 | 3993 |
| 123 | 15 | 103 (104)6080 | 6584 | 7088 | 7592 | 8096 | 8600 | 9104 | 9608 | 0112 | 0616 | 1120 | 1624 | 2128 | 2632 | 3136 | 3640 | 4144 |
| 131 | 16 | 6231 | 6735 | 7239 | 7743 | 8247 | 8751 | 9255 | 9759 | 0263 | 0767 | 1271 | 1775 | 2279 | 2783 | 3287 | 3791 | 4295 |
| 139 | 17 | 5102 | 5594 | 6086 | 6578 | 7070 | 7562 | 8054 | 8546 | 9039 | 9531 | 0024 | 0516 | 1009 | 1502 | 1995 | 2487 | 2980 |
| 148 | 18 | 5168 | 5660 | 6152 | 6644 | 7136 | 7628 | 8120 | 8612 | 9105 | 9597 | 0090 | 0582 | 1075 | 1568 | 2060 | 2553 | 3046 |
| 156 | 19 | 5235 | 5727 | 6218 | 6710 | 7202 | 7694 | 8186 | 8678 | 9171 | 9663 | 0156 | 0648 | 1141 | 1633 | 2126 | 2618 | 3111 |
| 164 | 20 | 103 (104)5301 | 5793 | 6285 | 6777 | 7269 | 7761 | 8253 | 8745 | 9237 | 9729 | 0222 | 0714 | 1207 | 1699 | 2192 | 2684 | 3177 |
| 172 | 21 | 5368 | 5860 | 6351 | 6843 | 7335 | 7827 | 8319 | 8811 | 9303 | 9795 | 0288 | 0780 | 1273 | 1766 | 2258 | 2751 | 3244 |
| 180 | 22 | 5434 | 5926 | 6418 | 6910 | 7402 | 7894 | 8386 | 8878 | 9371 | 9863 | 0354 | 0847 | 1339 | 1832 | 2325 | 2817 | 3310 |
| 188 | 23 | 5501 | 5993 | 6484 | 6976 | 7469 | 7961 | 8453 | 8945 | 9437 | 9929 | 0421 | 0913 | 1405 | 1898 | 2391 | 2883 | 3376 |
| 197 | 24 | 5567 | 6059 | 6551 | 7043 | 7535 | 8027 | 8519 | 9011 | 9503 | 9995 | 0487 | 0979 | 1472 | 1964 | 2457 | 2950 | 3443 |
| 205 | 25 | 103 (104)5634 | 6126 | 6618 | 7111 | 7603 | 8095 | 8587 | 9079 | 9571 | 0063 | 0553 | 1046 | 1538 | 2031 | 2523 | 3016 | 3509 |
| 213 | 26 | 5702 | 6193 | 6685 | 7176 | 7668 | 8160 | 8652 | 9144 | 9636 | 0128 | 0620 | 1112 | 1605 | 2097 | 2590 | 3083 | 3575 |
| 221 | 27 | 5769 | 6260 | 6752 | 7243 | 7735 | 8227 | 8719 | 9211 | 9703 | 0195 | 0687 | 1179 | 1672 | 2164 | 2657 | 3149 | 3642 |
| 230 | 28 | 5836 | 6327 | 6819 | 7310 | 7802 | 8294 | 8786 | 9278 | 9770 | 0262 | 0754 | 1246 | 1738 | 2231 | 2723 | 3216 | 3708 |
| 238 | 29 | 5902 | 6394 | 6886 | 7377 | 7869 | 8361 | 8853 | 9345 | 9838 | 0329 | 0821 | 1313 | 1805 | 2297 | 2790 | 3282 | 3775 |
| 246 | 30 | 103 (104)5969 | 6461 | 6953 | 7445 | 7938 | 8430 | 8922 | 9414 | 9906 | 0396 | 0888 | 1380 | 1872 | 2364 | 2857 | 3349 | 3842 |
| 254 | 31 | 6038 | 6530 | 7022 | 7514 | 8006 | 8498 | 8990 | 9482 | 9974 | 0465 | 0955 | 1447 | 1939 | 2431 | 2924 | 3416 | 3909 |
| 262 | 32 | 6105 | 6597 | 7088 | 7579 | 8071 | 8563 | 9054 | 9546 | 0038 | 0530 | 1022 | 1514 | 2006 | 2498 | 2991 | 3483 | 3975 |
| 271 | 33 | 6173 | 6664 | 7155 | 7647 | 8138 | 8630 | 9121 | 9613 | 0105 | 0597 | 1089 | 1581 | 2073 | 2565 | 3058 | 3550 | 4042 |
| 279 | 34 | 6240 | 6732 | 7223 | 7714 | 8206 | 8698 | 9189 | 9681 | 0172 | 0664 | 1156 | 1648 | 2140 | 2632 | 3125 | 3617 | 4109 |
| 287 | 35 | 103 (104)6308 | 6799 | 7291 | 7782 | 8274 | 8766 | 9258 | 9750 | 0242 | 0734 | 1225 | 1715 | 2207 | 2700 | 3192 | 3684 | 4177 |
| 295 | 36 | 6376 | 6867 | 7358 | 7850 | 8341 | 8833 | 9324 | 9815 | 0307 | 0799 | 1291 | 1783 | 2275 | 2767 | 3260 | 3751 | 4244 |
| 303 | 37 | 6444 | 6935 | 7426 | 7917 | 8409 | 8900 | 9392 | 9883 | 0375 | 0867 | 1358 | 1850 | 2342 | 2834 | 3326 | 3818 | 4311 |
| 312 | 38 | 6512 | 7003 | 7494 | 7985 | 8476 | 8968 | 9459 | 9951 | 0443 | 0934 | 1426 | 1918 | 2411 | 2902 | 3394 | 3886 | 4379 |
| 320 | 39 | 6580 | 7071 | 7562 | 8053 | 8544 | 9036 | 9527 | 0019 | 0511 | 1002 | 1494 | 1986 | 2477 | 2969 | 3460 | 3954 | 4447 |
| 328 | 40 | 103 (104)6648 | 7139 | 7631 | 8121 | 8612 | 9104 | 9595 | 0087 | 0579 | 1071 | 1561 | 2053 | 2545 | 3037 | 3528 | 4021 | 4514 |
| 336 | 41 | 6716 | 7207 | 7699 | 8189 | 8680 | 9172 | 9663 | 0154 | 0646 | 1138 | 1629 | 2121 | 2613 | 3105 | 3597 | 4089 | 4581 |
| 344 | 42 | 6784 | 7275 | 7766 | 8257 | 8748 | 9240 | 9731 | 0222 | 0714 | 1205 | 1697 | 2189 | 2681 | 3173 | 3665 | 4157 | 4649 |
| 353 | 43 | 6852 | 7343 | 7834 | 8325 | 8817 | 9308 | 9799 | 0290 | 0782 | 1273 | 1765 | 2257 | 2749 | 3241 | 3733 | 4225 | 4717 |
| 361 | 44 | 6921 | 7412 | 7903 | 8394 | 8885 | 9376 | 9867 | 0359 | 0850 | 1342 | 1833 | 2325 | 2817 | 3308 | 3800 | 4293 | 4785 |
| 369 | 45 | 103 (104)6989 | 7480 | 7971 | 8462 | 8953 | 9444 | 9936 | 0427 | 0918 | 1410 | 1901 | 2393 | 2885 | 3377 | 3869 | 4361 | 4853 |
| 377 | 46 | 7058 | 7549 | 8040 | 8531 | 9022 | 9513 | 0004 | 0495 | 0987 | 1478 | 1970 | 2461 | 2953 | 3445 | 3937 | 4429 | 4921 |
| 385 | 47 | 7127 | 7617 | 8108 | 8599 | 9090 | 9581 | 0072 | 0564 | 1055 | 1546 | 2038 | 2530 | 3021 | 3513 | 4006 | 4498 | 4990 |
| 394 | 48 | 7195 | 7686 | 8177 | 8668 | 9159 | 9650 | 0141 | 0632 | 1124 | 1615 | 2106 | 2598 | 3089 | 3581 | 4073 | 4566 | 5058 |
| 402 | 49 | 7264 | 7755 | 8246 | 8737 | 9227 | 9719 | 0210 | 0701 | 1192 | 1683 | 2175 | 2666 | 3158 | 3650 | 4142 | 4634 | 5126 |
| 410 | 50 | 103 (104)7332 | 7823 | 8314 | 8805 | 9296 | 9788 | 0279 | 0770 | 1261 | 1752 | 2243 | 2735 | 3226 | 3718 | 4210 | 4702 | 5194 |
| 418 | 51 | 7401 | 7892 | 8383 | 8874 | 9365 | 9856 | 0348 | 0839 | 1330 | 1821 | 2312 | 2803 | 3295 | 3787 | 4279 | 4771 | 5263 |
| 427 | 52 | 7469 | 7960 | 8451 | 8942 | 9434 | 9925 | 0416 | 0907 | 1398 | 1889 | 2380 | 2872 | 3363 | 3855 | 4347 | 4839 | 5331 |
| 435 | 53 | 7540 | 8030 | 8522 | 9012 | 9503 | 9994 | 0485 | 0976 | 1467 | 1958 | 2450 | 2941 | 3432 | 3924 | 4415 | 4907 | 5399 |
| 443 | 54 | 7608 | 8098 | 8589 | 9081 | 9572 | 0063 | 0554 | 1045 | 1536 | 2027 | 2518 | 3010 | 3501 | 3993 | 4484 | 4976 | 5468 |
| 451 | 55 | 103 (104)7677 | 8167 | 8658 | 9150 | 9641 | 0132 | 0623 | 1114 | 1605 | 2096 | 2587 | 3079 | 3570 | 4062 | 4553 | 5045 | 5537 |
| 459 | 56 | 7748 | 8239 | 8729 | 9220 | 9711 | 0201 | 0692 | 1183 | 1674 | 2165 | 2656 | 3148 | 3639 | 4130 | 4622 | 5114 | 5605 |
| 467 | 57 | 7816 | 8307 | 8797 | 9288 | 9779 | 0269 | 0760 | 1251 | 1742 | 2233 | 2724 | 3216 | 3707 | 4199 | 4690 | 5182 | 5674 |
| 475 | 58 | 7885 | 8376 | 8866 | 9357 | 9848 | 0338 | 0829 | 1320 | 1811 | 2302 | 2793 | 3285 | 3776 | 4268 | 4759 | 5251 | 5743 |
| 484 | 59 | 7953 | 8444 | 8935 | 9425 | 9916 | 0407 | 0898 | 1389 | 1880 | 2371 | 2862 | 3354 | 3845 | 4337 | 4828 | 5320 | 5812 |

| Parts for Sec. of C. D. add. | C. D. | Sums |
|---|---|---|
| 0 | 0 | |
| 1 | 1 | |
| 2 | 2 | |
| 3 | 3 | |
| 4 | 4 | |
| 5 | 5 | |
| 6 | 6 | |
| 7 | 7 | |
| 8 | 8 | |
| 9 | 9 | |
| 10 | 10 | |
| 11 | 11 | |
| 12 | 12 | |
| 13 | 13 | |
| 14 | 14 | |
| 15 | 15 | |
| 16 | 16 | |
| 17 | 17 | |
| 18 | 18 | |
| 19 | 19 | |
| 20 | 20 | |
| 21 | 21 | |
| 22 | 22 | |
| 23 | 23 | |
| 24 | 24 | |
| 25 | 25 | |
| 26 | 26 | 7359 |
| 27 | 27 | 7427 |
| 28 | 28 | 7494 |
| 29 | 29 | |
| 30 | 30 | |
| 31 | 31 | |
| 32 | 32 | |
| 33 | 33 | |
| 34 | 34 | |
| 35 | 35 | |
| 36 | 36 | |
| 37 | 37 | |
| 38 | 38 | |
| 39 | 39 | |
| 40 | 40 | |
| 41 | 41 | |
| 42 | 42 | |
| 43 | 43 | |
| 44 | 44 | |
| 45 | 45 | |
| 46 | 46 | |
| 47 | 47 | |
| 48 | 48 | |
| 49 | 49 | |
| 50 | 50 | |
| 51 | 51 | |
| 52 | 52 | |
| 53 | 53 | 9214 |
| 54 | 54 | |
| 55 | 55 | |
| 56 | 56 | |
| 57 | 57 | |
| 58 | 58 | |
| 59 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes, and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| Parts for Sec. of C.S.A. additive | C.S.A. 14° | Numbers | Parts per second of Auxil. Angles additive | A. D. 14° | ó | Auxiliary Arguments. ó | ´1 | ´2 | ´3 | ´4 | ´5 | ´6 | ´7 | ´8 | ´9 | ´10 | ´11 | ´12 | ´13 | ´14 | ´15 | ´16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ´ | | | ´ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 68 | 0 | 197 4[illegible] | | 0 | | 102 (103) 9704 | [illegible] | 68 | 1171 | 1660 | 2150 | 2639 | 3128 | 3618 | 4107 | 4597 | 5087 | 5577 | [illegible] | [illegible] | [illegible] | [illegible] |
| 67 | 1 | 4230 | | 1 | | 9773 | [illegible] | 9758 | 1241 | 1731 | 2220 | 2709 | 3199 | 3688 | 4177 | 4667 | 5157 | 5647 | 6136 | [illegible] | [illegible] | [illegible] |
| 66 | 2 | 4702 | | 2 | | 9842 | 334 | 9823 | 1312 | 1801 | 2291 | 2779 | 3268 | 3758 | 4248 | 4737 | 5227 | 5717 | 6206 | [illegible] | [illegible] | [illegible] |
| 65 | 3 | 51 | | 3 | | 9911 | 405 | 9893 | 1382 | 1871 | 2360 | 2850 | 3339 | 3828 | 4318 | 4807 | 5297 | 5787 | 6276 | [illegible] | [illegible] | [illegible] |
| 64 | 4 | [illegible] | | 4 | | 9981 | 475 | 9964 | 1453 | 1942 | 2431 | 2920 | 3409 | 3898 | 4388 | 4878 | 5367 | 5857 | 6347 | [illegible] | [illegible] | [illegible] |
| 63 | 5 | 197 [illegible] | 41 | 5 | 103 | 0050 | 0546 | 1035 | 1524 | 2013 | 2502 | 2991 | 3480 | 3969 | 4458 | 4948 | 5438 | 5927 | 6417 | [illegible] | [illegible] | [illegible] |
| 62 | 6 | 3613 | 40 | 6 | | 0120 | 0617 | 1106 | 1594 | 2083 | 2572 | 3061 | 3551 | 4040 | 4529 | 5019 | 5508 | 5998 | 6487 | [illegible] | [illegible] | [illegible] |
| 61 | 7 | 3644 | 37 | 7 | | 0189 | 0687 | 1176 | 1665 | 2154 | 2643 | 3132 | 3621 | 4110 | 4600 | 5089 | 5579 | 6068 | 6558 | [illegible] | [illegible] | [illegible] |
| 60 | 8 | 3678 | 65 | 8 | | 0270 | 0758 | 1247 | 1736 | 2225 | 2714 | 3203 | 3692 | 4181 | 4670 | 5160 | 5649 | 6139 | [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | 9 | 3712 | 73 | 9 | | 0341 | 0830 | 1318 | 1807 | 2296 | 2785 | 3274 | 3763 | 4252 | 4741 | 5230 | 5720 | 6209 | [illegible] | [illegible] | [illegible] | [illegible] |
| 58 | 10 | 197 3745 | 82 | 10 | 103 | 0412 | 0901 | 1390 | 1878 | 2367 | 2856 | 3345 | 3834 | 4323 | 4811 | 5301 | 5791 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | 11 | 3779 | 90 | 11 | | 0483 | 0972 | 1460 | 1949 | 2438 | 2927 | 3416 | 3905 | 4394 | 4883 | 5372 | 5861 | 6351 | 6840 | [illegible] | [illegible] | [illegible] |
| 56 | 12 | 3812 | 98 | 12 | | 0555 | 1043 | 1532 | 2021 | 2510 | 2998 | 3487 | 3976 | 4465 | 4954 | 5443 | 5932 | 6421 | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | 13 | 3846 | 106 | 13 | | 0626 | 1114 | 1603 | 2092 | 2581 | 3070 | 3558 | 4047 | 4536 | 5025 | 5514 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 14 | 3879 | 114 | 14 | | 0697 | 1186 | 1674 | 2163 | 2652 | 3140 | 3629 | 4118 | 4607 | 5096 | 5585 | 6075 | 6564 | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | 15 | 197 3913 | 123 | 15 | 103 | 0769 | 1257 | 1746 | 2234 | 2723 | 3212 | 3701 | 4189 | 4678 | 5167 | 5656 | 6146 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 52 | 16 | 3946 | 130 | 16 | | 0841 | 1329 | 1817 | 2306 | 2795 | 3283 | 3772 | 4261 | 4750 | 5239 | 5728 | 6217 | 6706 | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | 17 | 3979 | 139 | 17 | | 0912 | 1401 | 1889 | 2378 | 2866 | 3355 | 3845 | 4332 | 4821 | 5310 | 5799 | 6288 | 6777 | [illegible] | [illegible] | [illegible] | [illegible] |
| 50 | 18 | 3112 | 147 | 18 | | 0984 | 1472 | 1961 | 2449 | 2938 | 3426 | 3915 | 4404 | 4893 | 5382 | 5871 | 6360 | 6849 | [illegible] | [illegible] | [illegible] | [illegible] |
| 49 | 19 | 3045 | 155 | 19 | | 1056 | 1544 | 2033 | 2521 | 3010 | 3499 | 3987 | 4476 | 4964 | 5453 | 5942 | 6431 | 6920 | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | 20 | 197 2078 | 163 | 20 | 103 | 1128 | 1616 | 2105 | 2593 | 3081 | 3570 | 4058 | 4547 | 5036 | 5525 | 6014 | 6503 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 47 | 21 | 2011 | 171 | 21 | | 1200 | 1688 | 2177 | 2665 | 3153 | 3642 | 4130 | 4619 | 5108 | 5596 | 6085 | 6574 | 7063 | 7552 | 8042 | 8531 | 9020 |
| 46 | 22 | 2043 | 179 | 22 | | 1271 | 1760 | 2248 | 2737 | 3225 | 3714 | 4202 | 4691 | 5179 | 5668 | 6157 | 6646 | 7135 | 7624 | 8113 | 8603 | 9092 |
| 45 | 23 | 2076 | 188 | 23 | | 1344 | 1832 | 2321 | 2809 | 3297 | 3786 | 4274 | 4763 | 5251 | 5740 | 6229 | 6718 | 7207 | 7696 | 8185 | 8674 | 9164 |
| 44 | 24 | 2108 | 196 | 24 | | 1417 | 1905 | 2393 | 2881 | 3370 | 3858 | 4346 | 4835 | 5323 | 5812 | 6301 | 6790 | 7278 | 7767 | 8257 | 8746 | 9235 |
| 43 | 25 | 197 2141 | 204 | 25 | 103 | 1489 | 1977 | 2465 | 2953 | 3442 | 3930 | 4418 | 4907 | 5395 | 5884 | 6373 | 6862 | 7351 | 7840 | 8330 | 8818 | 9307 |
| 42 | 26 | 2173 | 212 | 26 | | 1560 | 2048 | 2538 | 3026 | 3514 | 4002 | 4491 | 4979 | 5468 | 5956 | 6445 | 6934 | 7423 | 7912 | 8401 | 8890 | 9379 |
| 41 | 27 | 2206 | 220 | 27 | | 1634 | 2122 | 2610 | 3098 | 3586 | 4075 | 4563 | 5051 | 5540 | 6029 | 6517 | 7006 | 7495 | 7984 | 8473 | 8962 | 9451 |
| 40 | 28 | 2238 | 228 | 28 | | 1705 | 2193 | 2683 | 3171 | 3660 | 4147 | 4636 | 5124 | 5613 | 6101 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 39 | 29 | 2271 | 236 | 29 | | 1779 | 2267 | 2755 | 3244 | 3732 | 4220 | 4709 | 5197 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 38 | 30 | 197 2303 | 247 | 30 | 103 | 1852 | 2340 | 2828 | 3316 | 3804 | 4292 | 4781 | 5269 | 5757 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 37 | 31 | 2334 | 255 | 31 | | 1925 | 2413 | 2901 | 3389 | 3877 | 4365 | 4853 | 5341 | 5830 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | 32 | 2366 | 263 | 32 | | 1998 | 2486 | 2974 | 3462 | 3950 | 4438 | 4926 | 5414 | 5902 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | 33 | [illegible] | [illegible] | 33 | | 2071 | 2559 | 3047 | 3535 | 4022 | 4511 | 4999 | 5487 | 5975 | 6464 | 6952 | 7441 | 7929 | 8418 | 8907 | 9395 | 9884 |
| 34 | 34 | [illegible] | [illegible] | 34 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | 35 | 197 [illegible] | 280 | 35 | 103 (104) | 2217 | 2705 | 3193 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 32 | 36 | [illegible] | 288 | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | 37 | 1744 | 296 | 37 | | 2361 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | 38 | 1755 | 304 | 38 | | 2433 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | 39 | 1787 | 312 | 39 | | 2511 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 28 | 40 | 197 1819 | 320 | 40 | 103 (104) | 2588 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 41 | 1850 | 331 | 41 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | 42 | 1882 | 339 | 42 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 43 | 1911 | 354 | 43 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | 44 | 1342 | 350 | 44 | | 2880 | 3367 | 3855 | 4342 | 4830 | 5317 | 5805 | 6293 | 6781 | 7269 | 7757 | 8245 | 8733 | 9221 | 9710 | [illegible] | [illegible] |
| 23 | 45 | 197 [illegible] | 367 | 45 | 104 (104) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 22 | 46 | 1204 | 375 | 46 | | 3026 | 3515 | 4003 | 4490 | 4978 | 5465 | 5953 | 6441 | 6928 | 7416 | 7904 | 8392 | 8880 | 9369 | 985[illegible] | [illegible] | [illegible] |
| 21 | 47 | 1134 | 383 | 47 | | 3102 | 3589 | 4076 | 4564 | 5052 | 5539 | 6027 | 6514 | 7002 | 7490 | 797[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 48 | 1065 | 391 | 48 | | 3177 | 3664 | 4150 | 4638 | 5126 | 5613 | 6101 | 6588 | 7076 | 756[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18 | 50 | 197 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 17 | 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 13 | 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 12 | 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 11 | 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 10 | 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 9 | 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 8 | 60 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7 | 61 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | 62 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | 63 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 4 | 64 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 3 | 65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2 | 66 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | 67 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 0 | 68 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | 55 | 197 0577 | 448 | 55 | 103 (104) | 3699 | 4186 | 4673 | 5160 | 5647 | 6134 | 6621 | 7109 | 7596 | 8084 | 8571 | 9059 | 9547 | 0035 | 0523 | 1011 | 1499 |
| 4 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 3 | 57 | [illegible] | [illegible] | 457 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9696 | 0184 | 0672 | 1159 | 1645 |
| 2 | 58 | [illegible] | [illegible] | 466 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9770 | 0258 | 0746 | 1234 | 1722 |
| 1 | [illegible] | [illegible] | 475 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Arg. & A. D. 14′ | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ | C. D 14′ | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | ′ | |
| 0 | 0 | 103 (104) | 8027 | 8517 | 9007 | 9498 | 9989 | 0479 | 0970 | 1461 | 1951 | 2442 | 2933 | 3425 | 3916 | 4407 | 4898 | 5390 | 5881 | 0 | 0 402 9704 |
| 8 | 1 | | 8097 | 8587 | 9077 | 9568 | 0058 | 0549 | 1039 | 1530 | 2021 | 2512 | 3003 | 3494 | 3985 | 4476 | 4968 | 5459 | 5950 | 1 | 1 9775 |
| 16 | 2 | | 8166 | 8657 | 9147 | 9637 | 0128 | 0618 | 1109 | 1600 | 2091 | 2582 | 3072 | 3563 | 4055 | 4546 | 5037 | 5528 | [illegible] | 2 | 2 9845 |
| 25 | 3 | | 8236 | 8727 | 9217 | 9707 | 0198 | 0688 | 1179 | 1670 | 2160 | 2651 | 3142 | 3633 | 4124 | 4615 | 5106 | 5598 | [illegible] | 3 | 3 9916 |
| 33 | 4 | | 8307 | 8797 | 9287 | 9777 | 0268 | 0758 | 1249 | 1740 | 2230 | 2721 | 3212 | 3703 | 4194 | 4685 | 5177 | 5667 | [illegible] | 4 | 4 9986 |
| 41 | 5 | 103 (104) | 8377 | 8867 | 9357 | 9847 | 0338 | 0828 | 1319 | 1809 | 2300 | 2791 | 3282 | 3773 | 4263 | 4754 | 5246 | 5737 | [illegible] | 5 | 5 403 57 |
| 49 | 6 | | 8447 | 8937 | 9427 | 9917 | 0408 | 0898 | 1389 | 1879 | 2370 | 2861 | 3351 | 3842 | 4333 | 4824 | 5315 | 5807 | [illegible] | 6 | 6 0127 |
| 57 | 7 | | 8517 | 9007 | 9497 | 9988 | 0478 | 0968 | 1459 | 1949 | 2440 | 2931 | 3421 | 3912 | 4403 | 4894 | 5385 | 5877 | [illegible] | 7 | 7 0198 |
| 65 | 8 | | 8588 | 9078 | 9568 | 0058 | 0548 | 1038 | 1529 | 2019 | 2510 | 3001 | 3491 | 3982 | 4473 | 4964 | 5455 | 5947 | [illegible] | 8 | 8 0268 |
| 74 | 9 | | 8658 | 9148 | 9638 | 0128 | 0618 | 1109 | 1599 | 2090 | 2580 | 3071 | 3561 | 4052 | 4543 | 5034 | 5525 | 6017 | [illegible] | 9 | 9 0339 |
| 82 | 10 | 103 (104) | 8729 | 9219 | 9708 | 0199 | 0689 | 1179 | 1669 | 2160 | 2650 | 3141 | 3632 | 4122 | 4613 | 5104 | 5595 | [illegible] | [illegible] | 10 | 1 403 0409 |
| 90 | 11 | | 8799 | 9289 | 9779 | 0269 | 0759 | 1250 | 1740 | 2230 | 2721 | 3211 | 3702 | 4193 | 4683 | 5174 | 5665 | [illegible] | [illegible] | 11 | 1 0480 |
| 98 | 12 | | 8870 | 9360 | 9850 | 0340 | 0830 | 1320 | 1810 | 2301 | 2791 | 3282 | 3772 | 4263 | 4754 | 5245 | 5735 | [illegible] | [illegible] | 12 | 1 0550 |
| 106 | 13 | | 8941 | 9430 | 9920 | 0410 | 0900 | 1391 | 1881 | 2371 | 2862 | 3352 | 3843 | 4333 | 4824 | 5315 | 5806 | 6297 | 6788 | 13 | 1 0621 |
| 114 | 14 | | 9011 | 9501 | 9991 | 0481 | 0971 | 1461 | 1951 | 2442 | 2932 | 3423 | 3913 | 4404 | 4894 | 5385 | 5876 | 6367 | 6858 | 14 | 1 0691 |
| 123 | 15 | 103 (104) | 9082 | 9572 | [illegible] | 0552 | 1042 | 1533 | [illegible] | 2512 | 3003 | 3493 | 3984 | 4474 | 4965 | 5456 | 5946 | [illegible] | [illegible] | 15 | 1 403 0762 |
| 131 | 16 | | 9152 | 9643 | [illegible] | 0623 | 1113 | 1603 | [illegible] | 2583 | 3074 | 3564 | 4054 | 4545 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 16 | 1 0832 |
| 139 | 17 | | 9223 | 9714 | [illegible] | 0694 | 1184 | 1674 | 2164 | 2654 | 3144 | 3635 | 4125 | 4616 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 17 | 1 0902 |
| 147 | 18 | | 9296 | 9785 | 0275 | 0765 | 1255 | 1745 | 2235 | 2725 | 3215 | 3706 | 4196 | 4686 | 5177 | 5668 | 6158 | 6649 | 7140 | 18 | 1 0974 |
| 155 | 19 | | 9367 | 9857 | [illegible] | 0836 | 1326 | 1816 | [illegible] | 2796 | 3286 | 3777 | 4267 | 4757 | [illegible] | 5738 | 6229 | 6720 | 7211 | 19 | 1 1045 |
| 163 | 20 | 103 (104) | 9438 | 9928 | [illegible] | 0907 | 1397 | 1887 | [illegible] | 2867 | 3357 | 3848 | 4338 | 4828 | 5319 | 5809 | 6300 | 6791 | 7281 | 20 | 2 403 1116 |
| 172 | 21 | | 9510 | 9999 | [illegible] | 0979 | 1469 | 1958 | [illegible] | 2938 | 3429 | 3919 | 4409 | 4899 | 5390 | [illegible] | [illegible] | [illegible] | [illegible] | 21 | 1 1188 |
| 180 | 22 | | 9581 | [illegible] | [illegible] | 1050 | 1540 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 22 | 1 1259 |
| 188 | 23 | | 9653 | 0142 | 0632 | 1122 | 1611 | 2101 | 2591 | 3081 | 3571 | 4061 | 4551 | 5042 | 5532 | 6022 | 6513 | 7003 | 7494 | 23 | 1 1329 |
| 196 | 24 | | 9725 | 0214 | 0704 | 1193 | 1683 | 2173 | 2662 | 3152 | 3642 | 4132 | 4623 | 5113 | 5603 | 6094 | 6584 | [illegible] | [illegible] | 24 | 1 1417 |
| 204 | 25 | 103 (104) | 9796 | 0286 | 0775 | 1265 | 1754 | 2244 | [illegible] | 3224 | 3714 | 4204 | 4694 | 5184 | 5675 | 6165 | 6655 | [illegible] | [illegible] | 25 | 2 403 1488 |
| 212 | 26 | | 9868 | 0358 | 0847 | 1337 | 1826 | 2316 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26 | 1 1561 |
| 221 | 27 | | 9940 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 27 | 1 1634 |
| 229 | 28 | 104 | 0011 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 28 | 1 1707 |
| 237 | 29 | | 0084 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 29 | 1 1779 |
| 245 | 30 | 104 | 0156 | 0646 | 1135 | 1624 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 30 | 3 403 1852 |
| 253 | 31 | | 0229 | 0718 | 1207 | 1697 | 2186 | [illegible] | [illegible] | [illegible] | 4144 | 4634 | 5124 | 5614 | 6104 | 6594 | 7085 | 7575 | [illegible] | 31 | 1 1925 |
| 261 | 32 | | 0301 | 0790 | 1279 | 1769 | 2258 | [illegible] | [illegible] | [illegible] | 4216 | 4706 | 5196 | 5686 | 6176 | 6666 | 7156 | 7647 | [illegible] | 32 | 1 1997 |
| 270 | 33 | | 0373 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5758 | 6248 | 6738 | 7228 | 7718 | [illegible] | 33 | 2 2071 |
| 278 | 34 | | 0446 | 0935 | 1424 | 1913 | 2403 | 2892 | 3382 | 3871 | 4361 | 4850 | 5340 | 5830 | 6320 | 6810 | 7300 | 7790 | [illegible] | 34 | 2 2144 |
| 286 | 35 | 104 | 0518 | 1008 | 1497 | 1986 | 2475 | 2964 | 3454 | 3943 | 4433 | 4923 | 5412 | 5902 | 6392 | 6882 | 7372 | 7862 | [illegible] | 35 | 3 403 2217 |
| 294 | 36 | | 0591 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 36 | 2 2290 |
| 302 | 37 | | 0664 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 37 | 2 2363 |
| 310 | 38 | | 0737 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 38 | 2 2436 |
| 319 | 39 | | 0810 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 39 | 2 2511 |
| 327 | 40 | 104 | 0883 | 1371 | 1860 | 2349 | 2838 | 3328 | [illegible] | [illegible] | 4796 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 40 | 4 403 2585 |
| 335 | 41 | | 0956 | 1444 | 1933 | 2422 | 2911 | 3401 | 3890 | 4379 | 4868 | 5358 | 5847 | 6337 | 6827 | 7316 | 7806 | 8296 | [illegible] | 41 | 2 2658 |
| 343 | 42 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 42 | 2 2732 |
| 351 | 43 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4036 | 4525 | 5014 | [illegible] | 5993 | 6482 | [illegible] | [illegible] | 7952 | [illegible] | [illegible] | 43 | 2 2805 |
| 359 | 44 | | 1175 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4109 | 4598 | 5087 | 5576 | 6066 | 6555 | 7045 | 7535 | 8024 | 8514 | 9004 | 44 | 2 2878 |
| 368 | 45 | 104 | 1249 | 1737 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5160 | 5650 | 6139 | 6628 | 7118 | 7608 | 8097 | 8587 | 9077 | 45 | 4 403 2954 |
| [illegible] | 46 | | 1322 | 1811 | [illegible] | [illegible] | [illegible] | 3766 | 4255 | 4744 | 5233 | 5723 | 6212 | 6701 | 7191 | 7681 | 8170 | 8660 | 9150 | 46 | 2 3027 |
| [illegible] | 47 | | 1396 | 1884 | [illegible] | [illegible] | [illegible] | 3839 | 4328 | 4817 | 5307 | 5796 | 6285 | 6775 | 7264 | 7754 | 8243 | 8733 | 9223 | 47 | 2 3100 |
| [illegible] | 48 | | 1469 | [illegible] | [illegible] | [illegible] | [illegible] | 3913 | 4402 | 4891 | 5380 | 5869 | 6358 | 6848 | 7337 | 7827 | 8316 | 8806 | 9296 | 48 | 3177 |
| [illegible] | 49 | | 1543 | [illegible] | [illegible] | [illegible] | [illegible] | 3986 | 4475 | 4964 | 5453 | 5943 | 6432 | 6921 | 7411 | 7900 | 8389 | 8879 | 9369 | 49 | 3251 |
| [illegible] | 50 | 104 | 1617 | 2105 | 2594 | [illegible] | [illegible] | 4060 | 4549 | 5038 | 5527 | 6016 | 6505 | 6994 | [illegible] | [illegible] | 8463 | 8952 | 9442 | 50 | 4 403 3324 |
| 417 | 51 | | 1691 | 2179 | 2668 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8536 | 9026 | 9515 | 51 | 3398 |
| [illegible] | 52 | | 1765 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 52 | 3474 |
| [illegible] | 53 | | 1838 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5748 | 6237 | 6726 | 7215 | 7704 | [illegible] | 8683 | 9172 | [illegible] | 53 | 3547 |
| 441 | 54 | | 1913 | 2401 | 2890 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5822 | 6311 | 6800 | 7289 | 7778 | 8267 | [illegible] | 9246 | 9736 | 54 | 3621 |
| 449 | 55 | 104 | 1987 | 2475 | 2964 | 3452 | 3941 | 4429 | 4918 | 5407 | 5895 | 6384 | 6873 | 7363 | 7852 | [illegible] | 8830 | 9320 | [illegible] | 55 | 4 403 3693 |
| 457 | 56 | | 2061 | 2550 | 3038 | 3526 | 4015 | 4503 | 4992 | 5481 | 5970 | 6458 | 6947 | 7436 | 7925 | [illegible] | 8904 | 9393 | 9883 | 56 | 3767 |
| 466 | 57 | | 2136 | 2624 | 3112 | 3601 | 4089 | 4577 | 5066 | 5555 | 6044 | 6532 | 7021 | 7510 | 7999 | [illegible] | 8978 | 9467 | [illegible] | 57 | 3841 |
| 474 | 58 | 104 (105) | 2210 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9052 | 9541 | [illegible] | [illegible] | 58 | 3914 |
| 482 | 59 | | 2285 | 2773 | 3261 | 3749 | 4238 | 4726 | 5215 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 59 | 3987 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| A.D. 15° | Numbers | Diff. | Diff. of Auxil. Angles additive |
|---|---|---|---|
| 0′ | 0 | 107 | 0225 |
| 1 | 1 | | 0315 |
| 2 | 2 | | 0084 |
| 3 | 3 | | 0011 |
| 4 | 4 | 107 | 0238 |
| 5 | 5 | 106 | 0373 |
| 6 | 6 | | 0511 |
| 7 | 7 | | 0652 |
| 8 | 8 | | 0796 |
| 9 | 9 | | 0943 |
| 10 | 10 | 106 | 0915 |
| 11 | 11 | | 0815 |
| 12 | 12 | | 0716 |
| 13 | 13 | | 0620 |
| 14 | 14 | | 0527 |
| 15 | 15 | 105 | 0436 |
| 16 | 16 | | 0347 |
| 17 | 17 | | 0260 |
| 18 | 18 | | 0176 |
| 19 | 19 | 105 | 0094 |
| 20 | 20 | | 0015 |
| 21 | 21 | | 9937 |
| 22 | 22 | | 9861 |
| 23 | 23 | | 9787 |
| 24 | 24 | 104 | 9715 |
| 25 | 25 | | 9645 |
| 26 | 26 | | 9577 |
| 27 | 27 | | 9511 |
| 28 | 28 | | 9447 |
| 29 | 29 | 104 | 9384 |
| 30 | 30 | | 9323 |
| 31 | 31 | | 9264 |
| 32 | 32 | | 9207 |
| 33 | 33 | | 9151 |
| 34 | 34 | | 9097 |
| 35 | 35 | 103 | 9044 |
| 36 | 36 | | 8993 |
| 37 | 37 | | 8943 |
| 38 | 38 | | 8895 |
| 39 | 39 | | 8848 |
| 40 | 40 | 103 | 8803 |
| 41 | 41 | | 8759 |
| 42 | 42 | | 8717 |
| 43 | 43 | | 8676 |
| 44 | 44 | | 8636 |
| 45 | 45 | 103 | 8598 |
| 46 | 46 | | 8561 |
| 47 | 47 | | 8526 |
| 48 | 48 | | 8492 |
| 49 | 49 | | 8459 |
| 50 | 50 | 102 | 8428 |
| 51 | 51 | | 8398 |
| 52 | 52 | | 8369 |
| 53 | 53 | | 8342 |
| 54 | 54 | | 8316 |
| 55 | 55 | 102 | 8291 |
| 56 | 56 | | 8268 |
| 57 | 57 | | 8246 |
| 58 | 58 | | 8225 |
| 59 | 59 | | 8206 |
| 60 | 60 | 102 | 8188 |

| A.D. 15° | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0′ | 103 (104) 4074 | 4561 | 5048 | 5535 | 6022 | 6509 | 6996 | 7483 | 7970 | 8457 | 8945 | 9432 | 9920 | 0407 | 0895 | 1383 | 1871 |
| 1 | | 4136 | 4623 | 5110 | 5597 | 6084 | 6571 | 7058 | 7545 | 8033 | 8520 | 9007 | 9495 | 9983 | 0471 | 0958 | 1446 |
| 2 | 4225 | 4712 | 5198 | 5685 | 6172 | 6659 | 7146 | 7633 | 8120 | 8607 | 9095 | 9582 | 0070 | 0558 | 1045 | 1533 | 2021 |
| 3 | | 4287 | 4774 | 5261 | 5748 | 6235 | 6722 | 7209 | 7696 | 8183 | 8671 | 9158 | 9646 | 0134 | 0621 | 1109 | 1597 |
| 4 | 4376 | | 4863 | 5350 | 5837 | 6324 | 6811 | 7298 | 7785 | 8272 | 8760 | 9247 | 9735 | 0223 | 0710 | 1198 | 1686 |
| 5 | 103 (104) 4438 | 4925 | 5412 | 5899 | 6386 | 6873 | 7360 | 7847 | 8334 | 8822 | 9309 | 9797 | 0285 | 0773 | 1260 | 1748 | 2236 |
| 6 | | 4987 | 5474 | 5961 | 6448 | 6935 | 7422 | 7909 | 8396 | 8884 | 9372 | 9860 | 0348 | 0836 | 1323 | 1811 | 2299 |
| 7 | | 5049 | 5536 | 6023 | 6510 | 6997 | 7484 | 7971 | 8459 | 8947 | 9435 | 9923 | 0411 | 0899 | 1387 | 1875 | 2363 |
| 8 | | 5111 | 5598 | 6085 | 6572 | 7059 | 7546 | 8034 | 8522 | 9010 | 9498 | 9986 | 0474 | 0962 | 1450 | 1938 | 2426 |
| 9 | | 5173 | 5660 | 6147 | 6634 | 7121 | 7609 | 8097 | 8585 | 9073 | 9561 | 0049 | 0537 | 1025 | 1513 | 2001 | 2489 |
| 10 | 103 (104) 4831 | 5317 | 5804 | 6290 | 6775 | 7264 | 7750 | 8237 | 8724 | 9211 | 9698 | 0185 | 0672 | 1160 | 1647 | 2134 | 2622 |
| 11 | 4007 | 5303 | 5880 | 6366 | 6853 | 7340 | 7826 | 8313 | 8800 | 0287 | 0774 | 0261 | 0748 | 1235 | 1723 | 2210 | 2698 |
| 12 | | 4007 | 4494 | 4981 | 5468 | 5955 | 6442 | 6929 | 7416 | 7903 | 8390 | 8877 | 9364 | 9851 | 0338 | 0825 | 1312 |
| 13 | | 5494 | 5981 | 6468 | 6955 | 7442 | 7929 | 8416 | 8903 | 9390 | 9877 | 0364 | 0851 | 1338 | 1825 | 2312 | 2799 |
| 14 | | 5556 | 6043 | 6530 | 7017 | 7504 | 7991 | 8478 | 8965 | 9452 | 9939 | 0426 | 0913 | 1400 | 1887 | 2374 | 2861 |
| 15 | | 5618 | 6105 | 6592 | 7079 | 7566 | 8053 | 8540 | 9027 | 9514 | 0001 | 0488 | 0975 | 1462 | 1950 | 2437 | 2925 |
| 16 | 103 (104) 5181 | 5668 | 6155 | 6642 | 7129 | 7616 | 8103 | 8590 | 9077 | 9564 | 0051 | 0538 | 1025 | 1512 | 2000 | 2488 | 2976 |
| 17 | 5289 | 5775 | 6261 | 6748 | 7234 | 7721 | 8207 | 8694 | 9180 | 9667 | 0154 | 0641 | 1128 | 1615 | 2102 | 2589 | 3076 |
| 18 | | 5837 | 6324 | 6810 | 7297 | 7784 | 8270 | 8757 | 9244 | 9730 | 0217 | 0704 | 1191 | 1678 | 2164 | 2651 | 3138 |
| 19 | 5443 | 5929 | 6415 | 6901 | 7387 | 7873 | 8360 | 8846 | 9333 | 9820 | 0306 | 0793 | 1280 | 1767 | 2254 | 2741 | 3229 |
| 20 | | 5991 | 6477 | 6963 | 7449 | 7936 | 8422 | 8908 | 9395 | 9881 | 0368 | 0854 | 1341 | 1828 | 2315 | 2803 | 3291 |
| 21 | 103 (104) 5550 | 6036 | 6523 | 7009 | 7496 | 7982 | 8469 | 8955 | 9442 | 9928 | 0415 | 0902 | 1389 | 1876 | 2363 | 2851 | 3339 |
| 22 | 5657 | 6144 | 6630 | 7117 | 7603 | 8090 | 8576 | 9063 | 9549 | 0036 | 0522 | 1009 | 1496 | 1983 | 2470 | 2958 | 3446 |
| 23 | | 6251 | 6738 | 7224 | 7711 | 8197 | 8684 | 9170 | 9657 | 0143 | 0630 | 1116 | 1603 | 2090 | 2577 | 3065 | 3553 |
| 24 | | 6358 | 6845 | 7331 | 7818 | 8304 | 8791 | 9278 | 9764 | 0251 | 0737 | 1224 | 1711 | 2198 | 2685 | 3173 | 3660 |
| 25 | | 6465 | 6952 | 7439 | 7925 | 8412 | 8899 | 9385 | 9872 | 0358 | 0845 | 1332 | 1819 | 2306 | 2793 | 3280 | 3768 |
| 26 | 103 (104) 5764 | 6572 | 7059 | 7546 | 8033 | 8519 | 9006 | 9493 | 9980 | 0466 | 0953 | 1440 | 1927 | 2414 | 2901 | 3388 | 3876 |
| 27 | 5871 | 6679 | 7166 | 7653 | 8140 | 8627 | 9114 | 9601 | 0087 | 0574 | 1061 | 1548 | 2035 | 2522 | 3009 | 3497 | 3984 |
| 28 | 6214 | 6700 | 7186 | 7671 | 8157 | 8643 | 9129 | 9615 | 0101 | 0588 | 1074 | 1561 | 2047 | 2534 | 3020 | 3507 | 3994 |
| 29 | | 6786 | 7273 | 7760 | 8246 | 8733 | 9220 | 9706 | 0193 | 0679 | 1166 | 1653 | 2139 | 2626 | 3113 | 3599 | 4086 |
| 30 | 103 (104) 6037 | 6893 | 7380 | 7866 | 8353 | 8840 | 9326 | 9813 | 0300 | 0786 | 1273 | 1760 | 2246 | 2733 | 3220 | 3706 | 4193 |
| 31 | 6251 | 6737 | 7224 | 7710 | 8197 | 8684 | 9170 | 9657 | 0143 | 0630 | 1116 | 1603 | 2090 | 2577 | 3065 | 3553 | 4040 |
| 32 | 6358 | 7111 | 7466 | 7952 | 8439 | 8925 | 9412 | 9898 | 0385 | 0871 | 1358 | 1844 | 2331 | 2818 | 3304 | 3791 | 4278 |
| 33 | 6465 | 7218 | 7574 | 8059 | 8545 | 9032 | 9518 | 0005 | 0491 | 0978 | 1464 | 1951 | 2437 | 2924 | 3411 | 3897 | 4384 |
| 34 | 6681 | 7197 | 7652 | 8138 | 8623 | 9109 | 9595 | 0081 | 0567 | 1053 | 1539 | 2025 | 2511 | 2998 | 3484 | 3970 | 4457 |
| 35 | 103 (104) 6750 | 7345 | 7831 | 8316 | 8802 | 9288 | 9773 | 0259 | 0744 | 1230 | 1716 | 2202 | 2688 | 3175 | 3661 | 4148 | 4634 |
| 36 | 6837 | 7323 | 7808 | 8294 | 8779 | 9265 | 9751 | 0236 | 0722 | 1208 | 1694 | 2180 | 2667 | 3153 | 3639 | 4126 | 4612 |
| 37 | 6916 | 7401 | 7886 | 8372 | 8857 | 9343 | 9829 | 0314 | 0800 | 1286 | 1772 | 2258 | 2744 | 3231 | 3717 | 4203 | 4690 |
| 38 | 6994 | 7479 | 7965 | 8450 | 8935 | 9421 | 9907 | 0392 | 0878 | 1364 | 1850 | 2336 | 2822 | 3308 | 3795 | 4281 | 4767 |
| 39 | 7072 | 7558 | 8043 | 8528 | 9014 | 9499 | 9985 | 0471 | 0956 | 1442 | 1928 | 2414 | 2900 | 3386 | 3873 | 4359 | 4845 |
| 40 | 103 (104) 7151 | 7636 | 8121 | 8607 | 9092 | 9578 | 0063 | 0549 | 1034 | 1520 | 2006 | 2492 | 2978 | 3464 | 3951 | 4437 | 4923 |
| 41 | 7228 | 7715 | 8202 | 8688 | 9175 | 9661 | 0148 | 0634 | 1121 | 1607 | 2093 | 2579 | 3065 | 3552 | 4038 | 4524 | 5010 |
| 42 | 7306 | 7793 | 8280 | 8766 | 9253 | 9739 | 0226 | 0712 | 1199 | 1685 | 2171 | 2657 | 3144 | 3630 | 4116 | 4602 | 5088 |
| 43 | 7385 | 7872 | 8358 | 8845 | 9331 | 9818 | 0304 | 0791 | 1277 | 1763 | 2249 | 2736 | 3222 | 3708 | 4194 | 4681 | 5167 |
| 44 | 7463 | 7950 | 8437 | 8923 | 9410 | 9896 | 0383 | 0869 | 1356 | 1842 | 2328 | 2815 | 3301 | 3787 | 4274 | 4760 | 5246 |
| 45 | 103 (104) 7542 | 8029 | 8515 | 9002 | 9488 | 9975 | 0461 | 0948 | 1434 | 1921 | 2407 | 2893 | 3380 | 3866 | 4352 | 4839 | 5325 |
| 46 | 7620 | 8107 | 8594 | 9080 | 9567 | 0053 | 0540 | 1026 | 1513 | 1999 | 2486 | 2972 | 3458 | 3945 | 4431 | 4917 | 5404 |
| 47 | 7703 | 8188 | 8673 | 9158 | 9643 | 0128 | 0613 | 1099 | 1584 | 2070 | 2555 | 3041 | 3527 | 4013 | 4499 | 4984 | 5471 |
| 48 | 7782 | 8267 | 8752 | 9237 | 9722 | 0207 | 0692 | 1178 | 1663 | 2148 | 2634 | 3120 | 3605 | 4091 | 4577 | 5063 | 5549 |
| 49 | 7861 | 8346 | 8831 | 9316 | 9801 | 0286 | 0771 | 1255 | 1741 | 2226 | 2711 | 3197 | 3682 | 4168 | 4654 | 5140 | 5626 |
| 50 | 103 (104) 7941 | 8425 | 8910 | 9395 | 9880 | 0365 | 0850 | 1336 | 1821 | 2306 | 2792 | 3277 | 3763 | 4248 | 4734 | 5220 | 5706 |
| 51 | 8020 | 8505 | 8989 | 9474 | 9959 | 0444 | 0929 | 1415 | 1900 | 2385 | 2871 | 3356 | 3842 | 4327 | 4813 | 5298 | 5784 |
| 52 | 8090 | 8584 | 9069 | 9554 | 0039 | 0524 | 1009 | 1494 | 1979 | 2464 | 2950 | 3435 | 3921 | 4406 | 4892 | 5377 | 5863 |
| 53 | 8169 | 8663 | 9148 | 9633 | 0118 | 0603 | 1088 | 1573 | 2058 | 2543 | 3029 | 3514 | 4000 | 4485 | 4971 | 5457 | 5943 |
| 54 | 8248 | 8742 | 9227 | 9712 | 0197 | 0682 | 1167 | 1652 | 2138 | 2623 | 3108 | 3594 | 4079 | 4565 | 5051 | 5536 | 6022 |
| 55 | 103 (104) 8327 | 8821 | 9306 | 9791 | 0276 | 0761 | 1246 | 1731 | 2217 | 2702 | 3187 | 3673 | 4158 | 4644 | 5130 | 5615 | 6101 |
| 56 | 8405 | 8900 | 9385 | 9870 | 0355 | 0840 | 1325 | 1810 | 2295 | 2781 | 3266 | 3752 | 4237 | 4723 | 5209 | 5694 | 6180 |
| 57 | 8484 | 8979 | 9464 | 9949 | 0434 | 0919 | 1404 | 1889 | 2374 | 2860 | 3345 | 3831 | 4316 | 4802 | 5288 | 5773 | 6259 |
| 58 | 8578 | 9063 | 9547 | 0032 | 0516 | 1001 | 1486 | 1971 | 2456 | 2941 | 3426 | 3911 | 4396 | 4881 | 5367 | 5852 | 6338 |
| 59 | 8657 | 9142 | 9626 | 0111 | 0595 | 1080 | 1565 | 2050 | 2535 | 3020 | 3506 | 3991 | 4476 | 4962 | 5447 | 5933 | 6419 |
| 60 | 8736 | 9221 | 9705 | 0190 | 0674 | 1159 | 1644 | 2129 | 2614 | 3099 | 3585 | 4070 | 4555 | 5041 | 5527 | 6012 | 6498 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Angle additive | S.A. & A.D. 15° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 104 (105) 2359 | 2847 | 3335 | 3824 | 4312 | 4800 | 5289 | 5777 | 6266 | 6755 | 7244 | 7733 | 8222 | 8711 | 9200 | 9688 | 0178 |
| 8 | 1 | | | | | | | | | | | | | | | | | |
| 16 | 2 | | | | | | | | | | | | | | | | | |
| 24 | 3 | | | | | | | | | | | | | | | | | |
| 32 | 4 | | | | | | | | | | | | | | | | | |
| 41 | 5 | 104 (105) | | | | | | | | | | | | | | | | |
| 49 | 6 | 2809 | 3296 | 3784 | 4272 | 4760 | 5249 | 5737 | 6225 | 6714 | 7202 | 7691 | 8179 | 8668 | 9157 | 9646 | 0135 | 0624 |
| 57 | 7 | | | | | | | | | | | | | | | | | |
| 65 | 8 | 2959 | 3446 | 3935 | 4423 | 4911 | 5399 | 5887 | 6375 | 6864 | 7352 | 7840 | 8329 | 8818 | 9306 | 9795 | 0284 | 0773 |
| 73 | 9 | | | | | | | | | | | | | | | | | |
| 81 | 10 | 104 (105) | | | | | | | | | | | | | | | | |
| 89 | 11 | | | | | | | | | | | | | | | | | |
| 98 | 12 | | | | | | | | | | | | | | | | | |
| 106 | 13 | | | | | | | | | | | | | | | | | |
| 114 | 14 | | | | | | | | | | | | | | | | | |
| 122 | 15 | 104 (105) | | | | | | | | | | | | | | | | |
| 130 | 16 | | | | | | | | | | | | | | | | | |
| 138 | 17 | | | | | | | | | | | | | | | | | |
| 146 | 18 | | | | | | | | | | | | | | | | | |
| 154 | 19 | | | | | | | | | | | | | | | | | |
| 163 | 20 | 104 (105) | | | | | | | | | | | | | | | | |
| 171 | 21 | 3945 | 4432 | 4919 | 5407 | 5894 | 6382 | 6869 | 7357 | 7845 | 8333 | 8821 | 9309 | 9797 | 0285 | 0774 | 1262 | 1751 |
| 179 | 22 | 4021 | 4508 | 4995 | 5483 | 5970 | 6458 | 6946 | 7433 | 7921 | 8409 | 8897 | 9385 | 9873 | 0361 | 0850 | 1338 | 1826 |
| 187 | 23 | | | | | | | | | | | | | | | | | |
| 195 | 24 | | | | | | | | | | | | | | | | | |
| 203 | 25 | 104 (105) | | | | | | | | | | | | | | | | |
| 211 | 26 | | | | | | | | | | | | | | | | | |
| 219 | 27 | | | | | | | | | | | | | | | | | |
| 228 | 28 | | | | | | | | | | | | | | | | | |
| 236 | 29 | | | | | | | | | | | | | | | | | |
| 244 | 30 | 104 (105) | | | | | | | | | | | | | | | | |
| 254 | 31 | | | | | | | | | | | | | | | | | |
| 262 | 32 | | | | | | | | | | | | | | | | | |
| 270 | 33 | | | | | | | | | | | | | | | | | |
| 279 | 34 | | | | | | | | | | | | | | | | | |
| 287 | 35 | 104 (105) | | | | | | | | | | | | | | | | |
| 295 | 36 | | | | | | | | | | | | | | | | | |
| 303 | 37 | | | | | | | | | | | | | | | | | |
| 312 | 38 | | | | | | | | | | | | | | | | | |
| 320 | 39 | | | | | | | | | | | | | | | | | |
| 328 | 40 | 104 (105) | | | | | | | | | | | | | | | | |
| 336 | 41 | | | | | | | | | | | | | | | | | |
| 344 | 42 | | | | | | | | | | | | | | | | | |
| 352 | 43 | | | | | | | | | | | | | | | | | |
| 361 | 44 | | | | | | | | | | | | | | | | | |
| 369 | 45 | 104 (105) | | | | | | | | | | | | | | | | |
| 377 | 46 | | | | | | | | | | | | | | | | | |
| 385 | 47 | | | | | | | | | | | | | | | | | |
| 393 | 48 | | | | | | | | | | | | | | | | | |
| 401 | 49 | | | | | | | | | | | | | | | | | |
| 409 | 50 | 104 (105) | | | | | | | | | | | | | | | | |
| 418 | 51 | | | | | | | | | | | | | | | | | |
| 426 | 52 | | | | | | | | | | | | | | | | | |
| 434 | 53 | | | | | | | | | | | | | | | | | |
| 442 | 54 | | | | | | | | | | | | | | | | | |
| 450 | 55 | 104 (105) | | | | | | | | | | | | | | | | |
| 458 | 56 | | | | | | | | | | | | | | | | | |
| 467 | 57 | | | | | | | | | | | | | | | | | |
| 475 | 58 | | | | | | | | | | | | | | | | | |
| 483 | 59 | | | | | | | | | | | | | | | | | |

| Part for Sec. of C. D. additive | ′ | 16 | |
|---|---|---|---|
| 0 | 0 | | |
| 1 | 1 | | |
| | 2 | | |
| 4 | 3 | | |
| 5 | 4 | | |
| 8 | 5 | | |
| | 6 | | |
| | 7 | | |
| 10 | 8 | | |
| 12 | 9 | | |
| 13 | 10 | | |
| 13 | 11 | | |
| 13 | 12 | | |
| 13 | 13 | | |
| 13 | 14 | | |
| 13 | 15 | | |
| 13 | 16 | | |
| 13 | 17 | | |
| 13 | 18 | | |
| 13 | 19 | | |
| 27 | 20 | | |
| 28 | 21 | | |
| | 22 | | |
| | 23 | | |
| | 24 | | |
| | 25 | | |
| | 26 | | |
| | 27 | | |
| | 28 | | |
| | 29 | | |
| | 30 | | |
| | 31 | | |
| | 32 | | |
| | 33 | | |
| | 34 | | |
| | 35 | | |
| | 36 | | |
| | 37 | | |
| | 38 | | |
| | 39 | | |
| | 40 | | |
| | 41 | | |
| | 42 | | |
| | 43 | | |
| | 44 | | |
| | 45 | | |
| | 46 | | |
| | 47 | | |
| | 48 | | |
| | 49 | | |
| | 50 | | |
| | 51 | | |
| | 52 | | |
| | 53 | | |
| | 54 | | |
| | 55 | | |
| | 56 | | |
| | 57 | | |
| | 58 | | |
| | 59 | | |

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C. S. A. | C. S. A. 16° | Numbers |
|---|---|---|
| | ′ | |
| 77 | 0 | 196 5852 |
| 76 | 1 | 5775 |
| 75 | 2 | 5700 |
| 74 | 3 | 5624 |
| 73 | 4 | 5548 |
| 72 | 5 | 196 5473 |
| 71 | 6 | 5397 |
| 69 | 7 | 5321 |
| 68 | 8 | 5245 |
| 67 | 9 | 5169 |
| 66 | 10 | 196 5093 |
| 65 | 11 | 5016 |
| 64 | 12 | 4940 |
| 63 | 13 | 4864 |
| 62 | 14 | 4787 |
| 61 | 15 | 196 4711 |
| 60 | 16 | 4634 |
| 59 | 17 | 4557 |
| 58 | 18 | 4481 |
| 57 | 19 | 4404 |
| 56 | 20 | 196 4327 |
| 55 | 21 | 4250 |
| 54 | 22 | 4173 |
| 53 | 23 | 4095 |
| 52 | 24 | 4018 |
| 51 | 25 | 196 3941 |
| 50 | 26 | 3863 |
| 49 | 27 | 3786 |
| 48 | 28 | 3708 |
| 47 | 29 | 3630 |
| 46 | 30 | 196 3553 |
| 45 | 31 | 3475 |
| 44 | 32 | 3397 |
| 43 | 33 | 3319 |
| 42 | 34 | 3241 |
| 41 | 35 | 196 3163 |
| 40 | 36 | 3084 |
| 39 | 37 | 3006 |
| 38 | 38 | 2928 |
| 37 | 39 | 2849 |
| 36 | 40 | 196 2770 |
| 35 | 41 | 2692 |
| 34 | 42 | 2613 |
| 33 | 43 | 2534 |
| 32 | 44 | 2455 |
| 31 | 45 | 196 2376 |
| 30 | 46 | 2297 |
| 29 | 47 | 2218 |
| 28 | 48 | 2139 |
| 27 | 49 | 2059 |
| 26 | 50 | 196 1980 |
| 25 | 51 | 1901 |
| 24 | 52 | 1821 |
| 23 | 53 | 1741 |
| 22 | 54 | 1661 |
| 21 | 55 | 196 1582 |
| 20 | 56 | 1502 |
| 19 | 57 | 1422 |
| 18 | 58 | 1342 |
| 17 | 59 | 1262 |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - - } and Auxiliary Arguments.

| Parts for Seconds of A. | ″ & A. D. 16° | Auxiliary Arguments. ′ 0 | ′ 1 | ′ 2 | ′ 3 | ′ 4 | ′ 5 | ′ 6 | ′ 7 | ′ 8 | ′ 9 | ′ 10 | ′ 11 | ′ 12 | ′ 13 | ′ 14 | ′ 15 | ′ 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 103 (104) | 8738 | 9225 | 9707 | 0192 | 0676 | 1161 | 1646 | 2131 | 2615 | 3100 | 3585 | 4071 | 4556 | 5041 | 5527 | 6012 |
| 1 | 1 | | 8810 | 9303 | 9787 | 0272 | 0756 | 1241 | 1726 | 2212 | 2695 | 3180 | 3665 | 4150 | 4636 | 5121 | 5606 | 6092 |
| 2 | 2 | | 8899 | 0383 | 9867 | 0352 | 0836 | 1321 | 1806 | 2290 | 2775 | 3260 | 3745 | 4230 | 4715 | 5201 | 5686 | 6171 |
| 3 | 3 | | 8979 | 9463 | 9948 | 0432 | 0917 | 1401 | 1886 | 2371 | 2855 | 3340 | 3825 | 4310 | 4795 | 5281 | 5766 | 6251 |
| 4 | 4 | | 9060 | 9544 | 0028 | 0512 | 0997 | 1481 | 1966 | 2451 | 2935 | 3420 | 3905 | 4390 | 4875 | 5361 | 5846 | 6331 |
| 5 | 5 | 103 (104) | 9140 | 9624 | 0109 | 0593 | 1077 | 1562 | 2046 | 2531 | 3016 | 3501 | 3985 | 4470 | 4955 | 5441 | 5926 | 6411 |
| 6 | 6 | | 9221 | 9705 | 0189 | 0673 | 1158 | 1642 | 2127 | 2611 | 3096 | 3581 | 4066 | 4551 | 5036 | 5521 | 6006 | 6491 |
| 7 | 7 | | 9301 | 9786 | 0270 | 0754 | 1238 | 1723 | 2207 | 2692 | 3176 | 3661 | 4146 | 4631 | 5116 | 5601 | 6086 | 6571 |
| 8 | 8 | | 9382 | 9866 | 0350 | 0835 | 1319 | 1803 | 2288 | 2772 | 3257 | 3742 | 4226 | 4711 | 5196 | 5681 | 6166 | 6651 |
| 9 | 9 | | 9463 | 9947 | 0431 | 0915 | 1400 | 1884 | 2368 | 2853 | 3337 | 3822 | 4307 | 4792 | 5276 | 5761 | 6246 | 6732 |
| 10 | 10 | 103 (104) | 9544 | 0028 | 0512 | 0996 | 1480 | 1965 | 2449 | 2934 | 3418 | 3903 | 4387 | 4872 | 5357 | 5842 | 6327 | 6812 |
| 11 | 11 | | 9625 | 0109 | 0593 | 1077 | 1561 | 2046 | 2530 | 3014 | 3499 | 3983 | 4468 | 4953 | 5437 | 5922 | 6407 | 6892 |
| 12 | 12 | | 9706 | 0190 | 0674 | 1158 | 1642 | 2126 | 2611 | 3095 | 3579 | 4064 | 4549 | 5033 | 5518 | 6003 | 6488 | 6973 |
| 13 | 13 | | 9787 | 0271 | 0755 | 1239 | 1723 | 2207 | 2692 | 3176 | 3660 | 4145 | 4629 | 5114 | 5599 | 6084 | 6568 | 7053 |
| 14 | 14 | | 9869 | 0353 | 0836 | 1320 | 1804 | 2289 | 2773 | 3257 | 3741 | 4226 | 4710 | 5195 | 5680 | 6164 | 6649 | 7134 |
| 15 | 15 | 103 (104) | 9950 | 0434 | 0918 | 1402 | 1886 | 2370 | 2854 | 3338 | 3822 | 4307 | 4791 | 5276 | 5760 | 6245 | 6730 | 7215 |
| 16 | 16 | 104 | 0032 | 0515 | 0999 | 1483 | 1967 | 2451 | 2935 | 3419 | 3903 | 4388 | 4872 | 5357 | 5841 | 6326 | 6811 | 7296 |
| 17 | 17 | | 0113 | 0597 | 1080 | 1564 | 2048 | 2532 | 3016 | 3500 | 3985 | 4469 | 4953 | 5438 | 5922 | 6407 | 6892 | 7377 |
| 18 | 18 | | 0195 | 0678 | 1162 | 1646 | 2130 | 2614 | 3098 | 3582 | 4066 | 4550 | 5035 | 5519 | 6003 | 6488 | 6973 | 7458 |
| 19 | 19 | | 0276 | 0760 | 1244 | 1727 | 2211 | 2695 | 3179 | 3663 | 4147 | 4632 | 5116 | 5600 | 6085 | 6569 | 7054 | 7539 |
| 20 | 20 | 104 | 0358 | 0842 | 1325 | 1809 | 2293 | 2777 | 3261 | 3745 | 4229 | 4713 | 5197 | 5682 | 6166 | 6650 | 7135 | 7620 |
| 21 | 21 | | 0440 | 0923 | 1407 | 1891 | 2374 | 2858 | 3342 | 3826 | 4310 | 4794 | 5279 | 5763 | 6247 | 6732 | 7216 | 7701 |
| 22 | 22 | | 0522 | 1005 | 1489 | 1972 | 2456 | 2940 | 3424 | 3908 | 4392 | 4876 | 5360 | 5844 | 6329 | 6813 | 7298 | 7782 |
| 23 | 23 | | 0604 | 1087 | 1571 | 2054 | 2538 | 3022 | 3506 | 3989 | 4473 | 4958 | 5442 | 5926 | 6410 | 6895 | 7379 | 7864 |
| 24 | 24 | | 0686 | 1169 | 1653 | 2136 | 2620 | 3104 | 3587 | 4071 | 4555 | 5039 | 5523 | 6008 | 6492 | 6976 | 7461 | 7945 |
| 25 | 25 | 104 | 0768 | 1251 | 1735 | 2218 | 2702 | 3186 | 3670 | 4153 | 4637 | 5121 | 5605 | 6089 | 6574 | 7058 | 7542 | 8027 |
| 26 | 26 | | 0850 | 1334 | 1817 | 2301 | 2784 | 3268 | 3751 | 4235 | 4719 | 5203 | 5687 | 6171 | 6655 | 7140 | 7624 | 8108 |
| 27 | 27 | | 0933 | 1416 | 1899 | 2383 | 2867 | 3350 | 3833 | 4317 | 4801 | 5285 | 5769 | 6253 | 6737 | 7221 | 7706 | 8190 |
| 28 | 28 | | 1015 | 1498 | 1982 | 2465 | 2948 | 3432 | 3916 | 4399 | 4883 | 5367 | 5851 | 6335 | 6819 | 7303 | 7787 | 8272 |
| 29 | 29 | | 1098 | 1581 | 2064 | 2547 | 3031 | 3514 | 3998 | 4482 | 4965 | 5449 | 5933 | 6417 | 6901 | 7385 | 7869 | 8354 |
| 30 | 30 | 104 | 1180 | 1663 | 2147 | 2630 | 3113 | 3597 | 4080 | 4564 | 5048 | 5531 | 6015 | 6499 | 6983 | 7467 | 7951 | 8436 |
| 31 | 31 | | 1263 | 1746 | 2229 | 2712 | 3196 | 3679 | 4163 | 4646 | 5130 | 5614 | 6097 | 6581 | 7065 | 7549 | 8033 | 8518 |
| 32 | 32 | | 1345 | 1829 | 2312 | 2795 | 3278 | 3762 | 4245 | 4729 | 5213 | 5696 | 6180 | 6664 | 7147 | 7631 | 8116 | 8600 |
| 33 | 33 | | 1428 | 1911 | 2394 | 2878 | 3361 | 3844 | 4328 | 4811 | 5295 | 5778 | 6262 | 6746 | 7230 | 7714 | 8198 | 8682 |
| 34 | 34 | | 1511 | 1994 | 2477 | 2960 | 3444 | 3927 | 4411 | 4894 | 5378 | 5861 | 6345 | 6828 | 7312 | 7796 | 8280 | 8764 |
| 35 | 35 | 104 | 1594 | 2077 | 2560 | 3043 | 3527 | 4010 | 4493 | 4976 | 5460 | 5944 | 6427 | 6911 | 7395 | 7879 | 8363 | 8847 |
| 36 | 36 | | 1677 | 2160 | 2643 | 3126 | 3609 | 4093 | 4576 | 5059 | 5543 | 6026 | 6510 | 6993 | 7477 | 7961 | 8445 | 8929 |
| 37 | 37 | | 1761 | 2243 | 2726 | 3209 | 3692 | 4176 | 4659 | 5142 | 5625 | 6109 | 6592 | 7075 | 7559 | 8044 | 8528 | 9012 |
| 38 | 38 | | 1844 | 2327 | 2809 | 3292 | 3775 | 4259 | 4742 | 5225 | 5708 | 6192 | 6675 | 7158 | 7642 | 8126 | 8610 | 9094 |
| 39 | 39 | | 1927 | 2410 | 2893 | 3376 | 3859 | 4343 | 4825 | 5309 | 5791 | 6275 | 6758 | 7241 | 7725 | 8209 | 8693 | 9177 |
| 40 | 40 | 104 | 2010 | 2493 | 2977 | 3460 | 3944 | 4427 | 4910 | 5393 | 5877 | 6360 | 6843 | 7327 | 7810 | 8294 | 8777 | 9261 |
| 41 | 41 | | 2094 | 2577 | 3059 | 3542 | 4025 | 4508 | 4991 | 5474 | 5957 | 6441 | 6924 | 7408 | 7891 | 8375 | 8859 | 9342 |
| 42 | 42 | | 2177 | 2660 | 3143 | 3626 | 4108 | 4591 | 5074 | 5557 | 6041 | 6524 | 7007 | 7491 | 7974 | 8458 | 8942 | 9425 |
| 43 | 43 | | 2261 | 2744 | 3226 | 3709 | 4192 | 4674 | 5158 | 5641 | 6124 | 6607 | 7090 | 7574 | 8057 | 8541 | 9025 | 9508 |
| 44 | 44 | 104 (105) | 2345 | 2827 | 3310 | 3793 | 4275 | 4758 | 5241 | 5724 | 6207 | 6691 | 7174 | 7657 | 8141 | 8624 | 9108 | 9591 |
| 45 | 45 | 104 (105) | 2429 | 2911 | 3394 | 3876 | 4359 | 4842 | 5325 | 5808 | 6291 | 6774 | 7257 | 7741 | 8224 | 8707 | 9191 | 9674 |
| 46 | 46 | | 2512 | 2995 | 3477 | 3960 | 4443 | 4926 | 5409 | 5892 | 6375 | 6858 | 7341 | 7824 | 8307 | 8791 | 9274 | 9757 |
| 47 | 47 | | 2596 | 3079 | 3561 | 4044 | 4527 | 5009 | 5492 | 5975 | 6458 | 6941 | 7424 | 7907 | 8390 | 8874 | 9357 | 9840 |
| 48 | 48 | | 2680 | 3163 | 3645 | 4128 | 4611 | 5093 | 5576 | 6059 | 6542 | 7025 | 7508 | 7991 | 8474 | 8957 | 9440 | 9923 |
| 49 | 49 | | 2765 | 3247 | 3730 | 4212 | 4695 | 5177 | 5660 | 6143 | 6625 | 7108 | 7591 | 8074 | 8557 | 9040 | 9523 | 0006 |
| 50 | 50 | 104 (105) | 2849 | 3331 | 3813 | 4296 | 4778 | 5261 | 5744 | 6226 | 6709 | 7192 | 7675 | 8158 | 8641 | 9124 | 9606 | 0089 |
| 51 | 51 | | 2933 | 3415 | 3898 | 4380 | 4862 | 5345 | 5828 | 6310 | 6793 | 7276 | 7758 | 8241 | 8724 | 9206 | 9689 | 0172 |
| 52 | 52 | | 3017 | 3500 | 3982 | 4464 | 4947 | 5429 | 5912 | 6394 | 6877 | 7359 | 7842 | 8325 | 8807 | 9290 | 9772 | 0255 |
| 53 | 53 | | 3102 | 3584 | 4066 | 4548 | 5031 | 5513 | 5995 | 6478 | 6960 | 7443 | 7925 | 8408 | 8890 | 9373 | 9855 | 0338 |
| 54 | 54 | | 3186 | 3668 | 4151 | 4633 | 5115 | 5597 | 6080 | 6562 | 7044 | 7527 | 8009 | 8491 | 8974 | 9456 | 9939 | 0421 |
| 55 | 55 | 104 (105) | 3271 | 3753 | 4235 | 4717 | 5199 | 5681 | 6163 | 6645 | 7128 | 7610 | 8092 | 8574 | 9057 | 9539 | 0021 | 0504 |
| 56 | 56 | | 3356 | 3838 | 4320 | 4802 | 5284 | 5766 | 6247 | 6729 | 7211 | 7693 | 8175 | 8657 | 9139 | 9622 | 0104 | 0586 |
| 57 | 57 | | 3441 | 3923 | 4404 | 4886 | 5368 | 5850 | 6331 | 6813 | 7295 | 7777 | 8259 | 8741 | 9223 | 9705 | 0187 | 0669 |
| 58 | 58 | | 3525 | 4007 | 4489 | 4971 | 5453 | 5935 | 6416 | 6898 | 7380 | 7862 | 8343 | 8825 | 9307 | 9789 | 0270 | 0752 |
| 59 | 59 | | 3611 | 4092 | 4574 | 5055 | 5537 | 6018 | 6500 | 6981 | 7463 | 7945 | 8426 | 8908 | 9390 | 9871 | 0353 | 0835 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Angle additive | Sec. & A. D 16° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 104 (105) 6085 | 7467 | 7955 | 8441 | 8927 | 9413 | 9899 | 0385 | 0871 | 1358 | 1844 | 2331 | 2817 | 3304 | 3791 | 4278 | 4765 |
| 8 | 1 | | 7093 | 7549 | 8034 | 8520 | 9006 | 9492 | 9978 | 0464 | 0951 | 1437 | 1923 | 2410 | 2896 | 3383 | 3870 | 4357 |
| 16 | 2 | | 7148 | 7602 | 8087 | 8572 | 9057 | 9541 | 0026 | 0511 | 0996 | 1480 | 1965 | 2450 | 2935 | 3420 | 3905 | 4390 |
| 24 | 3 | | 7202 | 7656 | 8140 | 8624 | 9108 | 9592 | 0076 | 0560 | 1044 | 1528 | 2012 | 2496 | 2980 | 3464 | 3948 | 4432 |
| 32 | 4 | | 7256 | 7710 | 8193 | 8676 | 9160 | 9643 | 0126 | 0609 | 1092 | 1576 | 2059 | 2542 | 3026 | 3509 | 3992 | 4475 |
| 40 | 5 | 104 (105) 7310 | 7764 | 8247 | 8730 | 9213 | 9696 | 0179 | 0662 | 1145 | 1628 | 2111 | 2594 | 3077 | 3560 | 4043 | 4526 | 5009 |
| 48 | 6 | | 7818 | 8301 | 8784 | 9267 | 9750 | 0232 | 0715 | 1198 | 1681 | 2164 | 2647 | 3130 | 3613 | 4096 | 4579 | 5062 |
| 57 | 7 | | 7872 | 8355 | 8838 | 9321 | 9804 | 0286 | 0769 | 1252 | 1735 | 2218 | 2701 | 3184 | 3667 | 4150 | 4633 | 5116 |
| 65 | 8 | | 7926 | 8409 | 8892 | 9375 | 9858 | 0340 | 0823 | 1306 | 1789 | 2272 | 2755 | 3238 | 3721 | 4204 | 4687 | 5170 |
| 73 | 9 | | 7980 | 8463 | 8946 | 9429 | 9912 | 0394 | 0877 | 1360 | 1843 | 2326 | 2809 | 3292 | 3775 | 4258 | 4741 | 5224 |
| 81 | 10 | 104 (105) 8034 | 8517 | 9000 | 9483 | 9966 | 0448 | 0931 | 1414 | 1897 | 2380 | 2863 | 3346 | 3829 | 4312 | 4795 | 5278 | 5761 |
| 89 | 11 | | 8571 | 9054 | 9537 | 0020 | 0502 | 0985 | 1468 | 1951 | 2434 | 2917 | 3400 | 3883 | 4366 | 4849 | 5332 | 5815 |
| 97 | 12 | | 8625 | 9108 | 9591 | 0074 | 0556 | 1039 | 1522 | 2005 | 2488 | 2971 | 3454 | 3937 | 4420 | 4903 | 5386 | 5869 |
| 105 | 13 | | 8679 | 9162 | 9645 | 0128 | 0610 | 1093 | 1576 | 2059 | 2542 | 3025 | 3508 | 3991 | 4474 | 4957 | 5440 | 5923 |
| 113 | 14 | | 8733 | 9216 | 9699 | 0182 | 0664 | 1147 | 1630 | 2113 | 2596 | 3079 | 3562 | 4045 | 4528 | 5011 | 5494 | 5977 |
| 121 | 15 | 104 (105) 8787 | 9270 | 9753 | 0236 | 0719 | 1202 | 1685 | 2168 | 2651 | 3134 | 3617 | 4100 | 4583 | 5066 | 5549 | 6032 | 6515 |
| 129 | 16 | | 8841 | 9324 | 9807 | 0290 | 0773 | 1256 | 1739 | 2222 | 2705 | 3188 | 3671 | 4154 | 4637 | 5120 | 5603 | 6086 |
| 137 | 17 | | 8895 | 9378 | 9861 | 0344 | 0827 | 1310 | 1793 | 2276 | 2759 | 3242 | 3725 | 4208 | 4691 | 5174 | 5657 | 6140 |
| 146 | 18 | | 8949 | 9432 | 9915 | 0398 | 0881 | 1364 | 1847 | 2330 | 2813 | 3296 | 3779 | 4262 | 4745 | 5228 | 5711 | 6194 |
| 154 | 19 | | 9003 | 9486 | 9969 | 0452 | 0935 | 1418 | 1901 | 2384 | 2867 | 3350 | 3833 | 4316 | 4799 | 5282 | 5765 | 6248 |
| 162 | 20 | 104 (105) 9057 | 9540 | 0023 | 0506 | 0989 | 1472 | 1955 | 2438 | 2921 | 3404 | 3887 | 4370 | 4853 | 5336 | 5819 | 6302 | 6785 |
| 170 | 21 | | 9594 | 0077 | 0560 | 1043 | 1526 | 2009 | 2492 | 2975 | 3458 | 3941 | 4424 | 4907 | 5390 | 5873 | 6356 | 6839 |
| 178 | 22 | | 9648 | 0131 | 0614 | 1097 | 1580 | 2063 | 2546 | 3029 | 3512 | 3995 | 4478 | 4961 | 5444 | 5927 | 6410 | 6893 |
| 186 | 23 | | 9702 | 0185 | 0668 | 1151 | 1634 | 2117 | 2600 | 3083 | 3566 | 4049 | 4532 | 5015 | 5498 | 5981 | 6464 | 6947 |
| 194 | 24 | | 9756 | 0239 | 0722 | 1205 | 1688 | 2171 | 2654 | 3137 | 3620 | 4103 | 4586 | 5069 | 5552 | 6035 | 6518 | 7001 |
| 202 | 25 | 104 (105) 9810 | 9863 | 0293 | 0776 | 1259 | 1742 | 2225 | 2708 | 3191 | 3674 | 4157 | 4640 | 5123 | 5606 | 6089 | 6572 | 7055 |
| 210 | 26 | | 9917 | 0347 | 0830 | 1313 | 1796 | 2279 | 2762 | 3245 | 3728 | 4211 | 4694 | 5177 | 5660 | 6143 | 6626 | 7109 |
| 218 | 27 | | 9971 | 0401 | 0884 | 1367 | 1850 | 2333 | 2816 | 3299 | 3782 | 4265 | 4748 | 5231 | 5714 | 6197 | 6680 | 7163 |
| 226 | 28 | | 0025 | 0455 | 0938 | 1421 | 1904 | 2387 | 2870 | 3353 | 3836 | 4319 | 4802 | 5285 | 5768 | 6251 | 6734 | 7217 |
| 234 | 29 | | 0079 | 0509 | 0992 | 1475 | 1958 | 2441 | 2924 | 3407 | 3890 | 4373 | 4856 | 5339 | 5822 | 6305 | 6788 | 7271 |
| 243 | 30 | 104 (105) 0133 | 0562 | 0991 | 1529 | 2012 | 2495 | 2978 | 3461 | 3944 | 4427 | 4910 | 5393 | 5876 | 6359 | 6842 | 7325 | 7808 |
| 251 | 31 | | 0616 | 1100 | 1583 | 2066 | 2549 | 3032 | 3515 | 3998 | 4481 | 4964 | 5447 | 5930 | 6413 | 6896 | 7379 | 7862 |
| 259 | 32 | | 0670 | 1154 | 1637 | 2120 | 2603 | 3086 | 3569 | 4052 | 4535 | 5018 | 5501 | 5984 | 6467 | 6950 | 7433 | 7916 |
| 267 | 33 | | 0724 | 1208 | 1691 | 2174 | 2657 | 3140 | 3623 | 4106 | 4589 | 5072 | 5555 | 6038 | 6521 | 7004 | 7487 | 7970 |
| 275 | 34 | | 0778 | 1262 | 1745 | 2228 | 2711 | 3194 | 3677 | 4160 | 4643 | 5126 | 5609 | 6092 | 6575 | 7058 | 7541 | 8024 |
| 283 | 35 | 104 (105) 0832 | 0885 | 1316 | 1799 | 2282 | 2765 | 3248 | 3731 | 4214 | 4697 | 5180 | 5663 | 6146 | 6629 | 7112 | 7595 | 8078 |
| 291 | 36 | | 0939 | 1370 | 1853 | 2336 | 2819 | 3302 | 3785 | 4268 | 4751 | 5234 | 5717 | 6200 | 6683 | 7166 | 7649 | 8132 |
| 299 | 37 | | 0993 | 1424 | 1907 | 2390 | 2873 | 3356 | 3839 | 4322 | 4805 | 5288 | 5771 | 6254 | 6737 | 7220 | 7703 | 8186 |
| 307 | 38 | 105 | 1047 | 1478 | 1961 | 2444 | 2927 | 3410 | 3893 | 4376 | 4859 | 5342 | 5825 | 6308 | 6791 | 7274 | 7757 | 8240 |
| 315 | 39 | | 1101 | 1532 | 2015 | 2498 | 2981 | 3464 | 3947 | 4430 | 4913 | 5396 | 5879 | 6362 | 6845 | 7328 | 7811 | 8294 |
| 323 | 40 | 105 | 1155 | 1586 | 2069 | 2552 | 3035 | 3518 | 4001 | 4484 | 4967 | 5450 | 5933 | 6416 | 6899 | 7382 | 7865 | 8348 |
| 331 | 41 | | 0310 | 0794 | 1278 | 1763 | 2247 | 2731 | 3216 | 3700 | 4185 | 4669 | 5154 | 5639 | 6124 | 6609 | 7094 | 7579 | 8064 |
| 34 | 42 | | 0363 | 0847 | 1332 | 1817 | 2301 | 2785 | 3270 | 3754 | 4239 | 4723 | 5208 | 5693 | 6178 | 6663 | 7148 | 7633 | 8118 |
| 340 | 43 | | 0417 | 0901 | 1386 | 1871 | 2355 | 2839 | 3324 | 3808 | 4293 | 4777 | 5262 | 5747 | 6232 | 6717 | 7202 | 7687 | 8172 |
| 348 | 44 | | 0471 | 0955 | 1440 | 1925 | 2409 | 2893 | 3378 | 3862 | 4347 | 4831 | 5316 | 5801 | 6286 | 6771 | 7256 | 7741 | 8226 |
| 356 | 45 | 105 | 0525 | 1009 | 1494 | 1979 | 2463 | 2947 | 3432 | 3916 | 4401 | 4885 | 5370 | 5855 | 6340 | 6825 | 7310 | 7795 | 8280 |
| 364 | 46 | | 0579 | 1063 | 1548 | 2033 | 2517 | 3001 | 3486 | 3970 | 4455 | 4939 | 5424 | 5909 | 6394 | 6879 | 7364 | 7849 | 8334 |
| 372 | 46 | | 0725 | 1209 | 1693 | 2177 | 2661 | 3145 | 3629 | 4114 | 4598 | 5082 | 5567 | 6052 | 6536 | 7021 | 7506 | 7991 | 8476 |
| [illegible] | 47 | | 0779 | 1263 | 1747 | 2231 | 2715 | 3199 | 3683 | 4168 | 4652 | 5136 | 5621 | 6106 | 6590 | 7075 | 7560 | 8045 | 8530 |
| [illegible] | 48 | | 0833 | 1317 | 1801 | 2285 | 2769 | 3253 | 3737 | 4222 | 4706 | 5190 | 5675 | 6160 | 6644 | 7129 | 7614 | 8099 | 8584 |
| [illegible] | 49 | | 0887 | 1371 | 1855 | 2339 | 2823 | 3307 | 3791 | 4276 | 4760 | 5244 | 5729 | 6214 | 6698 | 7183 | 7668 | 8153 | 8638 |
| [illegible] | 50 | | 0941 | 1425 | 1909 | 2393 | 2877 | 3361 | 3845 | 4330 | 4814 | 5298 | 5783 | 6268 | 6752 | 7237 | 7722 | 8207 | 8692 |
| [illegible] | 51 | 105 | 0995 | 1479 | 1963 | 2447 | 2931 | 3415 | 3899 | 4384 | 4868 | 5352 | 5837 | 6322 | 6806 | 7291 | 7776 | 8261 | 8746 |
| [illegible] | 52 | | 1049 | 1533 | 2017 | 2501 | 2985 | 3469 | 3953 | 4438 | 4922 | 5406 | 5891 | 6376 | 6860 | 7345 | 7830 | 8315 | 8800 |
| [illegible] | 53 | | 1103 | 1587 | 2071 | 2555 | 3039 | 3523 | 4007 | 4492 | 4976 | 5460 | 5945 | 6430 | 6914 | 7399 | 7884 | 8369 | 8854 |
| [illegible] | 54 | | 1157 | 1641 | 2125 | 2609 | 3093 | 3577 | 4061 | 4546 | 5030 | 5514 | 5999 | 6484 | 6968 | 7453 | 7938 | 8423 | 8908 |
| [illegible] | 55 | 105 | 1211 | 1695 | 2179 | 2663 | 3147 | 3631 | 4115 | 4600 | 5084 | 5568 | 6053 | 6538 | 7022 | 7507 | 7992 | 8477 | 8962 |
| [illegible] | 56 | | 1265 | 1749 | 2233 | 2717 | 3201 | 3685 | 4169 | 4654 | 5138 | 5622 | 6107 | 6592 | 7076 | 7561 | 8046 | 8531 | 9016 |
| [illegible] | 57 | | 1319 | 1803 | 2287 | 2771 | 3255 | 3739 | 4223 | 4708 | 5192 | 5676 | 6161 | 6646 | 7130 | 7615 | 8100 | 8585 | 9070 |
| [illegible] | 58 | | 1373 | 1857 | 2341 | 2825 | 3309 | 3793 | 4277 | 4762 | 5246 | 5730 | 6215 | 6700 | 7184 | 7669 | 8154 | 8639 | 9124 |
| [illegible] | 59 | | 1427 | 1911 | 2395 | 2879 | 3363 | 3847 | 4331 | 4816 | 5300 | 5784 | 6269 | 6754 | 7238 | 7723 | 8208 | 8693 | 9178 |

| Parts for Sec. of A. D addit. | C. D 16 | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 403 8738 |
| 1 | 1 | 8819 |
| 3 | 2 | 8860 |
| 4 | 3 | 8901 |
| 5 | 4 | 8942 |
| 7 | 5 | 403 9142 |
| 8 | 6 | 9221 |
| 10 | 7 | 9302 |
| 11 | 8 | 9383 |
| 12 | 9 | 9463 |
| 14 | 10 | 403 9544 |
| 15 | 11 | 9625 |
| 17 | 12 | 9706 |
| 18 | 13 | 9786 |
| 19 | 14 | 9867 |
| 21 | 15 | 403 9948 |
| 22 | 16 | 404 0029 |
| 23 | 17 | 0110 |
| 25 | 18 | 0191 |
| 26 | 19 | 0272 |
| 27 | 20 | 404 0353 |
| 29 | 21 | 0434 |
| 31 | 22 | 0515 |
| 32 | 23 | 0596 |
| 33 | 24 | 0677 |
| 34 | 25 | 404 0758 |
| 36 | 26 | 0839 |
| 37 | 27 | 0920 |
| 38 | 28 | 1001 |
| 40 | 29 | 1082 |
| 41 | 30 | 404 1163 |
| 43 | 31 | 1243 |
| 44 | 32 | 1324 |
| 46 | 33 | 1405 |
| 47 | 34 | 1486 |
| 48 | 35 | 404 1567 |
| 50 | 36 | 1648 |
| 51 | 37 | 1729 |
| 53 | 38 | 1810 |
| 54 | 39 | 1891 |
| 56 | 40 | 404 1972 |
| 57 | 41 | 2053 |
| 58 | 42 | 2134 |
| 60 | 43 | 2215 |
| 61 | 44 | 2296 |
| 63 | 45 | 404 2377 |
| 63 | 46 | 2513 |
| 65 | 47 | 2700 |
| 66 | 48 | 2781 |
| 67 | 49 | 2862 |
| 69 | 50 | 2943 |
| 70 | 51 | 404 3024 |
| 72 | 52 | 3105 |
| 73 | 53 | 3186 |
| 74 | 54 | 3267 |
| 76 | 55 | 404 3348 |
| 77 | 56 | 3429 |
| 78 | 57 | 3510 |
| 80 | 58 | 3591 |
| 81 | 59 | 3672 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Part for Seconds of Auxil. Angle additive | 17° | Numbers |
|---|---|---|
| 82 | 0 | 196 1181 |
| 81 | 1 | 1101 |
| 80 | 2 | 1021 |
| 79 | 3 | 0940 |
| 77 | 4 | 0860 |
| 76 | 5 | 196 0779 |
| 74 | 6 | 0698 |
| 73 | 7 | 0618 |
| 71 | 8 | 0537 |
| 70 | 9 | 0456 |
| 69 | 10 | 196 0375 |
| 67 | 11 | 0294 |
| 66 | 12 | 0212 |
| 65 | 13 | 0131 |
| 63 | 14 | 0050 |
| 62 | 15 | 195 9968 |
| 60 | 16 | 9887 |
| 59 | 17 | 9805 |
| 58 | 18 | 9724 |
| 56 | 19 | 9642 |
| 55 | 20 | 195 9560 |
| 54 | 21 | 9478 |
| 52 | 22 | 9396 |
| 51 | 23 | 9314 |
| 49 | 24 | 9232 |
| 48 | 25 | 195 9150 |
| 47 | 26 | 9067 |
| 45 | 27 | 8985 |
| 44 | 28 | 8902 |
| 43 | 29 | 8820 |
| 41 | 30 | 195 8737 |
| 40 | 31 | 8654 |
| 38 | 32 | 8572 |
| 37 | 33 | 8489 |
| 36 | 34 | 8406 |
| 34 | 35 | 195 8323 |
| 33 | 36 | 8240 |
| 32 | 37 | 8156 |
| 30 | 38 | 8073 |
| 29 | 39 | 7990 |
| 27 | 40 | 195 7906 |
| 26 | 41 | 7822 |
| 25 | 42 | 7739 |
| 23 | 43 | 7655 |
| 22 | 44 | 7571 |
| 21 | 45 | 195 7487 |
| 19 | 46 | 7404 |
| 18 | 47 | 7320 |
| 17 | 48 | 7236 |
| 15 | 49 | 7151 |
| 14 | 50 | 195 7067 |
| 12 | 51 | 6983 |
| 11 | 52 | 6898 |
| 9 | 53 | 6814 |
| 8 | 54 | 6729 |
| 7 | 55 | 195 6644 |
| 5 | 56 | 6559 |
| 4 | 57 | 6475 |
| 3 | 58 | 6390 |
| 1 | 59 | 6305 |

| Part for Seconds of Auxil. Angle additive | A.D. 17° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 104(105) | 3605 | 4177 | 4659 | 5141 | 5623 | 6105 | 6588 | 7070 | 7552 | 8035 | 8517 | 9000 | 9483 | 9966 | 0448 | 0932 | 1415 |
| 1 | 1 | | 3780 | 4262 | 4744 | 5226 | 5708 | 6190 | 6672 | 7155 | 7637 | 8120 | 8602 | 9085 | 9567 | 0050 | 0533 | 1016 | 1499 |
| 2 | 2 | | 3865 | 4347 | 4829 | 5311 | 5793 | 6275 | 6757 | 7240 | 7722 | 8204 | 8687 | 9169 | 9652 | 0135 | 0618 | 1100 | 1584 |
| 3 | 3 | | 3951 | 4432 | 4914 | 5396 | 5878 | 6360 | 6842 | 7324 | 7807 | 8289 | 8772 | 9254 | 9737 | 0219 | 0702 | 1185 | 1668 |
| 4 | 4 | | 4036 | 4518 | 5000 | 5481 | 5963 | 6445 | 6927 | 7410 | 7892 | 8374 | 8857 | 9339 | 9822 | 0304 | 0787 | 1270 | 1753 |
| 5 | 5 | 104(105) | 4121 | 4603 | 5085 | 5567 | 6049 | 6531 | 7013 | 7495 | 7977 | 8459 | 8941 | 9424 | 9906 | 0389 | 0872 | 1355 | 1838 |
| 6 | 6 | | 4207 | 4688 | 5170 | 5652 | 6134 | 6616 | 7098 | 7580 | 8062 | 8544 | 9027 | 9509 | 9991 | 0474 | 0957 | 1440 | 1923 |
| 7 | 7 | | 4292 | 4774 | 5256 | 5737 | 6219 | 6701 | 7183 | 7665 | 8147 | 8629 | 9112 | 9594 | 0077 | 0559 | 1042 | 1524 | 2007 |
| 8 | 8 | | 4378 | 4860 | 5341 | 5823 | 6305 | 6787 | 7269 | 7751 | 8233 | 8715 | 9197 | 9679 | 0162 | 0644 | 1127 | 1609 | 2092 |
| 9 | 9 | | 4461 | 4945 | 5427 | 5909 | 6391 | 6872 | 7354 | 7836 | 8318 | 8800 | 9282 | 9765 | 0247 | 0729 | 1212 | 1694 | 2177 |
| 10 | 10 | 104(105) | 4547 | 5031 | 5513 | 5995 | 6477 | 6958 | 7440 | 7921 | 8403 | 8885 | 9367 | 9850 | 0332 | 0815 | 1297 | 1780 | 2262 |
| 11 | 11 | | 4636 | 5117 | 5598 | 6080 | 6562 | 7043 | 7525 | 8007 | 8489 | 8971 | 9453 | 9935 | 0418 | 0900 | 1382 | 1865 | 2347 |
| 12 | 12 | | 4722 | 5203 | 5684 | 6166 | 6647 | 7129 | 7611 | 8093 | 8575 | 9057 | 9539 | 0021 | 0503 | 0985 | 1468 | 1950 | 2433 |
| 13 | 13 | | 4805 | 5289 | 5771 | 6252 | 6733 | 7215 | 7697 | 8179 | 8661 | 9143 | 9625 | 0107 | 0589 | 1071 | 1553 | 2036 | 2518 |
| 14 | 14 | | 4891 | 5375 | 5856 | 6338 | 6819 | 7301 | 7783 | 8265 | 8747 | 9229 | 9711 | 0193 | 0674 | 1156 | 1638 | 2121 | 2604 |
| 15 | 15 | 104(105) | 4976 | 5461 | 5942 | 6424 | 6905 | 7387 | 7868 | 8350 | 8832 | 9314 | 9796 | 0278 | 0760 | 1242 | 1724 | 2207 | 2689 |
| 16 | 16 | | 5062 | 5547 | 6029 | 6511 | 6991 | 7473 | 7954 | 8436 | 8918 | 9400 | 9882 | 0364 | 0846 | 1327 | 1810 | 2292 | 2775 |
| 17 | 17 | | 5153 | 5634 | 6115 | 6596 | 7078 | 7559 | 8041 | 8522 | 9004 | 9486 | 9968 | 0449 | 0931 | 1413 | 1896 | 2378 | 2860 |
| 18 | 18 | | 5239 | 5720 | 6201 | 6683 | 7164 | 7646 | 8127 | 8609 | 9090 | 9572 | 0054 | 0535 | 1017 | 1499 | 1982 | 2464 | 2946 |
| 19 | 19 | | 5324 | 5807 | 6288 | 6769 | 7250 | 7732 | 8213 | 8695 | 9177 | 9658 | 0140 | 0622 | 1103 | 1585 | 2068 | 2550 | 3032 |
| 20 | 20 | 104(105) | 5412 | 5893 | 6374 | 6856 | 7337 | 7818 | 8300 | 8781 | 9263 | 9744 | 0226 | 0708 | 1189 | 1671 | 2154 | 2636 | 3118 |
| 21 | 21 | | 5496 | 5978 | 6461 | 6942 | 7423 | 7905 | 8386 | 8868 | 9349 | 9831 | 0313 | 0791 | 1274 | 1758 | 2240 | 2722 | 3204 |
| 22 | 22 | | 5586 | 6067 | 6547 | 7028 | 7510 | 7991 | 8472 | 8954 | 9435 | 9917 | 0399 | 0882 | 1362 | 1844 | 2326 | 2808 | 3290 |
| 23 | 23 | | 5673 | 6154 | 6635 | 7117 | 7597 | 8078 | 8559 | 9041 | 9522 | 0004 | 0485 | 0967 | 1448 | 1930 | 2412 | 2894 | 3376 |
| 24 | 24 | | 5760 | 6240 | 6721 | 7202 | 7683 | 8165 | 8646 | 9127 | 9608 | 0090 | 0571 | 1053 | 1535 | 2017 | 2498 | 2980 | 3462 |
| 25 | 25 | 104(105) | 5847 | 6327 | 6808 | 7289 | 7770 | 8251 | 8733 | 9214 | 9695 | 0177 | 0658 | 1140 | 1621 | 2103 | 2585 | 3067 | 3549 |
| 26 | 26 | | 5934 | 6414 | 6895 | 7376 | 7857 | 8338 | 8819 | 9299 | 9780 | 0261 | 0742 | 1222 | 1703 | 2184 | 2665 | 3147 | 3628 |
| 27 | 27 | | 6021 | 6502 | 6982 | 7463 | 7944 | 8425 | 8906 | 9387 | 9869 | 0350 | 0831 | 1313 | 1795 | 2276 | 2758 | 3240 | 3722 |
| 28 | 28 | | 6108 | 6589 | 7069 | 7550 | 8031 | 8512 | 8993 | 9474 | 9956 | 0437 | 0918 | 1400 | 1881 | 2363 | 2845 | 3326 | 3808 |
| 29 | 29 | | 6196 | 6676 | 7157 | 7638 | 8118 | 8599 | 9080 | 9561 | 0042 | 0524 | 1005 | 1487 | 1968 | 2450 | 2931 | 3413 | 3895 |
| 30 | 30 | 104(105) | 6283 | 6764 | 7244 | 7725 | 8206 | 8687 | 9168 | 9649 | 0130 | 0611 | 1092 | 1574 | 2055 | 2536 | 3018 | 3500 | 3982 |
| 31 | 31 | | 6371 | 6851 | 7332 | 7812 | 8293 | 8774 | 9255 | 9736 | 0217 | 0698 | 1179 | 1661 | 2142 | 2623 | 3105 | 3587 | 4068 |
| 32 | 32 | | 6458 | 6939 | 7419 | 7900 | 8381 | 8861 | 9342 | 9823 | 0304 | 0785 | 1266 | 1748 | 2229 | 2710 | 3192 | 3674 | 4155 |
| 33 | 33 | | 6546 | 7026 | 7507 | 7987 | 8468 | 8949 | 9430 | 9910 | 0391 | 0872 | 1354 | 1835 | 2316 | 2797 | 3279 | 3761 | 4242 |
| 34 | 34 | | 6634 | 7114 | 7594 | 8075 | 8556 | 9036 | 9517 | 9998 | 0479 | 0960 | 1441 | 1922 | 2403 | 2885 | 3366 | 3848 | 4329 |
| 35 | 35 | 104(105) | 6721 | 7202 | 7683 | 8163 | 8643 | 9124 | 9605 | 0085 | 0566 | 1047 | 1528 | 2009 | 2490 | 2972 | 3453 | 3935 | 4416 |
| 36 | 36 | | 6809 | 7290 | 7771 | 8251 | 8731 | 9212 | 9692 | 0173 | 0654 | 1135 | 1616 | 2097 | 2578 | 3059 | 3541 | 4022 | 4504 |
| 37 | 37 | | 6897 | 7378 | 7858 | 8338 | 8819 | 9299 | 9780 | 0261 | 0741 | 1222 | 1703 | 2184 | 2665 | 3147 | 3628 | 4109 | 4591 |
| 38 | 38 | | 6985 | 7466 | 7946 | 8426 | 8907 | 9387 | 9868 | 0348 | 0829 | 1310 | 1791 | 2272 | 2753 | 3234 | 3715 | 4197 | 4678 |
| 39 | 39 | | 7074 | 7554 | 8034 | 8514 | 8995 | 9475 | 9956 | 0436 | 0917 | 1398 | 1879 | 2360 | 2841 | 3322 | 3803 | 4284 | 4766 |
| 40 | 40 | 104(105) | 7163 | 7642 | 8122 | 8602 | 9083 | 9563 | 0044 | 0524 | 1005 | 1486 | 1967 | 2447 | 2928 | 3409 | 3891 | 4372 | 4853 |
| 41 | 41 | | 7253 | 7731 | 8211 | 8691 | 9171 | 9651 | 0132 | 0612 | 1093 | 1574 | 2054 | 2535 | 3016 | 3497 | 3978 | 4459 | 4941 |
| 42 | 42 | | 7343 | 7821 | 8300 | 8779 | 9259 | 9739 | 0220 | 0700 | 1181 | 1662 | 2142 | 2623 | 3104 | 3585 | 4066 | 4547 | 5028 |
| 43 | 43 | | 7427 | 7907 | 8387 | 8867 | 9347 | 9828 | 0308 | 0789 | 1269 | 1750 | 2230 | 2711 | 3192 | 3673 | 4154 | 4635 | 5116 |
| 44 | 44 | | 7516 | 7995 | 8475 | 8955 | 9436 | 9916 | 0397 | 0877 | 1357 | 1838 | 2318 | 2799 | 3280 | 3761 | 4242 | 4723 | 5204 |
| 45 | 45 | 104(105) | 7604 | 8084 | 8564 | 9044 | 9524 | 0004 | 0485 | 0965 | 1445 | 1926 | 2407 | 2887 | 3368 | 3849 | 4330 | 4811 | 5292 |
| 46 | 46 | | 7693 | 8173 | 8653 | 9133 | 9613 | 0093 | 0573 | 1053 | 1534 | 2014 | 2495 | 2975 | 3456 | 3937 | 4418 | 4899 | 5380 |
| 47 | 47 | | 7782 | 8261 | 8741 | 9221 | 9701 | 0181 | 0662 | 1142 | 1622 | 2103 | 2583 | 3064 | 3545 | 4025 | 4506 | 4987 | 5468 |
| 48 | 48 | | 7871 | 8350 | 8830 | 9310 | 9790 | 0270 | 0750 | 1231 | 1711 | 2191 | 2672 | 3152 | 3633 | 4114 | 4594 | 5075 | 5556 |
| 49 | 49 | | 7960 | 8439 | 8919 | 9399 | 9879 | 0359 | 0839 | 1319 | 1799 | 2280 | 2760 | 3241 | 3721 | 4202 | 4683 | 5164 | 5645 |
| 50 | 50 | 104(105) | 8049 | 8528 | 9008 | 9488 | 9968 | 0448 | 0928 | 1408 | 1888 | 2368 | 2849 | 3329 | 3810 | 4290 | 4771 | 5252 | 5733 |
| 51 | 51 | | 8138 | 8617 | 9097 | 9577 | 0057 | 0537 | 1017 | 1497 | 1977 | 2457 | 2937 | 3418 | 3898 | 4379 | 4860 | 5340 | 5821 |
| 52 | 52 | | 8227 | 8706 | 9186 | 9666 | 0146 | 0626 | 1106 | 1586 | 2066 | 2546 | 3026 | 3507 | 3987 | 4468 | 4948 | 5429 | 5910 |
| 53 | 53 | | 8316 | 8795 | 9275 | 9755 | 0235 | 0715 | 1195 | 1675 | 2155 | 2635 | 3115 | 3595 | 4076 | 4556 | 5037 | 5518 | 5999 |
| 54 | 54 | | 8405 | 8884 | 9365 | 9844 | 0324 | 0804 | 1284 | 1764 | 2244 | 2724 | 3204 | 3684 | 4165 | 4645 | 5126 | 5606 | 6087 |
| 55 | 55 | 104(105) | 8495 | 8974 | 9454 | 9934 | 0413 | 0893 | 1373 | 1853 | 2333 | 2813 | 3293 | 3773 | 4254 | 4734 | 5214 | 5695 | 6175 |
| 56 | 56 | | 8584 | 9064 | 9543 | 0023 | 0503 | 0982 | 1462 | 1942 | 2422 | 2902 | 3382 | 3862 | 4343 | 4823 | 5303 | 5784 | 6264 |
| 57 | 57 | | 8674 | 9153 | 9633 | 0112 | 0592 | 1072 | 1551 | 2031 | 2511 | 2991 | 3471 | 3951 | 4432 | 4912 | 5392 | 5872 | 6353 |
| 58 | 58 | | 8764 | 9243 | 9722 | 0202 | 0682 | 1161 | 1641 | 2121 | 2601 | 3081 | 3561 | 4041 | 4521 | 5001 | 5481 | 5962 | 6442 |
| 59 | 59 | | 8854 | 9333 | 9812 | 0292 | 0771 | 1251 | 1730 | 2210 | 2690 | 3170 | 3650 | 4130 | 4610 | 5090 | 5571 | 6051 | 6531 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts for Seconds of Auxil. Angle | S. A. A. & A. D. 17° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 105 1898 | 2381 | 2864 | 3348 | 3831 | 4315 | 4798 | 5282 | 5766 | 6250 | 67 | | | | | | |
| 8 | 1 | 1982 | 2465 | 2949 | 3432 | 3915 | 4399 | 4882 | 5366 | 5850 | 6334 | 6818 | 7302 | 7786 | 8270 | 8754 | 9238 | |
| 16 | 2 | 2067 | 2550 | 3033 | 3516 | 4000 | 4483 | 4967 | 5450 | 5934 | 6418 | 6902 | 7386 | 7870 | 8354 | 8838 | | |
| 24 | 3 | 2151 | 2634 | 3117 | | | | 5534 | 6018 | 6502 | 6986 | 7470 | 7954 | 8438 | 8922 | 9406 | 9890 | |
| 32 | 4 | 2236 | 2719 | 3202 | 3685 | | | 5619 | 6102 | 6586 | 7070 | 7554 | 8038 | 8522 | 9006 | 9490 | 9974 | |
| 40 | 5 | 105 (106) 2320 | 2803 | 3286 | 3770 | 4253 | | | | | | | | 8606 | 9090 | 9574 | 0058 | |
| 48 | 6 | 2405 | 2888 | 3371 | 3854 | 4337 | | | | | | | | 8690 | 9174 | 9658 | 0142 | |
| 56 | 7 | 2490 | 2973 | 3456 | 3939 | 4422 | | | | | | | | 8774 | 9258 | 9742 | 0226 | |
| 64 | 8 | 2575 | 3058 | 3541 | 4024 | | | | | | | | | 8859 | 9343 | 9826 | 0311 | |
| 72 | 9 | 2660 | 3143 | 3626 | 4109 | | | | | | | | | 8943 | 9427 | 9911 | 0395 | |
| 80 | 10 | 105 (106) 2745 | 3228 | 3711 | 4194 | | | | | | | | | 9028 | 9511 | 9995 | 0479 | |
| 89 | 11 | 2830 | 3313 | 3796 | 4279 | | | | | | | | | | | | | |
| 97 | 12 | 2915 | 3398 | 3881 | 4364 | | | | | | | | | | | | | |
| 105 | 13 | 3001 | 3483 | 3966 | 4449 | 4932 | 5415 | 5898 | 6381 | 6864 | 7348 | 7831 | 8314 | 8798 | 9282 | 9765 | 0249 | 0733 |
| 113 | 14 | 3086 | 3569 | 4051 | 4534 | 5017 | 5500 | 5983 | 6466 | 6949 | 7433 | 7916 | 8399 | 8883 | 9366 | 9850 | 0334 | 0818 |
| 121 | 15 | 105 (106) 3172 | 3654 | 4137 | 4620 | 5102 | 5585 | 6068 | 6551 | 7034 | 7518 | 8001 | 8484 | 8968 | 9451 | 9935 | 0419 | 0902 |
| 129 | 16 | 3257 | 3740 | 4222 | 4705 | 5188 | 5671 | 6154 | | | | | | | | | | |
| 137 | 17 | 3343 | 3825 | 4308 | 4790 | 5273 | 5756 | | | | | | | | | | | |
| 145 | 18 | 3428 | 3911 | 4393 | 4876 | 5359 | | | | | | | | | | | | |
| 153 | 19 | 3514 | 3997 | 4479 | 4960 | 5444 | | | | | | | | | | | | |
| 161 | 20 | 105 (106) 3600 | 4083 | 4565 | 5047 | 5530 | | | | | | | | | | | | |
| 169 | 21 | 3686 | 4168 | 4651 | 5133 | 5616 | | | | | | | | | | | | |
| 177 | 22 | 3772 | 4254 | 4737 | 5220 | 5702 | | | | | | | | | | | | |
| 185 | 23 | 3858 | 4340 | 4823 | 5305 | 5788 | | | | | | | | | | | | |
| 193 | 24 | 3944 | 4427 | 4909 | 5391 | 5874 | | | | | | | | | | | | |
| 201 | 25 | 105 (106) 4031 | 4513 | 4995 | 5477 | | | | | | | | | | | | | |
| 209 | 26 | 4117 | 4599 | 5081 | 5564 | | | | | | | | | | | | | |
| 217 | 27 | 4204 | 4686 | 5168 | 5650 | | | | | | | | | | | | | |
| 225 | 28 | 4290 | 4772 | 5254 | 5736 | | | | | | | | | | | | | |
| 233 | 29 | 4377 | 4859 | 5341 | 5823 | | | | | | | | | | | | | |
| 241 | 30 | 105 (106) 4463 | 4945 | 5427 | 5909 | | | | | | | | | | | | | |
| 249 | 31 | 4550 | 5032 | 5514 | 5996 | | | | | | | | | | | | | |
| 257 | 32 | 4637 | 5119 | 5601 | 6083 | | | | | | | | | | | | | |
| 265 | 33 | 4724 | 5206 | 5688 | | | | | | | | | | | | | | |
| 273 | 34 | 4811 | 5293 | 5774 | | | | | | | | | | | | | | |
| 281 | 35 | 105 (106) 4898 | 5384 | 5861 | | | | | | | | | | | | | | |
| 289 | 36 | 4985 | 5467 | 5949 | | | | | | | | | | | | | | |
| 297 | 37 | 5072 | 5554 | | | | | | | | | | | | | | | |
| 306 | 38 | 5160 | 5641 | | | | | | | | | | | | | | | |
| 314 | 39 | 5247 | 5726 | | | | | | | | | | | | | | | |
| 322 | 40 | 105 (106) 5335 | | | | | | | | | | | | | | | | |
| 330 | 41 | 5422 | | | | | | | | | | | | | | | | |
| 338 | 42 | 5510 | | | | | | | | | | | | | | | | |
| 346 | 43 | 5597 | | | | | | | | | | | | | | | | |
| 354 | 44 | 5685 | | | | | | | | | | | | | | | | |
| 362 | 45 | 105 (106) 5773 | | | | | | | | | | | | | | | | |
| 370 | 46 | 5861 | | | | | | | | | | | | | | | | |
| 378 | 47 | 5949 | 6430 | 6912 | 7393 | 7874 | 8356 | 8837 | 9319 | 9801 | 0283 | 0764 | 1246 | 1728 | 2211 | 2693 | 3175 | 3657 |
| 386 | 48 | | | | | | | | | | | | | | | | | |
| 394 | 49 | | | | | | | | | | | | | | | | | |
| 402 | 50 | 105 (106) 6214 | | | | | | | | | | | | | | | | |
| 410 | 51 | 6302 | | | | | | | | | | | | | | | | |
| 418 | 52 | 6391 | | | | | | | | | | | | | | | | |
| 426 | 53 | 6479 | | | | | | | | | | | | | | | | |
| 434 | 54 | 6568 | | | | | | | | | | | | | | | | |
| 442 | 55 | 105 (106) 6657 | | | | | | | | | | | | | | | | |
| 450 | 56 | 6746 | | | | | | | | | | | | | | | | |
| 458 | 57 | 6834 | | | | | | | | | | | | | | | | |
| 466 | 58 | 6923 | | | | | | | | | | | | | | | | |
| 475 | 59 | 7012 | | | | | | | | | | | | | | | | |

Sums for finding the Corrected Distances

| Parts for Sec. of C. | C. D. 17° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 404 |
| 1 | 1 | |
| 2 | 2 | |
| 3 | 3 | |
| 4 | 4 | |
| 5 | 5 | |
| 6 | 6 | |
| 7 | 7 | |
| 8 | 8 | |
| 9 | 9 | |
| 10 | 10 | 404 |
| 11 | 11 | |
| 12 | 12 | |
| 13 | 13 | |
| 14 | 14 | |
| 15 | 15 | 404 |
| 16 | 16 | |
| 17 | 17 | |
| 18 | 18 | |
| 19 | 19 | |
| 20 | 20 | 404 |
| 21 | 21 | |
| 22 | 22 | |
| 23 | 23 | |
| 24 | 24 | |
| 25 | 25 | 404 |
| 26 | 26 | |
| 27 | 27 | |
| 28 | 28 | |
| 29 | 29 | |
| 30 | 30 | 404 |
| 31 | 31 | |
| 32 | 32 | |
| 33 | 33 | |
| 34 | 34 | |
| 35 | 35 | 404 |
| 36 | 36 | |
| 37 | 37 | |
| 38 | 38 | |
| 39 | 39 | |
| 40 | 40 | 404 |
| 41 | 41 | |
| 42 | 42 | |
| 43 | 43 | |
| 44 | 44 | |
| 45 | 45 | 404 |
| 46 | 46 | |
| 47 | 47 | |
| 48 | 48 | |
| 49 | 49 | |
| 50 | 50 | 404 |
| 51 | 51 | |
| 52 | 52 | |
| 53 | 53 | |
| 54 | 54 | |
| 55 | 55 | 404 |
| 56 | 56 | |

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C.S.A | C.S.A 18° | Numbers |
|---|---|---|
| 0 | 0 | 0000 |
| 1 | 1 | 0134 |
| 2 | 2 | 0269 |
| 3 | 3 | 0404 |
| 4 | 4 | 0539 |
| 5 | 5 | 0675 |
| 6 | 6 | 0811 |
| 7 | 7 | 0947 |
| 8 | 8 | 1084 |
| 9 | 9 | 1221 |
| 10 | 10 | 1358 |
| 11 | 11 | 1496 |
| 12 | 12 | 1634 |
| 13 | 13 | 1773 |
| 14 | 14 | 1912 |
| 15 | 15 | 2051 |
| 16 | 16 | 2191 |
| 17 | 17 | 2331 |
| 18 | 18 | 2472 |
| 19 | 19 | 2613 |
| 20 | 20 | 2755 |
| 21 | 21 | 2897 |
| 22 | 22 | 3040 |
| 23 | 23 | 3183 |
| 24 | 24 | 3327 |
| 25 | 25 | 3471 |
| 26 | 26 | 3616 |
| 27 | 27 | 3761 |
| 28 | 28 | 3907 |
| 29 | 29 | 4053 |
| 30 | 30 | 4200 |
| 31 | 31 | 4347 |
| 32 | 32 | 4495 |
| 33 | 33 | 4643 |
| 34 | 34 | 4792 |
| 35 | 35 | 4942 |
| 36 | 36 | 5092 |
| 37 | 37 | 5243 |
| 38 | 38 | 5394 |
| 39 | 39 | 5546 |
| 40 | 40 | 5699 |
| 41 | 41 | 5852 |
| 42 | 42 | 6006 |
| 43 | 43 | 6161 |
| 44 | 44 | 6316 |
| 45 | 45 | 6472 |
| 46 | 46 | 6629 |
| 47 | 47 | 6787 |
| 48 | 48 | 6945 |
| 49 | 49 | 7104 |
| 50 | 50 | 7264 |
| 51 | 51 | 7425 |
| 52 | 52 | 7586 |
| 53 | 53 | 7748 |
| 54 | 54 | 7911 |
| 55 | 55 | 8075 |
| 56 | 56 | 8240 |
| 57 | 57 | 8405 |
| 58 | 58 | 8571 |
| 59 | 59 | 8738 |
| 60 | 60 | 8906 |

| Parts for Seconds of Auxil. Angles | Arg. & A. D. 18° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 104(105) 8943 | 9423 | 9902 | 0381 | 0861 | 1340 | 1820 | 2300 | 2779 | 3259 | 3739 | 4219 | 4698 | 5178 | 5658 | 6138 | 6618 |
| 8 | 1 | | 9383 | 9863 | 0342 | 0821 | 1301 | 1780 | 2260 | 2740 | 3220 | 3699 | 4179 | 4659 | 5139 | 5619 | 6099 | 6579 |
| 16 | 2 | | 9343 | 9823 | 0302 | 0782 | 1261 | 1741 | 2221 | 2700 | 3180 | 3660 | 4140 | 4620 | 5100 | 5580 | 6060 | 6540 |
| 24 | 3 | | 9303 | 9783 | 0263 | 0742 | 1222 | 1701 | 2181 | 2661 | 3141 | 3621 | 4101 | 4581 | 5061 | 5541 | 6021 | 6501 |
| 32 | 4 | | 9304 | 9783 | 0262 | 0741 | 1220 | 1700 | 2179 | 2659 | 3138 | 3618 | 4098 | 4577 | 5057 | 5537 | 6017 | 6498 | 6978 |
| 40 | 5 | 104(105) | 9264 | 9743 | 0223 | 0702 | 1181 | 1660 | 2140 | 2619 | 3099 | 3578 | 4058 | 4537 | 5017 | 5497 | 5977 | 6457 | 6937 |
| 48 | 6 | | 9224 | 9703 | 0183 | 0662 | 1141 | 1620 | 2100 | 2579 | 3059 | 3538 | 4018 | 4497 | 4977 | 5457 | 5937 | 6417 | 6897 |
| 56 | 7 | | 9184 | 9663 | 0143 | 0622 | 1101 | 1580 | 2060 | 2539 | 3019 | 3498 | 3978 | 4457 | 4937 | 5417 | 5896 | 6376 | 6856 | 7336 |
| 64 | 8 | | 9145 | 9624 | 0104 | 0583 | 1062 | 1541 | 2021 | 2500 | 2980 | 3459 | 3939 | 4418 | 4898 | 5378 | 5858 | 6337 | 6817 | 7297 |
| 72 | 9 | | 9105 | 9584 | 0064 | 0543 | 1022 | 1502 | 1981 | 2461 | 2940 | 3420 | 3899 | 4379 | 4858 | 5338 | 5818 | 6298 | 6778 | 7258 |
| 80 | 10 | 104(105) | 9065 | 9545 | 0025 | 0504 | 0983 | 1463 | 1942 | 2422 | 2901 | 3381 | 3860 | 4340 | 4819 | 5299 | 5779 | 6259 | 6739 | 7219 |
| 88 | 11 | | 9025 | 9505 | 9985 | 0464 | 0944 | 1423 | 1903 | 2382 | 2862 | 3341 | 3821 | 4300 | 4780 | 5260 | 5740 | 6220 | 6700 | 7180 |
| 96 | 12 | 105 | 8986 | 9466 | 9945 | 0425 | 0904 | 1384 | 1863 | 2343 | 2822 | 3302 | 3781 | 4261 | 4741 | 5221 | 5701 | 6181 | 6661 | 7141 |
| 104 | 13 | | 8946 | 9426 | 9906 | 0385 | 0865 | 1344 | 1824 | 2303 | 2783 | 3263 | 3742 | 4222 | 4702 | 5182 | 5662 | 6142 | 6622 | 7102 |
| 112 | 14 | | 8906 | 9386 | 9866 | 0346 | 0825 | 1305 | 1784 | 2264 | 2744 | 3223 | 3703 | 4183 | 4663 | 5143 | 5623 | 6103 | 6583 | 7063 |
| 120 | 15 | 105 | 8867 | 9347 | 9826 | 0306 | 0786 | 1265 | 1745 | 2225 | 2704 | 3184 | 3664 | 4144 | 4624 | 5104 | 5584 | 6064 | 6544 | 7024 |
| 128 | 16 | | 8827 | 9307 | 9787 | 0267 | 0746 | 1226 | 1706 | 2185 | 2665 | 3145 | 3625 | 4105 | 4585 | 5065 | 5545 | 6025 | 6505 | 6985 |
| 136 | 17 | | 8788 | 9268 | 9747 | 0227 | 0707 | 1187 | 1666 | 2146 | 2626 | 3106 | 3586 | 4066 | 4546 | 5026 | 5506 | 5986 | 6466 | 6946 |
| 144 | 18 | | 0574 | 1053 | 1531 | 2010 | 2489 | 2967 | 3446 | 3925 | 4404 | 4883 | 5362 | 5841 | 6321 | 6800 | 7279 | 7759 | 8238 |
| 152 | 19 | | 0666 | 1144 | 1623 | 2101 | 2580 | 3058 | 3537 | 4016 | 4495 | 4974 | 5453 | 5932 | 6411 | 6891 | 7370 | 7849 | 8329 |
| 159 | 20 | 105 | 0757 | 1236 | 1714 | 2193 | 2671 | 3150 | 3628 | 4107 | 4585 | 5065 | 5544 | 6023 | 6502 | 6981 | 7460 | 7939 | 8418 |
| 168 | 21 | | 0849 | 1327 | 1805 | 2284 | 2762 | 3241 | 3720 | 4198 | 4677 | 5156 | 5635 | 6114 | 6593 | 7072 | 7552 | 8031 | 8510 |
| 175 | 22 | | 0940 | 1419 | 1897 | 2375 | 2854 | 3332 | 3811 | 4289 | 4768 | 5247 | 5726 | 6205 | 6684 | 7163 | 7643 | 8122 | 8601 |
| 183 | 23 | | 1032 | 1511 | 1989 | 2467 | 2945 | 3424 | 3902 | 4381 | 4860 | 5339 | 5817 | 6296 | 6775 | 7255 | 7734 | 8213 | 8693 |
| 191 | 24 | | 1124 | 1602 | 2080 | 2558 | 3037 | 3515 | 3994 | 4472 | 4951 | 5430 | 5909 | 6388 | 6867 | 7346 | 7825 | 8304 | 8783 |
| 199 | 25 | 105 | 1216 | 1694 | 2173 | 2652 | 3129 | 3608 | 4086 | 4565 | 5043 | 5521 | 6000 | 6479 | 6958 | 7437 | 7916 | 8395 | 8874 |
| 207 | 26 | | 1308 | 1787 | 2264 | 2742 | 3220 | 3699 | 4177 | 4656 | 5134 | 5613 | 6092 | 6570 | 7049 | 7528 | 8007 | 8486 | 8965 |
| 215 | 27 | | 1400 | 1878 | 2356 | 2834 | 3312 | 3790 | 4269 | 4747 | 5226 | 5704 | 6183 | 6661 | 7141 | 7620 | 8099 | 8577 | 9056 |
| 223 | 28 | | 1492 | 1970 | 2448 | 2926 | 3404 | 3882 | 4361 | 4839 | 5318 | 5796 | 6275 | 6754 | 7232 | 7711 | 8190 | 8669 | 9148 |
| 231 | 29 | | 1584 | 2062 | 2540 | 3018 | 3496 | 3974 | 4453 | 4931 | 5409 | 5888 | 6367 | 6845 | 7324 | 7803 | 8282 | 8761 | 9240 |
| 239 | 30 | 105 | 1676 | 2154 | 2632 | 3110 | 3588 | 4066 | 4545 | 5023 | 5501 | 5980 | 6458 | 6937 | 7415 | 7894 | 8373 | 8852 | 9331 |
| 247 | 31 | | 1769 | 2246 | 2724 | 3202 | 3680 | 4158 | 4637 | 5115 | 5593 | 6072 | 6550 | 7028 | 7507 | 7986 | 8465 | 8944 | 9423 |
| 255 | 32 | | 1861 | 2339 | 2817 | 3295 | 3773 | 4251 | 4729 | 5207 | 5685 | 6164 | 6642 | 7121 | 7599 | 8078 | 8557 | 9036 | 9515 |
| 263 | 33 | | 1954 | 2431 | 2909 | 3387 | 3865 | 4343 | 4821 | 5299 | 5777 | 6255 | 6734 | 7212 | 7691 | 8170 | 8649 | 9127 | 9606 |
| 271 | 34 | | 2046 | 2524 | 3002 | 3479 | 3957 | 4435 | 4913 | 5391 | 5869 | 6347 | 6826 | 7304 | 7783 | 8262 | 8741 | 9219 | 9698 |
| 279 | 35 | 105 | 2139 | 2616 | 3094 | 3572 | 4050 | 4528 | 5006 | 5484 | 5962 | 6440 | 6918 | 7397 | 7875 | 8354 | 8833 | 9311 | 9790 |
| 287 | 36 | | 2232 | 2709 | 3187 | 3664 | 4142 | 4620 | 5098 | 5576 | 6054 | 6532 | 7011 | 7489 | 7967 | 8446 | 8925 | 9403 | 9882 |
| 295 | 37 | | 2324 | 2802 | 3279 | 3757 | 4235 | 4713 | 5191 | 5669 | 6147 | 6625 | 7103 | 7582 | 8060 | 8539 | 9018 | 9496 | 9975 |
| 303 | 38 | 105 (106) | 2417 | 2895 | 3372 | 3850 | 4328 | 4806 | 5284 | 5762 | 6240 | 6718 | 7196 | 7675 | 8153 | 8632 | 9111 | 9589 | 0068 |
| 311 | 39 | | 2510 | 2987 | 3465 | 3943 | 4421 | 4899 | 5377 | 5855 | 6333 | 6811 | 7289 | 7768 | 8246 | 8725 | 9204 | 9682 | 0161 |
| 319 | 40 | 105 (106) | 2603 | 3081 | 3558 | 4036 | 4514 | 4992 | 5470 | 5948 | 6426 | 6904 | 7382 | 7861 | 8339 | 8818 | 9297 | 9775 | 0254 |
| 327 | 41 | | 2696 | 3174 | 3651 | 4129 | 4607 | 5085 | 5563 | 6041 | 6519 | 6997 | 7475 | 7954 | 8432 | 8911 | 9390 | 9868 | 0347 |
| 335 | 42 | | 2790 | 3267 | 3744 | 4222 | 4700 | 5177 | 5655 | 6133 | 6611 | 7089 | 7568 | 8046 | 8525 | 9004 | 9482 | 9961 | 0440 |
| 343 | 43 | | 2883 | 3360 | 3838 | 4315 | 4793 | 5270 | 5748 | 6226 | 6704 | 7182 | 7661 | 8139 | 8618 | 9097 | 9575 | 0054 | 0533 |
| 351 | 44 | | 2976 | 3454 | 3931 | 4408 | 4886 | 5363 | 5841 | 6319 | 6797 | 7275 | 7754 | 8232 | 8711 | 9190 | 9668 | 0147 | 0626 |
| 359 | 45 | 105 (106) | 3070 | 3547 | 4024 | 4501 | 4979 | 5456 | 5934 | 6412 | 6890 | 7368 | 7847 | 8325 | 8804 | 9283 | 9761 | 0240 | 0719 |
| 367 | 46 | | 3163 | 3640 | 4117 | 4594 | 5072 | 5549 | 6027 | 6505 | 6983 | 7461 | 7940 | 8418 | 8897 | 9376 | 9854 | 0333 | 0812 |
| 375 | 47 | | 3257 | 3734 | 4211 | 4688 | 5166 | 5643 | 6120 | 6598 | 7076 | 7553 | 8031 | 8509 | 8987 | 9465 | 9943 | 0421 | 0899 |
| 383 | 48 | | 3351 | 3827 | 4304 | 4781 | 5259 | 5736 | 6214 | 6692 | 7169 | 7647 | 8125 | 8603 | 9081 | 9559 | 0037 | 0515 | 0993 |
| 391 | 49 | | 3444 | 3921 | 4398 | 4875 | 5352 | 5830 | 6307 | 6785 | 7263 | 7741 | 8219 | 8697 | 9175 | 9653 | 0131 | 0609 | 1087 |
| 399 | 50 | 105(106) | 3538 | 4015 | 4492 | 4969 | 5446 | 5924 | 6401 | 6878 | 7356 | 7834 | 8312 | 8790 | 9268 | 9746 | 0224 | 0702 | 1180 |
| 407 | 51 | | 3632 | 4109 | 4586 | 5063 | 5540 | 6017 | 6495 | 6972 | 7449 | 7927 | 8405 | 8883 | 9361 | 9839 | 0317 | 0795 | 1273 |
| 415 | 52 | | 3726 | 4203 | 4680 | 5157 | 5634 | 6111 | 6589 | 7066 | 7543 | 8021 | 8499 | 8977 | 9455 | 9933 | 0411 | 0889 | 1367 |
| 423 | 53 | | 3820 | 4297 | 4774 | 5251 | 5728 | 6205 | 6683 | 7160 | 7638 | 8116 | 8593 | 9071 | 9549 | 0027 | 0505 | 0983 | 1461 |
| 431 | 54 | | 3914 | 4391 | 4868 | 5345 | 5822 | 6300 | 6777 | 7255 | 7732 | 8210 | 8688 | 9166 | 9644 | 0122 | 0600 | 1078 | 1556 |
| 439 | 55 | 105 (106) | 4009 | 4486 | 4962 | 5439 | 5916 | 6393 | 6870 | 7347 | 7824 | 8302 | 8779 | 9257 | 9734 | 0212 | 0689 | 1167 | 1645 |
| 447 | 56 | | 4103 | 4580 | 5057 | 5534 | 6011 | 6488 | 6965 | 7442 | 7919 | 8397 | 8874 | 9352 | 9829 | 0307 | 0784 | 1262 | 1740 |
| 455 | 57 | | 4197 | 4674 | 5151 | 5628 | 6105 | 6582 | 7059 | 7536 | 8014 | 8491 | 8969 | 9447 | 9924 | 0402 | 0879 | 1357 | 1835 |
| 463 | 58 | | 4291 | 4768 | 5245 | 5722 | 6199 | 6676 | 7153 | 7631 | 8108 | 8586 | 9063 | 9541 | 0019 | 0497 | 0974 | 1452 | 1930 |
| 471 | 59 | | 4385 | 4862 | 5339 | 5816 | 6293 | 6770 | 7248 | 7725 | 8203 | 8680 | 9158 | 9636 | 0113 | 0591 | 1069 | 1547 | 2025 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Diff. of Auxil. Argum. | Auxil. Arg. 18′ | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ | Diff. of Sums | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | | |
| | 0 | 105 (1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0467 | 0948 | 1429 | 1910 | 2392 | [illegible] | [illegible] | [illegible] | 4315 | [illegible] | 0 | 0 |
| 8 | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1 | 0481 |
| 16 | 2 | 7279 | 7760 | 8240 | 8721 | 9202 | 9683 | 0164 | 0645 | 1126 | 1607 | 2088 | 2569 | 305[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2 | 0962 |
| 24 | 3 | 7369 | 7849 | 8330 | 8810 | 9291 | 9772 | 0253 | 0734 | 1215 | 1696 | 2177 | 2658 | 3138 | [illegible] | [illegible] | [illegible] | [illegible] | 3 | 1443 |
| 32 | 4 | 7458 | 7938 | 8419 | 8900 | 9380 | 9861 | 0342 | 0823 | 1304 | 1785 | 2266 | 2747 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4 | 1924 |
| 40 | 5 | 105 (1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5 | 2405 |
| 48 | 6 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6 | 2886 |
| 56 | 7 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7 | 3367 |
| 64 | 8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8 | 3848 |
| 72 | 9 | 7900 | 0380 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9 | 4329 |
| 80 | 10 | 105 (106) 7996 | 8476 | 8956 | 9437 | 9917 | 0398 | 0878 | 1359 | 1839 | 2320 | 2801 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 10 | 4810 |
| 88 | 11 | 8086 | 8566 | 9046 | 9527 | 0007 | 0487 | 0968 | 1448 | 1929 | 2410 | 289[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 11 | 5291 |
| 96 | 12 | 8176 | 8656 | 9136 | 9616 | 0097 | 0577 | 1057 | 1538 | 2019 | 2499 | 298[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12 | 5772 |
| 104 | 13 | 8266 | 8746 | 9226 | 9706 | 0187 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 13 | 6253 |
| 112 | 14 | 8356 | 8836 | 9316 | 9797 | 0277 | 0757 | 1237 | 1718 | 2198 | 2679 | 315[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 14 | 6734 |
| 120 | 15 | 105 (106) 8447 | 8927 | 9407 | 9887 | 0367 | 0847 | 1327 | 1808 | 2288 | 2769 | 3249 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 15 | 7215 |
| 128 | 16 | 8537 | 9017 | 9497 | 9977 | 0457 | 0937 | 1417 | 1898 | 2378 | 2859 | 333[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 16 | 7696 |
| 136 | 17 | 8628 | 9107 | 9587 | 0067 | 0547 | 1027 | 1508 | 1988 | 2468 | 2949 | 34[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 17 | 8177 |
| 144 | 18 | 8718 | 9198 | 9678 | 0158 | 0638 | 1118 | 1598 | 2078 | 2558 | 3039 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 18 | 8658 |
| 152 | 19 | 8809 | 9288 | 9768 | 0248 | 0728 | 1208 | 1688 | 2168 | 2649 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 19 | 9139 |
| 160 | 20 | 105 (106) 8899 | 9379 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 20 | 9620 |
| 168 | 21 | 8990 | 0470 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 21 | 0101 |
| 176 | 22 | 9081 | 9560 | 0040 | 0520 | 1000 | 1480 | 1959 | 2440 | 2920 | 3400 | 3880 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 22 | 0582 |
| 184 | 23 | 9172 | 9651 | 0131 | 0611 | 1090 | 1570 | 2050 | 2530 | 3010 | 3490 | 3971 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 23 | 1063 |
| 192 | 24 | 9263 | 9742 | 0222 | 0701 | 1181 | 1661 | 2141 | 2621 | 3101 | 3581 | 4061 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24 | 1544 |
| 200 | 25 | 105 (106) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 25 | 2025 |
| 208 | 26 | 9445 | 9924 | 0404 | 0883 | 1363 | 1843 | 2322 | 2802 | 3282 | 3762 | 4242 | 4723 | 5203 | 5683 | 6164 | 6644 | 7125 | 40 | 26 | 1364 |
| 216 | 27 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 27 | 1844 |
| 224 | 28 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 28 | 2325 |
| 232 | 29 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 29 | 2805 |
| 240 | 30 | 105 (106) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 30 | 3285 |
| 248 | 31 | 9902 | 0381 | 0860 | 1340 | 1819 | 2298 | 2778 | 3258 | 5737 | 4217 | 4697 | 5177 | 5657 | 6137 | 6617 | 7097 | 7578 | 48 | 31 | 1769 |
| 256 | 32 | 9994 | 0473 | 0952 | 1431 | 1910 | 2390 | 2869 | 3349 | 3829 | 4308 | 4788 | 5268 | 5748 | 6228 | 6708 | 7188 | 7669 | 49 | 32 | 1861 |
| 264 | 33 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 51 | 33 | 1954 |
| 272 | 34 | 0177 | 0656 | 1135 | 1614 | 2094 | 2573 | 3052 | 3532 | 4011 | 4491 | 4971 | 5451 | 5930 | 6410 | 6890 | [illegible] | [illegible] | 52 | 34 | [illegible] |
| 280 | 35 | 106 0269 | 0748 | 1227 | 1706 | 2185 | 2664 | 3144 | 3623 | 4103 | 4582 | 5062 | 5542 | 602[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 54 | 35 | [illegible] |
| 288 | 36 | 0361 | 0840 | 1319 | 1798 | 2277 | 2756 | 3236 | 3715 | 4194 | 4674 | 5154 | 5633 | 6113 | 0593 | 1073 | 1553 | 2033 | 55 | 36 | [illegible] |
| [illegible] | 37 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 57 | 37 | [illegible] |
| [illegible] | 38 | 0545 | 1024 | 1502 | 1982 | 2461 | 2940 | 3419 | 3898 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 59 | 38 | [illegible] |
| 312 | 39 | 0637 | 1116 | 1595 | 2074 | 2553 | 3032 | 3511 | 3990 | 4470 | 4949 | 5429 | 5908 | 6388 | 6867 | 7347 | 7827 | 8307 | 60 | 39 | [illegible] |
| 320 | 40 | 106 0729 | 1208 | 1687 | 21[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 61 | 40 | [illegible] |
| 328 | 41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 62 | 41 | [illegible] |
| 336 | 42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 63 | 42 | [illegible] |
| 344 | 43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 64 | 43 | [illegible] |
| 352 | 44 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 65 | 44 | [illegible] |
| 360 | 45 | 106 1192 | 1670 | 2149 | 2628 | 3106 | 3585 | 4064 | 4543 | 5022 | 5501 | 5980 | 0460 | 0939 | 7410 | 7889 | 8378 | 8857 | 66 | 45 | [illegible] |
| 368 | 46 | 1285 | 1763 | 2242 | 2720 | 3199 | 3678 | 4157 | 4635 | 5115 | 5594 | 6073 | 0552 | 7031 | 7511 | 7990 | 8470 | 8949 | 71 | 46 | [illegible] |
| 376 | 47 | 1378 | 1856 | 2334 | 2813 | 3292 | 3770 | 4249 | 4728 | 5207 | 5686 | 6165 | 6644 | 7124 | 7603 | 8082 | 8562 | 9041 | 72 | 47 | [illegible] |
| [illegible] | 48 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 74 | 48 | [illegible] |
| 392 | 49 | 1563 | 2042 | 2520 | 2999 | 3477 | 3956 | 4434 | 4913 | 5392 | 5871 | 6350 | 6829 | 7308 | 7787 | 8267 | 8746 | 9226 | 76 | 49 | [illegible] |
| [illegible] | 50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4049 | 4527 | 5006 | 5485 | 5964 | 6443 | 0922 | 7401 | 7880 | 8359 | 8839 | 9318 | 77 | 50 | 405 | 3 |
| [illegible] | 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 78 | 51 | [illegible] | [illegible] |
| [illegible] | 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 79 | 52 | [illegible] | [illegible] |
| [illegible] | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 80 | 53 | [illegible] | [illegible] |
| 432 | 54 | 2030 | 2508 | 2986 | 3464 | 3942 | 4421 | 4899 | 5378 | 5856 | 6335 | 6814 | 7293 | 7771 | 8250 | 8730 | 9209 | 9688 | 83 | 54 | 3915 |
| [illegible] | 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 84 | 55 | [illegible] | [illegible] |
| [illegible] | 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 86 | 56 | [illegible] | [illegible] |
| [illegible] | 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 87 | 57 | [illegible] | [illegible] |
| 464 | 58 | 106 (107) 2404 | 2882 | 3360 | 3838 | 4316 | 4794 | 5272 | 5751 | 6229 | 670[illegible] | 7186 | 7665 | 8144 | 8622 | 9101 | 9580 | 0059 | 89 | 58 | 4292 |
| [illegible] | 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 90 | 59 | [illegible] | [illegible] |

## Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C.S.A. additive | C.S.A. 19° | Numbers |
|---|---|---|
| 92 | 0 | 195 0067 |
| 91 | 1 | 0877 |
| 89 | 2 | 0786 |
| 88 | 3 | 0696 |
| 86 | 4 | 0606 |
| 85 | 5 | 195 0516 |
| 83 | 6 | 0425 |
| 82 | 7 | 0335 |
| 80 | 8 | 0244 |
| 79 | 9 | 0154 |
| 77 | 10 | 195 0063 |
| 76 | 11 | 194 9972 |
| 74 | 12 | 9881 |
| 73 | 13 | 9790 |
| 71 | 14 | 9699 |
| 70 | 15 | 194 9608 |
| 68 | 16 | 9517 |
| 67 | 17 | 9425 |
| 65 | 18 | 9334 |
| 63 | 19 | 9243 |
| 62 | 20 | 194 9151 |
| 60 | 21 | 9059 |
| 59 | 22 | 8968 |
| 57 | 23 | 8876 |
| 55 | 24 | 8784 |
| 54 | 25 | 194 8692 |
| 52 | 26 | 8600 |
| 51 | 27 | 8508 |
| 49 | 28 | 8416 |
| 48 | 29 | 8324 |
| 46 | 30 | 194 8231 |
| 45 | 31 | 8139 |
| 43 | 32 | 8046 |
| 42 | 33 | 7954 |
| 40 | 34 | 7861 |
| 39 | 35 | 194 7768 |
| 37 | 36 | 7676 |
| 35 | 37 | 7583 |
| 34 | 38 | 7490 |
| 32 | 39 | 7397 |
| 31 | 40 | 194 7304 |
| 29 | 41 | 7210 |
| 28 | 42 | 7117 |
| 26 | 43 | 7024 |
| 25 | 44 | 6930 |
| 23 | 45 | 194 6837 |
| 22 | 46 | 6743 |
| 20 | 47 | 6649 |
| 18 | 48 | 6555 |
| 17 | 49 | 6462 |
| 15 | 50 | 194 6368 |
| 14 | 51 | 6274 |
| 12 | 52 | 6180 |
| 11 | 53 | 6085 |
| 9 | 54 | 5991 |
| 8 | 55 | 194 5897 |
| 6 | 56 | 5802 |
| 5 | 57 | 5708 |
| 3 | 58 | 5613 |
| 2 | 59 | 5519 |

## Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- and Auxiliary Arguments.

| Parts for Seconds of Auxil. Argum. additive | S.A.A. & A.D. 19° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 105 (106) 4481 | 4958 | 5434 | 5911 | 6388 | 6864 | 7341 | 7818 | 8295 | 8772 | 9249 | 9726 | 0202 | 0681 | 1156 | 1630 | 2114 |
| 8 | 1 | | 4576 | 5052 | 5529 | 6005 | 6482 | 6959 | 7436 | 7913 | 8390 | 8866 | 9344 | 9821 | 0298 | 0775 | 1253 | 1730 | 2208 |
| 16 | 2 | | 4671 | 5147 | 5624 | 6100 | 6577 | 7053 | 7530 | 8007 | 8484 | 8961 | 9438 | 9915 | 0392 | 0869 | 1347 | 1824 | 2302 |
| 24 | 3 | | 4766 | 5242 | 5719 | 6195 | 6671 | 7148 | 7625 | 8101 | 8578 | 9055 | 9532 | 0009 | 0487 | 0964 | 1441 | 1918 | 2396 |
| 32 | 4 | | 4861 | 5337 | 5813 | 6290 | 6766 | 7243 | 7719 | 8196 | 8673 | 9150 | 9627 | 0104 | 0581 | 1058 | 1535 | 2013 | 2490 |
| 40 | 5 | 105 (106) | 4956 | 5432 | 5908 | 6385 | 6861 | 7338 | 7814 | 8291 | 8768 | 9244 | 9721 | 0198 | 0675 | 1153 | 1630 | 2107 | 2584 |
| 48 | 6 | | 5051 | 5527 | 6003 | 6480 | 6956 | 7433 | 7909 | 8386 | 8862 | 9339 | 9816 | 0293 | 0770 | 1247 | 1724 | 2201 | 2679 |
| 55 | 7 | | 5146 | 5622 | 6098 | 6575 | 7051 | 7528 | 8004 | 8481 | 8957 | 9434 | 9911 | 0388 | 0865 | 1342 | 1819 | 2296 | 2773 |
| 63 | 8 | | 5242 | 5718 | 6194 | 6670 | 7147 | 7623 | 8099 | 8576 | 9052 | 9530 | 0006 | 0483 | 0960 | 1436 | 1913 | 2391 | 2868 |
| 71 | 9 | | 5337 | 5813 | 6289 | 6765 | 7241 | 7718 | 8194 | 8671 | 9147 | 9624 | 0101 | 0577 | 1054 | 1531 | 2008 | 2485 | 2962 |
| 79 | 10 | 105 (106) | 5432 | 5908 | 6384 | 6860 | 7337 | 7813 | 8289 | 8766 | 9242 | 9719 | 0195 | 0672 | 1149 | 1626 | 2103 | 2580 | 3057 |
| 87 | 11 | | 5528 | 6004 | 6480 | 6956 | 7432 | 7908 | 8385 | 8861 | 9337 | 9814 | 0290 | 0767 | 1244 | 1721 | 2198 | 2675 | 3152 |
| 95 | 12 | | 5624 | 6099 | 6575 | 7051 | 7527 | 8004 | 8480 | 8956 | 9433 | 9909 | 0386 | 0862 | 1339 | 1816 | 2293 | 2770 | 3247 |
| 103 | 13 | | 5719 | 6195 | 6671 | 7147 | 7623 | 8099 | 8575 | 9052 | 9528 | 0004 | 0481 | 0957 | 1434 | 1911 | 2388 | 2865 | 3342 |
| 111 | 14 | | 5815 | 6291 | 6767 | 7243 | 7719 | 8195 | 8671 | 9147 | 9623 | 0100 | 0576 | 1053 | 1529 | 2006 | 2483 | 2960 | 3437 |
| 119 | 15 | 105 (106) | 5911 | 6387 | 6862 | 7338 | 7814 | 8290 | 8766 | 9242 | 9719 | 0195 | 0671 | 1148 | 1624 | 2101 | 2577 | 3054 | 3532 |
| 127 | 16 | | 6006 | 6483 | 6958 | 7434 | 7910 | 8386 | 8862 | 9338 | 9814 | 0291 | 0767 | 1243 | 1719 | 2196 | 2672 | 3150 | 3627 |
| 135 | 17 | | 6102 | 6579 | 7054 | 7530 | 8006 | 8482 | 8958 | 9434 | 9910 | 0387 | 0863 | 1339 | 1815 | 2292 | 2768 | 3245 | 3722 |
| 143 | 18 | | 6197 | 6675 | 7150 | 7626 | 8102 | 8578 | 9053 | 9530 | 0006 | 0482 | 0958 | 1435 | 1911 | 2387 | 2864 | 3341 | 3818 |
| 151 | 19 | | 6293 | 6771 | 7246 | 7722 | 8198 | 8674 | 9149 | 9625 | 0101 | 0577 | 1054 | 1530 | 2007 | 2483 | 2960 | 3436 | 3913 |
| 159 | 20 | 105 (106) | 6389 | 6867 | 7342 | 7818 | 8294 | 8770 | 9245 | 9721 | 0197 | 0673 | 1150 | 1626 | 2102 | 2579 | 3055 | 3532 | 4008 |
| 166 | 21 | | 6488 | 6963 | 7439 | 7914 | 8390 | 8866 | 9341 | 9817 | 0293 | 0769 | 1245 | 1722 | 2198 | 2674 | 3151 | 3627 | 4104 |
| 174 | 22 | | 6584 | 7060 | 7535 | 8011 | 8486 | 8962 | 9438 | 9913 | 0389 | 0865 | 1341 | 1818 | 2294 | 2770 | 3247 | 3723 | 4200 |
| 182 | 23 | | 6681 | 7156 | 7631 | 8107 | 8582 | 9058 | 9534 | 0010 | 0485 | 0961 | 1437 | 1914 | 2390 | 2866 | 3342 | 3819 | 4295 |
| 190 | 24 | | 6777 | 7253 | 7729 | 8204 | 8680 | 9154 | 9629 | 0106 | 0582 | 1058 | 1534 | 2010 | 2486 | 2963 | 3439 | 3915 | 4391 |
| 198 | 25 | 105 (106) | 6874 | 7349 | 7824 | 8300 | 8775 | 9251 | 9727 | 0202 | 0678 | 1154 | 1630 | 2106 | 2582 | 3058 | 3534 | 4011 | 4487 |
| 206 | 26 | | 6971 | 7446 | 7921 | 8396 | 8872 | 9347 | 9823 | 0299 | 0774 | 1250 | 1726 | 2202 | 2678 | 3154 | 3630 | 4107 | 4583 |
| 214 | 27 | | 7068 | 7543 | 8018 | 8493 | 8969 | 9444 | 9920 | 0396 | 0871 | 1347 | 1822 | 2299 | 2774 | 3250 | 3727 | 4203 | 4679 |
| 222 | 28 | | 7164 | 7641 | 8115 | 8590 | 9066 | 9541 | 0017 | 0493 | 0967 | 1443 | 1919 | 2395 | 2871 | 3347 | 3823 | 4299 | 4775 |
| 230 | 29 | | 7261 | 7737 | 8212 | 8687 | 9163 | 9637 | 0113 | 0589 | 1064 | 1539 | 2015 | 2491 | 2967 | 3443 | 3919 | 4395 | 4871 |
| 238 | 30 | 105 (106) | 7356 | 7833 | 8309 | 8784 | 9260 | 9734 | 0210 | 0685 | 1160 | 1636 | 2112 | 2588 | 3064 | 3539 | 4015 | 4491 | 4966 |
| 246 | 31 | | 7456 | 7933 | 8406 | 8881 | 9356 | 9831 | 0306 | 0782 | 1257 | 1733 | 2208 | 2684 | 3160 | 3636 | 4112 | 4588 | 5064 |
| 254 | 32 | | 7553 | 8029 | 8503 | 8978 | 9453 | 9928 | 0403 | 0878 | 1354 | 1830 | 2305 | 2781 | 3257 | 3733 | 4209 | 4684 | 5160 |
| 262 | 33 | | 7650 | 8125 | 8600 | 9075 | 9550 | 0025 | 0500 | 0976 | 1451 | 1926 | 2402 | 2878 | 3353 | 3830 | 4305 | 4781 | 5257 |
| 270 | 34 | | 7748 | 8222 | 8697 | 9172 | 9647 | 0122 | 0597 | 1073 | 1548 | 2023 | 2499 | 2974 | 3450 | 3926 | 4402 | 4878 | 5354 |
| 277 | 35 | 105 (106) | 7845 | 8320 | 8795 | 9269 | 9744 | 0219 | 0695 | 1170 | 1645 | 2121 | 2597 | 3071 | 3547 | 4023 | 4499 | 4974 | 5450 |
| 285 | 36 | | 7943 | 8417 | 8892 | 9367 | 9841 | 0317 | 0792 | 1267 | 1742 | 2218 | 2693 | 3169 | 3644 | 4120 | 4595 | 5071 | 5547 |
| 293 | 37 | | 8040 | 8515 | 8990 | 9464 | 9938 | 0414 | 0889 | 1364 | 1839 | 2315 | 2790 | 3265 | 3741 | 4217 | 4692 | 5168 | 5644 |
| 301 | 38 | | 8138 | 8612 | 9087 | 9562 | 0037 | 0512 | 0986 | 1461 | 1937 | 2412 | 2887 | 3363 | 3838 | 4314 | 4789 | 5265 | 5741 |
| 309 | 39 | | 8236 | 8710 | 9185 | 9659 | 0134 | 0609 | 1084 | 1559 | 2034 | 2510 | 2985 | 3461 | 3935 | 4411 | 4886 | 5362 | 5838 |
| 317 | 40 | 105 (106) | 8333 | 8808 | 9283 | 9757 | 0232 | 0707 | 1182 | 1657 | 2132 | 2607 | 3082 | 3557 | 4032 | 4507 | 4983 | 5459 | 5935 |
| 325 | 41 | | 8431 | 8906 | 9381 | 9855 | 0330 | 0804 | 1279 | 1754 | 2229 | 2704 | 3179 | 3654 | 4130 | 4605 | 5081 | 5556 | 6032 |
| 333 | 42 | | 8529 | 9004 | 9478 | 9953 | 0427 | 0902 | 1377 | 1852 | 2327 | 2802 | 3277 | 3752 | 4227 | 4703 | 5178 | 5654 | 6129 |
| 341 | 43 | | 8628 | 9102 | 9576 | 0051 | 0525 | 1000 | 1475 | 1950 | 2424 | 2899 | 3374 | 3850 | 4325 | 4800 | 5275 | 5751 | 6226 |
| 349 | 44 | | 8726 | 9200 | 9674 | 0149 | 0623 | 1098 | 1573 | 2047 | 2522 | 2997 | 3472 | 3947 | 4422 | 4898 | 5373 | 5848 | 6324 |
| 357 | 45 | 105 (106) | 8824 | 9300 | 9773 | 0247 | 0721 | 1196 | 1671 | 2145 | 2620 | 3095 | 3570 | 4045 | 4520 | 4995 | 5470 | 5946 | 6421 |
| 365 | 46 | | 8922 | 9396 | 9871 | 0345 | 0820 | 1294 | 1769 | 2243 | 2718 | 3193 | 3668 | 4143 | 4618 | 5093 | 5568 | 6043 | 6519 |
| 373 | 47 | | 9021 | 9495 | 9969 | 0443 | 0918 | 1392 | 1867 | 2341 | 2816 | 3291 | 3766 | 4241 | 4716 | 5191 | 5666 | 6141 | 6616 |
| 380 | 48 | | 9119 | 9593 | 0067 | 0541 | 1016 | 1490 | 1965 | 2439 | 2914 | 3388 | 3864 | 4338 | 4813 | 5288 | 5764 | 6239 | 6714 |
| 388 | 49 | | 9218 | 9692 | 0166 | 0640 | 1114 | 1589 | 2063 | 2538 | 3012 | 3487 | 3962 | 4437 | 4911 | 5386 | 5862 | 6337 | 6812 |
| 396 | 50 | 105 (106) | 9316 | 9790 | 0264 | 0738 | 1213 | 1687 | 2162 | 2636 | 3111 | 3585 | 4060 | 4535 | 5010 | 5484 | 5960 | 6435 | 6910 |
| 404 | 51 | | 9415 | 9889 | 0363 | 0837 | 1311 | 1786 | 2260 | 2734 | 3209 | 3683 | 4158 | 4632 | 5108 | 5583 | 6059 | 6533 | 7008 |
| 412 | 52 | | 9514 | 9988 | 0462 | 0936 | 1410 | 1884 | 2358 | 2833 | 3307 | 3782 | 4256 | 4731 | 5206 | 5681 | 6156 | 6631 | 7106 |
| 420 | 53 | | 9613 | 0088 | 0561 | 1035 | 1509 | 1983 | 2457 | 2931 | 3406 | 3880 | 4355 | 4830 | 5304 | 5779 | 6254 | 6729 | 7204 |
| 428 | 54 | | 9712 | 0187 | 0660 | 1133 | 1607 | 2082 | 2556 | 3030 | 3504 | 3979 | 4453 | 4928 | 5403 | 5877 | 6353 | 6827 | 7302 |
| 436 | 55 | 105 (106) | 9811 | 0287 | 0758 | 1232 | 1706 | 2180 | 2654 | 3128 | 3603 | 4077 | 4552 | 5026 | 5501 | 5976 | 6452 | 6925 | 7400 |
| 444 | 56 | | 9911 | 0384 | 0857 | 1331 | 1805 | 2279 | 2753 | 3227 | 3702 | 4176 | 4650 | 5125 | 5600 | 6074 | 6549 | 7023 | 7499 |
| 452 | 57 | 106 | 0008 | 0483 | 0957 | 1430 | 1904 | 2378 | 2852 | 3326 | 3801 | 4275 | 4749 | 5224 | 5699 | 6173 | 6647 | 7122 | 7597 |
| 460 | 58 | | 0108 | 0582 | 1056 | 1530 | 2003 | 2477 | 2951 | 3425 | 3899 | 4374 | 4848 | 5322 | 5797 | 6271 | 6746 | 7221 | 7695 |
| 468 | 59 | | 0207 | 0681 | 1155 | 1629 | 2103 | 2576 | 3050 | 3524 | 3998 | 4473 | 4947 | 5421 | 5896 | 6370 | 6845 | 7319 | 7794 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distance.

| Parts for Seconds of A. A. & A. D. | A. A. & A. D. 19° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 106 (107) 5913 | 3547 | 3981 | 4415 | 4849 | 5283 | 5717 | 6151 | 6585 | 7019 | 7453 | 7887 | 8321 | 8755 | 9189 | 9623 | 0057 |
| 8 | 1 | 2685 | 3163 | 3641 | 4119 | 4597 | 5075 | 5553 | 6031 | 6509 | 6988 | 7466 | 7945 | 8423 | 8902 | 9381 | 9860 | 0339 |
| 16 | 2 | 2776 | 3257 | 3735 | 4213 | 4691 | 5169 | 5647 | 6125 | 6603 | 7081 | 7559 | 8037 | 8515 | 8993 | 9471 | 9949 | 0427 |
| 24 | 3 | 2873 | 3351 | 3829 | 4307 | 4784 | 5262 | 5740 | 6218 | 6696 | 7175 | 7653 | 8131 | 8609 | 9087 | 9565 | 0043 | 0525 |
| 32 | 4 | 2968 | 3446 | 3924 | 4402 | 4880 | 5358 | 5836 | 6314 | 6792 | 7270 | 7747 | 8225 | 8703 | 9181 | 9659 | 0137 | 0619 |
| 40 | 5 | 106 (107) 3062 | 3539 | 4017 | 4495 | 4973 | 5451 | 5929 | 6407 | 6885 | 7363 | 7841 | 8319 | 8797 | 9275 | 9753 | 0231 | 0712 |
| 48 | 6 | 3156 | 3634 | 4111 | 4589 | 5067 | 5544 | 6022 | 6500 | 6978 | 7457 | 7935 | 8413 | 8891 | 9369 | 9847 | 0325 | 0803 |
| 56 | 7 | 3251 | 3728 | 4206 | 4683 | 5161 | 5638 | 6116 | 6594 | 7072 | 7551 | 8029 | 8507 | 8985 | 9463 | 9941 | 0421 | 0897 |
| 64 | 8 | 3345 | 3822 | 4300 | 4777 | 5255 | 5733 | 6211 | 6689 | 7166 | 7645 | 8123 | 8601 | 9079 | 9557 | 0035 | 0514 | 0993 |
| 72 | 9 | 3441 | 3917 | 4394 | 4872 | 5350 | 5827 | 6305 | 6783 | 7261 | 7739 | 8217 | 8695 | 9173 | 9651 | 0130 | 0608 | 1087 |
| 80 | 10 | 106 (107) 3534 | 4212 | 4690 | 5168 | 5644 | 6122 | 6599 | 7077 | 7555 | 8033 | 8511 | 8989 | 9467 | 9945 | 0424 | 0902 | 1381 |
| 88 | 11 | 3629 | 4106 | 4584 | 5061 | 5538 | 6016 | 6494 | 6972 | 7450 | 7928 | 8406 | 8884 | 9362 | 9840 | 0318 | 0796 | 1275 |
| 96 | 12 | 3724 | 4201 | 4678 | 5156 | 5633 | 6111 | 6588 | 7066 | 7544 | 8021 | 8499 | 8977 | 9455 | 9933 | 0411 | 0889 | 1369 |
| 104 | 13 | 3819 | 4296 | 4773 | 5250 | 5728 | 6205 | 6683 | 7160 | 7638 | 8116 | 8594 | 9072 | 9550 | 0028 | 0506 | 0984 | 1463 |
| 112 | 14 | 3914 | 4391 | 4868 | 5345 | 5823 | 6300 | 6777 | 7255 | 7733 | 8210 | 8688 | 9166 | 9644 | 0122 | 0600 | 1078 | 1557 |
| 120 | 15 | 106 (107) 4009 | 4486 | 4963 | 5440 | 5917 | 6395 | 6872 | 7350 | 7827 | 8305 | 8783 | 9261 | 9739 | 0217 | 0695 | 1173 | 1651 |
| 128 | 16 | 4104 | 4581 | 5058 | 5535 | 6012 | 6490 | 6967 | 7445 | 7922 | 8400 | 8877 | 9355 | 9833 | 0311 | 0789 | 1267 | 1745 |
| 136 | 17 | 4199 | 4676 | 5153 | 5630 | 6107 | 6585 | 7062 | 7540 | 8017 | 8495 | 8972 | 9450 | 9928 | 0406 | 0884 | 1362 | 1840 |
| 144 | 18 | 4294 | 4771 | 5248 | 5725 | 6202 | 6680 | 7157 | 7634 | 8112 | 8589 | 9067 | 9545 | 0022 | 0500 | 0978 | 1456 | 1934 |
| 152 | 19 | 4390 | 4867 | 5343 | 5821 | 6298 | 6775 | 7252 | 7729 | 8207 | 8684 | 9162 | 9640 | 0117 | 0595 | 1073 | 1551 | 2029 |
| 160 | 20 | 106 (107) 4485 | 4962 | 5439 | 5916 | 6393 | 6870 | 7347 | 7824 | 8302 | 8779 | 9257 | 9734 | 0212 | 0690 | 1167 | 1646 | 2124 |
| 168 | 21 | 4581 | 5057 | 5534 | 6011 | 6488 | 6965 | 7442 | 7920 | 8397 | 8874 | 9352 | 9829 | 0307 | 0785 | 1262 | 1740 | 2218 |
| 176 | 22 | 4676 | 5153 | 5630 | 6107 | 6584 | 7061 | 7538 | 8015 | 8492 | 8970 | 9447 | 9924 | 0402 | 0880 | 1357 | 1835 | 2313 |
| 184 | 23 | 4772 | 5249 | 5725 | 6202 | 6679 | 7156 | 7633 | 8110 | 8587 | 9065 | 9542 | 0020 | 0497 | 0975 | 1452 | 1930 | 2408 |
| 192 | 24 | 4868 | 5344 | 5821 | 6298 | 6775 | 7252 | 7729 | 8206 | 8683 | 9161 | 9638 | 0115 | 0592 | 1070 | 1548 | 2025 | 2503 |
| 200 | 25 | 106 (107) 4963 | 5440 | 5917 | 6393 | 6870 | 7347 | 7824 | 8301 | 8778 | 9255 | 9733 | 0210 | 0688 | 1165 | 1643 | 2120 | 2598 |
| 208 | 26 | 5059 | 5536 | 6013 | 6489 | 6966 | 7443 | 7920 | 8397 | 8874 | 9351 | 9828 | 0305 | 0783 | 1260 | 1738 | 2215 | 2693 |
| 216 | 27 | 5155 | 5632 | 6108 | 6585 | 7062 | 7539 | 8015 | 8492 | 8969 | 9446 | 9924 | 0401 | 0878 | 1356 | 1833 | 2311 | 2788 |
| 224 | 28 | 5251 | 5728 | 6204 | 6681 | 7158 | 7634 | 8111 | 8588 | 9065 | 9542 | 0019 | 0496 | 0974 | 1451 | 1929 | 2406 | 2884 |
| 232 | 29 | 5348 | 5824 | 6300 | 6777 | 7254 | 7731 | 8207 | 8684 | 9161 | 9638 | 0115 | 0592 | 1069 | 1547 | 2024 | 2501 | 2979 |
| 240 | 30 | 106 (107) 5444 | 5920 | 6397 | 6873 | 7350 | 7826 | 8303 | 8780 | 9257 | 9734 | 0211 | 0688 | 1165 | 1642 | 2120 | 2597 | 3074 |
| 248 | 31 | 5540 | 6016 | 6493 | 6969 | 7446 | 7922 | 8399 | 8876 | 9353 | 9830 | 0307 | 0784 | 1261 | 1738 | 2215 | 2693 | 3170 |
| 256 | 32 | 5637 | 6113 | 6589 | 7065 | 7542 | 8018 | 8495 | 8972 | 9449 | 9925 | 0402 | 0879 | 1356 | 1834 | 2311 | 2788 | 3266 |
| 264 | 33 | 5733 | 6209 | 6685 | 7162 | 7638 | 8115 | 8591 | 9068 | 9545 | 0021 | 0498 | 0975 | 1452 | 1929 | 2407 | 2884 | 3361 |
| 272 | 34 | 5830 | 6306 | 6782 | 7258 | 7735 | 8211 | 8687 | 9164 | 9641 | 0117 | 0594 | 1071 | 1548 | 2025 | 2503 | 2980 | 3457 |
| 280 | 35 | 106 (107) 5926 | 6402 | 6878 | 7355 | 7831 | 8307 | 8784 | 9260 | 9737 | 0214 | 0690 | 1167 | 1644 | 2121 | 2598 | 3076 | 3553 |
| 288 | 36 | 6023 | 6499 | 6975 | 7451 | 7927 | 8404 | 8880 | 9357 | 9833 | 0310 | 0787 | 1263 | 1740 | 2217 | 2694 | 3172 | 3649 |
| 296 | 37 | 6120 | 6596 | 7072 | 7547 | 8024 | 8500 | 8977 | 9453 | 9930 | 0406 | 0883 | 1360 | 1837 | 2314 | 2790 | 3268 | 3745 |
| 304 | 38 | 6217 | 6692 | 7168 | 7644 | 8121 | 8597 | 9073 | 9550 | 0026 | 0503 | 0979 | 1456 | 1933 | 2410 | 2887 | 3364 | 3841 |
| 312 | 39 | 6313 | 6789 | 7265 | 7741 | 8217 | 8694 | 9170 | 9646 | 0123 | 0599 | 1076 | 1552 | 2029 | 2506 | 2983 | 3460 | 3937 |
| 320 | 40 | 106 (107) 6410 | 6886 | 7362 | 7838 | 8314 | 8790 | 9267 | 9743 | 0219 | 0696 | 1172 | 1649 | 2126 | 2602 | 3079 | 3555 | 4032 |
| 328 | 41 | 6506 | 6983 | 7459 | 7935 | 8411 | 8887 | 9363 | 9840 | 0316 | 0792 | 1269 | 1745 | 2222 | 2699 | 3176 | 3652 | 4129 |
| 336 | 42 | 6602 | 7080 | 7556 | 8032 | 8508 | 8984 | 9460 | 9937 | 0413 | 0889 | 1366 | 1842 | 2319 | 2795 | 3272 | 3749 | 4225 |
| 344 | 43 | 6700 | 7178 | 7653 | 8129 | 8605 | 9081 | 9557 | 0033 | 0510 | 0986 | 1462 | 1939 | 2415 | 2892 | 3369 | 3845 | 4322 |
| 352 | 44 | 6796 | 7275 | 7751 | 8227 | 8702 | 9178 | 9654 | 0130 | 0607 | 1083 | 1559 | 2036 | 2512 | 2989 | 3465 | 3942 | 4419 |
| 360 | 45 | 106 (107) 6893 | 7372 | 7848 | 8324 | 8800 | 9276 | 9751 | 0227 | 0704 | 1180 | 1656 | 2133 | 2609 | 3085 | 3562 | 4038 | 4515 |
| 368 | 46 | 6994 | 7470 | 7945 | 8421 | 8897 | 9373 | 9849 | 0325 | 0801 | 1277 | 1753 | 2229 | 2706 | 3182 | 3659 | 4135 | 4612 |
| 376 | 47 | 7092 | 7567 | 8043 | 8519 | 8994 | 9470 | 9946 | 0422 | 0898 | 1374 | 1850 | 2326 | 2803 | 3279 | 3756 | 4232 | 4709 |
| 384 | 48 | 7188 | 7665 | 8140 | 8616 | 9092 | 9567 | 0043 | 0519 | 0995 | 1471 | 1947 | 2424 | 2900 | 3376 | 3853 | 4329 | 4806 |
| 392 | 49 | 7285 | 7763 | 8239 | 8714 | 9189 | 9665 | 0141 | 0617 | 1092 | 1568 | 2045 | 2521 | 2997 | 3473 | 3950 | 4427 | 4903 |
| 400 | 50 | 106 (107) 7385 | 7860 | 8336 | 8811 | 9287 | 9762 | 0238 | 0714 | 1190 | 1666 | 2142 | 2618 | 3094 | 3570 | 4047 | 4523 | 5000 |
| 408 | 51 | 7483 | 7958 | 8433 | 8909 | 9384 | 9860 | 0336 | 0812 | 1287 | 1763 | 2239 | 2715 | 3191 | 3668 | 4144 | 4620 | 5097 |
| 416 | 52 | 7581 | 8056 | 8531 | 9007 | 9482 | 9958 | 0434 | 0909 | 1385 | 1861 | 2337 | 2813 | 3289 | 3765 | 4241 | 4717 | 5194 |
| 424 | 53 | 7679 | 8154 | 8629 | 9105 | 9580 | 0056 | 0531 | 1007 | 1483 | 1958 | 2434 | 2910 | 3386 | 3862 | 4339 | 4815 | 5291 |
| 432 | 54 | 7777 | 8252 | 8727 | 9203 | 9678 | 0153 | 0629 | 1105 | 1580 | 2056 | 2532 | 3008 | 3484 | 3960 | 4436 | 4913 | 5389 |
| 440 | 55 | 106 (107) 7875 | 8350 | 8825 | 9301 | 9776 | 0251 | 0727 | 1202 | 1678 | 2154 | 2630 | 3105 | 3581 | 4057 | 4534 | 5010 | 5486 |
| 448 | 56 | 7974 | 8449 | 8924 | 9399 | 9874 | 0349 | 0825 | 1300 | 1776 | 2252 | 2727 | 3203 | 3679 | 4155 | 4631 | 5107 | 5583 |
| 456 | 57 | 8072 | 8547 | 9021 | 9497 | 9972 | 0448 | 0923 | 1398 | 1874 | 2349 | 2825 | 3301 | 3777 | 4253 | 4729 | 5205 | 5681 |
| 464 | 58 | 8170 | 8645 | 9120 | 9595 | 0071 | 0546 | 1021 | 1497 | 1972 | 2448 | 2923 | 3399 | 3875 | 4351 | 4827 | 5303 | 5779 |
| 472 | 59 | 8268 | 8744 | 9219 | 9694 | 0169 | 0644 | 1119 | 1595 | 2070 | 2546 | 3021 | 3497 | 3973 | 4448 | 4924 | 5400 | 5875 |

| Parts for Sec. of C. D. addit. | C. D. 19° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 405 4481 |
| 2 | 1 | 4576 |
| 3 | 2 | 4671 |
| 5 | 3 | 4766 |
| 6 | 4 | 4861 |
| 8 | 5 | 405 4956 |
| 10 | 6 | 5051 |
| 11 | 7 | 5146 |
| 13 | 8 | 5242 |
| 15 | 9 | 5337 |
| 16 | 10 | 405 5432 |
| 18 | 11 | 5528 |
| 19 | 12 | 5624 |
| 21 | 13 | 5719 |
| 23 | 14 | 5815 |
| 24 | 15 | 405 5911 |
| 26 | 16 | 6007 |
| 27 | 17 | 6103 |
| 29 | 18 | 6199 |
| 31 | 19 | 6295 |
| 32 | 20 | 405 6391 |
| 34 | 21 | 6488 |
| 36 | 22 | 6584 |
| 37 | 23 | 6681 |
| 39 | 24 | 6777 |
| 40 | 25 | 405 6874 |
| 42 | 26 | 6971 |
| 44 | 27 | 7068 |
| 45 | 28 | 7164 |
| 47 | 29 | 7261 |
| 48 | 30 | 405 7358 |
| 50 | 31 | 7455 |
| 52 | 32 | 7553 |
| 53 | 33 | 7650 |
| 55 | 34 | 7748 |
| 57 | 35 | 405 7845 |
| 58 | 36 | 7943 |
| 60 | 37 | 8041 |
| 61 | 38 | 8139 |
| 63 | 39 | 8237 |
| 65 | 40 | 405 8334 |
| 66 | 41 | 8433 |
| 68 | 42 | 8531 |
| 69 | 43 | 8629 |
| 71 | 44 | 8727 |
| 73 | 45 | 405 8826 |
| 74 | 46 | 8924 |
| 76 | 47 | 9023 |
| 77 | 48 | 9121 |
| 79 | 49 | 9221 |
| 81 | 50 | 405 9320 |
| 82 | 51 | 9419 |
| 84 | 52 | 9518 |
| 86 | 53 | 9617 |
| 87 | 54 | 9717 |
| 89 | 55 | 405 9816 |
| 90 | 56 | 9916 |
| 92 | 57 | 406 0015 |
| 94 | 58 | 0115 |
| 95 | 59 | 0215 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| d | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 100 | | 1254 | 1748 | | | | | | | | | | | | | |
| | | | 1354 | 1825 | | | | | | | | | | | | | |
| | | | 1445 | 1903 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| 1 | 100 | 107 | 1742 | | | | | | | | | | | | | | |
| | | 107 | 1750 | | | | | | | | | | | | | | |
| | | 1475 | | | | | | | | | | | | | | | |
| | | 1 | | | | | | | | | | | | | | | |
| | | 1 | | | | | | | | | | | | | | | |
| 2 | 100 | 1 | 1744 | | | | | | | | | | | | | | |
| | | 1 | | | | | | | | | | | | | | | |
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| | | 2111 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| 3 | 100 | 2515 | 3248 | 3731 | | 4970 | 5145 | | | | | | | | | | |
| | | 2414 | 2887 | | | 4777 | 5250 | | | | | | | | | | |
| | 106 (107) | 2515 | 3988 | | | | 5358 | | 6297 | 6770 | 7243 | 7716 | | | | | |
| | | 2617 | 3089 | 3561 | | 4506 | 4979 | 5451 | | 6397 | 6870 | 7343 | 7817 | | | | |
| | | 2718 | 3190 | | | 4608 | 5080 | 5553 | | 6498 | 6971 | 7444 | 7917 | | | | |
| 4 | 106 (107) | 2819 | 3292 | | | | | | | | | | | | | | |
| | | | | | | 4810 | 5283 | | | | | 7646 | 8119 | 8592 | 9065 | | |
| | | | | | | 4911 | 5384 | | | | | 7747 | 8220 | 8693 | 9166 | | |
| | | 3124 | 3596 | 4068 | 4541 | | | | 6903 | 7376 | 7848 | 8321 | 8794 | 9267 | | | |
| | | | 3698 | 4170 | | | | | 7004 | 7477 | 7950 | 8422 | 8895 | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| | | | | | 4744 | | | | | | | | | | | | |
| | | | | 4374 | | 5311 | | | | | | | | | | | |
| | | | | | | 5420 | 5892 | 6364 | | | | | | | | | |
| | | | | 4577 | | 5534 | | | | | | | | | | | |
| | | | | | | 5636 | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
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| 21 | 59 | 9 | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

| Parts for Seconds of A. & A. D. | S.A.A. & A. D. 20° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 106 (107) | | | | | | | | | | | | | | | | |
| 8 | 1 | | | | | | | | | | | | | | | | | |
| 16 | 2 | | | | | | | | | | | | | | | | | |
| 24 | 3 | | | | | | | | | | | | | | | | | |
| 32 | 4 | | | | | | | | | | | | | | | | | |
| 42 | 5 | 107 (108) | | | | | | | | | | | | | | | | |
| 47 | 6 | | | | | | | | | | | | | | | | | |
| 55 | 7 | | 0524 | 0000 | 0484 | 0058 | 1432 | 1908 | 2382 | 2858 | 3332 | 3808 | 4282 | 4750 | 5234 | 5710 | 6185 | 6661 |
| 63 | 8 | | | | | | | | | | | | | | | | | |
| 71 | 9 | | | | | | | | | | | | | | | | | |
| 79 | 10 | 109 (107) | | | | | | | | | | | | | | | | |
| 87 | 11 | | 9457 | 9931 | 0406 | 0880 | 1355 | 1829 | 2304 | 2779 | 3254 | 3728 | 4203 | 4679 | 5154 | 5629 | 6104 | 6580 | 7055 |
| 95 | 12 | | | | | | | | | | | | | | | | | |
| 103 | 13 | | 9656 | 0131 | 0605 | 1079 | 1554 | 2028 | 2503 | 2977 | 3452 | 3927 | 4402 | 4877 | 5352 | 5827 | 6302 | 6777 | 7253 |
| 111 | 14 | | | | | | | | | | | | | | | | | |
| 119 | 15 | 110 (107) | | | | | | | | | | | | | | | | |
| 127 | 16 | | | | | | | | | | | | | | | | | |
| 134 | 17 | 107 | | | | | | | | | | | | | | | | |
| 142 | 18 | | 0156 | 0630 | 1104 | 1578 | 2052 | 2526 | 3000 | 3475 | 3949 | 4424 | 4898 | 5373 | 5848 | 6323 | 6798 | 7273 | 7748 |
| 150 | 19 | | | | | | | | | | | | | | | | | |
| 158 | 20 | 107 | 0356 | 0830 | 1304 | 1778 | 2252 | 2726 | 3200 | 3674 | 4149 | 4623 | 5098 | 5572 | 6047 | 6522 | 6996 | 7471 | 7946 |
| 166 | 21 | | 0456 | 0930 | 1404 | 1878 | 2352 | 2826 | 3300 | 3774 | 4248 | 4723 | 5197 | 5672 | 6147 | 6621 | 7096 | 7571 | 8046 |
| 174 | 22 | | | | | | | | | | | | | | | | | | |
| 182 | 23 | | 0657 | 1131 | 1604 | 2078 | 2552 | 3026 | 3500 | 3974 | 4448 | 4923 | 5397 | 5872 | 6346 | 6821 | 7295 | 7770 | 8245 |
| 190 | 24 | | 0757 | 1231 | 1705 | 2178 | 2652 | 3126 | 3600 | 4074 | 4549 | 5023 | 5497 | 5971 | 6446 | 6920 | 7395 | 7879 | 8345 |
| 198 | 25 | 107 | 0858 | 1332 | 1805 | 2279 | 2753 | 3227 | 3700 | 4175 | 4649 | 5123 | 5597 | 0071 | 0546 | 7020 | 7495 | 7970 | 8444 |
| 205 | 26 | | 0959 | 1432 | 1906 | 2379 | 2853 | 3327 | 3801 | 4275 | 4749 | 5223 | 5697 | 6171 | 6646 | 7120 | 7595 | 8069 | 8544 |
| 213 | 27 | | 1059 | 1533 | 2006 | 2480 | 2954 | 3427 | 3901 | 4375 | 4849 | 5323 | 5797 | 6272 | 6746 | 7220 | 7695 | 8169 | 8644 |
| 221 | 28 | | | | | | | | | | | | | | | | | | |
| 229 | 29 | | 1261 | 1734 | 2208 | 2681 | 3155 | 3629 | 4102 | 4576 | 5050 | 5524 | 5998 | 6472 | 6946 | 7421 | 7895 | 8370 | 8844 |
| 237 | 30 | 107 | | | | | | | | | | | | | | | | | |
| 245 | 31 | | | | | | | | | | | | | | | | | | |
| 253 | 32 | | | | | | | | | | | | | | | | | | |
| 261 | 33 | | 1665 | 2138 | 2612 | 3085 | 3558 | 4032 | 4505 | 4979 | 5453 | 5926 | 6400 | 6874 | 7348 | 7822 | 8297 | 8771 | 9245 |
| 269 | 34 | | | | | | | | | | | | | | | | | | |
| 277 | 35 | 107 | | | | | | | | | | | | | | | | | |
| 284 | 36 | | 1969 | 2442 | 2915 | 3389 | 3862 | 4335 | 4808 | 5282 | 5755 | 6229 | 6703 | 7177 | 7650 | 8124 | 8598 | 9073 | 9547 |
| 292 | 37 | | | | | | | | | | | | | | | | | | |
| 300 | 38 | | | | | | | | | | | | | | | | | | |
| 308 | 39 | | 2274 | 2747 | 3220 | 3693 | 4166 | 4639 | 5112 | 5586 | 6059 | 6532 | 7006 | 7480 | 7953 | 8427 | 8901 | 9375 | 9849 |
| 316 | 40 | 107 | 2376 | 2849 | 3321 | 3794 | 4267 | 4741 | 5214 | 5687 | 6160 | 6634 | 7107 | 7581 | 8054 | 8528 | 9002 | 9476 | 9950 |
| 324 | 41 | 107 (108) | 2478 | 2950 | 3423 | 3896 | 4369 | 4842 | 5315 | 5788 | 6262 | 6735 | 7209 | 7682 | 8156 | 8629 | 9103 | 9577 | 0051 |
| 332 | 42 | | | | | | | | | | | | | | | | | | |
| 340 | 43 | | | | | | | | | | | | | | | | | | |
| 348 | 44 | | 2784 | 3256 | 3729 | 4202 | 4674 | 5147 | 5620 | 6093 | 6566 | 7040 | 7513 | 7986 | 8460 | 8933 | 9407 | 9881 | 0354 |
| 356 | 45 | 107 (108) | | | | | | | | | | | | | | | | | |
| 363 | 46 | | | | | | | | | | | | | | | | | | |
| 371 | 47 | | 3090 | 3563 | 4035 | 4508 | 4980 | 5453 | 5926 | 6399 | 6872 | 7345 | 7818 | 8291 | 8764 | 9238 | 9711 | 0185 | 0658 |
| 379 | 48 | | | | | | | | | | | | | | | | | | |
| 387 | 49 | | 3295 | 3767 | 4240 | 4712 | 5185 | 5657 | 6130 | 6603 | 7076 | 7549 | 8022 | 8495 | 8968 | 9441 | 9915 | 0388 | 0862 |
| 395 | 50 | 107 (108) | 3398 | 3870 | 4342 | 4815 | 5287 | 5760 | 6232 | 6705 | 7178 | 7651 | 8124 | 8597 | 9070 | 9543 | 0017 | 0490 | 0963 |
| 403 | 51 | | 3500 | 3972 | 4445 | 4917 | 5390 | 5862 | 6335 | 6807 | 7280 | 7753 | 8226 | 8699 | 9172 | 9645 | 0118 | 0592 | 1065 |
| 411 | 52 | | 3603 | 4075 | 4547 | 5020 | 5492 | 5964 | 6437 | 6910 | 7382 | 7855 | 8328 | 8801 | 9274 | 9747 | 0220 | 0694 | 1167 |
| 419 | 53 | | 3706 | 4178 | 4650 | 5122 | 5595 | 6067 | 6539 | 7012 | 7485 | 7957 | 8430 | 8903 | 9376 | 9849 | 0322 | 0796 | 1269 |
| 427 | 54 | | 3808 | 4281 | 4753 | 5225 | 5697 | 6170 | 6642 | 7115 | 7587 | 8060 | 8533 | 9005 | 9478 | 9951 | 0424 | 0898 | 1371 |
| 435 | 55 | 107 (108) | | | | | | | | | | | | | | | | | |
| 442 | 56 | | | | | | | | | | | | | | | | | | |
| 450 | 57 | | 4117 | 4589 | 5061 | 5533 | 6006 | 6478 | 6950 | 7422 | 7895 | 8367 | 8840 | 9313 | 9785 | 0258 | 0731 | 1204 | 1677 |
| 458 | 58 | | | | | | | | | | | | | | | | | | |
| 466 | 59 | | 4324 | 4796 | 5268 | 5740 | 6212 | 6684 | 7156 | 7628 | 8100 | 8573 | 9045 | 9518 | 9991 | 0463 | 0936 | 1409 | 1882 |

| Parts for Secs. of C. D. additive | C. D. 20° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | |
| 8 | 1 | |
| 16 | 2 | |
| 24 | 3 | |
| 32 | 4 | |
| 40 | 5 | |
| 47 | 6 | |
| 55 | 7 | |
| 63 | 8 | |
| 71 | 9 | |
| 79 | 10 | |
| 87 | 11 | 1407 |
| 95 | 12 | |
| 103 | 13 | |
| 111 | 14 | |
| 119 | 15 | |
| 127 | 16 | |
| 134 | 17 | |
| 142 | 18 | 2111 |
| 150 | 19 | |
| 158 | 20 | 400 2313 |
| 166 | 21 | 2414 |
| 174 | 22 | |
| 182 | 23 | |
| 190 | 24 | 2715 |
| 198 | 25 | 400 2016 |
| 205 | 26 | 2921 |
| 213 | 27 | 3023 |
| 221 | 28 | |
| 229 | 29 | 3226 |
| 237 | 30 | |
| 245 | 31 | |
| 253 | 32 | |
| 261 | 33 | 3634 |
| 269 | 34 | 3736 |
| 277 | 35 | 406 3838 |
| 284 | 36 | 3940 |
| 292 | 37 | |
| 300 | 38 | |
| 308 | 39 | |
| 316 | 40 | |
| 324 | 41 | |
| 332 | 42 | |
| 340 | 43 | |
| 348 | 44 | |
| 356 | 45 | |
| 363 | 46 | |
| 371 | 47 | 5071 |
| 379 | 48 | |
| 387 | 49 | 5275 |
| 395 | 50 | 406 5381 |
| 403 | 51 | 5485 |
| 411 | 52 | 5588 |
| 419 | 53 | 5992 |
| 427 | 54 | 5796 |
| 435 | 55 | |
| 442 | 56 | |
| 450 | 57 | 6107 |
| 458 | 58 | |
| 466 | 59 | 6315 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Seconds of Auxil. Argum. | C. S. A. 21° | Numbers |
|---|---|---|
| 0 | 0 | 9999 |
| 1 | 1 | 9994 |
| 98 | 2 | 9394 |
| 96 | 3 | 8999 |
| 95 | 4 | 8604 |
| 93 | 5 | 8214 |
| 91 | 6 | 8994 |
| 89 | 7 | 8824 |
| 87 | 8 | 8659 |
| 86 | 9 | 8694 |
| 84 | 10 | 8538 |
| 83 | 11 | 8403 |
| 81 | 12 | 8273 |
| 79 | 13 | 8202 |
| 78 | 14 | 8191 |
| 76 | 15 | 8081 |
| 74 | 16 | 7977 |
| 73 | 17 | 7885 |
| 71 | 18 | 7788 |
| 69 | 19 | 7687 |
| 68 | 20 | 7584 |
| 66 | 21 | 7485 |
| 64 | 22 | 7383 |
| 63 | 23 | 7284 |
| 61 | 24 | 7181 |
| 59 | 25 | 7076 |
| 57 | 26 | 6977 |
| 56 | 27 | 6876 |
| 54 | 28 | 6774 |
| 52 | 29 | 6674 |
| 51 | 30 | 6574 |
| 49 | 31 | 6476 |
| 47 | 32 | 6376 |
| 46 | 33 | 6274 |
| 44 | 34 | 6174 |
| 43 | 35 | 6076 |
| 41 | 36 | 5977 |
| 39 | 37 | 5875 |
| 37 | 38 | 5772 |
| 36 | 39 | 5672 |
| 34 | 40 | 5573 |
| 32 | 41 | 5474 |
| 31 | 42 | 5374 |
| 29 | 43 | 5275 |
| 27 | 44 | 5174 |
| 25 | 45 | 5073 |
| 24 | 46 | 4974 |
| 22 | 47 | 4874 |
| 20 | 48 | 4774 |
| 19 | 49 | 4674 |
| 17 | 50 | 4575 |
| 15 | 51 | 4412 |
| 14 | 52 | 4308 |
| 12 | 53 | 4204 |
| 10 | 54 | 4101 |
| 8 | 55 | 3997 |
| 7 | 56 | 3894 |
| 5 | 57 | 3789 |
| 3 | 58 | 3685 |
| 2 | 59 | 3580 |

| Parts for Seconds of Auxil. Argum. | A. D. 21° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 120(107)9415 | 9772 | 9243 | 9714 | 0185 | 0656 | 1127 | 1598 | 2070 | 2541 | 3013 | 3484 | 3955 | | | | |
| 1 | 1 | 9424 | 9781 | 9252 | 9723 | 0194 | 0665 | 1136 | 1607 | 2078 | 2550 | 3021 | 3492 | 3964 | | | | |
| 2 | 2 | 6628 | 7098 | 7569 | 8039 | 8510 | 8980 | 9451 | 9922 | 0393 | 0864 | 1335 | 1806 | 2277 | 2748 | 3220 | 3691 | 4162 |
| 3 | 3 | 6633 | 7103 | 7573 | 8044 | 8514 | 8985 | 9455 | 9926 | 0397 | 0868 | 1339 | 1810 | 2281 | 2752 | 3223 | 3695 | 4166 |
| 4 | 4 | 6637 | 7107 | 7578 | 8048 | 8519 | 8989 | 9460 | 9931 | 0402 | 0873 | 1344 | 1815 | 2286 | 2757 | 3228 | 3699 | 4171 |
| 5 | 5 | 120(107)6642 | 7112 | 7582 | 8053 | 8523 | 8994 | 9464 | 9935 | 0406 | 0877 | 1348 | 1819 | 2290 | 2761 | 3232 | 3703 | 4174 |
| 6 | 6 | 7046 | 7517 | 7987 | 8457 | 8927 | 9398 | 9868 | 0339 | 0809 | 1280 | 1751 | 2222 | 2693 | 3164 | 3635 | 4106 | 4577 |
| 7 | 7 | 7051 | 7521 | 7991 | 8462 | 8932 | 9402 | 9873 | 0343 | 0814 | 1284 | 1755 | 2226 | 2697 | 3168 | 3639 | 4110 | 4581 |
| 8 | 8 | 7055 | 7526 | 7996 | 8466 | 8936 | 9407 | 9877 | 0348 | 0818 | 1289 | 1759 | 2230 | 2701 | 3172 | 3643 | 4114 | 4585 |
| 9 | 9 | 7061 | 7831 | 8301 | 8771 | 9241 | 9711 | 0182 | 0652 | 1123 | 1593 | 2064 | 2535 | 3005 | 3476 | 3947 | 4418 | 4889 |
| 10 | 10 | 120(107)7065 | 7835 | 8305 | 8775 | 9245 | 9715 | 0186 | 0656 | 1127 | 1597 | 2068 | 2539 | 3009 | 3480 | 3951 | 4422 | 4893 |
| 11 | 11 | 7771 | 8241 | 8711 | 9181 | 9651 | 0121 | 0591 | 1061 | 1532 | 2002 | 2473 | 2943 | 3414 | 3885 | 4356 | 4827 | 5298 |
| 12 | 12 | 7776 | 8246 | 8716 | 9186 | 9656 | 0126 | 0596 | 1066 | 1536 | 2007 | 2477 | 2948 | 3418 | 3889 | 4360 | 4831 | 5302 |
| 13 | 13 | 7781 | 8251 | 8721 | 9191 | 9661 | 0131 | 0601 | 1071 | 1541 | 2012 | 2482 | 2953 | 3423 | 3894 | 4365 | 4835 | 5306 |
| 14 | 14 | 7787 | 8256 | 8726 | 9196 | 9666 | 0136 | 0606 | 1076 | 1546 | 2017 | 2487 | 2957 | 3428 | 3899 | 4370 | 4841 | 5311 |
| 15 | 15 | 120(107)7792 | 8261 | 8731 | 9201 | 9671 | 0141 | 0611 | 1081 | 1551 | 2022 | 2492 | 3162 | 3633 | 4103 | 4574 | 5045 | 5515 |
| 16 | 16 | 8298 | 8767 | 9237 | 9707 | 0177 | 0647 | 1117 | 1587 | 2058 | 2528 | 2997 | 3267 | 3737 | 4208 | 4678 | 5149 | 5620 |
| 17 | 17 | 8303 | 8773 | 9242 | 9712 | 0182 | 0652 | 1122 | 1591 | 2061 | 2531 | 3002 | 3272 | 3742 | 4213 | 4683 | 5154 | 5625 |
| 18 | 18 | 8309 | 8777 | 9247 | 9717 | 0187 | 0657 | 1127 | 1597 | 2067 | 2537 | 3007 | 3477 | 3947 | 4418 | 4888 | 5359 | 5829 |
| 19 | 19 | 8314 | 8783 | 9253 | 9723 | 0192 | 0662 | 1132 | 1602 | 2072 | 2542 | 3012 | 3582 | 4052 | 4523 | 4993 | 5464 | 5934 |
| 20 | 20 | 120(107)8319 | 8788 | 9258 | 9728 | 0197 | 0667 | 1137 | 1607 | 2077 | 2547 | 3017 | 3687 | 4158 | 4628 | 5098 | 5569 | 6039 |
| 21 | 21 | 8626 | 9095 | 9565 | 0034 | 0504 | 0973 | 1443 | 1913 | 2383 | 2853 | 3323 | 3793 | 4263 | 4733 | 5203 | 5674 | 6144 |
| 22 | 22 | 8631 | 9101 | 9571 | 0040 | 0510 | 0978 | 1448 | 1918 | 2388 | 2858 | 3328 | 3798 | 4268 | 4738 | 5209 | 5679 | 6149 |
| 23 | 23 | 8636 | 9106 | 9576 | 0045 | 0515 | 0983 | 1453 | 1923 | 2393 | 2863 | 3333 | 4003 | 4473 | 4944 | 5414 | 5884 | 6354 |
| 24 | 24 | 8641 | 9111 | 9581 | 0050 | 0520 | 0988 | 1458 | 1928 | 2398 | 2868 | 3339 | 4009 | 4479 | 4950 | 5420 | 5890 | 6360 |
| 25 | 25 | 120(107)8646 | 9117 | 9587 | 0057 | 0527 | 1007 | 1807 | 2337 | 2808 | 3278 | 3748 | 4218 | 4689 | 5159 | 5629 | 6100 | 6570 |
| 26 | 26 | 9152 | 9622 | 0093 | 0563 | 1033 | 1503 | 1973 | 2443 | 2914 | 3384 | 3854 | 4324 | 4795 | 5265 | 5735 | 6206 | 6676 |
| 27 | 27 | 9263 | 9732 | 0201 | 0670 | 1139 | 1609 | 2078 | 2547 | 3017 | 3487 | 3956 | 4426 | 4896 | 5366 | 5836 | 6306 | 6776 |
| 28 | 28 | 9268 | 9737 | 0207 | 0675 | 1144 | 1614 | 2083 | 2553 | 3022 | 3492 | 3962 | 4432 | 4902 | 5372 | 5842 | 6312 | 6782 |
| 29 | 29 | 9273 | 9742 | 0212 | 0680 | 1149 | 1619 | 2088 | 2558 | 3027 | 3497 | 3967 | 4437 | 4908 | 5378 | 5848 | 6318 | 6788 |
| 30 | 30 | 120(107)9278 | 9747 | 0217 | 0685 | 1154 | 1624 | 2093 | 2563 | 3033 | 3503 | 3973 | 4443 | 4914 | 5384 | 5854 | 6324 | 6794 |
| 31 | 31 | 9783 | 0253 | 0723 | 1193 | 1663 | 2133 | 2603 | 3073 | 3543 | 4013 | 4484 | 4954 | 5425 | 5895 | 6365 | 6836 | 7306 |
| 32 | 32 | 9788 | 0258 | 0728 | 1198 | 1668 | 2138 | 2608 | 3078 | 3548 | 4017 | 4488 | 4959 | 5429 | 5899 | 6370 | 6840 | 7310 |
| 33 | 33 | 9793 | 0263 | 0733 | 1203 | 1673 | 2143 | 2613 | 3083 | 3553 | 4023 | 4493 | 4963 | 5434 | 5904 | 6375 | 6845 | 7315 |
| 34 | 34 | 9798 | 0268 | 0738 | 1208 | 1678 | 2148 | 2618 | 3088 | 3558 | 4028 | 4498 | 4968 | 5439 | 5909 | 6380 | 6850 | 7320 |
| 35 | 35 | 120(107)9803 | 0273 | 0743 | 1213 | 1683 | 2153 | 2623 | 3093 | 3563 | 4033 | 4503 | 4973 | 5444 | 5914 | 6385 | 6855 | 7325 |
| 36 | 36 | 9809 | 0279 | 0749 | 1219 | 1689 | 2159 | 2629 | 3099 | 3569 | 4039 | 4509 | 4979 | 5450 | 5920 | 6391 | 6861 | 7331 |
| 37 | 37 | 9814 | 0284 | 0754 | 1224 | 1694 | 2164 | 2634 | 3104 | 3574 | 4044 | 4514 | 4985 | 5455 | 5925 | 6396 | 6866 | 7336 |
| 38 | 38 | 9819 | 0289 | 0759 | 1229 | 1699 | 2169 | 2639 | 3109 | 3579 | 4049 | 4519 | 4990 | 5460 | 5930 | 6401 | 6871 | 7341 |
| 39 | 39 | 9824 | 0294 | 0764 | 1234 | 1704 | 2174 | 2644 | 3114 | 3584 | 4054 | 4524 | 4995 | 5465 | 5935 | 6406 | 6876 | 7346 |
| 40 | 40 | 120(107)9829 | 0299 | 0769 | 1239 | 1709 | 2179 | 2649 | 3119 | 3589 | 4059 | 4529 | 5000 | 5470 | 5940 | 6411 | 6881 | 7351 |
| 41 | 41 | 9835 | 0305 | 0775 | 1245 | 1715 | 2185 | 2655 | 3125 | 3595 | 4065 | 4535 | 5006 | 5476 | 5946 | 6417 | 6887 | 7357 |
| 42 | 42 | 9840 | 0310 | 0780 | 1250 | 1720 | 2190 | 2660 | 3130 | 3600 | 4070 | 4540 | 5011 | 5481 | 5951 | 6422 | 6892 | 7362 |
| 43 | 43 | 9845 | 0315 | 0785 | 1255 | 1725 | 2195 | 2665 | 3135 | 3605 | 4075 | 4545 | 5016 | 5486 | 5956 | 6427 | 6897 | 7367 |
| 44 | 44 | 9850 | 0320 | 0790 | 1260 | 1730 | 2200 | 2670 | 3140 | 3610 | 4080 | 4550 | 5021 | 5491 | 5961 | 6432 | 6902 | 7372 |
| 45 | 45 | 120(107)9855 | 0325 | 0795 | 1265 | 1735 | 2205 | 2675 | 3145 | 3615 | 4085 | 4555 | 5026 | 5496 | 5966 | 6437 | 6907 | 7377 |
| 46 | 46 | 9861 | 0331 | 0801 | 1271 | 1741 | 2211 | 2681 | 3151 | 3621 | 4091 | 4561 | 5032 | 5502 | 5972 | 6443 | 6913 | 7383 |
| 47 | 47 | 9866 | 0336 | 0806 | 1276 | 1746 | 2216 | 2686 | 3156 | 3626 | 4096 | 4566 | 5037 | 5507 | 5977 | 6448 | 6918 | 7388 |
| 48 | 48 | 9871 | 0341 | 0811 | 1281 | 1751 | 2221 | 2691 | 3161 | 3631 | 4101 | 4571 | 5042 | 5512 | 5982 | 6453 | 6923 | 7393 |
| 49 | 49 | 9876 | 0346 | 0816 | 1286 | 1756 | 2226 | 2696 | 3166 | 3636 | 4106 | 4576 | 5047 | 5517 | 5987 | 6458 | 6928 | 7398 |
| 50 | 50 | 120(107)9881 | 0351 | 0821 | 1291 | 1761 | 2231 | 2701 | 3171 | 3641 | 4111 | 4581 | 5052 | 5522 | 5992 | 6463 | 6933 | 7403 |
| 51 | 51 | 1839 | 2306 | 2774 | 3242 | 3710 | 4178 | 4646 | 5114 | 5582 | 6050 | 6519 | 6987 | | | | | |
| 52 | 52 | 1947 | 2414 | 2882 | 3350 | 3818 | 4286 | 4754 | 5222 | 5690 | 6158 | 6627 | 7095 | 7563 | 8031 | | | |
| 53 | 53 | 2055 | 2523 | 2990 | 3458 | 3926 | 4394 | 4862 | 5330 | 5798 | 6266 | 6734 | 7203 | 7671 | 81 | | | |
| 54 | 54 | 2163 | 2631 | 3098 | 3566 | 4034 | 4502 | 4970 | 5438 | 5906 | 6374 | 6842 | 7311 | 7779 | 82 | | | |
| 55 | 55 | 107 | | | | | | | | | | | | | | | | |
| 56 | 56 | 2381 | 2848 | 3316 | 3784 | 4252 | 4721 | 5189 | 5657 | 6125 | 6593 | 7062 | 7530 | 7998 | | | | |
| 57 | 57 | 2490 | 2957 | 3424 | 3892 | 4359 | 4827 | 5295 | 5763 | 6231 | 6699 | 7167 | | | | | | |
| 58 | 58 | 107(12 | | | | | | | | | | | | | | | | |
| 59 | 59 | 2707 | 3174 | 3642 | 4109 | 4577 | 5044 | 5512 | 5980 | 6447 | 6915 | 7383 | 7851 | 8319 | 8787 | 9256 | 9724 | 0192 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

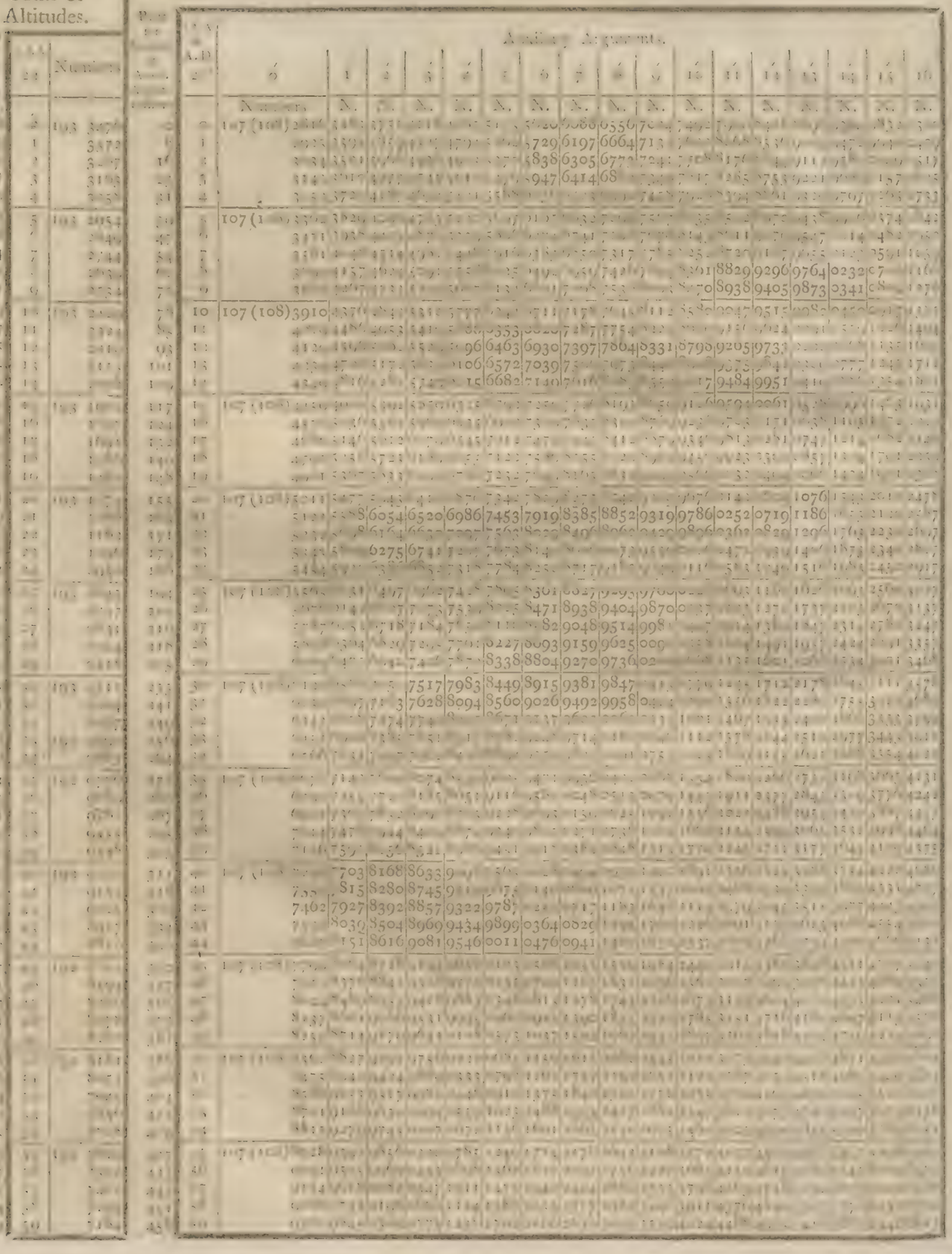
Sums for finding the Corrected Distances.

| Parts for Sec. of Arc. | Arg. additive | Auxiliary Arguments. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ′ & A.D. 21 | ′ 17 | ′ 18 | ′ 19 | ′ 20 | ′ 21 | ′ 22 | ′ 23 | ′ 24 | ′ 25 | ′ 26 | ′ 27 | ′ 28 | ′ 29 | ′ 30 | ′ 31 | ′ 32 | ′ 33 |
| | | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 0 | 107 (108) 4427 | 4869 | 5371 | 5843 | 6315 | 6787 | 7259 | 7731 | 8203 | 8676 | 9148 | 9621 | 0093 | 0566 | 1039 | 1512 | 1984 |
| 8 | 1 | 1 | | 4531 | 5002 | 5474 | 5946 | 6418 | 6890 | 7362 | 7834 | 8306 | 8778 | 9251 | 9723 | 0195 | 0668 | 1141 | 1614 | 2087 |
| 16 | 2 | 2 | | 4634 | 5106 | 5577 | 6049 | 6521 | 6993 | 7465 | 7937 | 8409 | 8882 | 9354 | 9826 | 0298 | 0771 | 1244 | 1717 | 2190 |
| 23 | 3 | 3 | | 4737 | 5209 | 5681 | 6153 | 6624 | 7096 | 7568 | 8040 | 8512 | 8985 | 9457 | 9929 | 0402 | 0874 | 1347 | 182 | 2294 |
| 31 | 4 | 4 | | 4841 | 5313 | 5784 | 6256 | 6728 | 7200 | 7672 | 8144 | 8616 | 9088 | 9560 | 0033 | 0505 | 0977 | 1450 | 1922 | 2397 |
| 39 | 5 | 5 | 107 (108) 4945 | 5416 | 5888 | 6360 | 6831 | 7303 | 7775 | 8247 | 8719 | 9191 | 9663 | 0135 | 0608 | 1080 | 1553 | 2025 | 2497 |
| 47 | 6 | 6 | | 5049 | 5520 | 5992 | 6463 | 6935 | 7407 | 7878 | 8350 | 8822 | 9294 | 9767 | 0239 | 0711 | 1183 | 1656 | 2128 | 2601 |
| 55 | 7 | 7 | | 5153 | 5624 | 6095 | 6567 | 7039 | 7510 | 7982 | 8454 | 8926 | 9398 | 9870 | 0342 | 0814 | 1286 | 1759 | 2231 | 2704 |
| 63 | 8 | 8 | | 5257 | 5728 | 6199 | 6671 | 7142 | 7614 | 8086 | 8557 | 9029 | 9501 | 9973 | 0445 | 0917 | 1389 | 1862 | 2334 | 2807 |
| 71 | 9 | 9 | | 5360 | 5832 | 6303 | 6775 | 7246 | 7718 | 8189 | 8661 | 9133 | 9605 | 0077 | 0549 | 1021 | 1493 | 1965 | 2438 | 2911 |
| 78 | 10 | 10 | 107 (108) 5465 | 5936 | 6407 | 6879 | 7350 | 7821 | 8293 | 8765 | 9237 | 9708 | 0180 | 0652 | 1124 | 1596 | 2069 | 2541 | 3015 |
| 86 | 11 | 11 | | 5568 | 6040 | 6511 | 6983 | 7454 | 7925 | 8397 | 8869 | 9340 | 9812 | 0284 | 0756 | 1228 | 1700 | 2172 | 2644 | 3117 |
| 94 | 12 | 12 | | 5673 | 6144 | 6615 | 7087 | 7558 | 8029 | 8501 | 8972 | 9444 | 9916 | 0388 | 0860 | 1332 | 1804 | 2276 | 2748 | 3220 |
| 102 | 13 | 13 | | 5777 | 6248 | 6720 | 7191 | 7662 | 8133 | 8605 | 9076 | 9548 | 0020 | 0491 | 0963 | 1435 | 1907 | 2379 | 2851 | 3324 |
| 110 | 14 | 14 | | 5882 | 6353 | 6824 | 7296 | 7766 | 8238 | 8709 | 9180 | 9652 | 0124 | 0595 | 1067 | 1539 | 2011 | 2483 | 2955 | 3427 |
| 118 | 15 | 15 | 107 (108) 5987 | 6457 | 6928 | 7399 | 7871 | 8342 | 8813 | 9285 | 9756 | 0228 | 0699 | 1171 | 1643 | 2115 | 2587 | 3059 | 3531 | |
| 125 | 16 | 16 | | 6091 | 6562 | 7033 | 7504 | 7975 | 8446 | 8917 | 9389 | 9860 | 0332 | 0803 | 1275 | 1747 | 2219 | 2691 | 3163 | 3635 |
| 133 | 17 | 17 | | 6195 | 6667 | 7137 | 7608 | 8079 | 8550 | 9022 | 9493 | 9964 | 0436 | 0907 | 1379 | 1851 | 2323 | 2794 | 3266 | 3738 |
| 141 | 18 | 18 | | 6300 | 6771 | 7242 | 7713 | 8184 | 8655 | 9126 | 9597 | 0068 | 0540 | 1012 | 1483 | 1955 | 2427 | 2899 | 3370 | 3842 |
| 149 | 19 | 19 | | 6405 | 6876 | 7347 | 7817 | 8288 | 8759 | 9231 | 9702 | 0173 | 0644 | 1116 | 1587 | 2059 | 2531 | 3002 | 3474 | 3946 |
| 157 | 20 | 20 | 107 (108) 6510 | 6980 | 7451 | 7922 | 8393 | 8864 | 9335 | 9806 | 0278 | 0749 | 1220 | 1692 | 2163 | 2635 | 3107 | 3578 | 4050 | |
| 165 | 21 | 21 | | 6615 | 7085 | 7556 | 8027 | 8498 | 8969 | 9440 | 9911 | 0382 | 0853 | 1325 | 1796 | 2267 | 2739 | 3211 | 3682 | 4154 |
| 173 | 22 | 22 | | 6720 | 7190 | 7661 | 8132 | 8603 | 9073 | 9544 | 0016 | 0487 | 0958 | 1429 | 1900 | 2372 | 2843 | 3315 | 3787 | 4258 |
| 181 | 23 | 23 | | 6825 | 7296 | 7766 | 8237 | 8707 | 9178 | 9649 | 0120 | 0591 | 1062 | 1534 | 2005 | 2476 | 2948 | 3419 | 3891 | 4363 |
| 188 | 24 | 24 | | 6930 | 7401 | 7871 | 8342 | 8812 | 9283 | 9754 | 0225 | 0696 | 1167 | 1639 | 2110 | 2581 | 3053 | 3524 | 3996 | 4467 |
| 196 | 25 | 25 | 107 (108) 7035 | 7506 | 7976 | 8447 | 8918 | 9388 | 9859 | 0330 | 0801 | 1272 | 1744 | 2214 | 2686 | 3157 | 3628 | 4100 | 4571 | |
| 204 | 26 | 26 | | 7141 | 7611 | 8082 | 8552 | 9023 | 9493 | 9964 | 0435 | 0906 | 1377 | 1848 | 2318 | 2790 | 3262 | 3733 | 4204 | 4676 |
| 212 | 27 | 27 | | 7246 | 7716 | 8187 | 8657 | 9128 | 9599 | 0069 | 0540 | 1011 | 1482 | 1953 | 2424 | 2895 | 3367 | 3838 | 4309 | 4781 |
| 220 | 28 | 28 | | 7352 | 7822 | 8292 | 8763 | 9233 | 9704 | 0174 | 0645 | 1116 | 1587 | 2058 | 2529 | 3000 | 3471 | 3942 | 4414 | 4885 |
| 227 | 29 | 29 | | 7457 | 7927 | 8398 | 8868 | 9338 | 9809 | 0280 | 0750 | 1221 | 1692 | 2163 | 2634 | 3105 | 3576 | 4047 | 4518 | 4990 |
| 235 | 30 | 30 | 107 (108) 7563 | 8033 | 8503 | 8974 | 9444 | 9914 | 0385 | 0855 | 1326 | 1797 | 2268 | 2738 | 3209 | 3680 | 4152 | 4623 | 5094 | |
| 243 | 31 | 31 | | 7669 | 8139 | 8609 | 9079 | 9549 | 0020 | 0491 | 0961 | 1432 | 1902 | 2373 | 2844 | 3315 | 3786 | 4257 | 4728 | 5199 |
| 251 | 32 | 32 | | 7774 | 8244 | 8715 | 9185 | 9655 | 0125 | 0596 | 1066 | 1537 | 2008 | 2478 | 2949 | 3420 | 3891 | 4362 | 4833 | 5304 |
| 259 | 33 | 33 | | 7880 | 8350 | 8820 | 9291 | 9761 | 0231 | 0701 | 1172 | 1642 | 2113 | 2584 | 3055 | 3525 | 3996 | 4467 | 4938 | 5409 |
| 267 | 34 | 34 | | 7986 | 8456 | 8926 | 9396 | 9867 | 0337 | 0807 | 1277 | 1748 | 2218 | 2689 | 3160 | 3631 | 4101 | 4572 | 5043 | 5514 |
| 275 | 35 | 35 | 107 (108) 8092 | 8562 | 9032 | 9502 | 9972 | 0443 | 0913 | 1383 | 1854 | 2324 | 2795 | 3265 | 3736 | 4207 | 4678 | 5149 | 5620 | |
| 283 | 36 | 36 | | 8198 | 8668 | 9138 | 9608 | 0078 | 0548 | 1019 | 1489 | 1959 | 2430 | 2900 | 3371 | 3841 | 4312 | 4783 | 5254 | 5725 |
| 291 | 37 | 37 | | 8304 | 8774 | 9244 | 9714 | 0184 | 0654 | 1124 | 1595 | 2065 | 2535 | 3006 | 3476 | 3947 | 4418 | 4889 | 5359 | 5830 |
| 299 | 38 | 38 | | 8411 | 8881 | 9351 | 9821 | 0291 | 0761 | 1231 | 1701 | 2171 | 2641 | 3112 | 3582 | 4053 | 4523 | 4994 | 5464 | 5935 |
| 307 | 39 | 39 | | 8517 | 8987 | 9457 | 9926 | 0396 | 0866 | 1336 | 1807 | 2277 | 2747 | 3217 | 3688 | 4158 | 4628 | 5099 | 5570 | 6041 |
| 314 | 40 | 40 | 107 (108) 8624 | 9093 | 9563 | 0033 | 0503 | 0973 | 1443 | 1913 | 2383 | 2853 | 3323 | 3793 | 4264 | 4734 | 5205 | 5676 | 6147 | |
| 322 | 41 | 41 | | 8730 | 9199 | 9669 | 0139 | 0609 | 1079 | 1549 | 2019 | 2489 | 2959 | 3430 | 3900 | 4370 | 4841 | 5311 | 5782 | 6253 |
| 330 | 42 | 42 | | 8836 | 9305 | 9775 | 0246 | 0715 | 1185 | 1655 | 2125 | 2595 | 3065 | 3535 | 4006 | 4476 | 4947 | 5417 | 5888 | 6358 |
| 338 | 43 | 43 | | 8943 | 9412 | 9882 | 0352 | 0822 | 1291 | 1761 | 2231 | 2701 | 3171 | 3642 | 4112 | 4582 | 5053 | 5523 | 5994 | 6464 |
| 346 | 44 | 44 | | 9050 | 9520 | 9990 | 0459 | 0928 | 1398 | 1868 | 2338 | 2808 | 3278 | 3748 | 4219 | 4689 | 5159 | 5630 | 6100 | 6571 |
| 353 | 45 | 45 | 107 (108) 9157 | 9627 | 0097 | 0565 | 1035 | 1505 | 1974 | 2444 | 2914 | 3384 | 3854 | 4324 | 4794 | 5265 | 5735 | 6206 | 6676 | |
| 361 | 46 | 46 | | 9264 | 9734 | 0203 | 0672 | 1142 | 1611 | 2081 | 2551 | 3021 | 3491 | 3961 | 4431 | 4901 | 5371 | 5841 | 6312 | 6782 |
| 369 | 47 | 47 | | 9371 | 9841 | 0310 | 0779 | 1248 | 1718 | 2187 | 2657 | 3127 | 3597 | 4067 | 4537 | 5007 | 5477 | 5947 | 6418 | 6888 |
| 377 | 48 | 48 | | 9478 | 9947 | 0417 | 0886 | 1355 | 1825 | 2294 | 2764 | 3234 | 3703 | 4173 | 4643 | 5113 | 5583 | 6053 | 6524 | 6994 |
| 385 | 49 | 49 | | 9585 | 0054 | 0523 | 0993 | 1462 | 1932 | 2401 | 2871 | 3341 | 3811 | 4280 | 4750 | 5220 | 5690 | 6160 | 6630 | 7100 |
| 393 | 50 | 50 | 107 (108) 9693 | 0161 | 0630 | 1100 | 1569 | 2039 | 2508 | 2977 | 3447 | 3917 | 4386 | 4856 | 5326 | 5796 | 6266 | 6736 | 7206 | |
| 400 | 51 | 51 | | 9800 | 0269 | 0738 | 1207 | 1676 | 2146 | 2615 | 3084 | 3554 | 4023 | 4493 | 4963 | 5433 | 5903 | 6373 | 6843 | 7313 |
| 408 | 52 | 52 | | 9908 | 0377 | 0846 | 1315 | 1783 | 2253 | 2722 | 3191 | 3661 | 4130 | 4600 | 5070 | 5540 | 6010 | 6480 | 6950 | 7420 |
| 416 | 53 | 53 | | 0016 | 0485 | 0954 | 1423 | 1891 | 2360 | 2829 | 3298 | 3768 | 4237 | 4707 | 5177 | 5647 | 6117 | 6587 | 7057 | 7527 |
| 424 | 54 | 54 | | 0124 | 0593 | 1062 | 1531 | 1999 | 2467 | 2936 | 3405 | 3874 | 4344 | 4814 | 5284 | 5754 | 6224 | 6694 | 7164 | 7634 |
| 431 | 55 | 55 | 108 | 0233 | 0702 | 1171 | 1639 | 2107 | 2575 | 3044 | 3513 | 3982 | 4451 | 4921 | 5391 | 5861 | 6331 | 6801 | 7271 | 7741 |
| 439 | 56 | 56 | | 0342 | 0811 | 1279 | 1747 | 2215 | 2683 | 3152 | 3621 | 4090 | 4559 | 5029 | 5499 | 5969 | 6439 | 6909 | 7379 | 7849 |
| 447 | 57 | 57 | | 0451 | 0919 | 1387 | 1855 | 2323 | 2791 | 3260 | 3729 | 4198 | 4667 | 5137 | 5607 | 6077 | 6547 | 7017 | 7487 | 7957 |
| 455 | 58 | 58 | | 0560 | 1028 | 1496 | 1964 | 2432 | 2900 | 3368 | 3837 | 4306 | 4775 | 5245 | 5715 | 6185 | 6655 | 7125 | 7595 | 8065 |
| 463 | 59 | 59 | | 0669 | 1137 | 1605 | 2073 | 2541 | 3009 | 3477 | 3945 | 4414 | 4883 | 5353 | 5823 | 6293 | 6763 | 7233 | 7703 | 8173 |

| Parts for Sec. of C. D | C. D 21° | Sums |
|---|---|---|
| 0 | 0 | 126 6416 |
| 1 | 1 | 6524 |
| 2 | 2 | 6632 |
| 3 | 3 | 6739 |
| 4 | 4 | 6847 |
| 5 | 5 | 6955 |
| 6 | 6 | 7063 |
| 7 | 7 | 7171 |
| 8 | 8 | 7279 |
| 9 | 9 | 7387 |
| 10 | 10 | 7495 |
| 11 | 11 | 7603 |
| 12 | 12 | 7711 |
| 13 | 13 | 7819 |
| 14 | 14 | 7927 |
| 15 | 15 | 8035 |
| 16 | 16 | 8143 |
| 17 | 17 | 8251 |
| 18 | 18 | 8359 |
| 19 | 19 | 8467 |
| 20 | 20 | 8575 |
| 21 | 21 | 8683 |
| 22 | 22 | 8791 |
| 23 | 23 | 8899 |
| 24 | 24 | 9007 |
| 25 | 25 | 9115 |
| 26 | 26 | 9223 |
| 27 | 27 | 9331 |
| 28 | 28 | 9439 |
| 29 | 29 | 9547 |
| 30 | 30 | 9655 |
| 31 | 31 | 9763 |
| 32 | 32 | 9871 |
| 33 | 33 | 9979 |
| 34 | 34 | 127 0087 |
| 35 | 35 | 0195 |
| 36 | 36 | 0303 |
| 37 | 37 | 0411 |
| 38 | 38 | 0519 |
| 39 | 39 | 0627 |
| 40 | 40 | 0735 |
| 41 | 41 | 0843 |
| 42 | 42 | 0951 |
| 43 | 43 | 1059 |
| 44 | 44 | 1167 |
| 45 | 45 | 1275 |
| 46 | 46 | 1383 |
| 47 | 47 | 1491 |
| 48 | 48 | 1599 |
| 49 | 49 | 1707 |
| 50 | 50 | 1815 |
| 51 | 51 | 1923 |
| 52 | 52 | 2031 |
| 53 | 53 | 2139 |
| 54 | 54 | 2247 |
| 55 | 55 | 2355 |
| 56 | 56 | 2463 |
| 57 | 57 | 2571 |
| 58 | 58 | 2679 |
| 59 | 59 | 2787 |
| 60 | 60 | 2895 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.



C. T. XI. Numbers I. - for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Auxiliary Arguments.

| Aux. Argum. | A. A. & A. D. 22° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 108 | | | | | | | | | | | | | | | | |
| 1 | 1 | | | | | | | | | | | | | | | | | |
| 2 | 2 | | | | | | | | | | | | | | | | | |
| 3 | 3 | | | | | | | | | | | | | | | | | |
| 4 | 4 | | | | | | | | | | | | | | | | | |
| 5 | 5 | 108 | | | | | | | | | | | | | | | | |
| 6 | 6 | | | | | | | | | | | | | | | | | |
| 7 | 7 | | | | | | | | | | | | | | | | | |
| 8 | 8 | | | | | | | | | | | | | | | | | |
| 9 | 9 | | | | | | | | | | | | | | | | | |
| 10 | 10 | 108 | | | | | | | | | | | | | | | | |
| 11 | 11 | | | | | | | | | | | | | | | | | |
| 12 | 12 | | | | | | | | | | | | | | | | | |
| 13 | 13 | | | | | | | | | | | | | | | | | |
| 14 | 14 | | | | | | | | | | | | | | | | | |
| 15 | 15 | 108 | | | | | | | | | | | | | | | | |
| 16 | 16 | | | | | | | | | | | | | | | | | |
| 17 | 17 | 108 (109) | | | | | | | | | | | | | | | | |
| 18 | 18 | | | | | | | | | | | | | | | | | |
| 19 | 19 | | | | | | | | | | | | | | | | | |
| 20 | 20 | 108 (109) | | | | | | | | | | | | | | | | |
| 21 | 21 | | | | | | | | | | | | | | | | | |
| 22 | 22 | | 3164 | 3632 | 4099 | 4567 | 5034 | 5502 | 5969 | 6437 | 6905 | 7373 | 7841 | 8309 | 8777 | 9245 | 9714 | 0182 | 0650 |
| 23 | 23 | | 3274 | 3741 | 4209 | 4676 | 5144 | 5611 | 6079 | 6547 | 7014 | 7482 | 7950 | 8418 | 8886 | 9354 | 9823 | 0291 | 0759 |
| 24 | 24 | | | | | | | | | | | | | | | | | | |
| 25 | 25 | 108 (109) | | | | | | | | | | | | | | | | | |
| 26 | 26 | | 3604 | 4071 | 4538 | 5005 | 5473 | 5940 | 6408 | 6875 | 7343 | 7810 | 8278 | 8746 | 9214 | 9682 | 0150 | 0618 | 1086 |
| 27 | 27 | | | | | | | | | | | | | | | | | | |
| 28 | 28 | | | | | | | | | | | | | | | | | | |
| 29 | 29 | | | | | | | | | | | | | | | | | | |
| 30 | 30 | 108 (109) | | | | | | | | | | | | | | | | | |
| 31 | 31 | | | | | | | | | | | | | | | | | | |
| 32 | 32 | | | | | | | | | | | | | | | | | | |
| 33 | 33 | | | | | | | | | | | | | | | | | | |
| 34 | 34 | | | | | | | | | | | | | | | | | | |
| 35 | 35 | 108 (109) | | | | | | | | | | | | | | | | | |
| 36 | 36 | | | | | | | | | | | | | | | | | | |
| 37 | 37 | | | | | | | | | | | | | | | | | | |
| 38 | 38 | | | | | | | | | | | | | | | | | | |
| 39 | 39 | | | | | | | | | | | | | | | | | | |
| 40 | 40 | 108 (109) | | | | | | | | | | | | | | | | | |
| 41 | 41 | | | | | | | | | | | | | | | | | | |
| 42 | 42 | | | | | | | | | | | | | | | | | | |
| 43 | 43 | | | | | | | | | | | | | | | | | | |
| 44 | 44 | | | | | | | | | | | | | | | | | | |
| 45 | 45 | 108 (109) | 5709 | 6175 | 6641 | 7107 | 7574 | 8040 | 8506 | 8973 | 9439 | 9906 | 0372 | 0839 | 1306 | 1773 | 2240 | 2707 | 3174 |
| 46 | 46 | | 5821 | 6287 | 6753 | 7219 | 7685 | 8151 | 8617 | 9084 | 9550 | 0017 | 0483 | 0950 | 1417 | 1884 | 2351 | 2818 | 3285 |
| 47 | 47 | | | | | | | | | | | | | | | | | | |
| 48 | 48 | | | | | | | | | | | | | | | | | | |
| 49 | 49 | | | | | | | | | | | | | | | | | | |
| 50 | 50 | 108 (109) | | | | | | | | | | | | | | | | | |
| 51 | 51 | | | | | | | | | | | | | | | | | | |
| 52 | 52 | | | | | | | | | | | | | | | | | | |
| 53 | 53 | | | | | | | | | | | | | | | | | | |
| 54 | 54 | | | | | | | | | | | | | | | | | | |
| 55 | 55 | 108 (109) | | | | | | | | | | | | | | | | | |
| 56 | 56 | | | | | | | | | | | | | | | | | | |
| 57 | 57 | | | | | | | | | | | | | | | | | | |
| 58 | 58 | | | | | | | | | | | | | | | | | | |
| 59 | 59 | | | | | | | | | | | | | | | | | | |
| 60 | 60 | 108 (109) | | | | | | | | | | | | | | | | | |

Sums for finding the Corrected Distances.

| Parts for 1′ of C. D. | C. D. | 22° |
|---|---|---|
| | 0 | |
| | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | 407 |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | |
| | 10 | 407 |
| | 11 | |
| | 12 | |
| | 13 | |
| | 14 | |
| | 15 | 407 |
| | 16 | |
| | 17 | |
| | 18 | |
| | 19 | |
| | 20 | 407 |
| | 21 | |
| | 22 | 5232 |
| | 23 | 5343 |
| | 24 | |
| | 25 | 407 |
| | 26 | 5676 |
| | 27 | |
| | 28 | |
| | 29 | |
| | 30 | 407 |
| | 31 | |
| | 32 | |
| | 33 | |
| | 34 | |
| | 35 | 407 |
| | 36 | |
| | 37 | |
| | 38 | |
| | 39 | |
| | 40 | 407 |
| | 41 | |
| | 42 | |
| | 43 | |
| | 44 | |
| | 45 | 407 |
| | 46 | |
| | 47 | |
| | 48 | |
| | 49 | |
| | 50 | 407 |
| | 51 | |
| | 52 | |
| | 53 | |
| | 54 | |
| | 55 | 407 |
| | 56 | |
| | 57 | |
| | 58 | |
| | 59 | |
| | 60 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| Parts for Sec. of | C. S. A. 23° | Numbers |
|---|---|---|
| 100 | 6 | 6419 |
| 89 | 12 | 5761 |
| 78 | 18 | 5102 |
| 67 | 24 | 4443 |
| 56 | 30 | 3784 |
| 45 | 37 | 2986 |
| 34 | 43 | 2327 |
| 23 | 49 | 1668 |
| 12 | 55 | 1009 |
| 1 | 61 | 0350 |

| Parts for Seconds of Auxil. Arcus. | S.A.A. & A.D. 23° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 107 (108) 6495 | 9959 | 0423 | 0887 | 1351 | 1815 | 2279 | 2743 | 3208 | 3672 | 4136 | 4600 | 5064 | 5528 | 5992 | 6456 | 6920 |
| 8 | 1 | 9690 | 0072 | 0536 | 1000 | 1464 | 1928 | 2392 | 2857 | 3321 | 3785 | 4249 | 4713 | 5177 | 5641 | 6105 | 6569 | 7033 |
| 17 | 2 | 9725 | 0189 | 0653 | 1114 | 1578 | 2042 | 2506 | 2970 | 3434 | 3898 | 4362 | 4826 | 5290 | 5754 | 6218 | 6682 | 7146 |
| 25 | 3 | 9837 | 0301 | 0764 | 1228 | 1691 | 2155 | 2619 | 3083 | 3547 | 4011 | 4475 | 4939 | 5403 | 5867 | 6331 | 6795 | 7259 |
| 34 | 4 | 9950 | 0414 | 0878 | 1341 | 1805 | 2269 | 2733 | 3197 | 3661 | 4125 | 4589 | 5054 | 5518 | 5982 | 6446 | 6910 | 7374 |
| 42 | 5 | 9964 | 0528 | 0991 | 1455 | 1919 | 2383 | 2847 | 3311 | 3775 | 4239 | 4703 | 5168 | 5632 | 6096 | 6560 | 7024 | 7488 |
| 51 | 6 | 0178 | 0642 | 1105 | 1569 | 2033 | 2497 | 2960 | 3424 | 3888 | 4353 | 4817 | 5281 | 5745 | 6210 | 6674 | 7139 | 7603 |
| 59 | 7 | 0293 | 0756 | 1220 | 1683 | 2147 | 2611 | 3074 | 3538 | 4002 | 4467 | 4931 | 5395 | 5859 | 6323 | 6788 | 7252 | 7717 |
| 68 | 8 | 0407 | 0871 | 1334 | 1797 | 2261 | 2724 | 3188 | 3652 | 4116 | 4580 | 5044 | 5508 | 5972 | 6437 | 6901 | 7365 | 7830 |
| 76 | 9 | 0521 | 0985 | 1448 | 1911 | 2375 | 2838 | 3302 | 3766 | 4230 | 4694 | 5158 | 5622 | 6086 | 6550 | 7014 | 7479 | 7943 |
| 85 | 10 | 0635 | 1099 | 1562 | 2026 | 2489 | 2953 | 3416 | 3880 | 4344 | 4808 | 5272 | 5736 | 6200 | 6664 | 7128 | 7592 | 8057 |
| 93 | 11 | 0750 | 1213 | 1677 | 2140 | 2604 | 3067 | 3531 | 3994 | 4458 | 4922 | 5386 | 5849 | 6313 | 6777 | 7242 | 7706 | 8170 |
| 102 | 12 | 0865 | 1328 | 1791 | 2254 | 2718 | 3181 | 3645 | 4108 | 4572 | 5036 | 5499 | 5963 | 6427 | 6891 | 7355 | 7820 | 8284 |
| 110 | 13 | 0979 | 1442 | 1905 | 2369 | 2832 | 3296 | 3759 | 4223 | 4686 | 5150 | 5614 | 6077 | 6541 | 7005 | 7469 | 7933 | 8397 |
| 119 | 14 | 1094 | 1557 | 2020 | 2483 | 2947 | 3410 | 3874 | 4337 | 4801 | 5264 | 5728 | 6191 | 6655 | 7119 | 7583 | 8047 | 8511 |
| 127 | 15 | 1208 | 1672 | 2135 | 2598 | 3061 | 3524 | 3988 | 4451 | 4915 | 5378 | 5842 | 6305 | 6769 | 7233 | 7697 | 8161 | 8625 |
| 136 | 16 | 1324 | 1787 | 2250 | 2713 | 3177 | 3640 | 4103 | 4567 | 5030 | 5494 | 5957 | 6421 | 6884 | 7347 | 7811 | 8275 | 8739 |
| 144 | 17 | 1439 | 1901 | 2364 | 2827 | 3290 | 3754 | 4217 | 4681 | 5144 | 5607 | 6071 | 6534 | 6998 | 7462 | 7925 | 8389 | 8853 |
| 153 | 18 | 1554 | 2016 | 2479 | 2942 | 3406 | 3869 | 4333 | 4796 | 5259 | 5723 | 6186 | 6650 | 7112 | 7576 | 8040 | 8503 | 8967 |
| 161 | 19 | 1669 | 2131 | 2594 | 3057 | 3521 | 3984 | 4447 | 4911 | 5374 | 5838 | 6301 | 6765 | 7229 | 7690 | 8154 | 8618 | 9082 |
| 170 | 20 | 128 | 1784 | 2247 | 2710 | 3174 | 3637 | 4101 | 4564 | 5027 | 5491 | 5954 | 6418 | 6881 | 7345 | 7808 | 8272 | 8736 |
| 178 | 21 | 1899 | 2362 | 2825 | 3289 | 3752 | 4216 | 4679 | 5142 | 5606 | 6069 | 6533 | 6996 | 7460 | 7923 | 8387 | 8851 | 9314 |
| 187 | 22 | 2014 | 2477 | 2940 | 3402 | 3865 | 4328 | 4791 | 5254 | 5717 | 6180 | 6643 | 7107 | 7570 | 8034 | 8497 | 8961 | 9424 |
| 195 | 23 | 2129 | 2592 | 3055 | 3518 | 3981 | 4444 | 4907 | 5370 | 5833 | 6297 | 6760 | 7224 | 7687 | 8151 | 8615 | 9078 | 9539 |
| 204 | 24 | 2245 | 2707 | 3170 | 3633 | 4096 | 4558 | 5021 | 5484 | 5947 | 6410 | 6873 | 7336 | 7800 | 8263 | 8726 | 9190 | 9654 |
| 212 | 25 | 128 | 2823 | 3286 | 3749 | 4211 | 4674 | 5137 | 5599 | 6062 | 6525 | 6988 | 7451 | 7914 | 8377 | 8841 | 9305 | 9768 |
| 221 | 26 | 2477 | 2939 | 3401 | 3864 | 4326 | 4789 | 5252 | 5714 | 6177 | 6640 | 7103 | 7566 | 8029 | 8493 | 8956 | 9419 | 9883 |
| 229 | 27 | 2592 | 3055 | 3517 | 3979 | 4442 | 4904 | 5367 | 5830 | 6292 | 6755 | 7218 | 7681 | 8144 | 8608 | 9071 | 9534 | 9998 |
| 238 | 28 | 128 (109) 2708 | 3171 | 3634 | 4097 | 4559 | 5022 | 5485 | 5948 | 6410 | 6873 | 7336 | 7799 | 8262 | 8726 | 9189 | 9652 | 0116 |
| 246 | 29 | 2824 | 3286 | 3749 | 4211 | 4673 | 5135 | 5598 | 6061 | 6523 | 6986 | 7449 | 7912 | 8375 | 8838 | 9301 | 9764 | 0227 |
| 255 | 30 | 128 (109) 2939 | 3402 | 3864 | 4326 | 4788 | 5251 | 5714 | 6176 | 6639 | 7101 | 7564 | 8027 | 8490 | 8953 | 9416 | 9879 | 0342 |
| 263 | 31 | 3054 | 3517 | 3979 | 4441 | 4903 | 5366 | 5828 | 6291 | 6753 | 7216 | 7679 | 8142 | 8605 | 9068 | 9531 | 9994 | 0457 |
| 272 | 32 | 3169 | 3632 | 4094 | 4556 | 5018 | 5480 | 5943 | 6405 | 6868 | 7331 | 7794 | 8257 | 8720 | 9183 | 9646 | 0109 | 0572 |
| 280 | 33 | 3284 | 3747 | 4209 | 4671 | 5133 | 5595 | 6058 | 6520 | 6983 | 7446 | 7909 | 8372 | 8835 | 9298 | 9761 | 0224 | 0687 |
| 289 | 34 | 3399 | 3862 | 4324 | 4786 | 5248 | 5710 | 6173 | 6635 | 7098 | 7561 | 8024 | 8487 | 8950 | 9413 | 9876 | 0339 | 0802 |
| 297 | 35 | 128 (109) 3514 | 3977 | 4439 | 4901 | 5363 | 5825 | 6288 | 6750 | 7213 | 7676 | 8139 | 8602 | 9065 | 9528 | 9991 | 0454 | 0917 |
| 306 | 36 | 3637 | 4099 | 4561 | 5023 | 5485 | 5947 | 6409 | 6871 | 7333 | 7796 | 8258 | 8721 | 9183 | 9645 | 0108 | 0571 | 1034 |
| 314 | 37 | 3754 | 4215 | 4677 | 5139 | 5601 | 6063 | 6525 | 6987 | 7449 | 7912 | 8374 | 8836 | 9299 | 9761 | 0224 | 0687 | 1150 |
| 323 | 38 | 3869 | 4330 | 4792 | 5254 | 5716 | 6178 | 6640 | 7102 | 7565 | 8028 | 8490 | 8953 | 9416 | 9877 | 0340 | 0803 | 1266 |
| 331 | 39 | 3984 | 4445 | 4907 | 5369 | 5831 | 6293 | 6755 | 7217 | 7680 | 8143 | 8606 | 9069 | 9532 | 9994 | 0457 | 0920 | 1382 |
| 340 | 40 | 128 (109) 4100 | 4561 | 5023 | 5485 | 5947 | 6409 | 6871 | 7333 | 7796 | 8258 | 8721 | 9183 | 9645 | 0108 | 0571 | 1034 | 1497 |
| 348 | 41 | 4215 | 4677 | 5139 | 5601 | 6063 | 6525 | 6987 | 7449 | 7912 | 8374 | 8836 | 9299 | 9761 | 0224 | 0687 | 1150 | 1613 |
| 357 | 42 | 4330 | 4792 | 5254 | 5716 | 6178 | 6640 | 7102 | 7565 | 8028 | 8490 | 8953 | 9416 | 9877 | 0340 | 0803 | 1266 | 1729 |
| 365 | 43 | 4445 | 4907 | 5369 | 5831 | 6293 | 6755 | 7217 | 7680 | 8143 | 8606 | 9069 | 9532 | 9994 | 0457 | 0920 | 1382 | 1845 |
| 374 | 44 | 4571 | 5036 | 5494 | 5955 | 6417 | 6878 | 7340 | 7802 | 8264 | 8726 | 9187 | 9650 | 0112 | 0574 | 1036 | 1498 | 1960 |
| 382 | 45 | 128 (109) 4686 | 5151 | 5613 | 6074 | 6534 | 6995 | 7457 | 7919 | 8381 | 8843 | 9305 | 9768 | 0230 | 0692 | 1154 | 1616 | 2078 |
| 391 | 46 | 4806 | 5267 | 5728 | 6189 | 6651 | 7112 | 7574 | 8035 | 8497 | 8959 | 9421 | 9883 | 0345 | 0807 | 1269 | 1731 | 2193 |
| 399 | 47 | 4923 | 5385 | 5845 | 6306 | 6768 | 7229 | 7691 | 8152 | 8614 | 9075 | 9537 | 999 | 0461 | 0923 | 1385 | 1847 | 2309 |
| 408 | 48 | 5040 | 5501 | 5962 | 6424 | 6885 | 7346 | 7808 | 8269 | 8731 | 9192 | 9654 | 0116 | 0577 | 1039 | 1501 | 1963 | 2425 |
| 416 | 49 | 5158 | 5619 | 6080 | 6541 | 7002 | 7463 | 7925 | 8386 | 8848 | 9309 | 9771 | 0232 | 0694 | 1156 | 1618 | 2080 | 2542 |
| 425 | 50 | 108 (109) 5275 | 5736 | 6197 | 6658 | 7119 | 7581 | 8042 | 8503 | 8965 | 9426 | 9888 | 0349 | 0811 | 1273 | 1735 | 2196 | 2658 |
| 433 | 51 | 5393 | 5854 | 6315 | 6776 | 7237 | 7698 | 8159 | 8620 | 9082 | 9543 | 0004 | 0466 | 0927 | 1389 | 1851 | 2312 | 2774 |
| 442 | 52 | 5511 | 5972 | 6433 | 6894 | 7355 | 7816 | 8277 | 8738 | 9200 | 9661 | 0122 | 0583 | 1045 | 1506 | 1968 | 2429 | 2891 |
| 450 | 53 | 5628 | 6089 | 6550 | 7011 | 7472 | 7933 | 8394 | 8855 | 9317 | 9778 | 0239 | 0700 | 1162 | 1623 | 2085 | 2546 | 3008 |
| 459 | 54 | 5746 | 6207 | 6668 | 7129 | 7590 | 8051 | 8512 | 8973 | 9435 | 9896 | 0357 | 0818 | 1280 | 1741 | 2203 | 2664 | 3126 |
| 467 | 55 | 108 (109) 5864 | 6324 | 6785 | 7246 | 7707 | 8168 | 8629 | 9090 | 9552 | 0013 | 0474 | 0935 | 1397 | 1858 | 2320 | 2781 | 3243 |
| 476 | 56 | 5982 | 6442 | 6903 | 7364 | 7825 | 8286 | 8747 | 9208 | 9670 | 0131 | 0592 | 1053 | 1515 | 1976 | 2438 | 2899 | 3361 |
| 484 | 57 | 6100 | 6560 | 7021 | 7482 | 7943 | 8404 | 8865 | 9326 | 9788 | 0249 | 0710 | 1171 | 1633 | 2094 | 2556 | 3017 | 3479 |
| 493 | 58 | 6218 | 6678 | 7139 | 7600 | 8061 | 8522 | 8983 | 9444 | 9906 | 0367 | 0828 | 1289 | 1751 | 2212 | 2674 | 3135 | 3597 |
| 501 | 59 | 6336 | 6796 | 7257 | 7718 | 8179 | 8640 | 9101 | 9562 | 0024 | 0485 | 0946 | 1407 | 1869 | 2330 | 2792 | 3253 | 3715 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Parts for Seconds of Auxil. Argum. additive

S. A. A. & A. D. 23°

Auxiliary Arguments.

| 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 108 (109) | 7391 | 7856 | 8321 | 8786 | 9252 | 0717 | 1183 | 1648 | 2114 | 2580 | 3045 | 3511 | 3977 | 4443 | 4910 | 5376 | 5842 |
| 1 | | 7503 | 7968 | 8434 | 8899 | 9365 | 0830 | 1296 | 1762 | 2228 | 2693 | 3159 | 3625 | 4091 | 4558 | 5024 | 5490 | 5956 |
| 2 | | 7616 | 8081 | 8547 | 9013 | 9479 | 9944 | 0410 | 0876 | 1342 | 1808 | 2275 | 2741 | 3207 | 3674 | 4140 | 4606 | 5073 |
| 3 | | 7729 | 8195 | 8661 | 9127 | 9594 | 0060 | 0526 | 0992 | 1459 | 1925 | 2392 | 2858 | 3325 | 3791 | 4258 | 4725 | 5191 |
| 4 | | 7841 | 8307 | 8774 | 9240 | 9707 | 0173 | 0640 | 1107 | 1574 | 2041 | 2508 | 2975 | 3442 | 3909 | 4376 | 4843 | 5310 |
| 5 | 108 (109) | 7954 | 8421 | 8888 | 9355 | 9821 | 0288 | 0755 | 1222 | 1689 | 2156 | 2624 | 3091 | 3558 | 4026 | 4493 | 4961 | 5428 |
| 6 | | 8067 | 8534 | 9001 | 9468 | 9935 | 0403 | 0870 | 1338 | 1806 | 2273 | 2741 | 3208 | 3676 | 4144 | 4611 | 5079 | 5547 |
| 7 | | 8181 | 8647 | 9114 | 9582 | 0049 | 0517 | 0985 | 1453 | 1921 | 2389 | 2857 | 3325 | 3793 | 4261 | 4730 | 5198 | 5666 |
| 8 | | 8294 | 8761 | 9229 | 9696 | 0164 | 0632 | 1100 | 1569 | 2037 | 2505 | 2974 | 3442 | 3911 | 4379 | 4848 | 5316 | 5785 |
| 9 | | 8407 | 8875 | 9343 | 9811 | 0279 | 0747 | 1216 | 1685 | 2154 | 2622 | 3091 | 3560 | 4028 | 4497 | 4966 | 5435 | 5904 |
| 10 | 108 (109) | 8521 | 8989 | 9457 | 9925 | 0394 | 0862 | 1331 | 1800 | 2270 | 2739 | 3208 | 3677 | 4146 | 4615 | 5084 | 5553 | 6023 |
| 11 | | 8635 | 9103 | 9571 | 0040 | 0508 | 0977 | 1446 | 1916 | 2385 | 2855 | 3324 | 3794 | 4263 | 4733 | 5203 | 5672 | 6142 |
| 12 | | 8748 | 9217 | 9686 | 0154 | 0623 | 1092 | 1562 | 2031 | 2501 | 2971 | 3441 | 3910 | 4380 | 4850 | 5321 | 5791 | 6261 |
| 13 | | 8862 | 9331 | 9800 | 0269 | 0738 | 1208 | 1677 | 2147 | 2617 | 3088 | 3558 | 4028 | 4498 | 4969 | 5439 | 5910 | 6380 |
| 14 | | 8976 | 9445 | 9915 | 0384 | 0854 | 1323 | 1793 | 2264 | 2734 | 3205 | 3675 | 4146 | 4617 | 5088 | 5558 | 6029 | 6500 |
| 15 | 108 (109) | 9090 | 9559 | 0029 | 0499 | 0969 | 1439 | 1909 | 2380 | 2851 | 3322 | 3793 | 4264 | 4735 | 5206 | 5677 | 6148 | 6619 |
| 16 | | 9203 | 9674 | 0144 | 0614 | 1085 | 1555 | 2026 | 2497 | 2968 | 3439 | 3911 | 4382 | 4853 | 5325 | 5796 | 6267 | 6739 |
| 17 | | 9317 | 9788 | 0259 | 0730 | 1201 | 1672 | 2143 | 2614 | 3086 | 3557 | 4029 | 4500 | 4972 | 5443 | 5915 | 6387 | 6858 |
| 18 | | 9431 | 9896 | 0360 | 0824 | 1288 | 1753 | 2217 | 2682 | 3146 | 3611 | 4076 | 4541 | 5005 | 5471 | 5936 | 6401 | 6866 |
| 19 | | 9546 | 0016 | 0474 | 0933 | 1392 | 1867 | 2331 | 2795 | 3260 | 3725 | 4189 | 4654 | 5118 | 5584 | 6049 | 6514 | 6979 |
| 20 | 108 (109) | 9660 | 0129 | 0588 | 1047 | 1506 | 1965 | 2424 | 2883 | 3342 | 3801 | 4260 | 4719 | 5178 | 5637 | 6096 | 6555 | 7014 |
| 21 | | 9774 | 0238 | 0702 | 1166 | 1625 | 2084 | 2543 | 3002 | 3461 | 3920 | 4379 | 4838 | 5297 | 5756 | 6215 | 6674 | 7133 |
| 22 | | 9888 | 0352 | 0816 | 1280 | 1744 | 2203 | 2663 | 3122 | 3581 | 4040 | 4499 | 4958 | 5417 | 5876 | 6335 | 6794 | 7253 |
| 23 | 109 | 0003 | 0467 | 0931 | 1395 | 1858 | 2323 | 2787 | 3251 | 3715 | 4180 | 4644 | 5109 | 5574 | 6038 | 6503 | 6968 | 7433 |
| 24 | | 0117 | 0581 | 1045 | 1509 | 1973 | 2437 | 2901 | 3365 | 3829 | 4294 | 4758 | 5223 | 5687 | 6152 | 6617 | 7082 | 7547 |
| 25 | 109 | 0232 | 0696 | 1160 | 1623 | 2087 | 2551 | 3015 | 3479 | 3943 | 4408 | 4872 | 5337 | 5801 | 6266 | 6731 | 7196 | 7661 |
| 26 | | 0346 | 0810 | 1274 | 1738 | 2201 | 2665 | 3129 | 3593 | 4058 | 4522 | 4986 | 5451 | 5915 | 6380 | 6844 | 7309 | 7774 |
| 27 | | 0461 | 0925 | 1388 | 1852 | 2316 | 2780 | 3244 | 3708 | 4172 | 4636 | 5100 | 5565 | 6029 | 6494 | 6958 | 7423 | 7888 |
| 28 | | 0576 | 1040 | 1503 | 1967 | 2430 | 2894 | 3358 | 3822 | 4286 | 4750 | 5215 | 5679 | 6143 | 6608 | 7072 | 7537 | 8002 |
| 29 | | 0691 | 1155 | 1619 | 2082 | 2545 | 3009 | 3473 | 3937 | 4401 | 4865 | 5329 | 5793 | 6257 | 6722 | 7186 | 7651 | 8115 |
| 30 | 109 | 0806 | 1269 | 1733 | 2196 | 2660 | 3124 | 3587 | 4051 | 4515 | 4979 | 5443 | 5907 | 6372 | 6836 | 7300 | 7765 | 8229 |
| 31 | | 0921 | 1384 | 1848 | 2311 | 2774 | 3238 | 3702 | 4166 | 4630 | 5094 | 5558 | 6022 | 6486 | 6950 | 7415 | 7879 | 8344 |
| 32 | | 1036 | 1499 | 1963 | 2426 | 2890 | 3353 | 3817 | 4281 | 4744 | 5208 | 5672 | 6136 | 6600 | 7065 | 7529 | 7993 | 8458 |
| 33 | | 1151 | 1614 | 2078 | 2541 | 3005 | 3468 | 3932 | 4395 | 4859 | 5323 | 5787 | 6251 | 6715 | 7179 | 7643 | 8108 | 8572 |
| 34 | | 1266 | 1729 | 2193 | 2656 | 3120 | 3583 | 4047 | 4510 | 4974 | 5438 | 5901 | 6365 | 6829 | 7294 | 7758 | 8222 | 8686 |
| 35 | 109 | 1382 | 1845 | 2308 | 2771 | 3235 | 3698 | 4162 | 4625 | 5089 | 5552 | 6016 | 6479 | 6943 | 7408 | 7872 | 8336 | 8800 |
| 36 | | 1497 | 1960 | 2423 | 2887 | 3350 | 3813 | 4277 | 4740 | 5204 | 5667 | 6131 | 6595 | 7059 | 7523 | 7987 | 8451 | 8915 |
| 37 | | 1613 | 2076 | 2539 | 3002 | 3465 | 3929 | 4392 | 4855 | 5319 | 5782 | 6246 | 6709 | 7173 | 7637 | 8101 | 8565 | 9029 |
| 38 | | 1728 | 2191 | 2654 | 3117 | 3580 | 4044 | 4507 | 4970 | 5434 | 5897 | 6361 | 6825 | 7288 | 7752 | 8216 | 8680 | 9144 |
| 39 | | 1844 | 2307 | 2770 | 3233 | 3696 | 4159 | 4622 | 5085 | 5548 | 6012 | 6475 | 6939 | 7402 | 7866 | 8330 | 8794 | 9258 |
| 40 | 109 | 1960 | 2423 | 2886 | 3349 | 3812 | 4275 | 4738 | 5201 | 5665 | 6128 | 6592 | 7055 | 7519 | 7983 | 8447 | 8911 | 9374 |
| 41 | | 2075 | 2538 | 3001 | 3464 | 3927 | 4390 | 4853 | 5316 | 5779 | 6243 | 6706 | 7170 | 7633 | 8097 | 8561 | 9025 | 9489 |
| 42 | | 2191 | 2654 | 3117 | 3580 | 4043 | 4506 | 4969 | 5432 | 5895 | 6359 | 6822 | 7286 | 7749 | 8213 | 8677 | 9141 | 9605 |
| 43 | | 2307 | 2770 | 3233 | 3695 | 4158 | 4622 | 5084 | 5547 | 6011 | 6474 | 6937 | 7400 | 7864 | 8327 | 8791 | 9255 | 9719 |
| 44 | | 2423 | 2886 | 3349 | 3811 | 4274 | 4737 | 5200 | 5663 | 6127 | 6590 | 7053 | 7517 | 7980 | 8444 | 8908 | 9372 | 9836 |
| 45 | 109 | 2538 | 3001 | 3464 | 3927 | 4390 | 4853 | 5316 | 5779 | 6243 | 6706 | 7170 | 7633 | 8097 | 8561 | 9025 | 9489 | 9953 |
| 46 | 109 (110) | 2654 | 3117 | 3580 | 4043 | 4506 | 4969 | 5431 | 5894 | 6357 | 6821 | 7284 | 7748 | 8211 | 8675 | 9139 | 9603 | 0067 |
| 47 | | 2772 | 3234 | 3697 | 4159 | 4622 | 5085 | 5547 | 6010 | 6473 | 6936 | 7399 | 7862 | 8326 | 8789 | 9252 | 9716 | 0179 |
| 48 | | 2888 | 3351 | 3814 | 4276 | 4739 | 5202 | 5664 | 6127 | 6590 | 7053 | 7516 | 7979 | 8443 | 8906 | 9369 | 9833 | 0296 |
| 49 | | 3005 | 3468 | 3931 | 4393 | 4856 | 5319 | 5781 | 6244 | 6707 | 7170 | 7633 | 8096 | 8560 | 9023 | 9486 | 9950 | 0413 |
| 50 | 110 | 3121 | 3585 | 4048 | 4510 | 4973 | 5436 | 5898 | 6361 | 6824 | 7287 | 7750 | 8213 | 8677 | 9140 | 9603 | 0067 | 0530 |
| 51 | | 3239 | 3702 | 4165 | 4627 | 5090 | 5553 | 6015 | 6478 | 6941 | 7404 | 7867 | 8330 | 8794 | 9257 | 9720 | 0184 | 0647 |
| 52 | | 3357 | 3820 | 4282 | 4745 | 5208 | 5670 | 6133 | 6596 | 7059 | 7522 | 7985 | 8448 | 8911 | 9375 | 9838 | 0301 | 0764 |
| 53 | | 3475 | 3938 | 4400 | 4863 | 5326 | 5788 | 6251 | 6714 | 7177 | 7640 | 8103 | 8566 | 9029 | 9493 | 9956 | 0419 | 0882 |
| 54 | | 3594 | 4056 | 4519 | 4982 | 5444 | 5907 | 6370 | 6833 | 7296 | 7759 | 8222 | 8685 | 9148 | 9611 | 0075 | 0538 | 1001 |
| 55 | 110 | 3712 | 4175 | 4638 | 5100 | 5563 | 6026 | 6489 | 6952 | 7415 | 7878 | 8341 | 8804 | 9267 | 9730 | 0194 | 0657 | 1120 |
| 56 | | 3831 | 4294 | 4756 | 5219 | 5682 | 6145 | 6608 | 7071 | 7534 | 7997 | 8460 | 8923 | 9386 | 9849 | 0313 | 0776 | 1239 |
| 57 | | 3950 | 4413 | 4875 | 5338 | 5801 | 6264 | 6727 | 7190 | 7653 | 8116 | 8579 | 9042 | 9505 | 9968 | 0432 | 0895 | 1358 |
| 58 | | 4069 | 4532 | 4995 | 5457 | 5920 | 6383 | 6846 | 7309 | 7772 | 8235 | 8698 | 9161 | 9624 | 0087 | 0551 | 1014 | 1477 |
| 59 | | 4188 | 4651 | 5114 | 5576 | 6039 | 6502 | 6965 | 7428 | 7891 | 8354 | 8817 | 9280 | 9743 | 0206 | 0670 | 1133 | 1596 |

Sums for finding the Corrected Distances.

Parts for Sec. of C. D. addit.

| C. D. 23° | Sums |
|---|---|
| 0′ | 407 9405 |
| 1 | 9699 |
| 2 | 9723 |
| 3 | 9836 |
| 4 | 9950 |
| 5 | 408 0064 |
| 6 | 0178 |
| 7 | 0293 |
| 8 | 0407 |
| 9 | 0521 |
| 10 | 0636 |
| 11 | 0750 |
| 12 | 0865 |
| 13 | 0979 |
| 14 | 1094 |
| 15 | 1208 |
| 16 | 1323 |
| 17 | 1437 |
| 18 | 1552 |
| 19 | 1667 |
| 20 | 1781 |
| 21 | 1896 |
| 22 | 2011 |
| 23 | 2126 |
| 24 | 2241 |
| 25 | 2356 |
| 26 | 2471 |
| 27 | 2586 |
| 28 | 2701 |
| 29 | 2816 |
| 30 | 2931 |
| 31 | 3046 |
| 32 | 3161 |
| 33 | 3276 |
| 34 | 3391 |
| 35 | 3506 |
| 36 | 3621 |
| 37 | 3737 |
| 38 | 3852 |
| 39 | 3967 |
| 40 | 4082 |
| 41 | 4198 |
| 42 | 4313 |
| 43 | 4428 |
| 44 | 4544 |
| 45 | 4659 |
| 46 | 4775 |
| 47 | 4890 |
| 48 | 5006 |
| 49 | 5121 |
| 50 | 5237 |
| 51 | 5353 |
| 52 | 5468 |
| 53 | 5584 |
| 54 | 5700 |
| 55 | 5816 |
| 56 | 5932 |
| 57 | 6048 |
| 58 | 6164 |
| 59 | 6280 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Time for Sec. | A. D. 24° | Numbers |
|---|---|---|
| 1 | 0 | 192 0000 |
| 2 | 1 | 0777 |
| 3 | 2 | 0554 |
| 4 | 3 | 0331 |
| 108 | 4 | 191 9936 |
| 109 | 5 | 191 9713 |
| 110 | 6 | 9717 |
| 111 | 7 | 9693 |
| 112 | 8 | 9470 |
| 113 | 9 | 9247 |
| 97 | 10 | 191 9024 |
| 98 | 11 | 8801 |
| 99 | 12 | 8578 |
| 91 | 13 | 8906 |
| 86 | 14 | 8701 |
| 87 | 15 | 191 8070 |
| 88 | 16 | 8561 |
| 83 | 17 | 8446 |
| 81 | 18 | 8331 |
| 79 | 19 | 8216 |
| 77 | 20 | 191 8101 |
| 75 | 21 | 7986 |
| 73 | 22 | 7870 |
| 71 | 23 | 7755 |
| 70 | 24 | 7639 |
| 69 | 25 | 191 7524 |
| 67 | 26 | 7408 |
| 64 | 27 | 7293 |
| 62 | 28 | 7177 |
| 61 | 29 | 7062 |
| 59 | 30 | 191 6946 |
| 57 | 31 | 6830 |
| 55 | 32 | 6715 |
| 53 | 33 | 6599 |
| 52 | 34 | 6483 |
| 49 | 35 | 191 6367 |
| 47 | 36 | 6251 |
| 45 | 37 | 6135 |
| 43 | 38 | 6019 |
| 41 | 39 | 5896 |
| 39 | 40 | 191 5779 |
| 37 | 41 | 5663 |
| 36 | 42 | 5546 |
| 33 | 43 | 5429 |
| 31 | 44 | 5311 |
| 29 | 45 | 191 5194 |
| 27 | 46 | 5077 |
| 25 | 47 | 4960 |
| 23 | 48 | 4842 |
| 21 | 49 | 4725 |
| 19 | 50 | 191 4607 |
| 17 | 51 | 4490 |
| 15 | 52 | 4372 |
| 13 | 53 | 4254 |
| 12 | 54 | 4136 |
| 10 | 55 | 191 4018 |
| 8 | 56 | 3900 |
| 6 | 57 | 3782 |
| 4 | 58 | 3664 |
| 2 | 59 | 3545 |

| Time for Seconds of Auxil. | A. D. 24° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 108 (109)6454 | 0915 | 7375 | 7830 | 8290 | 8757 | 9218 | 9678 | 0139 | 0600 | 1061 | | | | | | |
| 1 | 1 | | 6573 | 7033 | 7493 | 7954 | 8414 | 8875 | 9336 | 9796 | 0257 | 0718 | 1179 | | | | | |
| 2 | 2 | | 6691 | 7152 | 7612 | 8072 | 8533 | 8993 | 9454 | 9914 | 0375 | 0836 | 1297 | | | | | |
| 3 | 3 | | | | | | | | | | | | | | | | | |
| 4 | 4 | | 6928 | 7388 | 7849 | 8309 | 8769 | 9229 | 9690 | 0151 | 0611 | 1072 | | | | | | |
| 5 | 5 | 108 (109) | 7047 | 7507 | 7967 | 8427 | 8888 | 9348 | 9808 | 0269 | 0729 | 1190 | | | | | | |
| 6 | 6 | | 7165 | 7625 | 8085 | 8545 | 9006 | 9466 | 9927 | 0387 | 0847 | 1308 | | | | | | |
| 7 | 7 | | 7283 | 7743 | 8203 | 8664 | 9125 | 9585 | 0045 | 0505 | 0966 | 1426 | | | | | | |
| 8 | 8 | | 7402 | 7862 | 8322 | 8782 | 9243 | 9703 | 0164 | 0624 | 1084 | 1545 | | | | | | |
| 9 | 9 | | 7520 | 7980 | 8440 | 8900 | 9361 | 9821 | 0282 | 0742 | 1203 | 1663 | | | | | | |
| 10 | 10 | 108 (109) | 7638 | 8098 | 8558 | 9019 | 9479 | 9939 | 0401 | 0861 | 1321 | 1781 | | | | | | |
| 11 | 11 | | 7757 | 8217 | 8677 | 9137 | 9597 | 0058 | 0519 | 0979 | 1439 | 1900 | | | | | | |
| 12 | 12 | | 7875 | 8335 | 8795 | 9255 | 9716 | 0176 | 0637 | 1097 | 1558 | 2018 | | | | | | |
| 100 | 13 | | 7999 | 8459 | 8918 | 9378 | 9838 | 0298 | 0758 | 1218 | 1678 | 2138 | 2598 | 3058 | 3519 | | | |
| 107 | 14 | | | | | | | | | | | | | | | | | |
| 115 | 15 | 108 (109) | 8235 | 8697 | 9157 | 9618 | 0078 | 0538 | 0998 | 1455 | 1915 | 2375 | 2836 | 3296 | 3756 | 4216 | | |
| 123 | 16 | | 8357 | 8817 | 9279 | 9738 | 0198 | 0655 | 1115 | 1575 | 2034 | 2494 | 2954 | 3415 | 3875 | 4335 | | |
| 130 | 17 | | 8477 | 8936 | 9396 | 9855 | 0315 | 0774 | 1234 | 1694 | 2154 | 2613 | 3073 | 3534 | 3994 | 4454 | | |
| 138 | 18 | | 8597 | 9056 | 9515 | 9975 | 0434 | 0894 | 1353 | 1813 | 2273 | 2733 | 3193 | 3653 | | | | |
| 146 | 19 | | 8716 | 9176 | 9635 | 0094 | 0554 | 1013 | 1473 | 1932 | 2392 | | | | | | | |
| 153 | 20 | 108 (109) | 8836 | 9295 | 9755 | 0214 | 0673 | 1133 | 1592 | 2052 | 2511 | | | | | | | |
| 161 | 21 | | | | | | | | | | | | | | | | | |
| 168 | 22 | | 9076 | 9535 | 9994 | 0453 | 0913 | 1372 | 1831 | 2291 | 2750 | 3210 | 3670 | 4129 | 4589 | 5049 | | |
| 176 | 23 | | | | | | | | | | | | | | | | | |
| 184 | 24 | | 9316 | 9775 | 0234 | 0693 | 1152 | 1611 | 2071 | 2530 | 2989 | 3449 | 3908 | 4368 | 4828 | 5288 | | |
| 191 | 25 | | | | | | | | | | | | | | | | | |
| 199 | 26 | | | | | | | | | | | | | | | | | |
| 207 | 27 | | | | | | | | | | | | | | | | | |
| 214 | 28 | | | | | | | | | | | | | | | | | |
| 222 | 29 | | | | | | | | | | | | | | | | | |
| 230 | 30 | 109 | | | | | | | | | | | | | | | | |
| 237 | 31 | | | | | | | | | | | | | | | | | |
| 245 | 32 | | | | | | | | | | | | | | | | | |
| 253 | 33 | | | | | | | | | | | | | | | | | |
| 260 | 34 | | | | | | | | | | | | | | | | | |
| 268 | 35 | 109 | | | | | | | | | | | | | | | | |
| 276 | 36 | | | | | | | | | | | | | | | | | |
| 283 | 37 | | | | | | | | | | | | | | | | | |
| 291 | 38 | | | | | | | | | | | | | | | | | |
| 299 | 39 | | 1127 | 1585 | 2043 | 2502 | 2960 | | | | | | | | | | | |
| 306 | 40 | 109 | | | | | | | | | | | | | | | | |
| 314 | 41 | | 1370 | 1828 | 2286 | 2744 | 3202 | 3660 | 4118 | 4577 | 5035 | 5494 | 5952 | 6411 | | | | |
| 322 | 42 | | | | | | | | | | | | | | | | | |
| 330 | 43 | | | | | | | | | | | | | | | | | |
| 337 | 44 | | | | | | | | | | | | | | | | | |
| 345 | 45 | 109 | | | | | | | | | | | | | | | | |
| 352 | 46 | | 1979 | 2436 | 2894 | 3351 | 3809 | 4267 | 4725 | 5183 | 5641 | | | | | | | |
| 360 | 47 | | 2100 | 2558 | 3015 | 3473 | 3931 | 4389 | 4846 | 5304 | 5762 | | | | | | | |
| 368 | 48 | | | | | | | | | | | | | | | | | |
| 375 | 49 | | 2345 | 2802 | 3259 | 3717 | 4174 | 4632 | 5090 | 5548 | 6005 | | | | | | | |
| 383 | 50 | 110 | | | | | | | | | | | | | | | | |
| 391 | 51 | | 2589 | 3046 | 3503 | 3961 | 4418 | 4876 | 5333 | 5791 | 6249 | 6707 | 7164 | | | | | |
| 398 | 52 | 109 (110) | 2711 | 3168 | 3626 | 4083 | 4541 | 4998 | 5455 | 5913 | 6371 | | | | | | | |
| 406 | 53 | | 2834 | 3291 | 3748 | 4205 | 4662 | 5120 | 5577 | 6035 | 6492 | | | | | | | |
| 414 | 54 | | | | | | | | | | | | | | | | | |
| 421 | 55 | 109 (110) | | | | | | | | | | | | | | | | |
| 429 | 56 | | | | | | | | | | | | | | | | | |
| 437 | 57 | | | | | | | | | | | | | | | | | |
| 444 | 58 | | 3446 | 3903 | 4360 | 4817 | 5274 | 5731 | 6188 | 6646 | 7103 | 7560 | 8018 | 8475 | 8933 | | | |
| 452 | 59 | | | | | | | | | | | | | | | | | |

# C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
# and Numbers III. for Apparent Distances - - - - - }

Part I. Sect. of Auxil. Arg.

| A. P. 24° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 109(110)4290 | 4752 | 5213 | 5675 | 6137 | 6599 | 7061 | 7523 | 7985 | 8447 | 8910 | 9372 | 9835 | 0297 | 0760 | 1223 | 1685 |
| 1 | 4408 | 4869 | 5331 | 5793 | 6254 | 6716 | 7178 | 7640 | 8102 | 8564 | 9027 | 9489 | 9951 | 0414 | 0876 | 1339 | 1802 |
| 2 | 4525 | 4987 | 5448 | 5910 | 6372 | 6833 | 7295 | 7757 | 8219 | 8681 | 9144 | 9606 | 0068 | 0531 | 0993 | 1456 | 1918 |
| 3 | 4643 | 5104 | 5565 | 6027 | 6489 | 6951 | 7412 | 7874 | 8336 | 8798 | 9260 | 9723 | 0185 | 0647 | 1110 | 1572 | 2035 |
| 4 | 476[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | 109(110)4878 | 5336 | [illegible] | [illegible] | 6723 | 7185 | 7647 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | 4995 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7 | 5113 | 5574 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 8 | 5231 | 5692 | 6153 | 6615 | 7076 | 7538 | 7999 | 8461 | 8922 | 9384 | 9846 | 0308 | 0770 | 1232 | 1694 | 2156 | 2619 |
| 9 | 5349 | 5810 | 6271 | 6733 | 7194 | 7655 | 8117 | 8578 | 9040 | 9502 | 9963 | 0425 | 0887 | 1349 | 1811 | 2273 | 2736 |
| 10 | 109(110)5467 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 11 | 5585 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 12 | 5703 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 13 | 5822 | 6283 | 6743 | 7204 | 7665 | 8127 | 8588 | 9049 | 9511 | 9972 | 0433 | 0895 | 1357 | 1819 | 2280 | 2742 | 3204 |
| 14 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 109(110)6058 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | 6177 | 6638 | 7098 | 7559 | 8020 | 8481 | 8942 | 9403 | 9864 | 0326 | 0787 | 1248 | 1710 | 2171 | 2633 | 3095 | 3557 |
| 17 | 6295 | 6756 | 7217 | 7678 | 8138 | 8599 | 9060 | 9521 | 9982 | 0444 | 0905 | 1366 | 1828 | 2289 | 2751 | 3212 | 3674 |
| 18 | 6414 | 6875 | 7335 | 7796 | 8257 | 8718 | 9179 | 9639 | 0101 | 0562 | 1023 | 1484 | 1946 | 2407 | 2869 | 3330 | 3792 |
| 19 | 6533 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 109(110)6652 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 21 | 6770 | 7231 | 7691 | 8152 | 8612 | 9073 | 9534 | 9995 | 0456 | 0916 | 1377 | 1839 | 2300 | 2761 | 3222 | 3684 | [illegible] |
| 22 | 6889 | 7350 | 7810 | 8271 | 8731 | 9192 | 9652 | 0113 | 0574 | 1035 | 1496 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 23 | 7008 | 7469 | 7929 | 8389 | 8850 | 9310 | 9771 | 0232 | 0692 | 1153 | 1614 | 2075 | 2536 | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | 712[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 109(110)7247 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | 7366 | 7826 | 8286 | 8746 | 9207 | 9667 | 0127 | 0588 | 1049 | 1509 | 1970 | 2431 | 2892 | 3353 | 3814 | 4275 | 4736 |
| 27 | 7485 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 28 | 7605 | 8065 | 8525 | 8985 | 9445 | 9905 | 0365 | 0826 | 1286 | 1747 | 2207 | 2668 | 3129 | 3590 | 4051 | 4512 | 4973 |
| 29 | 772[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | 109(110)7844 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | 7963 | 8423 | 8883 | 9343 | 9803 | 0263 | 0723 | 1183 | 1644 | 2104 | 2564 | 3025 | 3485 | 3946 | 4407 | 4868 | 5328 |
| 32 | 8083 | 8543 | 9003 | 9462 | 9922 | 0382 | 0842 | 1303 | 1763 | 2223 | 2683 | 3144 | 3604 | 4065 | 4526 | 4986 | 5447 |
| 33 | 820[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 34 | 832[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | 109(110)8443 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | 8563 | 9022 | 9482 | 9941 | 0401 | 0861 | 1321 | 1780 | 2240 | 2700 | 3161 | 3621 | 4081 | 4541 | 5002 | 5462 | 5923 |
| 37 | 868[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 38 | 8803 | 9262 | 9722 | 0181 | 0641 | 1100 | 1560 | 2020 | 2480 | 2940 | 3400 | 3860 | 4320 | 4780 | 5240 | 5701 | 6161 |
| 39 | 892[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | 109(110)9043 | 9503 | 9962 | 0421 | 0881 | 1340 | 1800 | 2260 | 2719 | 3179 | 3639 | 4099 | 4559 | 5019 | 5479 | 5940 | 6400 |
| 41 | 9164 | 9623 | 0082 | 0541 | 1001 | 1460 | 1920 | 2380 | 2839 | 3299 | 3759 | 4219 | 4679 | 5139 | 5599 | 6059 | 6519 |
| 42 | 9284 | 9743 | 0203 | 0662 | 1121 | 1580 | 2040 | 2500 | 2959 | 3419 | 3879 | 4338 | 4798 | 5258 | 5718 | 6178 | 6639 |
| 43 | 940[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 44 | 9526 | 9984 | 0443 | 0903 | 1362 | 1821 | 2280 | 2740 | 3199 | 3659 | 4119 | 4578 | 5038 | 5498 | 5958 | 6418 | 6878 |
| 45 | 964[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 46 | 9767 | 0226 | 0685 | 1144 | 1603 | 2062 | 2521 | 2980 | 3440 | 3899 | 4359 | 4818 | 5278 | 5738 | 6198 | 665[illegible] | [illegible] |
| 47 | 9888 | 0347 | 0806 | 1264 | 1723 | 2182 | 2642 | 3101 | 3560 | 4019 | 4479 | 4939 | 5398 | 5858 | 6318 | 6777 | [illegible] |
| 48 | 110 0009 | 0468 | 0926 | 1385 | 1844 | 2303 | 2762 | 3221 | 3681 | 4140 | 4599 | 5059 | 5518 | 5978 | [illegible] | [illegible] | [illegible] |
| 49 | 0130 | 0588 | 1047 | 1506 | 1965 | 2424 | 2883 | 3342 | 3801 | 4260 | 4720 | 5179 | 5639 | 6[illegible] | [illegible] | [illegible] | [illegible] |
| 50 | 110 0251 | 0709 | 1168 | 1627 | 2086 | 2545 | 3004 | 3463 | 3922 | 4381 | 4840 | 5299 | 5759 | 6218 | 66[illegible] | [illegible] | [illegible] |
| 51 | 0372 | 0831 | 1289 | 1748 | 2207 | 2665 | 3124 | 3583 | 4042 | 4501 | 4961 | 5420 | 5879 | 6339 | 67[illegible] | [illegible] | [illegible] |
| 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 56 | 0979 | 1437 | 1895 | 2354 | 2812 | 3271 | 3729 | 4188 | 4647 | 5106 | 5565 | 6024 | 6483 | 6942 | 7401 | 786[illegible] | 8319 |
| 57 | 1101 | 1559 | 2017 | 2475 | 2934 | 3392 | 3851 | 4309 | 4768 | 5227 | 5686 | 6144 | 6603 | 7063 | 7522 | 7981 | 8440 |
| 58 | 122[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | 1344 | 1802 | 2260 | 2718 | 3177 | 3635 | 4093 | 4552 | 5010 | 5468 | 5928 | 6387 | 6845 | 7304 | 7763 | 8222 | 86[illegible] |

## Sums for finding the Corrected Distances.

Part for Sect. of C. D addit.

| C. D 24 | Sums | |
|---|---|---|
| 0 | 408 | 6455 |
| 1 | | 6573 |
| 2 | | 6691 |
| 3 | | 6810 |
| 4 | | 6928 |
| 5 | 409 | 7047 |
| 6 | | 7165 |
| 7 | | 7285 |
| 8 | | 7404 |
| 9 | | 7523 |
| 10 | 408 | 7642 |
| 11 | | 7762 |
| 12 | | 7882 |
| 13 | | 8002 |
| 14 | | 8122 |
| 15 | 408 | 8242 |
| 16 | | 8357 |
| 17 | | 8477 |
| 18 | | 8597 |
| 19 | | 8717 |
| 20 | 408 | 8837 |
| 21 | | 8957 |
| 22 | | 9077 |
| 23 | | 9197 |
| 24 | | 9316 |
| 25 | 408 | 9437 |
| 26 | | 9557 |
| 27 | | 9677 |
| 28 | | 9797 |
| 29 | | 9917 |
| 30 | 409 | 0037 |
| 31 | | 0157 |
| 32 | | 0277 |
| 33 | | 0397 |
| 34 | | 0517 |
| 35 | 409 | 0637 |
| 36 | | 0757 |
| 37 | | 0877 |
| 38 | | 0997 |
| 39 | | 1117 |
| 40 | 409 | 1237 |
| 41 | | 1357 |
| 42 | | 1477 |
| 43 | | 1597 |
| 44 | | 1717 |
| 45 | 409 | 1837 |
| 46 | | 1957 |
| 47 | | 2077 |
| 48 | | 2197 |
| 49 | | 2317 |
| 50 | 409 | 2437 |
| 51 | | 2557 |
| 52 | | 2677 |
| 53 | | 2797 |
| 54 | | 2917 |
| 55 | 410 | 3037 |
| 56 | | 3157 |
| 57 | | 3277 |
| 58 | | 3397 |
| 59 | | 3517 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

Auxiliary Arguments.

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts for Seconds of Auxil. | A.A. & A.D. 25° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 110 1466 | 1924 | 2382 | 2840 | 3298 | 3756 | 4215 | 4673 | 5132 | 5590 | 6049 | 6508 | 6966 | | | | |
| | 1 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 30 | 4 | 1954 | 2412 | 2870 | 3327 | 3785 | 4243 | 4701 | 5160 | 5618 | 6076 | 6535 | 6993 | 7452 | 7910 | 8369 | 8828 | 9287 |
| | 5 | | | | | | | | | | | | | | | | | |
| 46 | 6 | 2198 | 2656 | 3114 | 3572 | 4029 | 4487 | 4945 | 5403 | 5861 | 6320 | 6778 | 7236 | 7695 | 8153 | 8612 | 9070 | 9529 |
| | 7 | | | | | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | | | | | |
| 68 | 9 | 2565 | 3023 | 3481 | 3938 | 4396 | 4854 | 5311 | 5769 | 6227 | 6685 | 7143 | 7601 | 8060 | 8518 | 8976 | 9435 | 9893 |
| | 10 | | | | | | | | | | | | | | | | | |
| 84 | 11 | 2811 | 3268 | 3726 | 4183 | 4641 | 5098 | 5556 | 6014 | 6472 | 6929 | 7387 | 7845 | 8304 | 8762 | 9220 | 9678 | 0137 |
| | 12 | | | | | | | | | | | | | | | | | |
| | 13 | | | | | | | | | | | | | | | | | |
| | 14 | | | | | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | | | | | | |
| 122 | 16 | | | | | | | | | | | | | | | | | |
| 129 | 17 | | | | | | | | | | | | | | | | | |
| 137 | 18 | | | | | | | | | | | | | | | | | |
| 145 | 19 | | | | | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | | | | | | |
| 160 | 21 | 4042 | 4499 | 4955 | 5412 | 5869 | 6326 | 6783 | 7240 | 7697 | 8155 | 8612 | 9069 | 9527 | 9985 | | | |
| 167 | 22 | 4165 | 4622 | 5079 | 5536 | 5992 | 6449 | 6906 | 7363 | 7820 | 8278 | 8735 | 9192 | 9650 | 0107 | 0565 | 1022 | 1480 |
| 175 | 23 | 4289 | 4746 | 5202 | 5659 | 6116 | 6573 | 7030 | 7486 | 7944 | 8401 | 8858 | 9315 | 9773 | 0230 | 0687 | 1145 | 1603 |
| | 24 | | | | | | | | | | | | | | | | | |
| | 25 | | | | | | | | | | | | | | | | | |
| | 26 | | | | | | | | | | | | | | | | | |
| | 27 | | | | | | | | | | | | | | | | | |
| 213 | 28 | 4908 | 5365 | 5821 | 6277 | 6734 | 7190 | 7647 | 8103 | 8560 | 9017 | 9474 | 9931 | 0388 | 0845 | 1302 | 1759 | 2217 |
| | 29 | | | | | | | | | | | | | | | | | |
| | 30 | | | | | | | | | | | | | | | | | |
| | 31 | | | | | | | | | | | | | | | | | |
| | 32 | | | | | | | | | | | | | | | | | |
| | 33 | | | | | | | | | | | | | | | | | |
| | 34 | | | | | | | | | | | | | | | | | |
| | 35 | | | | | | | | | | | | | | | | | |
| | 36 | | | | | | | | | | | | | | | | | |
| | 37 | | | | | | | | | | | | | | | | | |
| | 38 | | | | | | | | | | | | | | | | | |
| | 39 | | | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | | | |
| | 41 | | | | | | | | | | | | | | | | | |
| | 42 | | | | | | | | | | | | | | | | | |
| 327 | 43 | 6776 | 7232 | 7687 | 8143 | 8598 | 9054 | 9510 | 9965 | 0421 | 0877 | 1333 | 1789 | 2245 | 2701 | 3157 | 3614 | |
| | 44 | | | | | | | | | | | | | | | | | |
| | 45 | | | | | | | | | | | | | | | | | |
| | 46 | | | | | | | | | | | | | | | | | |
| | 47 | | | | | | | | | | | | | | | | | |
| | 48 | | | | | | | | | | | | | | | | | |
| | 49 | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | |
| | 51 | | | | | | | | | | | | | | | | | |
| | 52 | | | | | | | | | | | | | | | | | |
| | 53 | | | | | | | | | | | | | | | | | |
| | 54 | | | | | | | | | | | | | | | | | |
| | 55 | | | | | | | | | | | | | | | | | |
| 441 | 58 | 8662 | 9117 | 9571 | 0026 | 0480 | 0935 | 1389 | 1844 | 2299 | 2754 | 3209 | | | | | | |
| 449 | 59 | | | | | | | | | | | | | | | | | |

Sums for finding the Correct Distance

| Parts for Seconds of Auxil. | A.A. & A.D. 25° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 409 8[illegible] |
| 2 | 1 | 381[illegible] |
| 4 | 2 | 3938 |
| 6 | 3 | 4061 |
| 8 | 4 | 4185 |
| 10 | 5 | 409 4308 |
| 13 | 6 | 4431 |
| 15 | 7 | 4555 |
| 17 | 8 | 4678 |
| 19 | 9 | 4802 |
| 21 | 10 | 409 4925 |
| 23 | 11 | 5049 |
| 25 | 12 | 5173 |
| 27 | 13 | 5297 |
| 29 | 14 | 5421 |
| 31 | 15 | 409 5545 |
| 33 | 16 | 5669 |
| 36 | 17 | 5793 |
| 38 | 18 | [illegible]17 |
| 40 | 19 | [illegible] |
| 42 | 20 | [illegible] |
| 44 | 21 | [illegible] |
| 46 | 22 | [illegible] |
| 48 | 23 | [illegible] |
| 50 | 24 | [illegible] |
| 52 | 25 | [illegible] |
| 54 | 26 | [illegible] |
| 56 | 27 | [illegible] |
| 59 | 28 | [illegible] |
| 61 | 29 | [illegible] |
| 63 | 30 | [illegible] |
| 65 | 31 | [illegible] |
| 67 | 32 | [illegible] |
| 69 | 33 | [illegible] |
| 71 | 34 | [illegible] |
| 73 | 35 | [illegible] |
| 75 | 36 | [illegible] |
| 77 | 37 | [illegible] |
| 79 | 38 | [illegible] |
| 82 | 39 | [illegible] |
| 84 | 40 | 409 8671 |
| 86 | 41 | 8797 |
| 88 | 42 | 8923 |
| 90 | 43 | 9049 |
| 92 | 44 | 9175 |
| 94 | 45 | 409 9302 |
| 96 | 46 | 9428 |
| 98 | 47 | 9555 |
| 100 | 48 | 9681 |
| 102 | 49 | 9808 |
| 105 | 50 | 409 9935 |
| 107 | 51 | 410 0061 |
| [illegible] | [illegible] | [illegible] |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Parts for Sec. of Arc | A A 26 | Numbers |
|---|---|---|
| 125 | 0 | 190 6185 |
| 123 | 1 | 6092 |
| 121 | 2 | 5998 |
| 119 | 3 | 5903 |
| 117 | 4 | 5808 |
| 115 | 5 | 190 5712 |
| 113 | 6 | 5615 |
| 111 | 7 | 5518 |
| 109 | 8 | 5419 |
| 107 | 9 | 5320 |
| 105 | 10 | 190 5219 |
| 103 | 11 | 4997 |
| 101 | 12 | 4773 |
| 99 | 13 | 4547 |
| 97 | 14 | 4319 |
| 95 | 15 | 190 4091 |
| 93 | 16 | 4007 |
| 91 | 17 | 4683 |
| 89 | 18 | 3958 |
| 87 | 19 | 3834 |
| 85 | 20 | 190 3709 |
| 83 | 21 | 3585 |
| 81 | 22 | 3460 |
| 79 | 23 | 3335 |
| 77 | 24 | 3211 |
| 75 | 25 | 190 3087 |
| 73 | 26 | 2961 |
| 71 | 27 | 2836 |
| 69 | 28 | 2711 |
| 67 | 29 | 2585 |
| 65 | 30 | 190 2458 |
| 63 | 31 | 2331 |
| 61 | 32 | 2204 |
| 59 | 33 | 2077 |
| 57 | 34 | 1948 |
| 55 | 35 | 190 1819 |
| 53 | 36 | 1690 |
| 51 | 37 | 1560 |
| 49 | 38 | 1430 |
| 47 | 39 | 190 1299 |
| 45 | 40 | 1167 |
| 43 | 41 | 1035 |
| 41 | 42 | 0902 |
| 39 | 43 | 0769 |
| 37 | 44 | 0635 |
| 35 | 45 | 190 0501 |
| 33 | 46 | 0365 |
| 31 | 47 | 0229 |
| 29 | 48 | 0092 |
| 27 | 49 | 189 9955 |
| 25 | 50 | 9817 |
| 23 | 51 | 9678 |
| 21 | 52 | 9538 |
| 19 | 53 | 9398 |
| 17 | 54 | 189 9257 |
| 15 | 55 | 9115 |
| 13 | 56 | 8973 |
| 11 | 57 | 8830 |
| 9 | 58 | 8686 |
| 7 | 59 | 8541 |
| 5 | 60 | 189 8396 |
| 3 | 61 | 8250 |
| 1 | 62 | 8104 |

| Parts for Sec. of Arc | A A 26 | Auxiliary Arguments. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 8 | 0 | 110 1206 | 1650 | 2112 | 2565 | 3018 | 3471 | 3924 | 4378 | 4831 | 5285 | 5738 | 6192 | 6645 | 7099 | 7553 | 8007 | 8461 |
| 8 | 1 | 1333 | 1786 | 2239 | 2692 | 3145 | 3598 | 4051 | 4505 | 4958 | 5411 | 5865 | 6319 | 6772 | 7226 | 7680 | 8134 | 8588 |
| 8 | 2 | 1461 | 1914 | 2367 | 2820 | 3273 | 3726 | 4179 | 4632 | 5086 | 5539 | 5992 | 6446 | 6899 | 7353 | 7806 | 8260 | 8714 |
| 8 | 3 | 1589 | 2041 | 2494 | 2947 | 3400 | 3853 | 4306 | 4759 | 5212 | 5666 | 6119 | 6573 | 7026 | 7480 | 7933 | 8387 | 8841 |
| 8 | 4 | 1717 | 2169 | 2622 | 3075 | 3527 | 3980 | 4433 | 4887 | 5340 | 5793 | 6246 | 6700 | 7153 | 7607 | 8060 | 8514 | 8967 |
| 8 | 5 | 1844 | 2297 | 2750 | 3202 | 3655 | 4108 | 4561 | 5014 | 5467 | 5920 | 6373 | 6827 | 7280 | 7734 | 8187 | 8641 | 9095 |
| 8 | 6 | 1972 | 2425 | 2877 | 3330 | 3783 | 4236 | 4688 | 5141 | 5594 | 6047 | 6501 | 6954 | 7407 | 7861 | 8314 | 8768 | 9221 |
| 8 | 7 | 2100 | 2553 | 3005 | 3458 | 3911 | 4363 | 4816 | 5269 | 5722 | 6175 | 6628 | 7081 | 7535 | 7988 | 8441 | 8895 | 9348 |
| 8 | 8 | 2228 | 2681 | 3133 | 3585 | 4038 | 4491 | 4944 | 5397 | 5849 | 6302 | 6756 | 7209 | 7662 | 8115 | 8569 | 9022 | 9475 |
| 8 | 9 | 2357 | 2809 | 3261 | 3714 | 4166 | 4619 | 5072 | 5524 | 5977 | 6430 | 6883 | 7336 | 7789 | 8242 | 8696 | 9149 | 9602 |
| 8 | 10 | 2485 | 2937 | 3389 | 3842 | 4294 | 4747 | 5199 | 5652 | 6105 | 6558 | 7011 | 7464 | 7917 | 8370 | 8823 | 9276 | 9730 |
| 8 | 11 | 2613 | 3065 | 3518 | 3970 | 4422 | 4875 | 5327 | 5780 | 6233 | 6685 | 7138 | 7591 | 8044 | 8497 | 8950 | 9403 | 9857 |
| 8 | 12 | 2742 | 3194 | 3646 | 4098 | 4550 | 5003 | 5455 | 5908 | 6361 | 6813 | 7266 | 7719 | 8172 | 8625 | 9078 | 9531 | 9984 |
| 8 | 13 | 110 (111) 2870 | 3322 | 3774 | 4226 | 4679 | 5131 | 5583 | 6036 | 6489 | 6941 | 7394 | 7847 | 8300 | 8752 | 9205 | 9659 | 0112 |
| 8 | 14 | 2999 | 3451 | 3903 | 4355 | 4807 | 5259 | 5712 | 6164 | 6617 | 7070 | 7522 | 7975 | 8427 | 8880 | 9333 | 9786 | 0239 |
| 8 | 15 | 110 (111) 3127 | 3579 | 4031 | 4483 | 4935 | 5388 | 5840 | 6292 | 6745 | 7197 | 7650 | 8103 | 8555 | 9008 | 9461 | 9914 | 0367 |
| 8 | 16 | 3256 | 3708 | 4160 | 4612 | 5064 | 5516 | 5968 | 6420 | 6873 | 7325 | 7778 | 8230 | 8683 | 9136 | 9589 | 0042 | 0495 |
| 8 | 17 | 3385 | 3836 | 4288 | 4740 | 5192 | 5644 | 6097 | 6549 | 7001 | 7453 | 7906 | 8358 | 8811 | 9264 | 9717 | 0169 | 0622 |
| 8 | 18 | 3514 | 3965 | 4417 | 4869 | 5321 | 5773 | 6225 | 6677 | 7129 | 7582 | 8034 | 8487 | 8939 | 9392 | 9844 | 0297 | 0750 |
| 8 | 19 | 3642 | 4094 | 4546 | 4998 | 5450 | 5902 | 6354 | 6806 | 7258 | 7711 | 8163 | 8615 | 9068 | 9520 | 9973 | 0425 | 0878 |
| 8 | 20 | 110 (111) 3771 | 4223 | 4675 | 5127 | 5578 | 6030 | 6482 | 6934 | 7386 | 7838 | 8291 | 8743 | 9196 | 9648 | 0101 | 0553 | 1006 |
| 8 | 21 | 3901 | 4352 | 4804 | 5255 | 5707 | 6159 | 6611 | 7063 | 7515 | 7967 | 8419 | 8871 | 9324 | 9777 | 0229 | 0681 | 1134 |
| 7 | 22 | 4031 | 4481 | 4932 | 5384 | 5836 | 6288 | 6740 | 7191 | 7643 | 8095 | 8548 | 9000 | 9452 | 9905 | 0357 | 0810 | 1262 |
| 7 | 23 | 4161 | 4611 | 5062 | 5513 | 5965 | 6417 | 6868 | 7320 | 7772 | 8224 | 8676 | 9128 | 9581 | 0033 | 0485 | 0938 | 1390 |
| 7 | 24 | 4291 | 4741 | 5191 | 5642 | 6094 | 6546 | 6997 | 7449 | 7901 | 8353 | 8805 | 9257 | 9709 | 0161 | 0614 | 1066 | 1519 |
| 7 | 25 | 110 (111) 4421 | 4872 | 5324 | 5774 | 6223 | 6675 | 7126 | 7578 | 8030 | 8482 | 8934 | 9386 | 9838 | 0290 | 0742 | 1194 | 1647 |
| 7 | 26 | 4552 | 5002 | 5452 | 5901 | 6352 | 6804 | 7255 | 7707 | 8159 | 8611 | 9062 | 9514 | 9966 | 0418 | 0871 | 1323 | 1775 |
| 7 | 27 | 4683 | 5132 | 5581 | 6031 | 6482 | 6933 | 7384 | 7836 | 8287 | 8738 | 9190 | 9643 | 0095 | 0547 | 0999 | 1451 | 1904 |
| 6 | 28 | 4814 | 5263 | 5711 | 6160 | 6611 | 7062 | 7514 | 7965 | 8417 | 8868 | 9320 | 9772 | 0224 | 0676 | 1128 | 1580 | 2032 |
| 6 | 29 | 4945 | 5394 | 5838 | 6289 | 6740 | 7192 | 7643 | 8095 | 8546 | 8998 | 9450 | 9902 | 0353 | 0805 | 1257 | 1709 | 2161 |
| 6 | 30 | 110 (111) 5076 | 5525 | 5968 | 6419 | 6870 | 7321 | 7772 | 8224 | 8675 | 9127 | 9578 | 0030 | 0482 | 0934 | 1386 | 1838 | 2290 |
| 6 | 31 | 5208 | 5656 | 6097 | 6548 | 6999 | 7451 | 7902 | 8353 | 8805 | 9256 | 9708 | 0159 | 0611 | 1063 | 1515 | 1966 | 2418 |
| 5 | 32 | 5340 | 5776 | 6227 | 6678 | 7129 | 7580 | 8031 | 8483 | 8934 | 9386 | 9837 | 0289 | 0740 | 1192 | 1644 | 2095 | 2547 |
| 5 | 33 | 5455 | 5906 | 6357 | 6808 | 7259 | 7711 | 8162 | 8613 | 9065 | 9516 | 9968 | 0419 | 0869 | 1321 | 1773 | 2224 | 2676 |
| 5 | 34 | 5585 | 6036 | 6487 | 6938 | 7389 | 7840 | 8291 | 8743 | 9194 | 9646 | 0097 | 0548 | 1000 | 1452 | 1903 | 2355 | 2805 |
| 5 | 35 | 110 (111) 5716 | 6166 | 6617 | 7068 | 7518 | 7969 | 8420 | 8872 | 9323 | 9775 | 0226 | 0677 | 1129 | 1581 | 2034 | 2485 | 2934 |
| 5 | 36 | 5846 | 6296 | 6747 | 7197 | 7648 | 8099 | 8550 | 9002 | 9453 | 9904 | 0356 | 0807 | 1258 | 1710 | 2161 | 2613 | 3063 |
| 4 | 37 | 5976 | 6426 | 6876 | 7327 | 7778 | 8228 | 8679 | 9131 | 9582 | 0033 | 0485 | 0936 | 1387 | 1839 | 2290 | 2741 | 3193 |
| 4 | 38 | 6106 | 6556 | 7006 | 7456 | 7907 | 8357 | 8808 | 9260 | 9711 | 0162 | 0614 | 1065 | 1516 | 1968 | 2419 | 2870 | 3322 |
| 4 | 39 | 6236 | 6686 | 7135 | 7586 | 8036 | 8487 | 8937 | 9389 | 9840 | 0291 | 0743 | 1194 | 1645 | 2097 | 2548 | 3000 | 3451 |
| 4 | 40 | 6366 | 6816 | 7265 | 7715 | 8165 | 8616 | 9067 | 9518 | 9969 | 0420 | 0872 | 1323 | 1774 | 2226 | 2677 | 3129 | 3580 |
| 4 | 41 | 6496 | 6946 | 7395 | 7844 | 8294 | 8745 | 9196 | 9647 | 0098 | 0549 | 1001 | 1452 | 1903 | 2355 | 2806 | 3258 | 3709 |
| 4 | 42 | 6626 | 7076 | 7524 | 7974 | 8424 | 8874 | 9325 | 9776 | 0227 | 0678 | 1130 | 1581 | 2032 | 2484 | 2935 | 3387 | 3838 |
| 4 | 43 | 6756 | 7206 | 7654 | 8103 | 8553 | 9003 | 9454 | 9905 | 0356 | 0807 | 1259 | 1710 | 2161 | 2613 | 3064 | 3516 | 3967 |
| 4 | 44 | 6886 | 7336 | 7784 | 8233 | 8682 | 9132 | 9583 | 0034 | 0485 | 0936 | 1388 | 1839 | 2290 | 2742 | 3193 | 3645 | 4096 |
| 3 | 45 | 110 (111) 7017 | 7467 | 7914 | 8362 | 8811 | 9261 | 9712 | 0163 | 0614 | 1065 | 1516 | 1968 | 2419 | 2871 | 3322 | 3774 | 4225 |
| 3 | 46 | 7147 | 7597 | 8044 | 8492 | 8940 | 9389 | 9840 | 0291 | 0743 | 1194 | 1645 | 2097 | 2548 | 3000 | 3451 | 3903 | 4354 |
| 3 | 47 | 7277 | 7727 | 8174 | 8621 | 9069 | 9518 | 9969 | 0420 | 0872 | 1323 | 1774 | 2226 | 2677 | 3129 | 3580 | 4032 | 4483 |
| 3 | 48 | 7407 | 7857 | 8304 | 8751 | 9199 | 9647 | 0098 | 0549 | 1001 | 1452 | 1903 | 2355 | 2806 | 3258 | 3709 | 4161 | 4612 |
| 3 | 49 | 7537 | 7987 | 8434 | 8881 | 9328 | 9776 | 0227 | 0678 | 1130 | 1581 | 2032 | 2484 | 2935 | 3387 | 3838 | 4290 | 4741 |
| 3 | 50 | 110 (111) 7667 | 8117 | 8564 | 9012 | 9461 | 9911 | 0362 | 0813 | 1264 | 1715 | 2166 | 2618 | 3069 | 3521 | 3972 | 4424 | 4870 |
| 3 | 51 | 7797 | 8247 | 8694 | 9142 | 9590 | 0039 | 0488 | 0937 | 1387 | 1838 | 2289 | 2741 | 3192 | 3644 | 4095 | 4547 | 4998 |
| 3 | 52 | 7927 | 8377 | 8824 | 9272 | 9720 | 0169 | 0618 | 1067 | 1517 | 1968 | 2419 | 2871 | 3322 | 3774 | 4225 | 4677 | 5128 |
| 3 | 53 | 8057 | 8507 | 8954 | 9402 | 9850 | 0298 | 0747 | 1196 | 1646 | 2097 | 2548 | 3000 | 3451 | 3903 | 4354 | 4806 | 5257 |
| 3 | 54 | 8187 | 8637 | 9084 | 9532 | 9980 | 0428 | 0877 | 1326 | 1775 | 2226 | 2677 | 3129 | 3580 | 4032 | 4483 | 4935 | 5386 |
| 3 | 55 | 110 (111) 8317 | 8767 | 9214 | 9662 | 0111 | 0560 | 1009 | 1458 | 1908 | 2359 | 2806 | 3258 | 3709 | 4161 | 4612 | 5064 | 5515 |
| 3 | 56 | 8447 | 8897 | 9344 | 9792 | 0241 | 0690 | 1139 | 1588 | 2037 | 2488 | 2935 | 3387 | 3838 | 4290 | 4741 | 5193 | 5644 |
| 3 | 57 | 8577 | 9027 | 9474 | 9922 | 0371 | 0820 | 1269 | 1718 | 2167 | 2617 | 3064 | 3516 | 3967 | 4419 | 4870 | 5322 | 5773 |
| 3 | 58 | 8707 | 9157 | 9604 | 0052 | 0501 | 0950 | 1399 | 1848 | 2297 | 2747 | 3193 | 3645 | 4096 | 4548 | 4999 | 5451 | 5902 |
| 3 | 59 | 8837 | 9287 | 9734 | 0182 | 0631 | 1080 | 1529 | 1978 | 2427 | 2877 | 3322 | 3774 | 4225 | 4677 | 5128 | 5580 | 6031 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Dif. ---------- }

Sums for finding the Corrected Diftances.

| Diff. | Auxiliary Arguments. | | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for 1° | S. A. A. & A. D. 27° | Auxiliary Arguments. 6′ | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 11=(111) | 0000 | 0442 | 0884 | 1326 | 1768 | 2210 | 2652 | 3094 | 3536 | 3978 | 4420 | 4862 | 5304 | 5746 | 6188 | 6630 | 7072 |
| 1 | 1 | | 0044 | 0486 | 0928 | 1370 | 1812 | 2254 | 2696 | 3138 | 3580 | 4022 | 4464 | 4906 | 5348 | 5790 | 6232 | 6674 | 7116 |
| 2 | 2 | | 0088 | 0530 | 0972 | 1414 | 1856 | 2298 | 2740 | 3182 | 3624 | 4066 | 4508 | 4950 | 5392 | 5834 | 6276 | 6718 | 7160 |
| 3 | 3 | | 0132 | 0574 | 1016 | 1458 | 1900 | 2342 | 2784 | 3226 | 3668 | 4110 | 4552 | 4994 | 5436 | 5878 | 6320 | 6762 | 7204 |
| 4 | 4 | | 0176 | 0618 | 1060 | 1502 | 1944 | 2386 | 2828 | 3270 | 3712 | 4154 | 4596 | 5038 | 5480 | 5922 | 6364 | 6806 | 7248 |
| 5 | 5 | 119(111) | 0220 | 0662 | 1104 | 1546 | 1988 | 2430 | 2872 | 3314 | 3756 | 4198 | 4640 | 5082 | 5524 | 5966 | 6408 | 6850 | 7292 |
| 6 | 6 | | 0264 | 0706 | 1148 | 1590 | 2032 | 2474 | 2916 | 3358 | 3800 | 4242 | 4684 | 5126 | 5568 | 6010 | 6452 | 6894 | 7336 |
| 7 | 7 | | 0308 | 0750 | 1192 | 1634 | 2076 | 2518 | 2960 | 3402 | 3844 | 4286 | 4728 | 5170 | 5612 | 6054 | 6496 | 6938 | 7380 |
| 8 | 8 | 181 | 0352 | 0794 | 1236 | 1678 | 2120 | 2562 | 3004 | 3446 | 3888 | 4330 | 4772 | 5214 | 5656 | 6098 | 6540 | 6982 | 7424 |
| 9 | 9 | | 0185 | 0633 | 1082 | 1530 | 1979 | 2428 | 2876 | 3325 | 3774 | 4223 | 4672 | 5121 | 5570 | 6019 | 6469 | 6918 | 7368 |
| 10 | 10 | | 0220 | 0670 | 1120 | 1570 | 2020 | 2470 | 2920 | 3370 | 3820 | 4270 | 4720 | 5170 | 5620 | 6070 | 6520 | 6970 | 7420 |
| 11 | 11 | | 0264 | 0714 | 1164 | 1614 | 2064 | 2514 | 2964 | 3414 | 3864 | 4314 | 4764 | 5214 | 5664 | 6114 | 6564 | 7014 | 7464 |
| 12 | 12 | | 0308 | 0758 | 1208 | 1658 | 2108 | 2558 | 3008 | 3458 | 3908 | 4358 | 4808 | 5258 | 5708 | 6158 | 6608 | 7058 | 7508 |
| 13 | 13 | | 0352 | 0802 | 1252 | 1702 | 2152 | 2602 | 3052 | 3502 | 3952 | 4402 | 4852 | 5302 | 5752 | 6202 | 6652 | 7102 | 7552 |
| 14 | 14 | | 0396 | 0846 | 1296 | 1746 | 2196 | 2646 | 3096 | 3546 | 3996 | 4446 | 4896 | 5346 | 5796 | 6246 | 6696 | 7146 | 7596 |
| 15 | 15 | 111 | 0440 | 0890 | 1340 | 1790 | 2240 | 2690 | 3140 | 3590 | 4040 | 4490 | 4940 | 5390 | 5840 | 6290 | 6740 | 7190 | 7640 |
| 16 | 16 | | 0484 | 0934 | 1384 | 1834 | 2284 | 2734 | 3184 | 3634 | 4084 | 4534 | 4984 | 5434 | 5884 | 6334 | 6784 | 7234 | 7684 |
| 17 | 17 | | 0528 | 0978 | 1428 | 1878 | 2328 | 2778 | 3228 | 3678 | 4128 | 4578 | 5028 | 5478 | 5928 | 6378 | 6828 | 7278 | 7728 |
| 18 | 18 | | 0572 | 1022 | 1472 | 1922 | 2372 | 2822 | 3272 | 3722 | 4172 | 4622 | 5072 | 5522 | 5972 | 6422 | 6872 | 7322 | 7772 |
| 19 | 19 | | 0616 | 1066 | 1516 | 1966 | 2416 | 2866 | 3316 | 3766 | 4216 | 4666 | 5116 | 5566 | 6016 | 6466 | 6916 | 7366 | 7816 |
| 20 | 20 | | 0660 | 1110 | 1560 | 2010 | 2460 | 2910 | 3360 | 3810 | 4260 | 4710 | 5160 | 5610 | 6060 | 6510 | 6960 | 7410 | 7860 |
| 21 | 21 | | 0704 | 1154 | 1604 | 2054 | 2504 | 2954 | 3404 | 3854 | 4304 | 4754 | 5204 | 5654 | 6104 | 6554 | 7004 | 7454 | 7904 |
| 22 | 22 | | 0748 | 1198 | 1648 | 2098 | 2548 | 2998 | 3448 | 3898 | 4348 | 4798 | 5248 | 5698 | 6148 | 6598 | 7048 | 7498 | 7948 |
| 23 | 23 | | 0792 | 1242 | 1692 | 2142 | 2592 | 3042 | 3492 | 3942 | 4392 | 4842 | 5292 | 5742 | 6192 | 6642 | 7092 | 7542 | 7992 |
| 24 | 24 | | 0836 | 1286 | 1736 | 2186 | 2636 | 3086 | 3536 | 3986 | 4436 | 4886 | 5336 | 5786 | 6236 | 6686 | 7136 | 7586 | 8036 |
| 25 | 25 | 111 | 0880 | 1330 | 1780 | 2230 | 2680 | 3130 | 3580 | 4030 | 4480 | 4930 | 5380 | 5830 | 6280 | 6730 | 7180 | 7630 | 8080 |
| 26 | 26 | | 0924 | 1374 | 1824 | 2274 | 2724 | 3174 | 3624 | 4074 | 4524 | 4974 | 5424 | 5874 | 6324 | 6774 | 7224 | 7674 | 8124 |
| 27 | 27 | | 0968 | 1418 | 1868 | 2318 | 2768 | 3218 | 3668 | 4118 | 4568 | 5018 | 5468 | 5918 | 6368 | 6818 | 7268 | 7718 | 8168 |
| 28 | 28 | | 1012 | 1462 | 1912 | 2362 | 2812 | 3262 | 3712 | 4162 | 4612 | 5062 | 5512 | 5962 | 6412 | 6862 | 7312 | 7762 | 8212 |
| 29 | 29 | 111(112) | 1056 | 1506 | 1956 | 2406 | 2856 | 3306 | 3756 | 4206 | 4656 | 5106 | 5556 | 6006 | 6456 | 6906 | 7356 | 7806 | 8256 |
| 30 | 30 | 111(112) | 1100 | 1550 | 2000 | 2450 | 2900 | 3350 | 3800 | 4250 | 4700 | 5150 | 5600 | 6050 | 6500 | 6950 | 7400 | 7850 | 8300 |
| 31 | 31 | | 1144 | 1594 | 2044 | 2494 | 2944 | 3394 | 3844 | 4294 | 4744 | 5194 | 5644 | 6094 | 6544 | 6994 | 7444 | 7894 | 8344 |
| 32 | 32 | | 1188 | 1638 | 2088 | 2538 | 2988 | 3438 | 3888 | 4338 | 4788 | 5238 | 5688 | 6138 | 6588 | 7038 | 7488 | 7938 | 8388 |
| 33 | 33 | | 1232 | 1682 | 2132 | 2582 | 3032 | 3482 | 3932 | 4382 | 4832 | 5282 | 5732 | 6182 | 6632 | 7082 | 7532 | 7982 | 8432 |
| 34 | 34 | | 1276 | 1726 | 2176 | 2626 | 3076 | 3526 | 3976 | 4426 | 4876 | 5326 | 5776 | 6226 | 6676 | 7126 | 7576 | 8026 | 8476 |
| 35 | 35 | 111(112) | 1320 | 1770 | 2220 | 2670 | 3120 | 3570 | 4020 | 4470 | 4920 | 5370 | 5820 | 6270 | 6720 | 7170 | 7620 | 8070 | 8520 |
| 36 | 36 | | 1364 | 1814 | 2264 | 2714 | 3164 | 3614 | 4064 | 4514 | 4964 | 5414 | 5864 | 6314 | 6764 | 7214 | 7664 | 8114 | 8564 |
| 37 | 37 | | 1408 | 1858 | 2308 | 2758 | 3208 | 3658 | 4108 | 4558 | 5008 | 5458 | 5908 | 6358 | 6808 | 7258 | 7708 | 8158 | 8608 |
| 38 | 38 | | 1452 | 1902 | 2352 | 2802 | 3252 | 3702 | 4152 | 4602 | 5052 | 5502 | 5952 | 6402 | 6852 | 7302 | 7752 | 8202 | 8652 |
| 39 | 39 | | 1496 | 1946 | 2396 | 2846 | 3296 | 3746 | 4196 | 4646 | 5096 | 5546 | 5996 | 6446 | 6896 | 7346 | 7796 | 8246 | 8696 |
| 40 | 40 | 111(111) | 1540 | 1990 | 2440 | 2890 | 3340 | 3790 | 4240 | 4690 | 5140 | 5590 | 6040 | 6490 | 6940 | 7390 | 7840 | 8290 | 8740 |
| 41 | 41 | | 1584 | 2034 | 2484 | 2934 | 3384 | 3834 | 4284 | 4734 | 5184 | 5634 | 6084 | 6534 | 6984 | 7434 | 7884 | 8334 | 8784 |
| 42 | 42 | | 1628 | 2078 | 2528 | 2978 | 3428 | 3878 | 4328 | 4778 | 5228 | 5678 | 6128 | 6578 | 7028 | 7478 | 7928 | 8378 | 8828 |
| 43 | 43 | | 1672 | 2122 | 2572 | 3022 | 3472 | 3922 | 4372 | 4822 | 5272 | 5722 | 6172 | 6622 | 7072 | 7522 | 7972 | 8422 | 8872 |
| 44 | 44 | | 1716 | 2166 | 2616 | 3066 | 3516 | 3966 | 4416 | 4866 | 5316 | 5766 | 6216 | 6666 | 7116 | 7566 | 8016 | 8466 | 8916 |
| 45 | 45 | 191(111) | 1760 | 2210 | 2660 | 3110 | 3560 | 4010 | 4460 | 4910 | 5360 | 5810 | 6260 | 6710 | 7160 | 7610 | 8060 | 8510 | 8960 |
| 46 | 46 | | 1804 | 2254 | 2704 | 3154 | 3604 | 4054 | 4504 | 4954 | 5404 | 5854 | 6304 | 6754 | 7204 | 7654 | 8104 | 8554 | 9004 |
| 47 | 47 | | 1848 | 2298 | 2748 | 3198 | 3648 | 4098 | 4548 | 4998 | 5448 | 5898 | 6348 | 6798 | 7248 | 7698 | 8148 | 8598 | 9048 |
| 48 | 48 | | 1892 | 2342 | 2792 | 3242 | 3692 | 4142 | 4592 | 5042 | 5492 | 5942 | 6392 | 6842 | 7292 | 7742 | 8192 | 8642 | 9092 |
| 49 | 49 | | 1936 | 2386 | 2836 | 3286 | 3736 | 4186 | 4636 | 5086 | 5536 | 5986 | 6436 | 6886 | 7336 | 7786 | 8236 | 8686 | 9136 |
| 50 | 50 | | 1980 | 2430 | 2880 | 3330 | 3780 | 4230 | 4680 | 5130 | 5580 | 6030 | 6480 | 6930 | 7380 | 7830 | 8280 | 8730 | 9180 |
| 51 | 51 | 111(112) | 2024 | 2474 | 2924 | 3374 | 3824 | 4274 | 4724 | 5174 | 5624 | 6074 | 6524 | 6974 | 7424 | 7874 | 8324 | 8774 | 9224 |
| 52 | 52 | | 2068 | 2518 | 2968 | 3418 | 3868 | 4318 | 4768 | 5218 | 5668 | 6118 | 6568 | 7018 | 7468 | 7918 | 8368 | 8818 | 9268 |
| 53 | 53 | | 2112 | 2562 | 3012 | 3462 | 3912 | 4362 | 4812 | 5262 | 5712 | 6162 | 6612 | 7062 | 7512 | 7962 | 8412 | 8862 | 9312 |
| 54 | 54 | | 2156 | 2606 | 3056 | 3506 | 3956 | 4406 | 4856 | 5306 | 5756 | 6206 | 6656 | 7106 | 7556 | 8006 | 8456 | 8906 | 9356 |
| 55 | 55 | 111(112) | 2200 | 2650 | 3100 | 3550 | 4000 | 4450 | 4900 | 5350 | 5800 | 6250 | 6700 | 7150 | 7600 | 8050 | 8500 | 8950 | 9400 |
| 56 | 56 | | 2244 | 2694 | 3144 | 3594 | 4044 | 4494 | 4944 | 5394 | 5844 | 6294 | 6744 | 7194 | 7644 | 8094 | 8544 | 8994 | 9444 |
| 57 | 57 | | 2288 | 2738 | 3188 | 3638 | 4088 | 4538 | 4988 | 5438 | 5888 | 6338 | 6788 | 7238 | 7688 | 8138 | 8588 | 9038 | 9488 |
| 58 | 58 | | 2332 | 2782 | 3232 | 3682 | 4132 | 4582 | 5032 | 5482 | 5932 | 6382 | 6832 | 7282 | 7732 | 8182 | 8632 | 9082 | 9532 |
| 59 | 59 | | 2376 | 2826 | 3276 | 3726 | 4176 | 4626 | 5076 | 5526 | 5976 | 6426 | 6876 | 7326 | 7776 | 8226 | 8676 | 9126 | 9576 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts of Auxil. Argum. additive | S. A.A. & A.D. 27° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0′ | III (112)6636 | 7086 | 7536 | 7987 | 8437 | 8888 | 9338 | 9789 | 0240 | 0691 | 1142 | 1593 | 2044 | 2495 | 2946 | 3397 | 3849 |
| 7 | 1 | | 6737 | 7217 | | | | | | | | | | | | | | |
| 15 | 2 | | 6589 | 7341 | | | | | | | | | | | | | | |
| 22 | 3 | | 7029 | 7479 | 7929 | 8379 | 8830 | 9280 | 9730 | 0181 | 0631 | 1082 | 1533 | 1983 | 2434 | 2885 | 3336 | 3787 | 4238 |
| 30 | 4 | | 7169 | 761 | | | | | | | | | | | | | | | |
| 37 | 5 | III (112)7291 | 7741 | | | | | | | | | | | | | | | | |
| 45 | 6 | | 7423 | 7873 | | | | | | | | | | | | | | | |
| 52 | 7 | | 7554 | | | | | | | | | | | | | | | | |
| 60 | 8 | | 7686 | | | | | | | | | | | | | | | | |
| 67 | 9 | | 7817 | | | | | | | | | | | | | | | | |
| 75 | 10 | III (112)7949 | | | | | | | | | | | | | | | | | |
| 82 | 11 | | 8081 | | | | | | | | | | | | | | | | |
| 90 | 12 | | 8212 | | | | | | | | | | | | | | | | |
| 97 | 13 | | 8344 | 8794 | | | | | | | | | | | | | | | |
| 105 | 14 | | 8476 | 8925 | 9375 | | | | | | | | | | | | | | |
| 112 | 15 | III (112) | | | | | | | | | | | | | | | | | |
| 120 | 16 | | 8740 | 9189 | 9639 | 0088 | 0537 | 0987 | 1436 | 1886 | 2336 | 2785 | 3235 | 3685 | 4135 | 4585 | 5035 | 5486 | 5936 |
| 127 | 17 | | 8872 | 9322 | 9771 | 0220 | 0669 | 1119 | 1568 | 2018 | 2467 | 2917 | 3367 | 3817 | 4266 | 4716 | 5167 | 5617 | 6067 |
| 135 | 18 | | | | | | | | | | | | | | | | | | |
| 142 | 19 | | | | | | | | | | | | | | | | | | |
| 150 | 20 | III (112) | | | | | | | | | | | | | | | | | |
| 157 | 21 | | | | | | | | | | | | | | | | | | |
| 164 | 22 | | | | | | | | | | | | | | | | | | |
| 172 | 23 | | | | | | | | | | | | | | | | | | |
| 179 | 24 | | | | | | | | | | | | | | | | | | |
| 187 | 25 | III (112) | | | | | | | | | | | | | | | | | |
| 194 | 26 | 112 | | | | | | | | | | | | | | | | | |
| 202 | 27 | | | | | | | | | | | | | | | | | | |
| 209 | 28 | | | | | | | | | | | | | | | | | | |
| 217 | 29 | | | | | | | | | | | | | | | | | | |
| 224 | 30 | 112 | | | | | | | | | | | | | | | | | |
| 232 | 31 | | | | | | | | | | | | | | | | | | |
| 239 | 32 | | | | | | | | | | | | | | | | | | |
| 247 | 33 | | | | | | | | | | | | | | | | | | |
| 254 | 34 | | | | | | | | | | | | | | | | | | |
| 262 | 35 | 112 | | | | | | | | | | | | | | | | | |
| 269 | 36 | | | | | | | | | | | | | | | | | | |
| 277 | 37 | | | | | | | | | | | | | | | | | | |
| 284 | 38 | | | | | | | | | | | | | | | | | | |
| 292 | 39 | | 1799 | 2246 | 2694 | 3142 | 3590 | 4038 | 4486 | 4934 | 5382 | 5830 | 6278 | 6727 | 7175 | 7623 | 8072 | 8521 | 8969 |
| 299 | 40 | 112 | | | | | | | | | | | | | | | | | |
| 307 | 41 | | | | | | | | | | | | | | | | | | |
| 314 | 42 | | | | | | | | | | | | | | | | | | |
| 322 | 43 | | | | | | | | | | | | | | | | | | |
| 329 | 44 | | | | | | | | | | | | | | | | | | |
| 336 | 45 | 112 | | | | | | | | | | | | | | | | | |
| 344 | 46 | | | | | | | | | | | | | | | | | | |
| 351 | 47 | 112 (113) | | | | | | | | | | | | | | | | | |
| 359 | 48 | | | | | | | | | | | | | | | | | | |
| 366 | 49 | | | | | | | | | | | | | | | | | | |
| 374 | 50 | 112 (113) | | | | | | | | | | | | | | | | | |
| 381 | 51 | | | | | | | | | | | | | | | | | | |
| 389 | 52 | | | | | | | | | | | | | | | | | | |
| 396 | 53 | | | | | | | | | | | | | | | | | | |
| 404 | 54 | | | | | | | | | | | | | | | | | | |
| 411 | 55 | 112 (113) | | | | | | | | | | | | | | | | | |
| 419 | 56 | | | | | | | | | | | | | | | | | | |
| 426 | 57 | | | | | | | | | | | | | | | | | | |
| 434 | 58 | | | | | | | | | | | | | | | | | | |
| 441 | 59 | | | | | | | | | | | | | | | | | | |

| Parts of Auxil. Argum. additive | 34′ | Sums |
|---|---|---|
| 0 | 0′ | 410 8993 |
| 7 | 1 | |
| 15 | 2 | |
| 22 | 3 | 9390 |
| 30 | 4 | 9522 |
| 37 | 5 | |
| 45 | 6 | |
| 52 | 7 | |
| 60 | 8 | |
| 67 | 9 | |
| 75 | 10 | |
| 82 | 11 | |
| 90 | 12 | |
| 97 | 13 | |
| 105 | 14 | |
| 112 | 15 | |
| 120 | 16 | 1116 |
| 127 | 17 | 1249 |
| 135 | 18 | |
| 142 | 19 | |
| 150 | 20 | |
| 157 | 21 | |
| 164 | 22 | |
| 172 | 23 | |
| 179 | 24 | |
| 187 | 25 | |
| 194 | 26 | |
| 202 | 27 | |
| 209 | 28 | |
| 217 | 29 | |
| 224 | 30 | |
| 232 | 31 | |
| 239 | 32 | |
| 247 | 33 | |
| 254 | 34 | |
| 262 | 35 | |
| 269 | 36 | |
| 277 | 37 | |
| 284 | 38 | |
| 292 | 39 | 4201 |
| 299 | 40 | |
| 307 | 41 | |
| 314 | 42 | |
| 322 | 43 | |
| 329 | 44 | |
| 336 | 45 | |
| 344 | 46 | |
| 351 | 47 | |
| 359 | 48 | |
| 366 | 49 | |
| 374 | 50 | |
| 381 | 51 | |
| 389 | 52 | |
| 396 | 53 | |
| 404 | 54 | |
| 411 | 55 | |
| 419 | 56 | |
| 426 | 57 | |
| 434 | 58 | |
| 441 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances }

| Parts for 1′ of Sum or Diff. of A. A. | 28° | Numbers |
|---|---|---|
| | ′ | |
| 134 | 0 | 189 0874 |
| | | |
| 130 | 2 | 6810 |
| 128 | 3 | 0478 |
| | | |
| | | |
| 44 | 6 | |
| | | |
| 112 | 10 | 188 9540 |
| | | 9416 |
| 108 | 12 | 9283 |
| | 13 | 9150 |
| 103 | 14 | 9017 |
| 101 | 15 | 188 8884 |
| | | |
| 96 | 17 | 8617 |
| | | |
| 92 | 19 | 8350 |
| 90 | 20 | 188 8217 |
| 87 | 21 | 8083 |
| 85 | 22 | 7949 |
| 83 | 23 | 7815 |
| 81 | 24 | 7681 |
| | | |
| 76 | 26 | 7413 |
| 74 | 27 | 7279 |
| 72 | 28 | 7145 |
| 69 | 29 | 7011 |
| | | |
| 65 | 31 | 6742 |
| 63 | 32 | 6608 |
| 61 | 33 | 6473 |
| | 34 | 6338 |
| | 35 | |
| 54 | 36 | 6069 |
| | | 5934 |
| | 37 | 5799 |
| | 38 | 5664 |
| | | |
| 43 | 41 | 5394 |
| | | |
| | 43 | 5123 |
| | | |
| | | |
| | 46 | 4717 |
| | 47 | 4581 |
| | 48 | 4445 |
| | 49 | 4309 |
| | 50 | 188 4174 |
| | 52 | 3902 |
| | 54 | |
| | | |
| | 56 | 3357 |
| 75 | 57 | 3221 |
| | 58 | 3086 |
| | 59 | 2950 |

| Parts for 1′ of Auxil. Argum. | A. A. A. D. 28° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | |
| 0 | 0′ | 111 (112) 7052 | 7497 | 7942 | 8387 | 8832 | 9278 | 9723 | 0168 | 0614 | 1059 | 1505 | 1950 | 2396 | 2842 | 3288 | 3734 | 4180 |
| | 1 | | | | | | | | | | | | | | | | | |
| 15 | 2 | 7326 | 7770 | 8215 | 8660 | 9105 | 9550 | 9995 | 0440 | 0886 | 1331 | 1777 | 2222 | 2668 | 3113 | 3559 | 4005 | 4451 |
| 22 | 3 | 7462 | 7907 | 8352 | 8797 | 9242 | 9687 | 0132 | 0577 | 1022 | 1467 | 1913 | 2358 | 2804 | 3249 | 3695 | 4141 | 4586 |
| | | | | | | | | | | | | | | | | 3831 | 4276 | 4722 |
| | | | | | | | | | | | | | | | | | | |
| 44 | 6 | 7073 | 7518 | 7962 | 8407 | 8852 | 9296 | 9741 | 0186 | 0631 | 1076 | 1521 | 1966 | 2412 | 2857 | 3302 | 3747 | 4193 |
| 52 | 7 | 8010 | 8455 | 8900 | 9344 | 9788 | 0233 | 0678 | 1123 | 1568 | 2012 | 2458 | 2903 | 3348 | 3793 | 4238 | 4684 | 5130 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 74 | 10 | 111 (112) 8422 | 8866 | 9310 | 9755 | 0199 | 0644 | 1088 | 1533 | 1976 | 2422 | 2867 | 3312 | 3757 | 4202 | 4647 | 5093 | 5538 |
| 81 | 11 | 8559 | 9003 | 9447 | 9892 | 0336 | 0780 | 1225 | 1670 | 2114 | 2559 | 3004 | 3449 | 3894 | 4339 | 4784 | 5229 | 5674 |
| 89 | 12 | 8696 | 9141 | 9585 | 0029 | 0473 | 0918 | 1362 | 1807 | 2251 | 2696 | 3141 | 3585 | 4030 | 4475 | 4920 | 5365 | 5811 |
| 96 | 13 | 8834 | 9278 | 9722 | 0166 | 0610 | 1055 | 1499 | 1944 | 2388 | 2833 | 3277 | 3722 | 4167 | 4612 | 5057 | 5502 | 5947 |
| 104 | 14 | 8971 | | | | | | | | | | | | | | | | |
| 111 | 15 | 111 (112) 9109 | 9553 | 9997 | 0441 | 0885 | 1329 | 1773 | 2218 | 2662 | 3107 | 3551 | 3996 | 4440 | 4885 | 5330 | | |
| | 16 | | | | | | | | | | | | | | | | | |
| 126 | 17 | 9385 | 9828 | 0272 | 0716 | 1160 | 1604 | 2048 | 2492 | 2937 | 3381 | 3825 | 4270 | 4714 | 5158 | 5603 | 6048 | 6493 |
| | | | | | | | | | | | | | | | | | | |
| 140 | 19 | 9661 | 0104 | 0548 | 0991 | 1435 | 1879 | 2323 | 2767 | 3211 | 3655 | 4100 | 4544 | 4988 | 5433 | 5877 | 6322 | 6767 |
| 148 | 20 | 111 (112) 9799 | 0242 | 0686 | 1129 | 1573 | 2017 | 2461 | 2905 | 3349 | 3793 | 4237 | 4681 | 5126 | 5570 | 6014 | 6459 | 6904 |
| 155 | 21 | 9937 | 0380 | 0824 | 1267 | 1711 | 2155 | 2598 | 3042 | 3486 | 3930 | 4374 | 4819 | 5263 | 5707 | 6152 | 6596 | 7041 |
| 163 | 22 | 112 0075 | 0518 | 0962 | 1405 | 1849 | 2292 | 2736 | 3180 | 3624 | 4068 | 4512 | 4956 | 5400 | 5844 | 6289 | 6733 | 7178 |
| 170 | 23 | 0213 | 0656 | 1100 | 1543 | 1987 | 2430 | 2874 | 3318 | 3762 | 4205 | 4649 | 5093 | 5538 | 5982 | 6426 | 6870 | 7315 |
| 177 | 24 | 0351 | 0795 | 1238 | 1681 | 2125 | 2568 | 3012 | 3456 | 3899 | 4343 | 4787 | 5231 | 5675 | 6119 | | | |
| | | | | | | | | | | | | | | | | | | |
| 192 | 26 | | | | | | | | | | | | | | | | | |
| 200 | 27 | 0767 | 1210 | 1653 | 2096 | 2539 | 2983 | 3426 | 3869 | 4313 | 4757 | 5200 | 5644 | 6088 | 6532 | 6976 | 7419 | |
| 207 | 28 | 0905 | 1348 | 1791 | 2234 | 2677 | 3121 | 3564 | 4008 | 4451 | 4895 | 5338 | 5782 | 6226 | 6670 | 7114 | 7558 | 8002 |
| 214 | 29 | 1044 | 1487 | 1930 | 2373 | 2816 | 3259 | 3702 | 4146 | 4589 | 5033 | 5476 | 5920 | 6364 | 6807 | 7251 | 7695 | 8138 |
| | | | | | | | | | | | | | | | | | | |
| 229 | 31 | 1322 | 1764 | 2207 | 2650 | 3093 | 3536 | 3979 | 4422 | 4866 | 5309 | 5753 | 6196 | 6640 | 7083 | 7527 | 7971 | 8415 |
| 237 | 32 | 1461 | 1903 | 2346 | 2789 | 3232 | 3675 | 4118 | 4561 | 5004 | 5447 | 5891 | 6334 | 6778 | 7221 | 7665 | 8109 | 8552 |
| 244 | 33 | 1600 | 2042 | 2485 | 2928 | 3370 | 3813 | 4256 | 4699 | 5143 | 5586 | 6029 | 6472 | 6916 | 7359 | 7803 | 8246 | 8690 |
| 251 | 34 | 1739 | 2181 | 2624 | 3066 | 3509 | 3952 | 4395 | 4838 | 5281 | 5724 | 6167 | 6611 | 7054 | 7497 | 7941 | 8384 | 8828 |
| | 35 | | | | | | | | | | | | | | | | | |
| 266 | 36 | | | | | | | | | | | | | | | | | |
| 274 | 37 | 2156 | 2599 | 3041 | 3483 | 3926 | 4369 | 4811 | 5254 | 5697 | 6140 | 6583 | 7026 | 7469 | 7912 | 8356 | 8799 | 9242 |
| 281 | 38 | 2296 | 2738 | 3180 | 3623 | 4065 | 4508 | 4950 | 5393 | 5836 | 6279 | 6722 | 7164 | 7608 | 8051 | 8494 | 8937 | |
| 288 | 39 | 2435 | 2877 | 3320 | 3762 | 4204 | 4647 | 5089 | 5532 | 5975 | 6417 | 6860 | 7303 | 7746 | 8189 | 8632 | 9076 | 9519 |
| | | | | | | | | | | | | | | | | | | |
| 303 | 41 | 2714 | 3156 | 3598 | 4040 | 4483 | 4925 | 5368 | 5810 | 6253 | 6695 | 7138 | 7581 | 8024 | 8467 | 8909 | 9352 | 9796 |
| | 42 | | | | | | | | | | | | | | | | | |
| 318 | 43 | 112 (113) 2994 | 3435 | 3877 | 4319 | 4762 | 5204 | 5646 | 6088 | 6531 | 6973 | 7416 | 7859 | 8301 | 8744 | 9187 | 9630 | 0073 |
| | | | | | | | | | | | | | | | | | | |
| 340 | 46 | 3413 | 3855 | 4297 | 4739 | 5180 | 5622 | 6064 | 6507 | 6949 | 7391 | 7833 | 8276 | 8718 | 9161 | 9604 | 0046 | 0489 |
| 347 | 47 | 3553 | 3995 | 4436 | 4876 | 5320 | 5762 | 6204 | 6646 | 7088 | 7530 | 7973 | 8415 | 8858 | 9300 | 9743 | 0185 | 0628 |
| 355 | 48 | 3693 | 4135 | 4576 | 5018 | 5460 | 5902 | 6344 | 6786 | 7228 | 7670 | 8112 | 8554 | 8997 | 9439 | 9882 | 0324 | 0767 |
| 362 | 49 | 3833 | 4275 | 4717 | 5158 | 5600 | 6042 | 6483 | 6925 | 7367 | 7809 | 8252 | 8694 | 9136 | 9578 | 0021 | 0463 | 0906 |
| 370 | 50 | 112 (113) 3974 | 4415 | 4857 | 5298 | 5740 | 6182 | 6623 | 7065 | 7507 | 7949 | 8391 | 8835 | 9275 | 9718 | 0160 | | |
| | 51 | | | | | | | | | | | | | | | | | |
| 384 | 52 | 4254 | 4696 | 5137 | 5578 | 6020 | 6462 | 6903 | 7345 | 7786 | 8228 | 8670 | 9112 | 9555 | 9997 | 0439 | 0881 | 1324 |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| 399 | 56 | | | | | | | | | | | | | | | | | |
| 421 | 57 | 4958 | 5398 | 5839 | 6280 | 6722 | 7163 | 7604 | 8045 | 8487 | 8928 | 9370 | 9812 | 0253 | 0695 | 1137 | 1579 | 2021 |
| 429 | 58 | 5096 | 5539 | 5980 | 6421 | 6862 | 7303 | 7745 | 8186 | 8627 | 9069 | 9510 | 9952 | 0393 | 0835 | 1277 | 1719 | 2161 |
| | 59 | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts for Seconds of Auxil. Argum. additive | S. A. A. & A. D. 28° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 112 (113) | 4626 | 5072 | 5518 | 5964 | 6411 | 6857 | 7304 | 7750 | 8197 | 8644 | 9091 | 9538 | 9985 | 0432 | 0879 | 1326 | 1773 |
| 7 | 1 | | 4761 | 5207 | 5653 | 6100 | 6546 | 6992 | 7438 | 7885 | 8331 | 8778 | 9224 | 9671 | 0117 | 0564 | 1010 | 1457 | 1903 |
| 15 | 2 | | 4897 | 5343 | 5789 | 6235 | 6681 | 7128 | 7574 | 8020 | 8467 | 8914 | 9360 | 9807 | 0254 | 0701 | 1148 | 1595 | 2042 |
| 22 | 3 | | 5032 | 5478 | 5924 | 6370 | 6817 | 7263 | 7709 | 8155 | 8602 | 9048 | 9495 | 9942 | 0388 | 0835 | 1282 | 1729 | 2176 |
| 30 | 4 | | 5168 | 5614 | 6060 | 6505 | 6951 | 7397 | 7843 | 8290 | 8736 | 9183 | 9629 | 0076 | 0523 | 0970 | 1417 | 1864 | 2311 |
| 37 | 5 | 112 (113) | 5304 | 5749 | 6195 | 6641 | 7087 | 7533 | 7979 | 8425 | 8871 | 9318 | 9765 | 0212 | 0658 | 1105 | 1552 | 1999 | 2446 |
| 44 | 6 | | 5439 | 5885 | 6331 | 6777 | 7223 | 7669 | 8115 | 8561 | 9007 | 9454 | 9900 | 0347 | 0793 | 1240 | 1687 | 2133 | 2580 |
| 52 | 7 | | 5575 | 6021 | 6467 | 6913 | 7358 | 7804 | 8250 | 8697 | 9143 | 9589 | 0035 | 0482 | 0928 | 1375 | 1821 | 2268 | 2715 |
| 59 | 8 | | 5711 | 6157 | 6603 | 7048 | 7494 | 7940 | 8386 | 8832 | 9278 | 9724 | 0171 | 0617 | 1063 | 1510 | 1956 | 2403 | 2850 |
| 67 | 9 | | 5847 | 6293 | 6738 | 7184 | 7630 | 8076 | 8522 | 8968 | 9414 | 9860 | 0306 | 0752 | 1199 | 1645 | 2091 | 2538 | 2985 |
| 74 | 10 | 112 (113) | 5983 | 6429 | 6874 | 7320 | 7766 | 8211 | 8657 | 9103 | 9549 | 9995 | 0441 | 0888 | 1334 | 1780 | 2227 | 2673 | 3120 |
| 82 | 11 | | 6120 | 6565 | 7010 | 7456 | 7902 | 8347 | 8793 | 9239 | 9685 | 0131 | 0577 | 1023 | 1469 | 1915 | 2362 | 2808 | 3255 |
| 89 | 12 | | 6256 | 6701 | 7146 | 7592 | 8037 | 8483 | 8929 | 9375 | 9820 | 0266 | 0712 | 1158 | 1605 | 2051 | 2497 | 2943 | 3390 |
| 96 | 13 | | 6392 | 6837 | 7283 | 7728 | 8174 | 8619 | 9065 | 9510 | 9956 | 0402 | 0848 | 1294 | 1740 | 2186 | 2632 | 3079 | 3525 |
| 104 | 14 | | 6528 | 6974 | 7419 | 7864 | 8310 | 8755 | 9201 | 9646 | 0092 | 0538 | 0984 | 1430 | 1876 | 2322 | 2768 | 3214 | 3661 |
| 111 | 15 | 112 (113) | 6665 | 7110 | 7555 | 8000 | 8446 | 8891 | 9337 | 9782 | 0228 | 0674 | 1119 | 1565 | 2011 | 2457 | 2903 | 3350 | 3796 |
| 119 | 16 | | 6801 | 7246 | 7692 | 8137 | 8582 | 9027 | 9473 | 9918 | 0364 | 0810 | 1255 | 1701 | 2147 | 2593 | 3039 | 3485 | 3931 |
| 126 | 17 | | 6938 | 7383 | 7828 | 8273 | 8718 | 9164 | 9609 | 0055 | 0500 | 0946 | 1391 | 1837 | 2283 | 2729 | 3175 | 3621 | 4067 |
| 133 | 18 | | 7075 | 7520 | 7965 | 8410 | 8855 | 9300 | 9745 | 0191 | 0636 | 1082 | 1527 | 1973 | 2419 | 2864 | 3310 | 3756 | 4202 |
| 141 | 19 | | 7212 | 7658 | 8103 | 8548 | 8993 | 9437 | 9882 | 0327 | 0772 | 1218 | 1663 | 2109 | 2555 | 3000 | 3446 | 3892 | 4338 |
| 148 | 20 | 112 (113) | 7348 | 7793 | 8238 | 8683 | 9128 | 9573 | 0018 | 0463 | 0909 | 1354 | 1799 | 2245 | 2691 | 3136 | 3582 | 4028 | 4474 |
| 156 | 21 | | 7485 | 7930 | 8375 | 8820 | 9265 | 9710 | 0155 | 0600 | 1045 | 1490 | 1936 | 2381 | 2827 | 3272 | 3718 | 4164 | 4609 |
| 163 | 22 | | 7622 | 8067 | 8512 | 8956 | 9401 | 9846 | 0291 | 0736 | 1181 | 1627 | 2072 | 2517 | 2963 | 3408 | 3854 | 4300 | 4745 |
| 170 | 23 | | 7759 | 8204 | 8649 | 9093 | 9538 | 9983 | 0428 | 0873 | 1318 | 1763 | 2208 | 2654 | 3099 | 3544 | 3990 | 4435 | 4881 |
| 178 | 24 | | 7896 | 8341 | 8786 | 9230 | 9675 | 0120 | 0565 | 1009 | 1454 | 1899 | 2345 | 2790 | 3235 | 3681 | 4126 | 4572 | 5017 |
| 185 | 25 | 112 (113) | 8034 | 8478 | 8923 | 9367 | 9812 | 0257 | 0701 | 1146 | 1591 | 2036 | 2481 | 2926 | 3372 | 3817 | 4262 | 4708 | 5153 |
| 193 | 26 | | 8171 | 8615 | 9060 | 9504 | 9949 | 0393 | 0838 | 1283 | 1728 | 2173 | 2618 | 3063 | 3508 | 3953 | 4399 | 4844 | 5289 |
| 200 | 27 | | 8308 | 8753 | 9197 | 9641 | 0086 | 0530 | 0975 | 1420 | 1865 | 2309 | 2754 | 3199 | 3644 | 4090 | 4535 | 4980 | 5426 |
| 207 | 28 | | 8446 | 8890 | 9334 | 9778 | 0223 | 0667 | 1112 | 1557 | 2001 | 2446 | 2891 | 3336 | 3781 | 4226 | 4671 | 5117 | 5562 |
| 215 | 29 | | 8583 | 9027 | 9472 | 9916 | 0360 | 0805 | 1249 | 1694 | 2138 | 2583 | 3028 | 3473 | 3918 | 4363 | 4808 | 5253 | 5698 |
| 222 | 30 | 112 (113) | 8721 | 9165 | 9609 | 0053 | 0498 | 0942 | 1386 | 1831 | 2275 | 2720 | 3165 | 3610 | 4055 | 4499 | 4944 | 5390 | 5835 |
| 230 | 31 | | 8858 | 9302 | 9746 | 0191 | 0635 | 1079 | 1524 | 1968 | 2412 | 2857 | 3301 | 3747 | 4191 | 4635 | 5080 | 5526 | 5971 |
| 237 | 32 | | 8996 | 9440 | 9884 | 0328 | 0772 | 1217 | 1661 | 2105 | 2550 | 2994 | 3439 | 3883 | 4328 | 4773 | 5218 | 5663 | 6108 |
| 245 | 33 | | 9134 | 9578 | 0022 | 0466 | 0910 | 1354 | 1798 | 2243 | 2687 | 3132 | 3576 | 4021 | 4465 | 4910 | 5355 | 5800 | 6245 |
| 252 | 34 | | 9272 | 9716 | 0159 | 0603 | 1047 | 1491 | 1936 | 2380 | 2824 | 3269 | 3713 | 4158 | 4602 | 5047 | 5492 | 5936 | 6381 |
| 259 | 35 | 112 (113) | 9410 | 9853 | 0297 | 0741 | 1185 | 1629 | 2073 | 2517 | 2961 | 3406 | 3850 | 4295 | 4739 | 5184 | 5628 | 6073 | 6518 |
| 267 | 36 | | 9548 | 9991 | 0435 | 0879 | 1323 | 1767 | 2211 | 2655 | 3099 | 3543 | 3987 | 4432 | 4876 | 5321 | 5766 | 6210 | 6655 |
| 274 | 37 | | 9686 | 0129 | 0573 | 1017 | 1461 | 1905 | 2349 | 2793 | 3237 | 3681 | 4125 | 4569 | 5013 | 5458 | 5903 | 6347 | 6792 |
| 282 | 38 | | 9824 | 0267 | 0711 | 1155 | 1599 | 2042 | 2486 | 2930 | 3374 | 3818 | 4262 | 4707 | 5151 | 5595 | 6040 | 6484 | 6929 |
| 290 | 39 | | 9962 | 0405 | 0849 | 1293 | 1737 | 2180 | 2624 | 3068 | 3512 | 3956 | 4400 | 4844 | 5288 | 5733 | 6177 | 6622 | 7066 |
| 297 | 40 | 113 | 0100 | 0543 | 0987 | 1431 | 1874 | 2318 | 2762 | 3206 | 3650 | 4094 | 4538 | 4982 | 5426 | 5870 | 6314 | 6759 | 7203 |
| 304 | 41 | | 0239 | 0682 | 1126 | 1569 | 2013 | 2456 | 2900 | 3344 | 3787 | 4231 | 4675 | 5119 | 5563 | 6008 | 6452 | 6896 | 7340 |
| 311 | 42 | | 0377 | 0821 | 1264 | 1707 | 2151 | 2594 | 3038 | 3482 | 3925 | 4369 | 4813 | 5257 | 5701 | 6145 | 6589 | 7033 | 7478 |
| 319 | 43 | | 0516 | 0959 | 1402 | 1846 | 2289 | 2732 | 3176 | 3620 | 4063 | 4507 | 4951 | 5395 | 5839 | 6283 | 6727 | 7171 | 7615 |
| 326 | 44 | | 0655 | 1098 | 1541 | 1984 | 2428 | 2871 | 3314 | 3758 | 4201 | 4645 | 5088 | 5532 | 5976 | 6420 | 6864 | 7308 | 7752 |
| 333 | 45 | 113 | 0793 | 1236 | 1679 | 2122 | 2566 | 3009 | 3452 | 3896 | 4339 | 4783 | 5227 | 5670 | 6114 | 6558 | 7002 | 7446 | 7890 |
| 341 | 46 | | 0932 | 1375 | 1818 | 2261 | 2704 | 3147 | 3591 | 4034 | 4478 | 4921 | 5365 | 5808 | 6252 | 6696 | 7140 | 7584 | 8028 |
| 348 | 47 | | 1071 | 1514 | 1957 | 2400 | 2843 | 3286 | 3729 | 4172 | 4616 | 5059 | 5503 | 5946 | 6390 | 6834 | 7278 | 7722 | 8166 |
| 356 | 48 | | 1210 | 1652 | 2095 | 2538 | 2981 | 3424 | 3868 | 4311 | 4754 | 5198 | 5641 | 6085 | 6528 | 6972 | 7416 | 7859 | 8303 |
| 363 | 49 | | 1348 | 1791 | 2234 | 2677 | 3120 | 3563 | 4006 | 4450 | 4893 | 5336 | 5780 | 6223 | 6667 | 7110 | 7554 | 7997 | 8441 |
| 371 | 50 | 113 | 1488 | 1931 | 2373 | 2816 | 3259 | 3702 | 4145 | 4588 | 5031 | 5474 | 5917 | 6361 | 6804 | 7247 | 7690 | 8133 | 8576 |
| 378 | 51 | | 1627 | 2069 | 2512 | 2955 | 3398 | 3841 | 4283 | 4726 | 5170 | 5613 | 6056 | 6499 | 6943 | 7386 | 7830 | 8273 | 8717 |
| 386 | 52 | | 1767 | 2209 | 2651 | 3093 | 3536 | 3978 | 4421 | 4863 | 5306 | 5748 | 6191 | 6633 | 7076 | 7518 | 7961 | 8403 | 8846 |
| 393 | 53 | | 1905 | 2348 | 2790 | 3233 | 3676 | 4118 | 4561 | 5004 | 5447 | 5890 | 6333 | 6776 | 7220 | 7663 | 8106 | 8549 | 8993 |
| 400 | 54 | | 2045 | 2487 | 2929 | 3372 | 3815 | 4257 | 4700 | 5143 | 5586 | 6029 | 6472 | 6915 | 7358 | 7801 | 8245 | 8688 | 9131 |
| 407 | 55 | 113 | 2184 | 2626 | 3069 | 3511 | 3954 | 4396 | 4839 | 5281 | 5724 | 6166 | 6609 | 7051 | 7494 | 7936 | 8379 | 8821 | 9264 |
| 415 | 56 | | 2324 | 2766 | 3208 | 3650 | 4093 | 4535 | 4978 | 5420 | 5863 | 6305 | 6748 | 7190 | 7633 | 8075 | 8518 | 8960 | 9403 |
| 422 | 57 | | 2463 | 2905 | 3347 | 3790 | 4232 | 4675 | 5117 | 5560 | 6002 | 6445 | 6888 | 7331 | 7774 | 8217 | 8660 | 9103 | 9547 |
| 430 | 58 | | 2603 | 3045 | 3487 | 3929 | 4372 | 4814 | 5256 | 5699 | 6141 | 6584 | 7027 | 7470 | 7913 | 8356 | 8799 | 9242 | 9685 |
| 437 | 59 | | 2742 | 3184 | 3627 | 4069 | 4511 | 4953 | 5396 | 5838 | 6281 | 6723 | 7166 | 7608 | 8051 | 8494 | 8937 | 9380 | 9824 |

Sums for finding the Corrected Distances.

| Parts for Seconds of C. D. additive | ′ | 28° Sums |
|---|---|---|
| 0 | 0 | 411 7052 |
| 1 | 1 | 7098 |
| 5 | 2 | 7326 |
| 7 | 3 | 7462 |
| 9 | 4 | 7509 |
| 1 | 5 | 411 7736 |
| 14 | 6 | 7873 |
| 16 | 7 | 8010 |
| 18 | 8 | 8147 |
| 21 | 9 | 8284 |
| 23 | 10 | 411 8421 |
| 25 | 11 | 8557 |
| 28 | 12 | 8694 |
| 30 | 13 | 8831 |
| 32 | 14 | 8968 |
| 33 | 15 | 411 9104 |
| 37 | 16 | 9241 |
| 39 | 17 | 9378 |
| 42 | 18 | 9515 |
| 44 | 19 | 9651 |
| 46 | 20 | 411 9788 |
| 48 | 21 | 9925 |
| 51 | 22 | 412 0062 |
| 53 | 23 | 0199 |
| 55 | 24 | 0336 |
| 58 | 25 | 0472 |
| 60 | 26 | 0609 |
| 62 | 27 | 0746 |
| 65 | 28 | 0883 |
| 67 | 29 | 1020 |
| 69 | 30 | 412 1183 |
| 72 | 31 | 1320 |
| 74 | 32 | 1461 |
| 76 | 33 | 1602 |
| 78 | 34 | 1739 |
| 81 | 35 | 412 1876 |
| 83 | 36 | 2017 |
| 85 | 37 | 2158 |
| 88 | 38 | 2296 |
| 90 | 39 | 2435 |
| 92 | 40 | 412 2573 |
| 95 | 41 | 2714 |
| 97 | 42 | 2854 |
| 99 | 43 | 2994 |
| 102 | 44 | 3133 |
| 104 | 45 | 412 3273 |
| 106 | 46 | 3413 |
| 108 | 47 | 3553 |
| 111 | 48 | 3693 |
| 113 | 49 | 3833 |
| 115 | 50 | 412 3974 |
| 118 | 51 | 4114 |
| 120 | 52 | 4254 |
| 122 | 53 | 4395 |
| 125 | 54 | 4535 |
| 127 | 55 | 412 4676 |
| 129 | 56 | 4817 |
| 132 | 57 | 4958 |
| 134 | 58 | 5098 |
| 136 | 59 | 5239 |

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Parts for Secs. of C.S.A. addit. | C.S.A. 29° | Number |
|---|---|---|
| 136 | 0 | 2811 |
| 134 | 1 | 2674 |
| 132 | 2 | 2538 |
| 130 | 3 | 2401 |
| 128 | 4 | 2264 |
| 127 | 5 | 2127 |
| 125 | 6 | 1990 |
| 123 | 7 | 1853 |
| 120 | 8 | 1716 |
| 118 | 9 | 1578 |
| 115 | 10 | 1441 |
| 113 | 11 | 1303 |
| 111 | 12 | 1166 |
| 108 | 13 | 1028 |
| 106 | 14 | 0891 |
| 104 | 15 | 0753 |
| 102 | 16 | 0615 |
| 99 | 17 | 0477 |
| 97 | 18 | 0339 |
| 95 | 19 | 0201 |
| 92 | 20 | 0063 |
| 90 | 21 | 9925 |
| 88 | 22 | 9787 |
| 85 | 23 | 9649 |
| 83 | 24 | 9510 |
| 81 | 25 | 9372 |
| 78 | 26 | 9233 |
| 76 | 27 | 9095 |
| 74 | 28 | 8956 |
| 72 | 29 | 8817 |
| 69 | 30 | 8678 |
| 67 | 31 | 8538 |
| 65 | 32 | 8399 |
| 63 | 33 | 8260 |
| 60 | 34 | 8122 |
| 58 | 35 | 7983 |
| 56 | 36 | 7844 |
| 53 | 37 | 7704 |
| 51 | 38 | 7565 |
| 48 | 39 | 7425 |
| 46 | 40 | 7286 |
| 44 | 41 | 7146 |
| 42 | 42 | 7007 |
| 39 | 43 | 6867 |
| 37 | 44 | 6727 |
| 35 | 45 | 6587 |
| 32 | 46 | 6447 |
| 30 | 47 | 6307 |
| 28 | 48 | 6167 |
| 25 | 49 | 6026 |
| 23 | 50 | 5886 |
| 21 | 51 | 5746 |
| 18 | 52 | 5605 |
| 16 | 53 | 5465 |
| 14 | 54 | 5324 |
| 12 | 55 | 5183 |
| 9 | 56 | 5043 |
| 7 | 57 | 4902 |
| 5 | 58 | 4761 |
| 2 | 59 | 4620 |

| Parts for Secs. of Aux. Argum. additive | C.S.A. & A.D. 29° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 112(113)5380 | 5521 | 5662 | 5803 | 5944 | 6085 | 6226 | 6367 | 6508 | 6649 | 6790 | 6931 | 7072 | 7213 | 7354 | 7495 | 7636 |
| 7 | 1 | | 5521 | 5962 | 6403 | 6843 | 7284 | 7725 | 8166 | 8607 | 9048 | 9490 | 9931 | 0372 | 0813 | 1255 | 1696 | 2137 |
| 15 | 2 | | 5663 | 6103 | 6544 | 6984 | 7425 | 7866 | 8307 | 8748 | 9189 | 9630 | 0071 | 0513 | 0954 | 1395 | 1837 | 2279 |
| 22 | 3 | | 5804 | 6244 | 6685 | 7125 | 7566 | 8007 | 8448 | 8889 | 9330 | 9771 | 0212 | 0653 | 1094 | 1536 | 1977 | 2419 |
| 30 | 4 | | 5945 | 6385 | 6826 | 7266 | 7707 | 8148 | 8588 | 9029 | 9470 | 9911 | 0352 | 0794 | 1235 | 1676 | 2117 | 2559 |
| 37 | 5 | 112(113)5086 | 5527 | 5967 | 6408 | 6849 | 7289 | 7730 | 8171 | 8612 | 9052 | 9493 | 9934 | 0375 | 0817 | 1258 | 1699 | 2141 |
| 44 | 6 | | 5668 | 6109 | 6549 | 6990 | 7431 | 7871 | 8312 | 8753 | 9194 | 9634 | 0075 | 0516 | 0957 | 1398 | 1840 | 2281 |
| 52 | 7 | | 5809 | 6250 | 6690 | 7131 | 7571 | 8012 | 8453 | 8893 | 9334 | 9775 | 0216 | 0657 | 1098 | 1539 | 1980 | 2422 |
| 59 | 8 | | 6951 | 7391 | 7831 | 8272 | 8712 | 9153 | 9593 | 0034 | 0475 | 0915 | 1356 | 1797 | 2238 | 2679 | 3120 | 3562 |
| 66 | 9 | | 7093 | 7533 | 7973 | 8413 | 8853 | 9294 | 9734 | 0175 | 0616 | 1056 | 1497 | 1938 | 2379 | 2820 | 3261 | 3703 |
| 73 | 10 | 112(113)6794 | 7234 | 7674 | 8114 | 8555 | 8995 | 9435 | 9876 | 0316 | 0757 | 1197 | 1638 | 2079 | 2520 | 2961 | 3402 | 3843 |
| 81 | 11 | | 6936 | 7376 | 7816 | 8256 | 8696 | 9136 | 9577 | 0017 | 0457 | 0898 | 1338 | 1779 | 2220 | 2661 | 3102 | 3543 |
| 88 | 12 | | 7078 | 7518 | 7958 | 8398 | 8838 | 9278 | 9718 | 0158 | 0599 | 1039 | 1480 | 1920 | 2361 | 2802 | 3242 | 3683 |
| 95 | 13 | | 7220 | 7660 | 8099 | 8539 | 8979 | 9419 | 9860 | 0300 | 0740 | 1180 | 1621 | 2061 | 2502 | 2943 | 3383 | 3824 |
| 102 | 14 | | 7362 | 7802 | 8241 | 8681 | 9121 | 9561 | 0001 | 0441 | 0882 | 1322 | 1762 | 2203 | 2643 | 3084 | 3524 | 3965 |
| 110 | 15 | 112(113)7504 | 7944 | 8383 | 8823 | 9263 | 9703 | 0143 | 0583 | 1023 | 1464 | 1904 | 2344 | 2784 | 3225 | 3665 | 4106 | 4547 |
| 117 | 16 | | 8086 | 8525 | 8965 | 9405 | 9845 | 0285 | 0725 | 1165 | 1605 | 2045 | 2485 | 2926 | 3366 | 3807 | 4247 | 4688 |
| 124 | 17 | | 8228 | 8667 | 9107 | 9547 | 9987 | 0426 | 0866 | 1306 | 1746 | 2186 | 2627 | 3067 | 3507 | 3948 | 4388 | 4829 |
| 132 | 18 | | 8370 | 8810 | 9249 | 9689 | 0129 | 0568 | 1008 | 1448 | 1888 | 2328 | 2768 | 3209 | 3649 | 4089 | 4530 | 4970 |
| 139 | 19 | | 8512 | 8952 | 9391 | 9831 | 0271 | 0711 | 1150 | 1590 | 2030 | 2470 | 2911 | 3351 | 3791 | 4231 | 4671 | 5111 |
| 147 | 20 | 112(113)8653 | 9093 | 9534 | 9975 | 0415 | 0856 | 1297 | 1738 | 2179 | 2621 | 3062 | 3503 | 3944 | 4385 | 4827 | 5268 | 5709 |
| 154 | 21 | | 8797 | 9237 | 9676 | 0115 | 0555 | 0994 | 1434 | 1874 | 2314 | 2753 | 3193 | 3633 | 4073 | 4514 | 4954 | 5394 |
| 161 | 22 | | 8940 | 9379 | 9818 | 0258 | 0697 | 1137 | 1576 | 2016 | 2456 | 2895 | 3335 | 3775 | 4215 | 4655 | 5095 | 5536 |
| 168 | 23 | | 9082 | 9522 | 9961 | 0400 | 0839 | 1279 | 1718 | 2158 | 2598 | 3037 | 3477 | 3917 | 4357 | 4797 | 5237 | 5677 |
| 176 | 24 | | 9225 | 9664 | 0103 | 0543 | 0982 | 1421 | 1861 | 2300 | 2740 | 3179 | 3619 | 4059 | 4499 | 4939 | 5379 | 5819 |
| 183 | 25 | 112(113)9366 | 9507 | 9807 | 0246 | 0685 | 1124 | 1563 | 2003 | 2442 | 2881 | 3321 | 3761 | 4201 | 4641 | 5081 | 5521 | 5961 |
| 190 | 26 | | 9511 | 9950 | 0389 | 0828 | 1267 | 1706 | 2145 | 2585 | 3024 | 3464 | 3903 | 4343 | 4783 | 5223 | 5662 | 6102 |
| 198 | 27 | | 9654 | 0092 | 0531 | 0970 | 1409 | 1849 | 2288 | 2727 | 3167 | 3606 | 4045 | 4485 | 4925 | 5364 | 5804 | 6244 |
| 205 | 28 | | 9797 | 0235 | 0674 | 1113 | 1552 | 1991 | 2430 | 2870 | 3309 | 3748 | 4188 | 4627 | 5067 | 5507 | 5946 | 6386 |
| 212 | 29 | | 9939 | 0377 | 0817 | 1256 | 1695 | 2134 | 2573 | 3013 | 3452 | 3891 | 4331 | 4770 | 5210 | 5649 | 6089 | 6528 |
| 220 | 30 | | 0080 | 0520 | 0959 | 1398 | 1838 | 2277 | 2716 | 3156 | 3595 | 4034 | 4474 | 4913 | 5353 | 5792 | 6232 | 6671 |
| 227 | 31 | | 0222 | 0662 | 1101 | 1541 | 1980 | 2419 | 2859 | 3298 | 3737 | 4177 | 4616 | 5056 | 5495 | 5935 | 6374 | 6814 |
| 234 | 32 | | 0364 | 0804 | 1244 | 1683 | 2123 | 2562 | 3001 | 3441 | 3880 | 4319 | 4759 | 5198 | 5638 | 6077 | 6517 | 6956 |
| 242 | 33 | | 0506 | 0946 | 1386 | 1825 | 2265 | 2704 | 3144 | 3583 | 4022 | 4462 | 4901 | 5341 | 5780 | 6220 | 6659 | 7099 |
| 249 | 34 | 113 | 0218 | 0656 | 1094 | 1533 | 1971 | 2410 | 2849 | 3287 | 3726 | 4165 | 4604 | 5043 | 5482 | 5921 | 6360 | 6799 |
| 257 | 35 | 113 | 0361 | 0799 | 1237 | 1676 | 2114 | 2553 | 2992 | 3430 | 3869 | 4308 | 4747 | 5186 | 5625 | 6064 | 6503 | 6942 |
| 264 | 36 | | 0503 | 0941 | 1380 | 1818 | 2257 | 2696 | 3135 | 3573 | 4012 | 4451 | 4890 | 5329 | 5768 | 6207 | 6646 | 7085 |
| 271 | 37 | | 0649 | 1087 | 1525 | 1963 | 2401 | 2840 | 3278 | 3717 | 4155 | 4594 | 5033 | 5472 | 5911 | 6350 | 6789 | 7228 |
| 278 | 38 | | 0793 | 1231 | 1669 | 2107 | 2545 | 2983 | 3421 | 3860 | 4298 | 4737 | 5176 | 5614 | 6053 | 6492 | 6931 | 7370 |
| 285 | 39 | | 0936 | 1374 | 1812 | 2250 | 2688 | 3127 | 3565 | 4003 | 4442 | 4880 | 5319 | 5757 | 6196 | 6635 | 7074 | 7513 |
| 293 | 40 | | 1080 | 1518 | 1956 | 2394 | 2832 | 3270 | 3708 | 4147 | 4585 | 5024 | 5462 | 5901 | 6340 | 6779 | 7218 | 7657 |
| 300 | 41 | | 1223 | 1661 | 2099 | 2537 | 2975 | 3413 | 3851 | 4290 | 4728 | 5167 | 5605 | 6044 | 6483 | 6922 | 7361 | 7800 |
| 307 | 42 | | 1366 | 1804 | 2242 | 2680 | 3118 | 3556 | 3994 | 4433 | 4871 | 5310 | 5748 | 6187 | 6626 | 7065 | 7504 | 7943 |
| 315 | 43 | | 1513 | 1950 | 2388 | 2826 | 3264 | 3701 | 4139 | 4577 | 5016 | 5454 | 5893 | 6331 | 6770 | 7209 | 7648 | 8087 |
| 322 | 44 | | 1656 | 2093 | 2531 | 2969 | 3407 | 3845 | 4283 | 4721 | 5159 | 5597 | 6036 | 6474 | 6913 | 7352 | 7791 | 8230 |
| 330 | 45 | | 1799 | 2237 | 2675 | 3113 | 3551 | 3989 | 4427 | 4865 | 5303 | 5741 | 6179 | 6618 | 7057 | 7496 | 7935 | 8374 |
| 337 | 46 | | 1940 | 2383 | 2826 | 3269 | 3713 | 4156 | 4599 | 5042 | 5485 | 5928 | 6371 | 6814 | 7257 | 7700 | 8143 | 8586 |
| 344 | 47 | | 2090 | 2527 | 2965 | 3402 | 3840 | 4277 | 4715 | 5153 | 5591 | 6028 | 6466 | 6904 | 7343 | 7781 | 8220 | 8659 |
| 352 | 48 | | 2233 | 2670 | 3108 | 3545 | 3983 | 4420 | 4858 | 5296 | 5733 | 6171 | 6609 | 7047 | 7486 | 7924 | 8363 | 8802 |
| 359 | 49 | | 2376 | 2813 | 3251 | 3688 | 4126 | 4563 | 5001 | 5439 | 5876 | 6314 | 6752 | 7190 | 7629 | 8067 | 8506 | 8945 |
| 366 | 50 | 113 | 2518 | 2956 | 3393 | 3831 | 4268 | 4706 | 5144 | 5581 | 6019 | 6457 | 6895 | 7333 | 7772 | 8210 | 8649 | 9088 |
| 373 | 51 | | 2660 | 3106 | 3543 | 3980 | 4417 | 4854 | 5292 | 5729 | 6167 | 6604 | 7042 | 7480 | 7918 | 8356 | 8795 | 9234 |
| 381 | 52 | | 2813 | 3250 | 3687 | 4124 | 4562 | 4999 | 5436 | 5874 | 6311 | 6749 | 7186 | 7624 | 8062 | 8500 | 8939 | 9378 |
| 388 | 53 | | 2955 | 3392 | 3829 | 4266 | 4703 | 5140 | 5577 | 6015 | 6452 | 6889 | 7327 | 7765 | 8203 | 8641 | 9080 | 9519 |
| 395 | 54 | | 3097 | 3534 | 3971 | 4408 | 4845 | 5282 | 5719 | 6156 | 6593 | 7031 | 7468 | 7906 | 8344 | 8782 | 9221 | 9660 |
| 403 | 55 | 113 | 3239 | 3676 | 4113 | 4550 | 4987 | 5424 | 5861 | 6298 | 6735 | 7172 | 7610 | 8047 | 8485 | 8923 | 9362 | 9801 |
| 410 | 56 | | 3381 | 3818 | 4255 | 4692 | 5129 | 5566 | 6003 | 6440 | 6877 | 7314 | 7751 | 8189 | 8626 | 9064 | 9503 | 9942 |
| 417 | 57 | | 3523 | 3960 | 4397 | 4834 | 5271 | 5708 | 6145 | 6582 | 7019 | 7456 | 7893 | 8330 | 8768 | 9206 | 9644 | 0083 |
| 425 | 58 | | 3665 | 4102 | 4539 | 4976 | 5413 | 5850 | 6287 | 6724 | 7161 | 7598 | 8035 | 8472 | 8909 | 9347 | 9785 | 0224 |
| 432 | 59 | | 3807 | 4244 | 4681 | 5118 | 5555 | 5992 | 6429 | 6866 | 7303 | 7740 | 8177 | 8614 | 9051 | 9488 | 9926 | 0365 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

| Pars | Secunda | & A. D. 29° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Auxil. Argum. additive | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 2 | 113 | | | | | | | | | | | | | | | | |
| 7 | 1 | 1 | 113(114) | 3022 | 3464 | 3906 | 4348 | 4790 | 5232 | 5674 | 6117 | 6559 | 7001 | 7443 | 7885 | 8327 | 8769 | 9211 | 9653 |
| 15 | 2 | | | 3162 | 3604 | 4046 | 4488 | 4930 | 5372 | 5814 | 6256 | 6698 | 7141 | 7583 | 8026 | 8468 | 8911 | 9354 | |
| 22 | 3 | | | | | | | | | | | | | | | | | | |
| 29 | 4 | | | 3442 | 3884 | 4325 | 4767 | 5209 | 5651 | 6093 | 6535 | 6977 | 7420 | 7862 | 8304 | 8747 | 9189 | 963 | |
| 37 | 5 | | 113(114) | | | | | | | | | | | | | | | | |
| 44 | 6 | | | 3722 | 4164 | 4606 | 5047 | 5489 | 5931 | 6373 | 6815 | 7257 | 7699 | 8141 | 8583 | 9026 | 9468 | 9910 | |
| 51 | 7 | | | | | | | | | | | | | | | | | | |
| 59 | 8 | | | | | | | | | | | | | | | | | | |
| 66 | 9 | | | 4144 | | | | | | | | | | | | | | | |
| 73 | 10 | | 113(114) | | | | | | | | | | | | | | | | |
| 81 | 11 | | | 4425 | 4866 | 5307 | 5748 | 6190 | 6631 | 7073 | 7514 | 7956 | 8398 | 8840 | 9281 | 9723 | 0165 | 0608 | 1050 |
| 88 | 12 | | | | | | | | | | | | | | | | | | |
| 96 | 13 | | | | | | | | | | | | | | | | | | |
| 103 | 14 | | | | | | | | | | | | | | | | | | |
| 110 | 15 | | 113(114) | 4988 | 5429 | 5870 | 6311 | 6752 | 7193 | 7634 | 8075 | 8517 | 8958 | 9400 | 9841 | 0283 | 0725 | 1167 | 1609 |
| 117 | 16 | | | | | | | | | | | | | | | | | | |
| 125 | 17 | | | | | | | | | | | | | | | | | | |
| 132 | 18 | | | | | | | | | | | | | | | | | | |
| 139 | 19 | | | | | | | | | | | | | | | | | | |
| 147 | 20 | | 113(114) | | | | | | | | | | | | | | | | |
| 154 | 21 | | | | | | | | | | | | | | | | | | |
| 161 | 22 | | | 5976 | 6416 | 6857 | 7297 | 7738 | 8178 | 8619 | 9060 | 9501 | 9942 | 0383 | 0824 | 1265 | 1706 | 2148 | 2589 |
| 169 | 23 | | | | | | | | | | | | | | | | | | |
| 176 | 24 | | | | | | | | | | | | | | | | | | |
| 184 | 25 | | 113(114) | | | | | | | | | | | | | | | | |
| 191 | 26 | | | | | | | | | | | | | | | | | | |
| 198 | 27 | | | | | | | | | | | | | | | | | | |
| 206 | 28 | | | | | | | | | | | | | | | | | | |
| 213 | 29 | | | | | | | | | | | | | | | | | | |
| 220 | 30 | | 113(114) | | | | | | | | | | | | | | | | |
| 228 | 31 | | | | | | | | | | | | | | | | | | |
| 235 | 32 | | | 7394 | 7833 | 8273 | 8713 | 9153 | 9593 | 0033 | 0473 | 0913 | 1353 | 1794 | 2234 | 2674 | 3115 | 5556 | 3996 |
| 243 | 33 | | | | | | | | | | | | | | | | | | |
| 250 | 34 | | | 7678 | 8118 | 8557 | 8997 | 9437 | 9876 | 0316 | 0756 | 1196 | 1636 | 2077 | 2517 | 2957 | 3398 | 3838 | 4278 |
| 257 | 35 | | | | | | | | | | | | | | | | | | |
| 265 | 36 | | | | | | | | | | | | | | | | | | |
| 272 | 37 | | | | | | | | | | | | | | | | | | |
| 279 | 38 | | | | | | | | | | | | | | | | | | |
| 287 | 39 | | | | | | | | | | | | | | | | | | |
| 294 | 40 | | 113(114) | | | | | | | | | | | | | | | | |
| 301 | 41 | | | | | | | | | | | | | | | | | | |
| 308 | 42 | | | 8819 | 9258 | 9697 | 0136 | 0575 | 1014 | 1454 | 1893 | 2332 | 2772 | 3212 | 3651 | 4091 | 4531 | 497 | |
| 316 | 43 | | | 8962 | 9401 | 9840 | 0279 | 0718 | 1157 | 1596 | 2035 | 2475 | 2914 | 3354 | 3793 | 4233 | 4673 | 5112 | 5552 |
| 323 | 44 | | | | | | | | | | | | | | | | | | |
| 330 | 45 | | 113(114) | | | | | | | | | | | | | | | | |
| 338 | 46 | | | 9391 | 9830 | 0269 | 0707 | 1146 | 1585 | 2024 | 2463 | 2902 | 3342 | 3781 | 4220 | 4660 | 5099 | 5539 | 5978 |
| 345 | 47 | | | | | | | | | | | | | | | | | | |
| 352 | 48 | | | | | | | | | | | | | | | | | | |
| 360 | 49 | | | | | | | | | | | | | | | | | | |
| 367 | 50 | | | | | | | | | | | | | | | | | | |
| 374 | 51 | | | | | | | | | | | | | | | | | | |
| 382 | 52 | | | | | | | | | | | | | | | | | | |
| 389 | 53 | | | | | | | | | | | | | | | | | | |
| 396 | 54 | | | | | | | | | | | | | | | | | | |
| 404 | 55 | | | | | | | | | | | | | | | | | | |
| 411 | 56 | | | 0827 | 1264 | 1702 | 2140 | 2579 | 3017 | 3455 | 3893 | 4332 | 4770 | 5209 | 5648 | 6086 | 6525 | 6964 | 7403 |
| 418 | 57 | | | | | | | | | | | | | | | | | | |
| 426 | 58 | | | | | | | | | | | | | | | | | | |
| 433 | 59 | | | 1259 | 1696 | 2134 | 2572 | 3010 | 3448 | 3886 | 4324 | 4762 | 5200 | 5639 | 6077 | 6516 | 6954 | 7393 | 7831 |

| Pars | Secunda | & A. D. 29° | Sums |
|---|---|---|---|
| 0 | 0 | 2 | |
| 7 | 1 | 1 | |
| 15 | 2 | | |
| 22 | 3 | | |
| 29 | 4 | | |
| 37 | 5 | | |
| 44 | 6 | | |
| 51 | 7 | | |
| 59 | 8 | | |
| 66 | 9 | | |
| 73 | 10 | | |
| 81 | 11 | | |
| 88 | 12 | | |
| 96 | 13 | | |
| 103 | 14 | | |
| 110 | 15 | | |
| 117 | 16 | | |
| 125 | 17 | | |
| 132 | 18 | | |
| 139 | 19 | | |
| 147 | 20 | | |
| 154 | 21 | | |
| 161 | 22 | | |
| 169 | 23 | | |
| 176 | 24 | | |
| 184 | 25 | | |
| 191 | 26 | | |
| 198 | 27 | | |
| 206 | 28 | | |
| 213 | 29 | | |
| 220 | 30 | | |
| 228 | 31 | | |
| 235 | 32 | | |
| 243 | 33 | | |
| 250 | 34 | | |
| 257 | 35 | | |
| 265 | 36 | | |
| 272 | 37 | | |
| 279 | 38 | | |
| 287 | 39 | | |
| 294 | 40 | | |
| 301 | 41 | | |
| 308 | 42 | | |
| 316 | 43 | | |
| 323 | 44 | | |
| 330 | 45 | | |
| 338 | 46 | | |
| 345 | 47 | | |
| 352 | 48 | | |
| 360 | 49 | | |
| 367 | 50 | | |
| 374 | 51 | | |
| 382 | 52 | | |
| 389 | 53 | | |
| 396 | 54 | | |
| 404 | 55 | | |
| 411 | 56 | | |
| 418 | 57 | | |
| 426 | 58 | | |
| 433 | 59 | | |

Numbers II. for Corrected Sums of Altitudes.

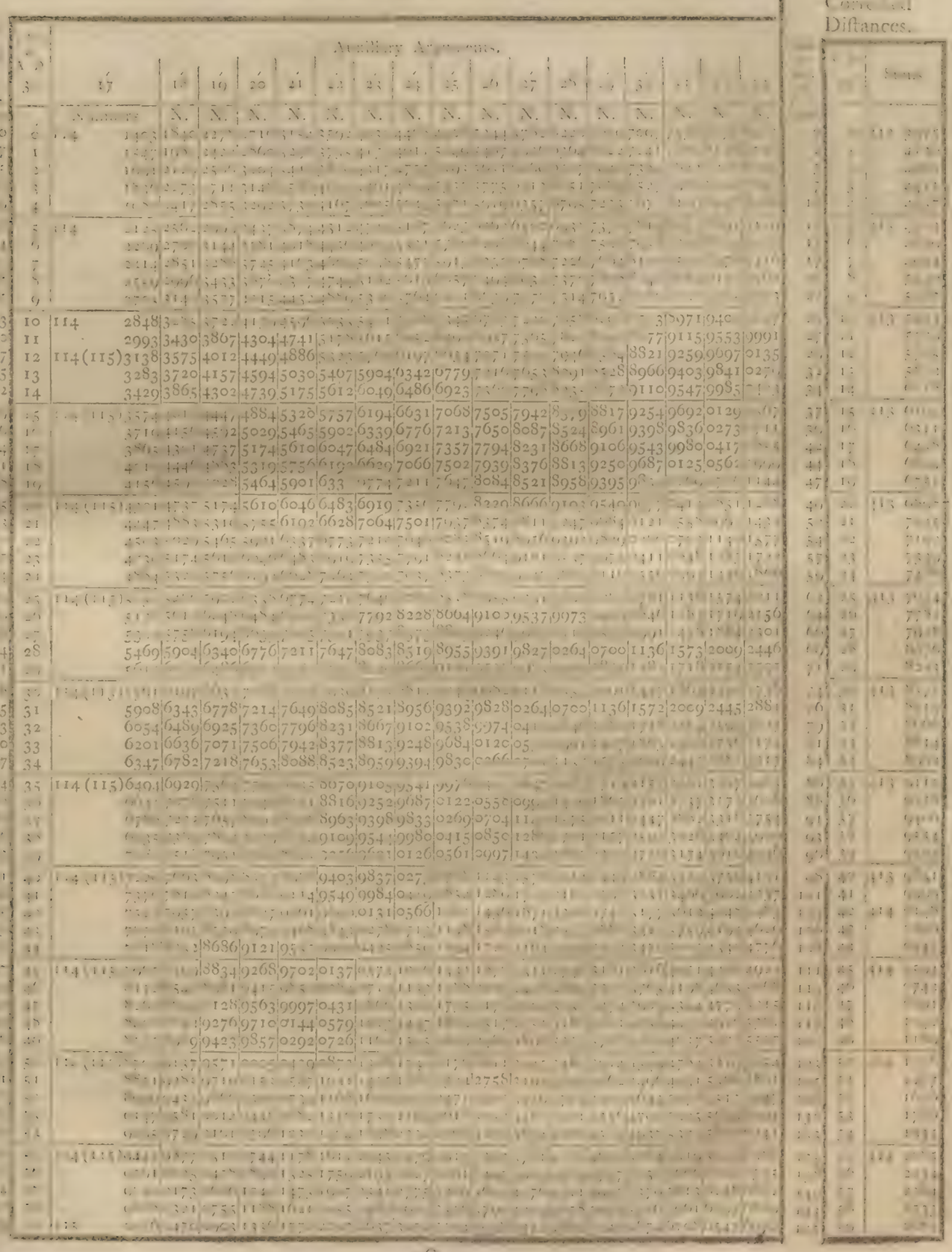
Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| Parts for Seconds of Arc | 30′ | Numbers |
|---|---|---|
| | 0 | 187 4476 |
| | 1 | 4538 |
| | 2 | 4599 |
| | 3 | 4660 |
| | 4 | 4721 |
| | 5 | 187 4782 |
| | 6 | 4843 |
| | 7 | 4904 |
| | 8 | 4965 |
| | 9 | 5026 |
| | 10 | 187 5087 |
| | 11 | 5148 |
| | 12 | 5209 |
| | 13 | 5270 |
| | 14 | 5331 |
| | 15 | 187 5392 |
| | 16 | 5453 |
| | 17 | 5514 |
| | 18 | 5575 |
| | 19 | 5636 |
| | 20 | 187 5697 |
| | 21 | 5758 |
| | 22 | 5819 |
| | 23 | 5880 |
| | 24 | 5941 |
| | 25 | 187 6002 |
| | 26 | 6063 |
| | 27 | 6124 |
| | 28 | 6185 |
| | 29 | 6246 |
| | 30 | 187 6307 |
| | 31 | 0069 |
| | 32 | 186 9926 |
| | 33 | 9782 |
| | 34 | 9639 |
| | 35 | 186 9495 |
| | 36 | 9352 |
| | 37 | 9209 |
| | 38 | 9066 |
| | 39 | 8923 |
| | 40 | 186 8780 |
| | 41 | 8637 |
| | 42 | 8494 |
| | 43 | 8351 |
| | 44 | 8208 |
| | 45 | 186 8065 |
| | 46 | 7922 |
| | 47 | 7779 |
| | 48 | 7636 |
| | 49 | 7493 |
| | 50 | 186 7350 |
| | 51 | 7207 |
| | 52 | 7064 |
| | 53 | 6921 |
| | 54 | 6778 |
| | 55 | 186 6635 |
| | 56 | 6492 |
| | 57 | 6349 |
| | 58 | 6206 |
| | 59 | 6063 |

| Parts for Seconds of Arc | A. A. & A. D. 30′ | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| | 0 | 113 (114)3975 | 4411 | 4847 | 5284 | 5721 | 6157 | 6594 | 7031 | 7468 | 7905 | 8342 | 8779 | 9216 | 9653 | 0090 | 0528 | 0965 |
| | 1 | 4120 | 4556 | 4993 | 5429 | 5866 | 6302 | 6739 | 7176 | 7612 | 8049 | 8486 | 8923 | 9360 | 9798 | 0235 | 0672 | 1110 |
| | 2 | 4266 | 4702 | 5138 | 5574 | 6011 | 6447 | 6884 | 7321 | 7757 | 8194 | 8631 | 9068 | 9505 | 9942 | 0379 | 0817 | 1254 |
| | 3 | 4411 | 4847 | 5284 | 5720 | 6156 | 6593 | 7029 | 7466 | 7902 | 8339 | 8775 | 9213 | 9650 | 0087 | 0524 | 0961 | 1398 |
| | 4 | 4557 | 4993 | 5429 | 5865 | 6302 | 6738 | 7174 | 7611 | 8047 | 8483 | 8920 | 9358 | 9795 | 0232 | 0669 | 1106 | 1543 |
| | 5 | 113 (114)4703 | 5138 | 5575 | 6011 | 6447 | 6883 | 7320 | 7756 | 8192 | 8629 | 9066 | 9503 | 9940 | 0376 | 0813 | 1250 | 1687 |
| | 6 | 4849 | 5284 | 5720 | 6157 | 6593 | 7029 | 7465 | 7902 | 8338 | 8775 | 9211 | 9648 | 0085 | 0522 | 0958 | 1395 | 1832 |
| | 7 | 4994 | 5430 | 5866 | 6302 | 6738 | 7175 | 7611 | 8047 | 8483 | 8920 | 9356 | 9793 | 0230 | 0667 | 1103 | 1540 | 1977 |
| | 8 | 5140 | 5576 | 6011 | 6448 | 6884 | 7320 | 7756 | 8192 | 8629 | 9065 | 9502 | 9938 | 0375 | 0811 | 1248 | 1685 | 2122 |
| | 9 | 5285 | 5721 | 6157 | 6594 | 7030 | 7466 | 7902 | 8338 | 8774 | 9211 | 9647 | 0084 | 0520 | 0956 | 1393 | 1830 | 2267 |
| | 10 | 113 (114)5431 | 5867 | 6303 | 6739 | 7176 | 7612 | 8048 | 8484 | 8920 | 9357 | 9793 | 0229 | 0665 | 1102 | 1538 | 1975 | 2412 |
| | 11 | 5576 | 6012 | 6448 | 6885 | 7321 | 7757 | 8193 | 8629 | 9065 | 9502 | 9938 | 0374 | 0811 | 1247 | 1684 | 2120 | 2557 |
| | 12 | 5722 | 6158 | 6594 | 7030 | 7466 | 7903 | 8339 | 8775 | 9211 | 9647 | 0084 | 0520 | 0956 | 1393 | 1829 | 2266 | 2702 |
| | 13 | 5867 | 6303 | 6739 | 7176 | 7612 | 8048 | 8485 | 8921 | 9357 | 9793 | 0229 | 0665 | 1101 | 1538 | 1974 | 2411 | 2847 |
| | 14 | 6013 | 6449 | 6885 | 7321 | 7757 | 8193 | 8631 | 9067 | 9503 | 9939 | 0375 | 0811 | 1247 | 1683 | 2119 | 2556 | 2992 |
| | 15 | 113 (114)6164 | 6600 | 7036 | 7472 | 7909 | 8345 | 8777 | 9213 | 9649 | 0085 | 0520 | 0956 | 1392 | 1829 | 2265 | 2701 | 3137 |
| | 16 | 6311 | 6747 | 7183 | 7619 | 8052 | 8488 | 8923 | 9359 | 9795 | 0230 | 0666 | 1102 | 1538 | 1974 | 2410 | 2847 | 3283 |
| | 17 | 6458 | 6893 | 7329 | 7763 | 8199 | 8634 | 9069 | 9505 | 9941 | 0376 | 0812 | 1248 | 1684 | 2120 | 2556 | 2992 | 3428 |
| | 18 | 6604 | 7039 | 7475 | 7911 | 8345 | 8780 | 9214 | 9651 | 0087 | 0522 | 0958 | 1394 | 1830 | 2266 | 2702 | 3138 | 3574 |
| | 19 | 6751 | 7186 | 7621 | 8056 | 8492 | 8927 | 9362 | 9797 | 0233 | 0669 | 1104 | 1540 | 1976 | 2412 | 2847 | 3283 | 3719 |
| | 20 | 113 (114)6898 | 7333 | 7768 | 8203 | 8638 | 9073 | 9509 | 9944 | 0379 | 0815 | 1250 | 1686 | 2122 | 2557 | 2993 | 3429 | 3865 |
| | 21 | 7045 | 7480 | 7915 | 8351 | 8785 | 9220 | 9655 | 0090 | 0526 | 0961 | 1396 | 1832 | 2268 | 2703 | 3139 | 3575 | 4011 |
| | 22 | 7192 | 7627 | 8062 | 8497 | 8932 | 9366 | 9802 | 0237 | 0672 | 1107 | 1543 | 1978 | 2414 | 2849 | 3285 | 3721 | 4157 |
| | 23 | 7338 | 7774 | 8209 | 8644 | 9078 | 9513 | 9948 | 0383 | 0819 | 1254 | 1689 | 2124 | 2560 | 2995 | 3431 | 3867 | 4303 |
| | 24 | 7485 | 7921 | 8356 | 8790 | 9225 | 9660 | 0095 | 0530 | 0965 | 1400 | 1836 | 2271 | 2706 | 3142 | 3577 | 4013 | 4449 |
| | 25 | 113 (114)7633 | 8068 | 8503 | 8937 | 9372 | 9807 | 0242 | 0677 | 1112 | 1547 | 1982 | 2417 | 2853 | 3288 | 3723 | 4159 | 4595 |
| | 26 | 7781 | 8215 | 8650 | 9084 | 9519 | 9954 | 0389 | 0824 | 1258 | 1693 | 2128 | 2564 | 2999 | 3434 | 3870 | 4305 | 4741 |
| | 27 | 7928 | 8363 | 8797 | 9232 | 9666 | 0101 | 0536 | 0970 | 1405 | 1840 | 2275 | 2710 | 3146 | 3581 | 4016 | 4451 | 4887 |
| | 28 | 8076 | 8510 | 8944 | 9379 | 9813 | 0248 | 0683 | 1117 | 1552 | 1987 | 2422 | 2857 | 3292 | 3727 | 4163 | 4598 | 5033 |
| | 29 | 8223 | 8657 | 9092 | 9526 | 9961 | 0395 | 0830 | 1264 | 1699 | 2134 | 2569 | 3004 | 3439 | 3874 | 4309 | 4744 | 5180 |
| | 30 | 113 (114)8371 | 8805 | 9239 | 9674 | 0108 | 0542 | 0977 | 1411 | 1846 | 2281 | 2716 | 3151 | 3585 | 4020 | 4456 | 4891 | 5326 |
| | 31 | 8518 | 8953 | 9387 | 9821 | 0255 | 0690 | 1124 | 1559 | 1993 | 2428 | 2862 | 3297 | 3732 | 4167 | 4602 | 5037 | 5472 |
| | 32 | 8666 | 9100 | 9534 | 9968 | 0403 | 0837 | 1271 | 1706 | 2140 | 2575 | 3010 | 3444 | 3879 | 4314 | 4749 | 5184 | 5619 |
| | 33 | 8814 | 9248 | 9682 | 0116 | 0550 | 0984 | 1419 | 1853 | 2287 | 2722 | 3157 | 3591 | 4026 | 4461 | 4896 | 5331 | 5766 |
| | 34 | 8962 | 9396 | 9830 | 0264 | 0698 | 1132 | 1566 | 2001 | 2435 | 2870 | 3304 | 3738 | 4173 | 4608 | 5043 | 5477 | 5912 |
| | 35 | 113 (114)9110 | 9544 | 9978 | 0412 | 0845 | 1280 | 1714 | 2148 | 2583 | 3017 | 3451 | 3886 | 4320 | 4755 | 5189 | 5624 | 6059 |
| | 36 | 9258 | 9692 | 0126 | 0560 | 0993 | 1427 | 1861 | 2296 | 2730 | 3164 | 3598 | 4033 | 4467 | 4902 | 5336 | 5771 | 6206 |
| | 37 | 9406 | 9840 | 0274 | 0708 | 1141 | 1575 | 2009 | 2443 | 2877 | 3311 | 3745 | 4180 | 4614 | 5049 | 5484 | 5918 | 6353 |
| | 38 | 9554 | 9988 | 0422 | 0856 | 1289 | 1723 | 2157 | 2591 | 3025 | 3459 | 3893 | 4327 | 4762 | 5196 | 5631 | 6065 | 6500 |
| | 39 | 9702 | 0136 | 0570 | 1004 | 1437 | 1871 | 2305 | 2739 | 3173 | 3607 | 4041 | 4475 | 4909 | 5343 | 5778 | 6212 | 6647 |
| | 40 | 113 (114)9851 | 0284 | 0718 | 1152 | 1585 | 2019 | 2453 | 2887 | 3320 | 3754 | 4188 | 4622 | 5056 | 5491 | 5925 | 6360 | 6794 |
| | 41 | 9999 | 0433 | 0867 | 1300 | 1733 | 2167 | 2601 | 3035 | 3468 | 3902 | 4336 | 4770 | 5204 | 5638 | 6073 | 6507 | 6941 |
| | 42 | 114 0148 | 0581 | 1015 | 1448 | 1881 | 2315 | 2749 | 3182 | 3616 | 4050 | 4484 | 4918 | 5352 | 5787 | 6220 | 6654 | 7089 |
| | 43 | 0296 | 0729 | 1163 | 1596 | 2029 | 2463 | 2897 | 3330 | 3764 | 4197 | 4631 | 5065 | 5499 | 5933 | 6367 | 6802 | 7236 |
| | 44 | 0444 | 0877 | 1311 | 1744 | 2178 | 2611 | 3045 | 3478 | 3912 | 4345 | 4779 | 5213 | 5647 | 6081 | 6515 | 6950 | 7383 |
| | 45 | 114 0592 | 1025 | 1459 | 1892 | 2326 | 2759 | 3193 | 3626 | 4060 | 4493 | 4927 | 5361 | 5795 | 6229 | 6663 | 7097 | 7531 |
| | 46 | 0741 | 1175 | 1608 | 2041 | 2474 | 2908 | 3341 | 3774 | 4208 | 4641 | 5075 | 5509 | 5943 | 6376 | 6810 | 7244 | 7678 |
| | 47 | 0889 | 1322 | 1756 | 2189 | 2622 | 3056 | 3489 | 3922 | 4356 | 4789 | 5223 | 5657 | 6091 | 6524 | 6958 | 7392 | 7826 |
| | 48 | 1037 | 1470 | 1904 | 2337 | 2770 | 3204 | 3637 | 4070 | 4504 | 4937 | 5371 | 5805 | 6239 | 6672 | 7106 | 7540 | 7974 |
| | 49 | 1185 | 1618 | 2052 | 2485 | 2918 | 3352 | 3785 | 4218 | 4652 | 5085 | 5519 | 5953 | 6387 | 6820 | 7254 | 7688 | 8121 |
| | 50 | 114 1333 | 1766 | 2200 | 2633 | 3066 | 3500 | 3933 | 4366 | 4800 | 5233 | 5667 | 6101 | 6535 | 6968 | 7402 | 7836 | 8269 |
| | 51 | 1481 | 1914 | 2348 | 2781 | 3214 | 3648 | 4081 | 4514 | 4948 | 5381 | 5816 | 6250 | 6683 | 7117 | 7551 | 7984 | 8417 |
| | 52 | 1629 | 2062 | 2496 | 2929 | 3362 | 3796 | 4229 | 4662 | 5096 | 5529 | 5963 | 6397 | 6831 | 7264 | 7698 | 8132 | 8565 |
| | 53 | 1777 | 2210 | 2644 | 3077 | 3510 | 3944 | 4377 | 4810 | 5244 | 5677 | 6111 | 6545 | 6979 | 7412 | 7846 | 8280 | 8713 |
| | 54 | 1925 | 2358 | 2792 | 3225 | 3658 | 4092 | 4525 | 4958 | 5392 | 5825 | 6259 | 6693 | 7127 | 7560 | 7994 | 8428 | 8861 |
| | 55 | 2073 | 2506 | 2940 | 3373 | 3806 | 4240 | 4673 | 5106 | 5540 | 5973 | 6407 | 6841 | 7275 | 7708 | 8142 | 8576 | 9009 |
| | 56 | 2221 | 2654 | 3088 | 3521 | 3954 | 4388 | 4821 | 5254 | 5688 | 6121 | 6555 | 6989 | 7423 | 7856 | 8290 | 8724 | 9157 |
| | 57 | 2369 | 2802 | 3236 | 3669 | 4102 | 4536 | 4969 | 5402 | 5836 | 6269 | 6703 | 7137 | 7571 | 8004 | 8438 | 8872 | 9305 |
| | 58 | 2517 | 2950 | 3384 | 3817 | 4250 | 4684 | 5117 | 5550 | 5984 | 6417 | 6851 | 7285 | 7719 | 8152 | 8586 | 9020 | 9453 |
| | 59 | 2665 | 3098 | 3532 | 3965 | 4398 | 4832 | 5265 | 5698 | 6132 | 6565 | 6999 | 7433 | 7867 | 8300 | 8734 | 9168 | 9601 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.



Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of | C. S. A. 31° | Numbers |
|---|---|---|
| 147 | 0 | 0000 |
| 145 | 1 | 0734 |
| 143 | 2 | 1467 |
| 141 | 3 | 2201 |
| 139 | 4 | 2934 |
| 137 | 5 | 3668 |
| 135 | 6 | 4401 |
| 133 | 7 | 5135 |
| 131 | 8 | 5868 |
| 129 | 9 | 6602 |
| 127 | 10 | 7335 |
| 125 | 11 | 8069 |
| 123 | 12 | 8802 |
| 121 | 13 | 9536 |
| 119 | 14 | 10269 |
| 117 | 15 | 11003 |
| 115 | 16 | 11736 |
| 113 | 17 | 12470 |
| 111 | 18 | 13203 |
| 109 | 19 | 13937 |
| 107 | 20 | 14670 |
| 105 | 21 | 15404 |
| 103 | 22 | 16137 |
| 101 | 23 | 16871 |
| 99 | 24 | 17604 |
| 97 | 25 | 18338 |
| 95 | 26 | 19071 |
| 93 | 27 | 19805 |
| 91 | 28 | 20538 |
| 89 | 29 | 21272 |
| 87 | 30 | 22005 |
| 85 | 31 | 22739 |
| 83 | 32 | 23472 |
| 81 | 33 | 24206 |
| 79 | 34 | 24939 |
| 77 | 35 | 25673 |
| 75 | 36 | 26406 |
| 73 | 37 | 27140 |
| 71 | 38 | 27873 |
| 69 | 39 | 28607 |
| 67 | 40 | 29340 |
| 65 | 41 | 30074 |
| 63 | 42 | 30807 |
| 61 | 43 | 31541 |
| 59 | 44 | 32274 |
| 57 | 45 | 33008 |
| 55 | 46 | 33741 |
| 53 | 47 | 34475 |
| 51 | 48 | 35208 |
| 49 | 49 | 35942 |
| 47 | 50 | 36675 |
| 45 | 51 | 37409 |
| 43 | 52 | 38142 |
| 41 | 53 | 38876 |
| 39 | 54 | 39609 |
| 37 | 55 | 40343 |
| 35 | 56 | 41076 |
| 33 | 57 | 41810 |
| 31 | 58 | 42543 |
| 29 | 59 | 43277 |
| 27 | 60 | 44010 |
| 25 | 61 | 44744 |
| 23 | 62 | 45477 |
| 21 | 63 | 46211 |
| 19 | 64 | 46944 |
| 17 | 65 | 47678 |
| 15 | 66 | 48411 |
| 13 | 67 | 49145 |
| 11 | 68 | 49878 |
| 9 | 69 | 50612 |
| 7 | 70 | 51345 |
| 5 | 71 | 52079 |
| 3 | 72 | 52812 |
| 1 | 73 | 53546 |
| 0 | 74 | 54279 |

| Parts for Seconds of Auxil. | S. A. A. &c. A. D. 31° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 114 | 2833 | 3265 | 3697 | 4129 | 4561 | 4993 | 5425 | 5858 | 6290 | 6722 | 7155 | 7588 | 8020 | 8453 | 8886 | 9318 |
| 7 | 1 | | 3414 | 3847 | 4279 | 4711 | 5143 | 5575 | 6007 | 6439 | 6872 | 7304 | 7737 | 8169 | 8602 | 9035 | 9468 | 9900 |
| | 2 | 114 (115) | 3131 | 3564 | 3996 | 4428 | 4860 | 5292 | 5724 | 6156 | 6588 | 7021 | 7453 | 7885 | 8318 | 8751 | 9183 | 9616 |
| | 3 | | 3848 | 4281 | 4713 | 5145 | 5578 | 6010 | 6442 | 6874 | 7306 | 7738 | 8171 | 8603 | 9036 | 9469 | 9901 | 10334 |
| | 4 | | 3565 | 3998 | 4430 | 4862 | 5295 | 5727 | 6159 | 6591 | 7023 | 7455 | 7888 | 8320 | 8753 | 9186 | 9618 | 10051 |
| 37 | 5 | 114 (115) | 3282 | 3715 | 4147 | 4579 | 5012 | 5444 | 5876 | 6308 | 6740 | 7172 | 7605 | 8037 | 8470 | 8903 | 9335 | 9768 |
| 43 | 6 | | 3999 | 4432 | 4864 | 5296 | 5729 | 6161 | 6593 | 7025 | 7457 | 7889 | 8322 | 8754 | 9187 | 9620 | 10052 | 10485 |
| | 7 | | 4716 | 5149 | 5581 | 6013 | 6446 | 6878 | 7310 | 7742 | 8174 | 8606 | 9039 | 9471 | 9904 | 10337 | 10769 | 11202 |
| 57 | 8 | | 4433 | 4866 | 5298 | 5730 | 6163 | 6595 | 7027 | 7459 | 7891 | 8323 | 8756 | 9188 | 9621 | 10054 | 10486 | 10919 |
| 63 | 9 | | 5150 | 5583 | 6015 | 6447 | 6880 | 7312 | 7744 | 8176 | 8608 | 9040 | 9473 | 9905 | 10338 | 10771 | 11203 | 11636 |
| 71 | 10 | 114 (115) | 4867 | 5300 | 5732 | 6164 | 6597 | 7029 | 7461 | 7893 | 8325 | 8757 | 9190 | 9622 | 10055 | 10488 | 10920 | 11353 |
| 77 | 11 | | 5584 | 6017 | 6449 | 6881 | 7314 | 7746 | 8178 | 8610 | 9042 | 9474 | 9907 | 10339 | 10772 | 11205 | 11637 | 12070 |
| 83 | 12 | | 5301 | 5734 | 6166 | 6598 | 7031 | 7463 | 7895 | 8327 | 8759 | 9191 | 9624 | 10056 | 10489 | 10922 | 11354 | 11787 |
| 91 | 13 | | 6018 | 6451 | 6883 | 7315 | 7748 | 8180 | 8612 | 9044 | 9476 | 9908 | 10341 | 10773 | 11206 | 11639 | 12071 | 12504 |
| 97 | 14 | | 6735 | 7168 | 7600 | 8032 | 8465 | 8897 | 9329 | 9761 | 10193 | 10625 | 11058 | 11490 | 11923 | 12356 | 12788 | 13221 |
| 103 | 15 | 114 (115) | 6452 | 6885 | 7317 | 7749 | 8182 | 8614 | 9046 | 9478 | 9910 | 10342 | 10775 | 11207 | 11640 | 12073 | 12505 | 12938 |
| 111 | 16 | | 7169 | 7602 | 8034 | 8466 | 8899 | 9331 | 9763 | 10195 | 10627 | 11059 | 11492 | 11924 | 12357 | 12790 | 13222 | 13655 |
| 117 | 17 | | 7886 | 8319 | 8751 | 9183 | 9616 | 10048 | 10480 | 10912 | 11344 | 11776 | 12209 | 12641 | 13074 | 13507 | 13939 | 14372 |
| 123 | 18 | | 7603 | 8036 | 8468 | 8900 | 9333 | 9765 | 10197 | 10629 | 11061 | 11493 | 11926 | 12358 | 12791 | 13224 | 13656 | 14089 |
| 131 | 19 | | 8320 | 8753 | 9185 | 9617 | 10050 | 10482 | 10914 | 11346 | 11778 | 12210 | 12643 | 13075 | 13508 | 13941 | 14373 | 14806 |
| 137 | 20 | 114 (115) | 8037 | 8470 | 8902 | 9334 | 9767 | 10199 | 10631 | 11063 | 11495 | 11927 | 12360 | 12792 | 13225 | 13658 | 14090 | 14523 |
| 143 | 21 | | 8754 | 9187 | 9619 | 10051 | 10484 | 10916 | 11348 | 11780 | 12212 | 12644 | 13077 | 13509 | 13942 | 14375 | 14807 | 15240 |
| 151 | 22 | | 9471 | 9904 | 10336 | 10768 | 11201 | 11633 | 12065 | 12497 | 12929 | 13361 | 13794 | 14226 | 14659 | 15092 | 15524 | 15957 |
| 157 | 23 | | 9188 | 9621 | 10053 | 10485 | 10918 | 11350 | 11782 | 12214 | 12646 | 13078 | 13511 | 13943 | 14376 | 14809 | 15241 | 15674 |
| 165 | 24 | | 9905 | 10338 | 10770 | 11202 | 11635 | 12067 | 12499 | 12931 | 13363 | 13795 | 14228 | 14660 | 15093 | 15526 | 15958 | 16391 |
| 171 | 25 | 114 (115) | 9622 | 10055 | 10487 | 10919 | 11352 | 11784 | 12216 | 12648 | 13080 | 13512 | 13945 | 14377 | 14810 | 15243 | 15675 | 16108 |
| 177 | 26 | | 10339 | 10772 | 11204 | 11636 | 12069 | 12501 | 12933 | 13365 | 13797 | 14229 | 14662 | 15094 | 15527 | 15960 | 16392 | 16825 |
| 185 | 27 | | 11056 | 11489 | 11921 | 12353 | 12786 | 13218 | 13650 | 14082 | 14514 | 14946 | 15379 | 15811 | 16244 | 16677 | 17109 | 17542 |
| 191 | 28 | | 11773 | 12206 | 12638 | 13070 | 13503 | 13935 | 14367 | 14799 | 15231 | 15663 | 16096 | 16528 | 16961 | 17394 | 17826 | 18259 |
| 197 | 29 | | 12490 | 12923 | 13355 | 13787 | 14220 | 14652 | 15084 | 15516 | 15948 | 16380 | 16813 | 17245 | 17678 | 18111 | 18543 | 18976 |
| 205 | 30 | 114 (115) | 13207 | 13640 | 14072 | 14504 | 14937 | 15369 | 15801 | 16233 | 16665 | 17097 | 17530 | 17962 | 18395 | 18828 | 19260 | 19693 |
| 211 | 31 | | 13924 | 14357 | 14789 | 15221 | 15654 | 16086 | 16518 | 16950 | 17382 | 17814 | 18247 | 18679 | 19112 | 19545 | 19977 | 20410 |
| 217 | 32 | | 14641 | 15074 | 15506 | 15938 | 16371 | 16803 | 17235 | 17667 | 18099 | 18531 | 18964 | 19396 | 19829 | 20262 | 20694 | 21127 |
| 225 | 33 | | 15358 | 15791 | 16223 | 16655 | 17088 | 17520 | 17952 | 18384 | 18816 | 19248 | 19681 | 20113 | 20546 | 20979 | 21411 | 21844 |
| 231 | 34 | | 16075 | 16508 | 16940 | 17372 | 17805 | 18237 | 18669 | 19101 | 19533 | 19965 | 20398 | 20830 | 21263 | 21696 | 22128 | 22561 |
| 237 | 35 | 114 (115) | 16792 | 17225 | 17657 | 18089 | 18522 | 18954 | 19386 | 19818 | 20250 | 20682 | 21115 | 21547 | 21980 | 22413 | 22845 | 23278 |
| 245 | 36 | | 17509 | 17942 | 18374 | 18806 | 19239 | 19671 | 20103 | 20535 | 20967 | 21399 | 21832 | 22264 | 22697 | 23130 | 23562 | 23995 |
| 251 | 37 | | 18226 | 18659 | 19091 | 19523 | 19956 | 20388 | 20820 | 21252 | 21684 | 22116 | 22549 | 22981 | 23414 | 23847 | 24279 | 24712 |
| 257 | 38 | | 18943 | 19376 | 19808 | 20240 | 20673 | 21105 | 21537 | 21969 | 22401 | 22833 | 23266 | 23698 | 24131 | 24564 | 24996 | 25429 |
| 265 | 39 | | 19660 | 20093 | 20525 | 20957 | 21390 | 21822 | 22254 | 22686 | 23118 | 23550 | 23983 | 24415 | 24848 | 25281 | 25713 | 26146 |
| 271 | 40 | 114 (115) | 20377 | 20810 | 21242 | 21674 | 22107 | 22539 | 22971 | 23403 | 23835 | 24267 | 24700 | 25132 | 25565 | 25998 | 26430 | 26863 |
| 277 | 41 | | 21094 | 21527 | 21959 | 22391 | 22824 | 23256 | 23688 | 24120 | 24552 | 24984 | 25417 | 25849 | 26282 | 26715 | 27147 | 27580 |
| 285 | 42 | | 21811 | 22244 | 22676 | 23108 | 23541 | 23973 | 24405 | 24837 | 25269 | 25701 | 26134 | 26566 | 26999 | 27432 | 27864 | 28297 |
| 291 | 43 | | 22528 | 22961 | 23393 | 23825 | 24258 | 24690 | 25122 | 25554 | 25986 | 26418 | 26851 | 27283 | 27716 | 28149 | 28581 | 29014 |
| 297 | 44 | | 23245 | 23678 | 24110 | 24542 | 24975 | 25407 | 25839 | 26271 | 26703 | 27135 | 27568 | 28000 | 28433 | 28866 | 29298 | 29731 |
| 305 | 45 | | 23962 | 24395 | 24827 | 25259 | 25692 | 26124 | 26556 | 26988 | 27420 | 27852 | 28285 | 28717 | 29150 | 29583 | 30015 | 30448 |
| 311 | 46 | | 24679 | 25112 | 25544 | 25976 | 26409 | 26841 | 27273 | 27705 | 28137 | 28569 | 29002 | 29434 | 29867 | 30300 | 30732 | 31165 |
| 317 | 47 | | 25396 | 25829 | 26261 | 26693 | 27126 | 27558 | 27990 | 28422 | 28854 | 29286 | 29719 | 30151 | 30584 | 31017 | 31449 | 31882 |
| 325 | 48 | 116 | 26113 | 26546 | 26978 | 27410 | 27843 | 28275 | 28707 | 29139 | 29571 | 30003 | 30436 | 30868 | 31301 | 31734 | 32166 | 32599 |
| 331 | 49 | | 26830 | 27263 | 27695 | 28127 | 28560 | 28992 | 29424 | 29856 | 30288 | 30720 | 31153 | 31585 | 32018 | 32451 | 32883 | 33316 |
| 337 | 50 | 116 | 27547 | 27980 | 28412 | 28844 | 29277 | 29709 | 30141 | 30573 | 31005 | 31437 | 31870 | 32302 | 32735 | 33168 | 33600 | 34033 |
| 345 | 51 | | 28264 | 28697 | 29129 | 29561 | 29994 | 30426 | 30858 | 31290 | 31722 | 32154 | 32587 | 33019 | 33452 | 33885 | 34317 | 34750 |
| 351 | 52 | | 28981 | 29414 | 29846 | 30278 | 30711 | 31143 | 31575 | 32007 | 32439 | 32871 | 33304 | 33736 | 34169 | 34602 | 35034 | 35467 |
| 357 | 53 | | 29698 | 30131 | 30563 | 30995 | 31428 | 31860 | 32292 | 32724 | 33156 | 33588 | 34021 | 34453 | 34886 | 35319 | 35751 | 36184 |
| 365 | 54 | | 30415 | 30848 | 31280 | 31712 | 32145 | 32577 | 33009 | 33441 | 33873 | 34305 | 34738 | 35170 | 35603 | 36036 | 36468 | 36901 |
| 371 | 55 | 116 | 31132 | 31565 | 31997 | 32429 | 32862 | 33294 | 33726 | 34158 | 34590 | 35022 | 35455 | 35887 | 36320 | 36753 | 37185 | 37618 |
| 377 | 56 | | 31849 | 32282 | 32714 | 33146 | 33579 | 34011 | 34443 | 34875 | 35307 | 35739 | 36172 | 36604 | 37037 | 37470 | 37902 | 38335 |
| 385 | 57 | | 32566 | 32999 | 33431 | 33863 | 34296 | 34728 | 35160 | 35592 | 36024 | 36456 | 36889 | 37321 | 37754 | 38187 | 38619 | 39052 |
| 391 | 58 | | 33283 | 33716 | 34148 | 34580 | 35013 | 35445 | 35877 | 36309 | 36741 | 37173 | 37606 | 38038 | 38471 | 38904 | 39336 | 39769 |
| 397 | 59 | | 34000 | 34433 | 34865 | 35297 | 35730 | 36162 | 36594 | 37026 | 37458 | 37890 | 38323 | 38755 | 39188 | 39621 | 40053 | 40486 |
| 405 | 60 | 116 | 34717 | 35150 | 35582 | 36014 | 36447 | 36879 | 37311 | 37743 | 38175 | 38607 | 39040 | 39472 | 39905 | 40338 | 40770 | 41203 |
| 411 | 61 | | 35434 | 35867 | 36299 | 36731 | 37164 | 37596 | 38028 | 38460 | 38892 | 39324 | 39757 | 40189 | 40622 | 41055 | 41487 | 41920 |
| 417 | 62 | | 36151 | 36584 | 37016 | 37448 | 37881 | 38313 | 38745 | 39177 | 39609 | 40041 | 40474 | 40906 | 41339 | 41772 | 42204 | 42637 |
| 425 | 63 | | 36868 | 37301 | 37733 | 38165 | 38598 | 39030 | 39462 | 39894 | 40326 | 40758 | 41191 | 41623 | 42056 | 42489 | 42921 | 43354 |
| 431 | 64 | | 37585 | 38018 | 38450 | 38882 | 39315 | 39747 | 40179 | 40611 | 41043 | 41475 | 41908 | 42340 | 42773 | 43206 | 43638 | 44071 |
| 437 | 65 | | 38302 | 38735 | 39167 | 39599 | 40032 | 40464 | 40896 | 41328 | 41760 | 42192 | 42625 | 43057 | 43490 | 43923 | 44355 | 44788 |
| 445 | 66 | 116 | 39019 | 39452 | 39884 | 40316 | 40749 | 41181 | 41613 | 42045 | 42477 | 42909 | 43342 | 43774 | 44207 | 44640 | 45072 | 45505 |
| 451 | 67 | | 39736 | 40169 | 40601 | 41033 | 41466 | 41898 | 42330 | 42762 | 43194 | 43626 | 44059 | 44491 | 44924 | 45357 | 45789 | 46222 |
| 457 | 68 | | 40453 | 40886 | 41318 | 41750 | 42183 | 42615 | 43047 | 43479 | 43911 | 44343 | 44776 | 45208 | 45641 | 46074 | 46506 | 46939 |
| 465 | 69 | | 41170 | 41603 | 42035 | 42467 | 42900 | 43332 | 43764 | 44196 | 44628 | 45060 | 45493 | 45925 | 46358 | 46791 | 47223 | 47656 |
| 471 | 70 | 116 | 41887 | 42320 | 42752 | 43184 | 43617 | 44049 | 44481 | 44913 | 45345 | 45777 | 46210 | 46642 | 47075 | 47508 | 47940 | 48373 |
| 477 | 71 | | 42604 | 43037 | 43469 | 43901 | 44334 | 44766 | 45198 | 45630 | 46062 | 46494 | 46927 | 47359 | 47792 | 48225 | 48657 | 49090 |
| 485 | 72 | | 43321 | 43754 | 44186 | 44618 | 45051 | 45483 | 45915 | 46347 | 46779 | 47211 | 47644 | 48076 | 48509 | 48942 | 49374 | 49807 |
| 491 | 73 | | 44038 | 44471 | 44903 | 45335 | 45768 | 46200 | 46632 | 47064 | 47496 | 47928 | 48361 | 48793 | 49226 | 49659 | 50091 | 50524 |
| 497 | 74 | | 44755 | 45188 | 45620 | 46052 | 46485 | 46917 | 47349 | 47781 | 48213 | 48645 | 49078 | 49510 | 49943 | 50376 | 50808 | 51241 |
| 505 | 75 | 116 | 45472 | 45905 | 46337 | 46769 | 47202 | 47634 | 48066 | 48498 | 48930 | 49362 | 49795 | 50227 | 50660 | 51093 | 51525 | 51958 |
| 511 | 76 | | 46189 | 46622 | 47054 | 47486 | 47919 | 48351 | 48783 | 49215 | 49647 | 50079 | 50512 | 50944 | 51377 | 51810 | 52242 | 52675 |
| 517 | 77 | | 46906 | 47339 | 47771 | 48203 | 48636 | 49068 | 49500 | 49932 | 50364 | 50796 | 51229 | 51661 | 52094 | 52527 | 52959 | 53392 |
| 525 | 78 | | 47623 | 48056 | 48488 | 48920 | 49353 | 49785 | 50217 | 50649 | 51081 | 51513 | 51946 | 52378 | 52811 | 53244 | 53676 | 54109 |
| 531 | 79 | | 48340 | 48773 | 49205 | 49637 | 50070 | 50502 | 50934 | 51366 | 51798 | 52230 | 52663 | 53095 | 53528 | 53961 | 54393 | 54826 |
| 537 | 80 | 116 | 49057 | 49490 | 49922 | 50354 | 50787 | 51219 | 51651 | 52083 | 52515 | 52947 | 53380 | 53812 | 54245 | 54678 | 55110 | 55543 |
| 545 | 81 | | 49774 | 50207 | 50639 | 51071 | 51504 | 51936 | 52368 | 52800 | 53232 | 53664 | 54097 | 54529 | 54962 | 55395 | 55827 | 56260 |
| 551 | 82 | | 50491 | 50924 | 51356 | 51788 | 52221 | 52653 | 53085 | 53517 | 53949 | 54381 | 54814 | 55246 | 55679 | 56112 | 56544 | 56977 |
| 557 | 83 | | 51208 | 51641 | 52073 | 52505 | 52938 | 53370 | 53802 | 54234 | 54666 | 55098 | 55531 | 55963 | 56396 | 56829 | 57261 | 57694 |
| 565 | 84 | | 51925 | 52358 | 52790 | 53222 | 53655 | 54087 | 54519 | 54951 | 55383 | 55815 | 56248 | 56680 | 57113 | 57546 | 57978 | 58411 |
| 571 | 85 | 116 | 52642 | 53075 | 53507 | 53939 | 54372 | 54804 | 55236 | 55668 | 56100 | 56532 | 56965 | 57397 | 57830 | 58263 | 58695 | 59128 |
| 577 | 86 | | 53359 | 53792 | 54224 | 54656 | 55089 | 55521 | 55953 | 56385 | 56817 | 57249 | 57682 | 58114 | 58547 | 58980 | 59412 | 59845 |
| 585 | 87 | | 54076 | 54509 | 54941 | 55373 | 55806 | 56238 | 56670 | 57102 | 57534 | 57966 | 58399 | 58831 | 59264 | 59697 | 60129 | 60562 |
| 591 | 88 | | 54793 | 55226 | 55658 | 56090 | 56523 | 56955 | 57387 | 57819 | 58251 | 58683 | 59116 | 59548 | 59981 | 60414 | 60846 | 61279 |
| 597 | 89 | | 55510 | 55943 | 56375 | 56807 | 57240 | 57672 | 58104 | 58536 | 58968 | 59400 | 59833 | 60265 | 60698 | 61131 | 61563 | 61996 |
| 605 | 90 | 116 | 56227 | 56660 | 57092 | 57524 | 57957 | 58389 | 58821 | 59253 | 59685 | 60117 | 60550 | 60982 | 61415 | 61848 | 62280 | 62713 |
| 611 | 91 | | 56944 | 57377 | 57809 | 58241 | 58674 | 59106 | 59538 | 59970 | 60402 | 60834 | 61267 | 61699 | 62132 | 62565 | 62997 | 63430 |
| 617 | 92 | | 57661 | 58094 | 58526 | 58958 | 59391 | 59823 | 60255 | 60687 | 61119 | 61551 | 61984 | 62416 | 62849 | 63282 | 63714 | 64147 |
| 625 | 93 | | 58378 | 58811 | 59243 | 59675 | 60108 | 60540 | 60972 | 61404 | 61836 | 62268 | 62701 | 63133 | 63566 | 63999 | 64431 | 64864 |
| 631 | 94 | 116 | 59095 | 59528 | 59960 | 60392 | 60825 | 61257 | 61689 | 62121 | 62553 | 62985 | 63418 | 63850 | 64283 | 64716 | 65148 | 65581 |
| 637 | 95 | | 59812 | 60245 | 60677 | 61109 | 61542 | 61974 | 62406 | 62838 | 63270 | 63702 | 64135 | 64567 | 65000 | 65433 | 65865 | 66298 |
| 645 | 96 | | 60529 | 60962 | 61394 | 61826 | 62259 | 62691 | 63123 | 63555 | 63987 | 64419 | 64852 | 65284 | 65717 | 66150 | 66582 | 67015 |
| 651 | 97 | | 61246 | 61679 | 62111 | 62543 | 62976 | 63408 | 63840 | 64272 | 64704 | 65136 | 65569 | 66001 | 66434 | 66867 | 67299 | 67732 |
| 657 | 98 | | 61963 | 62396 | 62828 | 63260 | 63693 | 64125 | 64557 | 64989 | 65421 | 65853 | 66286 | 66718 | 67151 | 67584 | 68016 | 68449 |
| 665 | 99 | | 62680 | 63113 | 63545 | 63977 | 64410 | 64842 | 65274 | 65706 | 66138 | 66570 | 67003 | 67435 | 67868 | 68301 | 68733 | 69166 |
| 671 | 100 | 116 | 63397 | 63830 | 64262 | 64694 | 65127 | 65559 | 65991 | 66423 | 66855 | 67287 | 67720 | 68152 | 68585 | 69018 | 69450 | 69883 |
| 677 | 101 | | 64114 | 64547 | 64979 | 65411 | 65844 | 66276 | 66708 | 67140 | 67572 | 68004 | 68437 | 68869 | 69302 | 69735 | 70167 | 70600 |
| 685 | 102 | | 64831 | 65264 | 65696 | 66128 | 66561 | 66993 | 67425 | 67857 | 68289 | 68721 | 69154 | 69586 | 70019 | 70452 | 70884 | 71317 |
| 691 | 103 | | 65548 | 65981 | 66413 | 66845 | 67278 | 67710 | 68142 | 68574 | 69006 | 69438 | 69871 | 70303 | 70736 | 71169 | 71601 | 72034 |
| 697 | 104 | | 66265 | 66698 | 67130 | 67562 | 67995 | 68427 | 68859 | 69291 | 69723 | 70155 | 70588 | 71020 | 71453 | 71886 | 72318 | 72751 |
| 705 | 105 | 116 | 66982 | 67415 | 67847 | 68279 | 68712 | 69144 | 69576 | 70008 | 70440 | 70872 | 71305 | 71737 | 72170 | 72603 | 73035 | 73468 |
| 711 | 106 | | 67699 | 68132 | 68564 | 68996 | 69429 | 69861 | 70293 | 70725 | 71157 | 71589 | 72022 | 72454 | 72887 | 73320 | 73752 | 74185 |
| 717 | 107 | | 68416 | 68849 | 69281 | 69713 | 70146 | 70578 | 71010 | 71442 | 71874 | 72306 | 72739 | 73171 | 73604 | 74037 | 74469 | 74902 |
| 725 | 108 | | 69133 | 69566 | 69998 | 70430 | 70863 | 71295 | 71727 | 72159 | 72591 | 73023 | 73456 | 73888 | 74321 | 74754 | 75186 | 75619 |
| 731 | 109 | | 69850 | 70283 | 70715 | 71147 | 71580 | 72012 | 72444 | 72876 | 73308 | 73740 | 74173 | 74605 | 75038 | 75471 | 75903 | 76336 |
| 737 | 110 | 116 | 70567 | 71000 | 71432 | 71864 | 72297 | 72729 | 73161 | 73593 | 74025 | 74457 | 74890 | 75322 | 75755 | 76188 | 76620 | 77053 |
| 745 | 111 | | 71284 | 71717 | 72149 | 72581 | 73014 | 73446 | 73878 | 74310 | 74742 | 75174 | 75607 | 76039 | 76472 | 76905 | 77337 | 77770 |
| 751 | 112 | | 72001 | 72434 | 72866 | 73298 | 73731 | 74163 | 74595 | 75027 | 75459 | 75891 | 76324 | 76756 | 77189 | 77622 | 78054 | 78487 |
| 757 | 113 | | 72718 | 73151 | 73583 | 74015 | 74448 | 74880 | 75312 | 75744 | 76176 | 76608 | 77041 | 77473 | 77906 | 78339 | 78771 | 79204 |
| 765 | 114 | 116 | 73435 | 73868 | 74300 | 74732 | 75165 | 75597 | 76029 | 76461 | 76893 | 77325 | 77758 | 78190 | 78623 | 79056 | 79488 | 79921 |
| 771 | 115 | | 74152 | 74585 | 75017 | 75449 | 75882 | 76314 | 76746 | 77178 | 77610 | 78042 | 78475 | 78907 | 79340 | 79773 | 80205 | 80638 |
| 777 | 116 | | 74869 | 75302 | 75734 | 76166 | 76599 | 77031 | 77463 | 77895 | 78327 | 78759 | 79192 | 79624 | 80057 | 80490 | 80922 | 81355 |
| 785 | 117 | | 75586 | 76019 | 76451 | 76883 | 77316 | 77748 | 78180 | 78612 | 79044 | 79476 | 79909 | 80341 | 80774 | 81207 | 81639 | 82072 |
| 791 | 118 | 116 | 76303 | 76736 | 77168 | 77600 | 78033 | 78465 | 78897 | 79329 | 79761 | 80193 | 80626 | 81058 | 81491 | 81924 | 82356 | 82789 |
| 797 | 119 | | 77020 | 77453 | 77885 | 78317 | 78750 | 79182 | 79614 | 80046 | 80478 | 80910 | 81343 | 81775 | 82208 | 82641 | 83073 | 83506 |
| 805 | 120 | | 77737 | 78170 | 78602 | 79034 | 79467 | 79899 | 80331 | 80763 | 81195 | 81627 | 82060 | 82492 | 82925 | 83358 | 83790 | 84223 |
| 811 | 121 | | 78454 | 78887 | 79319 | 79751 | 80184 | 80616 | 81048 | 81480 | 81912 | 82344 | 82777 | 83209 | 83642 | 84075 | 84507 | 84940 |
| 817 | 122 | | 79171 | 79604 | 80036 | 80468 | 80901 | 81333 | 81765 | 82197 | 82629 | 83061 | 83494 | 83926 | 84359 | 84792 | 85224 | 85657 |
| 825 | 123 | | 79888 | 80321 | 80753 | 81185 | 81618 | 82050 | 82482 | 82914 | 83346 | 83778 | 84211 | 84643 | 85076 | 85509 | 85941 | 86374 |
| 831 | 124 | 116 | 80605 | 81038 | 81470 | 81902 | 82335 | 82767 | 83199 | 83631 | 84063 | 84495 | 84928 | 85360 | 85793 | 86226 | 86658 | 87091 |
| 837 | 125 | | 81322 | 81755 | 82187 | 82619 | 83052 | 83484 | 83916 | 84348 | 84780 | 85212 | 85645 | 86077 | 86510 | 86943 | 87375 | 87808 |
| 845 | 126 | | 82039 | 82472 | 82904 | 83336 | 83769 | 84201 | 84633 | 85065 | 85497 | 85929 | 86362 | 86794 | 87227 | 87660 | 88092 | 88525 |
| 851 | 127 | | 82756 | 83189 | 83621 | 84053 | 84486 | 84918 | 85350 | 85782 | 86214 | 86646 | 87079 | 87511 | 87944 | 88377 | 88809 | 89242 |
| 857 | 128 | | 83473 | 83906 | 84338 | 84770 | 85203 | 85635 | 86067 | 86499 | 86931 | 87363 | 87796 | 88228 | 88661 | 89094 | 89526 | 89959 |
| 865 | 129 | 116 | 84190 | 84623 | 85055 | 85487 | 85920 | 86352 | 86784 | 87216 | 87648 | 88080 | 88513 | 88945 | 89378 | 89811 | 90243 | 90676 |
| 871 | 130 | | 84907 | 85340 | 85772 | 86204 | 86637 | 87069 | 87501 | 87933 | 88365 | 88797 | 89230 | 89662 | 90095 | 90528 | 90960 | 91393 |
| 877 | 131 | | 85624 | 86057 | 86489 | 86921 | 87354 | 87786 | 88218 | 88650 | 89082 | 89514 | 89947 | 90379 | 90812 | 91245 | 91677 | 92110 |
| 885 | 132 | | 86341 | 86774 | 87206 | 87638 | 88071 | 88503 | 88935 | 89367 | 89799 | 90231 | 90664 | 91096 | 91529 | 91962 | 92394 | 92827 |
| 891 | 133 | | 87058 | 87491 | 87923 | 88355 | 88788 | 89220 | 89652 | 90084 | 90516 | 90948 | 91381 | 91813 | 92246 | 92679 | 93111 | 93544 |
| 897 | 134 | | 87775 | 88208 | 88640 | 89072 | 89505 | 89937 | 90369 | 90801 | 91233 | 91665 | 92098 | 92530 | 92963 | 93396 | 93828 | 94261 |
| 905 | 135 | 116 | 88492 | 88925 | 89357 | 89789 | 90222 | 90654 | 91086 | 91518 | 91950 | 92382 | 92815 | 93247 | 93680 | 94113 | 94545 | 94978 |
| 911 | 136 | | 89209 | 89642 | 90074 | 90506 | 90939 | 91371 | 91803 | 92235 | 92667 | 93099 | 93532 | 93964 | 94397 | 94830 | 95262 | 95695 |
| 917 | 137 | | 89926 | 90359 | 90791 | 91223 | 91656 | 92088 | 92520 | 92952 | 93384 | 93816 | 94249 | 94681 | 95114 | 95547 | 95979 | 96412 |
| 925 | 138 | | 90643 | 91076 | 91508 | 91940 | 92373 | 92805 | 93237 | 93669 | 94101 | 94533 | 94966 | 95398 | 95831 | 96264 | 96696 | 97129 |
| 931 | 139 | | 91360 | 91793 | 92225 | 92657 | 93090 | 93522 | 93954 | 94386 | 94818 | 95250 | 95683 | 96115 | 96548 | 96981 | 97413 | 97846 |
| 937 | 140 | 116 | 92077 | 92510 | 92942 | 93374 | 93807 | 94239 | 94671 | 95103 | 95535 | 95967 | 96400 | 96832 | 97265 | 97698 | 98130 | 98563 |
| 945 | 141 | | 92794 | 93227 | 93659 | 94091 | 94524 | 94956 | 95388 | 95820 | 96252 | 96684 | 97117 | 97549 | 97982 | 98415 | 98847 | 99280 |
| 951 | 142 | | 93511 | 93944 | 94376 | 94808 | 95241 | 95673 | 96105 | 96537 | 96969 | 97401 | 97834 | 98266 | 98699 | 99132 | 99564 | 99997 |
| 957 | 143 | | 94228 | 94661 | 95093 | 95525 | 95958 | 96390 | 96822 | 97254 | 97686 | 98118 | 98551 | 98983 | 99416 | 99849 | 100281 | 100714 |
| 965 | 144 | 116 | 94945 | 95378 | 95810 | 96242 | 96675 | 97107 | 97539 | 97971 | 98403 | 98835 | 99268 | 99700 | 100133 | 100566 | 100998 | 101431 |
| 971 | 145 | | 95662 | 96095 | 96527 | 96959 | 97392 | 97824 | 98256 | 98688 | 99120 | 99552 | 99985 | 100417 | 100850 | 101283 | 101715 | 102148 |
| 977 | 146 | | 96379 | 96812 | 97244 | 97676 | 98109 | 98541 | 98973 | 99405 | 99837 | 100269 | 100702 | 101134 | 101567 | 102000 | 102432 | 102865 |
| 985 | 147 | | 97096 | 97529 | 97961 | 98393 | 98826 | 99258 | 99690 | 100122 | 100554 | 100986 | 101419 | 101851 | 102284 | 102717 | 103149 | 103582 |
| 991 | 148 | 116 | 97813 | 98246 | 98678 | 99110 | 99543 | 99975 | 100407 | 100839 | 101271 | 101703 | 102136 | 102568 | 103001 | 103434 | 103866 | 104299 |
| 997 | 149 | | 98530 | 98963 | 99395 | 99827 | 100260 | 100692 | 101124 | 101556 | 101988 | 102420 | 102853 | 103285 | 103718 | 104151 | 104583 | 105016 |
| 1005 | 150 | | 99247 | 99680 | 100112 | 100544 | 100977 | 101409 | 101841 | 102273 | 102705 | 103137 | 103570 | 104002 | 104435 | 104868 | 105300 | 105733 |
| 1011 | 151 | | 99964 | 100397 | 100829 | 101261 | 101694 | 102126 | 102558 | 102990 | 103422 | 103854 | 104287 | 104719 | 105152 | 105585 | 106017 | 106450 |
| 1017 | 152 | | 100681 | 101114 | 101546 | 101978 | 102411 | 102843 | 103275 | 103707 | 104139 | 104571 | 105004 | 105436 | 105869 | 106302 | 106734 | 107167 |
| 1025 | 153 | 116 | 101398 | 101831 | 102263 | 102695 | 103128 | 103560 | 103992 | 104424 | 104856 | 105288 | 105721 | 106153 | 106586 | 107019 | 107451 | 107884 |
| 1031 | 154 | | 102115 | 102548 | 102980 | 103412 | 103845 | 104277 | 104709 | 105141 | 105573 | 106005 | 106438 | 106870 | 107303 | 107736 | 108168 | 108601 |
| 1037 | 155 | | 102832 | 103265 | 103697 | 104129 | 104562 | 104994 | 105426 | 105858 | 106290 | 106722 | 107155 | 107587 | 108020 | 108453 | 108885 | 109318 |
| 1045 | 156 | | 103549 | 103982 | 104414 | 104846 | 105279 | 105711 | 106143 | 106575 | 107007 | 107439 | 107872 | 108304 | 108737 | 109170 | 109602 | 110035 |
| 1051 | 157 | 116 | 104266 | 104699 | 105131 | 105563 | 105996 | 106428 | 106860 | 107292 | 107724 | 108156 | 108589 | 109021 | 109454 | 109887

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Pars of the Sec. of Arc. | Yrs. A.D. | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Arg. | 31 | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 115 | 0185 | 0618 | 1051 | 1485 | 1918 | 2351 | 2785 | 3218 | 3651 | 4085 | 4518 | 4951 | 5385 | 5818 | 6251 | 6685 |
| 7 | 1 | | 0333 | 0766 | 1200 | 1633 | 2066 | 2499 | 2933 | 3366 | 3800 | 4233 | 4667 | 5101 | 5535 | 5968 | 6402 | 6835 |
| 14 | 2 | | 0482 | 0915 | 1348 | 1781 | 2214 | 2648 | 3081 | 3514 | 3948 | 4382 | 4815 | 5249 | 5682 | 6116 | 6550 | 6983 |
| 22 | 3 | | 0631 | 1064 | 1497 | 1930 | 2363 | 2796 | 3229 | 3663 | 4096 | 4530 | 4963 | 5397 | 5830 | 6264 | 6697 | 7132 |
| 29 | 4 | | 0780 | 1212 | 1645 | 2078 | 2511 | 2944 | 3378 | 3811 | 4244 | 4678 | 5111 | 5545 | 5978 | 6412 | 6846 | 7280 |
| 36 | 5 | 115 | 0928 | 1361 | 1794 | 2227 | 2660 | 3093 | 3526 | 3959 | 4392 | 4826 | 5259 | 5693 | 6126 | 6560 | 6993 | 7427 |
| 43 | 6 | | 1077 | 1510 | 1943 | 2376 | 2809 | 3242 | 3675 | 4108 | 4541 | 4974 | 5407 | 5841 | 6274 | 6708 | 7141 | 7575 |
| 51 | 7 | | 1226 | 1659 | 2092 | 2524 | 2957 | 3390 | 3823 | 4256 | 4689 | 5122 | 5556 | 5989 | 6422 | 6856 | 7289 | 7723 |
| 58 | 8 | | 1375 | 1808 | 2241 | 2673 | 3106 | 3539 | 3972 | 4405 | 4838 | 5271 | 5704 | 6137 | 6570 | 7004 | 7437 | 7871 |
| 65 | 9 | | 1523 | 1957 | 2390 | 2822 | 3255 | 3688 | 4120 | 4553 | 4986 | 5419 | 5852 | 6285 | 6719 | 7152 | 7585 | 8018 |
| 72 | 10 | 115 | 1672 | 2106 | 2539 | 2971 | 3404 | 3836 | 4269 | 4702 | 5135 | 5568 | 6001 | 6434 | 6867 | 7300 | 7734 | 8167 |
| 79 | 11 | | 1821 | 2255 | 2688 | 3120 | 3553 | 3985 | 4418 | 4851 | 5283 | 5716 | 6149 | 6582 | 7015 | 7447 | 7880 | 8315 |
| 86 | 12 | | 1970 | 2404 | 2837 | 3269 | 3702 | 4134 | 4567 | 4999 | 5432 | 5865 | 6298 | 6731 | 7164 | 7597 | 8030 | 8467 |
| 93 | 13 | | 2122 | 2554 | 2986 | 3419 | 3851 | 4283 | 4716 | 5148 | 5581 | 6014 | 6447 | 6879 | 7312 | 7745 | 8178 | 8617 |
| 101 | 14 | | 2271 | 2703 | 3136 | 3568 | 4000 | 4432 | 4865 | 5297 | 5730 | 6163 | 6595 | 7028 | 7461 | 7894 | 8327 | 8767 |
| 108 | 15 | 115 | 2421 | 2853 | 3285 | 3717 | 4149 | 4582 | 5014 | 5446 | 5878 | 6311 | 6744 | 7177 | 7610 | 8042 | 8475 | 8908 | 9341 |
| 115 | 16 | | 2571 | 3003 | 3435 | 3867 | 4299 | 4731 | 5163 | 5596 | 6028 | 6460 | 6893 | 7326 | 7758 | 8191 | 8624 | 9057 | 9490 |
| 122 | 17 | | 2720 | 3152 | 3584 | 4016 | 4448 | 4880 | 5312 | 5745 | 6177 | 6609 | 7042 | 7474 | 7907 | 8340 | 8773 | 9205 | 9638 |
| 129 | 18 | | 2870 | 3302 | 3734 | 4166 | 4598 | 5030 | 5462 | 5894 | 6326 | 6759 | 7191 | 7623 | 8056 | 8489 | 8921 | 9354 | 9787 |
| 137 | 19 | | 3020 | 3452 | 3885 | 4315 | 4747 | 5179 | 5611 | 6043 | 6476 | 6908 | 7340 | 7772 | 8205 | 8637 | 9070 | 9503 | 9936 |
| 144 | 20 | 115 (116) | 3170 | 3602 | 4033 | 4465 | 4897 | 5329 | 5761 | 6193 | 6625 | 7057 | 7489 | 7922 | 8354 | 8786 | 9219 | 9652 | 0084 |
| 151 | 21 | | 3320 | 3751 | 4183 | 4615 | 5046 | 5478 | 5910 | 6342 | 6774 | 7206 | 7639 | 8071 | 8503 | 8935 | 9368 | 9800 | 0233 |
| 158 | 22 | | 3470 | 3901 | 4333 | 4765 | 5196 | 5628 | 6060 | 6492 | 6924 | 7356 | 7788 | 8220 | 8652 | 9085 | 9517 | 9949 | 0381 |
| 165 | 23 | | 3620 | 4052 | 4483 | 4915 | 5346 | 5778 | 6210 | 6641 | 7073 | 7505 | 7937 | 8369 | 8801 | 9234 | 9666 | 0098 | 0531 |
| 172 | 24 | | 3770 | 4202 | 4633 | 5065 | 5496 | 5928 | 6359 | 6791 | 7223 | 7655 | 8087 | 8519 | 8951 | 9383 | 9815 | 0247 | 0680 |
| 180 | 25 | 115 (116) | 3921 | 4352 | 4783 | 5215 | 5646 | 6078 | 6509 | 6941 | 7372 | 7804 | 8236 | 8668 | 9100 | 9532 | 9964 | 0397 | 0829 |
| 187 | 26 | | 4071 | 4502 | 4933 | 5365 | 5796 | 6228 | 6659 | 7091 | 7522 | 7954 | 8385 | 8818 | 9250 | 9682 | 0114 | 0546 | 0978 |
| 194 | 27 | | 4221 | 4653 | 5084 | 5515 | 5946 | 6377 | 6809 | 7240 | 7672 | 8103 | 8535 | 8967 | 9399 | 9831 | 0263 | 0695 | 1127 |
| 201 | 28 | | 4372 | 4803 | 5234 | 5665 | 6096 | 6528 | 6959 | 7390 | 7822 | 8254 | 8685 | 9117 | 9549 | 9981 | 0412 | 0844 | 1276 |
| 209 | 29 | | 4523 | 4953 | 5384 | 5816 | 6247 | 6678 | 7109 | 7540 | 7972 | 8403 | 8835 | 9267 | 9698 | 0130 | 0562 | 0994 | 1426 |
| 216 | 30 | 115 (116) | 4673 | 5104 | 5535 | 5966 | 6397 | 6828 | 7259 | 7691 | 8122 | 8553 | 8985 | 9416 | 9848 | 0280 | 0712 | 1143 | 1575 |
| 223 | 31 | | 4824 | 5255 | 5685 | 6116 | 6547 | 6978 | 7410 | 7841 | 8272 | 8704 | 9135 | 9566 | 9998 | 0429 | 0861 | 1293 | 1725 |
| 230 | 32 | | 4975 | 5405 | 5836 | 6267 | 6698 | 7129 | 7560 | 7991 | 8422 | 8854 | 9285 | 9716 | 0148 | 0579 | 1011 | 1443 | 1874 |
| 237 | 33 | | 5126 | 5556 | 5987 | 6418 | 6848 | 7279 | 7710 | 8141 | 8573 | 9004 | 9435 | 9866 | 0298 | 0729 | 1161 | 1592 | 2024 |
| 244 | 34 | | 5277 | 5707 | 6138 | 6568 | 6999 | 7430 | 7861 | 8292 | 8723 | 9154 | 9585 | 0016 | 0448 | 0879 | 1310 | 1742 | 2174 |
| 252 | 35 | 115 (116) | 5427 | 5858 | 6289 | 6719 | 7150 | 7581 | 8011 | 8442 | 8873 | 9304 | 9735 | 0166 | 0598 | 1029 | 1460 | 1892 | 2323 |
| 259 | 36 | | 5579 | 6009 | 6439 | 6870 | 7301 | 7731 | 8162 | 8593 | 9024 | 9455 | 9886 | 0317 | 0748 | 1179 | 1610 | 2042 | 2473 |
| 266 | 37 | | 5730 | 6160 | 6590 | 7021 | 7451 | 7882 | 8313 | 8743 | 9174 | 9605 | 0036 | 0467 | 0898 | 1329 | 1761 | 2192 | 2623 |
| 273 | 38 | | 5881 | 6311 | 6742 | 7172 | 7602 | 8033 | 8463 | 8894 | 9325 | 9756 | 0186 | 0617 | 1048 | 1480 | 1911 | 2342 | 2773 |
| 280 | 39 | | 6032 | 6462 | 6893 | 7323 | 7753 | 8184 | 8614 | 9045 | 9475 | 9906 | 0337 | 0768 | 1199 | 1630 | 2061 | 2492 | 2923 |
| 288 | 40 | 115 (116) | 6184 | 6614 | 7044 | 7474 | 7904 | 8335 | 8765 | 9196 | 9626 | 0057 | 0488 | 0918 | 1349 | 1780 | 2211 | 2642 | 3073 |
| 295 | 41 | | 6335 | 6765 | 7195 | 7625 | 8055 | 8486 | 8916 | 9347 | 9777 | 0208 | 0638 | 1069 | 1500 | 1931 | 2361 | 2793 | 3224 |
| 302 | 42 | | 6487 | 6916 | 7346 | 7777 | 8207 | 8637 | 9067 | 9497 | 9928 | 0358 | 0789 | 1220 | 1650 | 2081 | 2512 | 2943 | 3374 |
| 309 | 43 | | 6638 | 7068 | 7498 | 7928 | 8358 | 8788 | 9218 | 9649 | 0079 | 0509 | 0940 | 1371 | 1801 | 2232 | 2663 | 3093 | 3524 |
| 316 | 44 | | 6790 | 7220 | 7649 | 8079 | 8509 | 8939 | 9369 | 9800 | 0230 | 0660 | 1091 | 1521 | 1952 | 2382 | 2813 | 3244 | 3675 |
| 324 | 45 | 115 (116) | 6941 | 7371 | 7801 | 8231 | 8661 | 9091 | 9521 | 9951 | 0381 | 0811 | 1242 | 1672 | 2103 | 2533 | 2964 | 3394 | 3825 |
| 331 | 46 | | 7093 | 7523 | 7953 | 8384 | 8812 | 9242 | 9672 | 0102 | 0532 | 0962 | 1393 | 1823 | 2253 | 2684 | 3114 | 3545 | 3976 |
| 338 | 47 | | 7245 | 7675 | 8104 | 8534 | 8964 | 9394 | 9823 | 0253 | 0683 | 1114 | 1544 | 1974 | 2404 | 2835 | 3265 | 3696 | 4126 |
| 345 | 48 | | 7397 | 7827 | 8256 | 8686 | 9115 | 9545 | 9975 | 0405 | 0835 | 1265 | 1695 | 2125 | 2555 | 2986 | 3416 | 3846 | 4277 |
| 352 | 49 | | 7549 | 7979 | 8408 | 8837 | 9267 | 9697 | 0126 | 0556 | 0986 | 1416 | 1846 | 2276 | 2706 | 3137 | 3567 | 3997 | 4428 |
| 360 | 50 | 115 (116) | 7701 | 8130 | 8560 | 8989 | 9419 | 9848 | 0278 | 0708 | 1138 | 1567 | 1997 | 2427 | 2857 | 3287 | 3717 | 4147 | 4579 |
| 367 | 51 | | 7853 | 8283 | 8712 | 9141 | 9571 | 0000 | 0430 | 0860 | 1289 | 1719 | 2149 | 2579 | 3009 | 3439 | 3869 | 4299 | 4729 |
| 374 | 52 | | 8006 | 8435 | 8864 | 9293 | 9723 | 0152 | 0582 | 1011 | 1441 | 1871 | 2301 | 2732 | 3162 | 3592 | 4022 | 4450 | 4880 |
| 382 | 53 | | 8158 | 8587 | 9016 | 9445 | 9875 | 0304 | 0734 | 1163 | 1593 | 2023 | 2453 | 2884 | 3314 | 3741 | 4171 | 4601 | 5031 |
| 389 | 54 | | 8311 | 8739 | 9168 | 9597 | 0027 | 0456 | 0886 | 1315 | 1744 | 2174 | 2604 | 3033 | 3463 | 3893 | 4323 | 4753 | 5183 |
| 396 | 55 | 115 (116) | 8463 | 8892 | | | | | | | | | 2755 | 3185 | 3614 | 4044 | 4474 | 4904 | 5334 |
| 403 | 56 | | 8615 | 9044 | | | | | | | | | 2907 | 3336 | 3766 | 4196 | 4625 | | |
| 411 | 57 | | | | | | | | | | | | | 3488 | 3917 | 4347 | 4777 | | |
| 417 | 58 | | | | | | | | | | | | | | 4069 | 4499 | 4929 | | |
| 424 | 59 | | | | | | | | | | | | | | | | | | |

| Pars of the Sec. of Arc. | Yrs. A.D. | Sums |
|---|---|---|
| Arg. | 31 | |
| 0 | 0 | 4142833 |
| 2 | 1 | 4285 |
| 5 | 2 | 3132 |
| 8 | 3 | 3282 |
| 10 | 4 | 3433 |
| 13 | 5 | 4143588 |
| 15 | 6 | 3733 |
| 18 | 7 | 3883 |
| 20 | 8 | 4034 |
| 23 | 9 | 4184 |
| 25 | 10 | 4143335 |
| 28 | 11 | 4485 |
| 31 | 12 | 4636 |
| 33 | 13 | 4786 |
| 35 | 14 | 4937 |
| 38 | 15 | 4143588 |
| 40 | 16 | 5739 |
| 43 | 17 | 5890 |
| 46 | 18 | 6041 |
| 48 | 19 | 6192 |
| 51 | 20 | 4145844 |
| 53 | 21 | 5995 |
| 56 | 22 | 6146 |
| 58 | 23 | 6298 |
| 61 | 24 | 6449 |
| 63 | 25 | 4146601 |
| 66 | 26 | 0754 |
| 68 | 27 | 0906 |
| 71 | 28 | 7056 |
| 73 | 29 | 7208 |
| 76 | 30 | 4147360 |
| 78 | 31 | 7512 |
| 81 | 32 | 7664 |
| 84 | 33 | 7816 |
| 86 | 34 | 7968 |
| 89 | 35 | 4148121 |
| 91 | 36 | 8273 |
| 94 | 37 | 8425 |
| 96 | 38 | 8577 |
| 99 | 39 | 8731 |
| 101 | 40 | 4148883 |
| 104 | 41 | 9037 |
| 106 | 42 | 9189 |
| 109 | 43 | 9342 |
| 111 | 44 | 9495 |
| 114 | 45 | 4149648 |
| 116 | 46 | 9801 |
| 119 | 47 | 9954 |
| 122 | 48 | 4150107 |
| 124 | 49 | 0261 |
| 127 | 50 | 4150414 |
| 129 | 51 | 0567 |
| 132 | 52 | 0720 |
| 134 | 53 | 0873 |
| 137 | 54 | 1028 |
| 139 | 55 | 4151182 |
| 142 | 56 | 1336 |
| 144 | 57 | 1490 |
| 147 | 58 | 1644 |
| 149 | 59 | 1798 |

Numbers II. for Corrected Sums of Alt.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| Sec. of Corr. addit. | 32° | Numbers |
|---|---|---|
| ′ | ′ | |
| 0 | 0 | 115 (116) |
| 1 | 1 | |
| 2 | 2 | |
| 3 | 3 | |
| 4 | 4 | |
| 5 | 5 | |
| 6 | 6 | |
| 7 | 7 | |
| 8 | 8 | |
| 9 | 9 | |
| 10 | 10 | |
| 11 | 11 | |
| 12 | 12 | |
| 13 | 13 | |
| 14 | 14 | |
| 15 | 15 | |
| 16 | 16 | |
| 17 | 17 | |
| 18 | 18 | |
| 19 | 19 | |
| 20 | 20 | |
| 21 | 21 | |
| 22 | 22 | |
| 23 | 23 | |
| 24 | 24 | |
| 25 | 25 | |
| 26 | 26 | |
| 27 | 27 | |
| 28 | 28 | |
| 29 | 29 | |
| 30 | 30 | |
| 31 | 31 | |
| 32 | 32 | |
| 33 | 33 | |
| 34 | 34 | |
| 35 | 35 | |
| 36 | 36 | |
| 37 | 37 | |
| 38 | 38 | |
| 39 | 39 | |
| 40 | 40 | |
| 41 | 41 | |
| 42 | 42 | |
| 43 | 43 | |
| 44 | 44 | |
| 45 | 45 | |
| 46 | 46 | |
| 47 | 47 | |
| 48 | 48 | |
| 49 | 49 | |
| 50 | 50 | |
| 51 | 51 | |
| 52 | 52 | |
| 53 | 53 | |
| 54 | 54 | |
| 55 | 55 | |
| 56 | 56 | |
| 57 | 57 | |
| 58 | 58 | |
| 59 | 59 | |

| Avail. in additive | 32° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 115. 1952 | 2379 | 2807 | 3234 | 3662 | 4089 | 4517 | 4945 | 5372 | 5800 | 6228 | 6656 | 7084 | 7511 | 7939 | 8367 | 8794 |
| 7 | 1 | 2106 | 2533 | 2961 | 3388 | 3815 | 4243 | 4671 | 5098 | 5526 | 5954 | 6382 | 6810 | 7238 | 7666 | 8094 | 8522 | 8949 |
| 14 | | | | | | | | | | | | 6535 | 6963 | 7391 | 7819 | 8247 | 8675 | 91 |
| 21 | | | | | | | | | | | | 6689 | 7116 | 7544 | 7972 | 8400 | 8828 | |
| 28 | | | | | | | | | | | | 6842 | 7270 | 7698 | 8126 | 8554 | 8981 | |
| 35 | | 115 | | | | | | | | | | | | | | | | |
| 42 | | | 2578 | 3305 | 3732 | 4159 | 4586 | 5013 | 5440 | 5867 | 6295 | 6722 | 7150 | 7577 | 8 | 8433 | | |
| 49 | | | | | | | | | | | | | | | | | | |
| 56 | | | 3187 | 3614 | 4041 | 4468 | 4894 | 5322 | 5749 | 6176 | 6603 | 7030 | 7457 | 7885 | 83 | | | |
| 63 | | | | | | | | | | | | | | | | | | |
| 70 | | | 3497 | 3923 | 4350 | 4777 | 5204 | 5630 | 6057 | 6484 | 6911 | 7338 | 7765 | | | | | |
| 77 | | 115 (116) | | | | | | | | | | | | | | | | |
| 84 | | | 3652 | 4078 | 4505 | 4931 | 5358 | 5785 | 6212 | 6638 | 7065 | 7492 | 7920 | 8347 | 8774 | | | |
| 91 | | | | | | | | | | | | | | | | | | |
| 98 | | | | | | | | 5939 | 6366 | 6793 | 7220 | 7647 | 8074 | 8501 | 8928 | | | |
| 105 | | | | | | | | | | | | | | | | | | |
| 112 | | | | | | | | 6094 | 6521 | 6947 | 7374 | 7801 | 8228 | 8655 | 9082 | 9509 | 9937 | |
| 119 | | | | | | | | | | | | | | | | | | |
| 126 | | | | | | | | 6249 | 6675 | 7102 | 7529 | 7955 | 8382 | 8809 | 9236 | 9663 | 0091 | |
| 133 | | | | | | | | | | | | | | | | | | |
| 140 | | 115 (116) | | | | | | | | | | | | | | | | |
| 147 | | | | | | | | | | | | | | | | | | |
| 154 | | | | | | | | | | | | | | | | | | |
| 161 | | | | | | | | | | | | | | | | | | |
| 168 | | | | | | | | | | | | | | | | | | |
| 175 | | | | | | | | | | | | | | | | | | |
| 182 | | 115 (116) | | | | | | | | | | | | | | | | |
| 189 | | | | | | | | | | | | | | | | | | |
| 196 | | | | | | | | | | | | | | | | | | |
| 203 | | | | | | | | | | | | | | | | | | |
| 210 | | | 5516 | 5942 | 6367 | 6793 | 7219 | 7645 | 8070 | 8496 | 8922 | | | | | | | |
| 217 | | | 5672 | 6097 | 6523 | 6949 | 7374 | 7800 | 8226 | 8652 | | | | | | | | |
| 224 | | 115 (116) | 5828 | 6253 | 6679 | 7104 | 7530 | 7955 | 8381 | 8807 | 9233 | 9659 | 0085 | 0511 | | | | |
| 231 | | | | | | | | | | | | | | | | | | |
| 238 | | | 6140 | 6565 | 6990 | 7416 | 7841 | 8267 | 8692 | 9118 | 9544 | 9969 | 0395 | 0821 | | | | |
| 245 | | | 6296 | 6721 | 7146 | 7572 | 7997 | 8422 | 8848 | 9273 | 9699 | 0125 | 0551 | 0976 | | | | |
| 252 | | | | | | | | | 9004 | 9429 | 9855 | 0280 | 0706 | 1132 | 1557 | | | |
| 259 | | | | | | | | | | | | | | | | | | |
| 266 | | | | | | | | | | | | | | | | | | |
| 273 | | | | | | | | | | | | | | | | | | |
| 280 | | | | | | | | | | | | | | | | | | |
| 287 | | | | | | | | | | | | | | | | | | |
| 294 | | | | | | | | | | | | | | | | | | |
| 301 | | | | | | | | | | | | | | | | | | |
| 308 | | | | | | | | | | | | | | | | | | |
| 315 | | | | | | | | | | | | | | | | | | |
| 322 | | | | | | | | | | | | | | | | | | |
| 329 | | | | | | | | | | | | | | | | | | |
| 336 | | | | | | | | | | | | | | | | | | |
| 343 | | | | | | | | | | | | | | | | | | |
| 350 | | | | | | | | | | | | | | | | | | |
| 357 | | | | | | | | | | | | | | | | | | |
| 364 | | | | | | | | | | | | | | | | | | |
| 371 | | | | | | | | | | | | | | | | | | |
| 378 | | | | | | | | | | | | | | | | | | |
| 385 | | | | | | | | | | | | | | | | | | |
| 392 | | | | | | | | | | | | | | | | | | |
| 399 | | | | | | | | | | | | | | | | | | |
| 406 | | | | | | | | | | | | | | | | | | |
| 413 | | | | | | | | | | | | | | | | | | |
| 420 | | | | | | | | | | | | | | | | | | |
| 427 | | | | | | | | | | | | | | | | | | |
| 434 | | | | | | | | | | | | | | | | | | |
| 441 | | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| Parts for Seconds of Auxil. Argum. additive | S.A.A. & A. D. 32° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0′ | 115 (116) 9226 | 9654 | 0083 | 0512 | 0940 | 1369 | 1798 | 2227 | 2656 | 3085 | 3514 | 3944 | 4373 | 4802 | 5232 | 5661 | 6091 |
| 7 | 1 | 9379 | 9807 | 0236 | 0664 | 1093 | 1522 | 1951 | 2379 | 2808 | 3237 | 3666 | 4096 | 4525 | 4954 | 5383 | 5813 | 6242 |
| 14 | 2 | 9532 | 9960 | 0388 | 0817 | 1246 | 1674 | 2103 | 2532 | 2961 | 3390 | 3819 | 4248 | 4677 | 5106 | 5535 | 5965 | 6394 |
| 21 | 3 | 9685 | 0113 | 0541 | 0970 | 1398 | 1827 | 2255 | 2684 | 3113 | 3542 | 3971 | 4400 | 4829 | 5258 | 5687 | 6116 | 6546 |
| 29 | 4 | 9838 | 0266 | 0694 | 1123 | 1551 | 1979 | 2408 | 2837 | 3265 | 3694 | 4123 | 4552 | 4981 | 5410 | 5839 | 6268 | 6698 |
| 36 | 5 | 115 (116) 9991 | 0419 | 0847 | 1276 | 1704 | 2132 | 2561 | 2989 | 3418 | 3847 | 4275 | 4704 | 5133 | 5562 | 5991 | 6420 | 6850 |
| 43 | 6 | 116 0144 | 0572 | 1000 | 1428 | 1857 | 2285 | 2714 | 3142 | 3571 | 3999 | 4428 | 4857 | 5285 | 5714 | 6143 | 6572 | 7002 |
| 50 | 7 | 0297 | 0725 | 1153 | 1581 | 2010 | 2438 | 2866 | 3295 | 3723 | 4152 | 4580 | 5009 | 5438 | 5867 | 6296 | 6724 | 7154 |
| 57 | 8 | 0451 | 0879 | 1307 | 1735 | 2163 | 2591 | 3019 | 3448 | 3876 | 4304 | 4733 | 5162 | 5590 | 6019 | 6448 | 6877 | 7306 |
| 64 | 9 | 0604 | 1032 | 1460 | 1888 | 2316 | 2744 | 3172 | 3600 | 4029 | 4457 | 4886 | 5314 | 5743 | 6171 | 6600 | 7029 | 7458 |
| 71 | 10 | 116 0758 | 1185 | 1613 | 2041 | 2469 | 2897 | 3325 | 3753 | 4182 | 4610 | 5038 | 5467 | 5895 | 6324 | 6753 | 7181 | 7610 |
| 78 | 11 | 0911 | 1339 | 1767 | 2194 | 2622 | 3050 | 3478 | 3907 | 4335 | 4763 | 5191 | 5619 | 6047 | 6476 | 6904 | 7333 | 7762 |
| 85 | 12 | 1065 | 1492 | 1920 | 2348 | 2776 | 3204 | 3631 | 4059 | 4488 | 4916 | 5344 | 5772 | 6201 | 6629 | 7058 | 7486 | 7915 |
| 93 | 13 | 1219 | 1646 | 2074 | 2501 | 2929 | 3357 | 3785 | 4213 | 4641 | 5069 | 5497 | 5925 | 6353 | 6781 | 7210 | 7638 | 8067 |
| 100 | 14 | 1372 | 1800 | 2227 | 2655 | 3083 | 3510 | 3938 | 4366 | 4794 | 5222 | 5650 | 6078 | 6506 | 6935 | 7363 | 7791 | 8220 |
| 107 | 15 | 116 1526 | 1954 | 2381 | 2809 | 3236 | 3664 | 4091 | 4519 | 4947 | 5375 | 5803 | 6231 | 6659 | 7087 | 7516 | 7944 | 8374 |
| 114 | 16 | 1680 | 2107 | 2535 | 2962 | 3390 | 3817 | 4245 | 4673 | 5100 | 5528 | 5956 | 6384 | 6812 | 7240 | 7668 | 8097 | 8525 |
| 121 | 17 | 1834 | 2261 | 2689 | 3116 | 3543 | 3971 | 4398 | 4826 | 5254 | 5681 | 6109 | 6537 | 6965 | 7393 | 7821 | 8250 | 8678 |
| 128 | 18 | 1988 | 2415 | 2843 | 3270 | 3697 | 4125 | 4552 | 4980 | 5407 | 5835 | 6263 | 6690 | 7118 | 7546 | 7974 | 8402 | 8831 |
| 135 | 19 | 2142 | 2569 | 2997 | 3424 | 3851 | 4278 | 4706 | 5133 | 5561 | 5988 | 6416 | 6844 | 7272 | 7699 | 8127 | 8555 | 8983 |
| 142 | 20 | 116 2297 | 2724 | 3151 | 3578 | 4005 | 4432 | 4859 | 5287 | 5714 | 6142 | 6569 | 6997 | 7425 | 7853 | 8280 | 8708 | 9136 |
| 150 | 21 | 2451 | 2878 | 3305 | 3732 | 4159 | 4586 | 5013 | 5441 | 5868 | 6295 | 6723 | 7150 | 7577 | 8006 | 8434 | 8861 | 9288 |
| 157 | 22 | 2605 | 3032 | 3459 | 3886 | 4313 | 4740 | 5167 | 5594 | 6022 | 6449 | 6876 | 7304 | 7732 | 8159 | 8587 | 9015 | 9443 |
| 164 | 23 | 2760 | 3186 | 3613 | 4040 | 4467 | 4894 | 5321 | 5748 | 6175 | 6603 | 7030 | 7458 | 7885 | 8313 | 8740 | 9168 | 9596 |
| 171 | 24 | 2914 | 3341 | 3767 | 4194 | 4621 | 5048 | 5475 | 5902 | 6329 | 6756 | 7184 | 7611 | 8039 | 8466 | 8894 | 9321 | 9749 |
| 178 | 25 | 116 | 3069 | 3495 | 3922 | 4349 | 4775 | 5202 | 5629 | 6056 | 6483 | 6910 | 7338 | 7765 | 8192 | 8620 | 9047 | 9475 |
| 185 | 26 | 116 (117) 3223 | 3650 | 4076 | 4503 | 4930 | 5356 | 5783 | 6210 | 6637 | 7064 | 7491 | 7919 | 8346 | 8773 | 9201 | 9628 | 0056 |
| 192 | 27 | 3378 | 3804 | 4231 | 4657 | 5084 | 5511 | 5937 | 6364 | 6791 | 7218 | 7645 | 8072 | 8500 | 8927 | 9354 | 9781 | 0208 |
| 199 | 28 | 3533 | 3959 | 4386 | 4812 | 5239 | 5665 | 6092 | 6519 | 6945 | 7372 | 7799 | 8226 | 8653 | 9081 | 9508 | 9935 | 0363 |
| 206 | 29 | 3688 | 4114 | 4540 | 4967 | 5393 | 5820 | 6247 | 6673 | 7100 | 7527 | 7953 | 8380 | 8807 | 9234 | 9661 | 0088 | 0515 |
| 214 | 30 | 116 (117) 3843 | 4269 | 4695 | 5121 | 5548 | 5974 | 6401 | 6827 | 7254 | 7681 | 8108 | 8534 | 8961 | 9388 | 9815 | 0243 | 0670 |
| 221 | 31 | 3999 | 4424 | 4850 | 5276 | 5702 | 6129 | 6555 | 6982 | 7408 | 7835 | 8262 | 8688 | 9115 | 9542 | 9969 | 0396 | 0824 |
| 228 | 32 | 4153 | 4579 | 5005 | 5431 | 5857 | 6283 | 6710 | 7136 | 7563 | 7989 | 8416 | 8843 | 9269 | 9696 | 0123 | 0550 | 0977 |
| 235 | 33 | 4308 | 4734 | 5160 | 5586 | 6012 | 6438 | 6864 | 7291 | 7717 | 8144 | 8570 | 8997 | 9424 | 9850 | 0277 | 0704 | 1131 |
| 242 | 34 | 4463 | 4889 | 5315 | 5741 | 6167 | 6593 | 7019 | 7445 | 7872 | 8298 | 8725 | 9151 | 9578 | 0004 | 0431 | 0858 | 1285 |
| 249 | 35 | 116 (117) 4618 | 5044 | 5470 | 5896 | 6322 | 6748 | 7174 | 7600 | 8026 | 8453 | 8879 | 9306 | 9732 | 0159 | 0585 | 1012 | 1439 |
| 257 | 36 | 4774 | 5199 | 5625 | 6051 | 6477 | 6903 | 7329 | 7755 | 8181 | 8607 | 9034 | 9460 | 9887 | 0313 | 0740 | 1166 | 1593 |
| 263 | 37 | 4929 | 5355 | 5780 | 6206 | 6632 | 7058 | 7484 | 7910 | 8336 | 8762 | 9188 | 9615 | 0041 | 0467 | 0894 | 1321 | 1747 |
| 270 | 38 | 5085 | 5510 | 5936 | 6361 | 6787 | 7213 | 7639 | 8065 | 8491 | 8917 | 9343 | 9770 | 0196 | 0622 | 1048 | 1475 | 1901 |
| 278 | 39 | 5240 | 5666 | 6091 | 6517 | 6942 | 7368 | 7794 | 8220 | 8646 | 9072 | 9498 | 9924 | 0350 | 0777 | 1203 | 1629 | 2056 |
| 285 | 40 | 116 (117) 5396 | 5821 | 6247 | 6672 | 7098 | 7523 | 7949 | 8375 | 8801 | 9227 | 9653 | 0079 | 0505 | 0931 | 1357 | 1784 | 2210 |
| 292 | 41 | 5551 | 5977 | 6402 | 6828 | 7253 | 7679 | 8104 | 8530 | 8956 | 9382 | 9808 | 0234 | 0660 | 1086 | 1512 | 1938 | 2365 |
| 299 | 42 | 5707 | 6132 | 6558 | 6983 | 7408 | 7834 | 8260 | 8685 | 9111 | 9537 | 9963 | 0388 | 0814 | 1240 | 1667 | 2093 | 2519 |
| 306 | 43 | 5863 | 6288 | 6713 | 7139 | 7564 | 7989 | 8415 | 8840 | 9266 | 9692 | 0118 | 0543 | 0969 | 1395 | 1821 | 2247 | 2674 |
| 314 | 44 | 6019 | 6444 | 6869 | 7294 | 7719 | 8145 | 8570 | 8996 | 9421 | 9847 | 0273 | 0698 | 1124 | 1550 | 1976 | 2402 | 2828 |
| 321 | 45 | 116 (117) 6175 | 6600 | 7025 | 7450 | 7876 | 8301 | 8726 | 9151 | 9577 | | | | | | | | |
| 328 | 46 | 6331 | 6756 | 7181 | 7607 | 8032 | 8457 | 8882 | 9307 | 9732 | 0158 | 0583 | 1009 | 1434 | 1860 | | | |
| 335 | 47 | 6487 | 6912 | 7337 | 7762 | 8187 | 8612 | 9037 | 9462 | 9888 | 0313 | 0738 | 1164 | 1589 | 2015 | | | |
| 342 | 48 | 6643 | 7068 | 7493 | 7918 | 8343 | 8768 | 9193 | 9618 | 0043 | 0468 | 0894 | 1319 | 1745 | 2170 | | | |
| 349 | 49 | 6799 | 7224 | 7649 | 8074 | 8499 | 8924 | 9349 | 9774 | 0200 | 0625 | 1050 | 1476 | 1901 | 2326 | | | |
| 356 | 50 | 116 (117) 6956 | 7381 | 7806 | 8231 | 8656 | 9081 | 9506 | 9931 | 0356 | 0781 | 1206 | 1631 | 2057 | 2482 | | | |
| 363 | 51 | 7112 | 7537 | 7962 | 8387 | 8812 | 9237 | 9662 | 0087 | 0512 | 0937 | 1362 | 1787 | 2213 | 2638 | | | |
| 371 | 52 | 7269 | 7694 | 8118 | 8543 | 8968 | 9393 | 9818 | 0243 | 0668 | 1093 | 1518 | 1943 | 2368 | 2794 | | | |
| 377 | 53 | 7425 | 7850 | 8274 | 8699 | 9124 | 9549 | 9974 | 0399 | 0824 | 1249 | 1674 | 2099 | 2525 | 2950 | | | |
| 384 | 54 | 7582 | 8006 | 8430 | 8855 | 9279 | 9704 | 0128 | 0553 | 0978 | 1403 | 1828 | 2253 | 2678 | 3103 | | | |
| 391 | 55 | 116 (117) 7738 | 8162 | 8587 | 9011 | 9436 | 9860 | 0285 | 0709 | 1134 | 1558 | 1983 | 2407 | 2832 | 3256 | | | |
| 399 | 56 | 7895 | 8319 | 8744 | 9168 | 9592 | 0016 | 0441 | 0865 | 1290 | 1714 | 2139 | 2563 | 2988 | 3412 | | | |
| 406 | 57 | 8052 | 8476 | 8900 | 9324 | 9749 | 0173 | 0597 | 1022 | 1446 | 1871 | 2296 | 2720 | 3145 | 3570 | 3995 | 4420 | 4845 |
| 413 | 58 | 8209 | 8633 | 9057 | 9481 | 9905 | 0330 | 0754 | 1178 | 1603 | 2027 | 2452 | 2876 | 3301 | 3725 | 4150 | 4574 | 4999 |
| 420 | 59 | 8366 | 8790 | 9214 | 9638 | 0062 | 0486 | 0911 | 1334 | 1759 | 2183 | 2608 | 3032 | 3457 | 3881 | 4306 | 4730 | 5154 |

Sums for finding the Corrected Distances.

| Parts for Sec. of C. D. additive | C. D. 32° | Sums |
|---|---|---|
| ′ | | |
| 0 | 0′ | 415 1952 |
| 3 | 1 | 2380 |
| 5 | 2 | 2808 |
| 8 | 3 | 3236 |
| 10 | 4 | 3664 |
| 13 | 5 | 415 4092 |
| 16 | 6 | 4520 |
| 18 | 7 | 4948 |
| 21 | 8 | 5376 |
| 23 | 9 | 5804 |
| 26 | 10 | 415 6232 |
| 29 | 11 | 6660 |
| 31 | 12 | 7088 |
| 34 | 13 | 7516 |
| 36 | 14 | 7945 |
| 39 | 15 | 415 8373 |
| 42 | 16 | 8801 |
| 44 | 17 | 9229 |
| 47 | 18 | 9657 |
| 49 | 19 | 0085 |
| 52 | 20 | 415 0513 |
| 55 | 21 | 0941 |
| 57 | 22 | 1369 |
| 60 | 23 | 1797 |
| 62 | 24 | 2225 |
| 65 | 25 | 415 2653 |
| 68 | 26 | 3081 |
| 70 | 27 | 3509 |
| 73 | 28 | 3937 |
| 75 | 29 | 4365 |
| 78 | 30 | 415 4793 |
| 81 | 31 | 5221 |
| 83 | 32 | 5649 |
| 86 | 33 | 6077 |
| 88 | 34 | 6505 |
| 91 | 35 | 415 6933 |
| 94 | 36 | 7361 |
| 96 | 37 | 7789 |
| 99 | 38 | 8217 |
| 101 | 39 | 8645 |
| 104 | 40 | 415 9073 |
| 107 | 41 | 9501 |
| 109 | 42 | 9929 |
| 112 | 43 | 0357 |
| 114 | 44 | 0785 |
| 117 | 45 | 415 1213 |
| 120 | 46 | 1641 |
| 122 | 47 | 2069 |
| 125 | 48 | 2497 |
| 127 | 49 | 2925 |
| 130 | 50 | 415 3353 |
| 133 | 51 | 3781 |
| 135 | 52 | 4209 |
| 138 | 53 | 4637 |
| 140 | 54 | 5065 |
| 143 | 55 | 415 5493 |
| 146 | 56 | 5921 |
| 148 | 57 | 6349 |
| 151 | 58 | 6777 |
| 153 | 59 | 7205 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C.S.A addit | C.S.A 33° | Numbers |
|---|---|---|
| | ′ | |
| 156 | 0 | 184 7894 |
| 153 | 1 | 7774 |
| 151 | 2 | 7585 |
| 148 | 3 | 7431 |
| 146 | 4 | 7276 |
| 143 | 5 | 184 7122 |
| 141 | 6 | 6967 |
| 138 | 7 | 6813 |
| 135 | 8 | 6658 |
| 133 | 9 | 6503 |
| 130 | 10 | 184 6348 |
| 127 | 11 | 6193 |
| 125 | 12 | 6038 |
| 122 | 13 | 5883 |
| 120 | 14 | 5728 |
| 117 | 15 | 184 5573 |
| 114 | 16 | 5417 |
| 112 | 17 | 5262 |
| 109 | 18 | 5106 |
| 107 | 19 | 4951 |
| 104 | 20 | 184 4795 |
| 101 | 21 | 4640 |
| 99 | 22 | 4484 |
| 96 | 23 | 4328 |
| 94 | 24 | 4172 |
| 91 | 25 | 184 4016 |
| 88 | 26 | 3860 |
| 86 | 27 | 3704 |
| 83 | 28 | 3548 |
| 81 | 29 | 3391 |
| 78 | 30 | 184 3235 |
| 75 | 31 | 3079 |
| 73 | 32 | 2922 |
| 70 | 33 | 2766 |
| 68 | 34 | 2609 |
| 65 | 35 | 184 2453 |
| 62 | 36 | 2296 |
| 60 | 37 | 2139 |
| 57 | 38 | 1982 |
| 55 | 39 | 1825 |
| 52 | 40 | 184 1668 |
| 49 | 41 | 1511 |
| 47 | 42 | 1354 |
| 44 | 43 | 1196 |
| 42 | 44 | 1039 |
| 39 | 45 | 184 0882 |
| 36 | 46 | 0724 |
| 34 | 47 | 0567 |
| 31 | 48 | 0409 |
| 28 | 49 | 0251 |
| 26 | 50 | 184 0094 |
| 23 | 51 | 183 9936 |
| 21 | 52 | 9778 |
| 18 | 53 | 9620 |
| 16 | 54 | 9462 |
| 13 | 55 | 183 9304 |
| 10 | 56 | 9146 |
| 8 | 57 | 8987 |

| Parts for Seconds of - Argum. additive | C.S.A & A. D. 33 | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | ′ 0 | 116 1329 | 1752 | 2175 | 2597 | 3020 | 3443 | 3866 | 4289 | 4712 | 5135 | 5558 | 5982 | 6405 | 6828 | 7252 | 7676 | 8099 |
| 7 | 1 | 1488 | 1911 | 2333 | 2756 | 3179 | 3602 | 4024 | 4447 | 4870 | 5293 | 5716 | 6139 | 6563 | 6986 | 7409 | 7833 | 8256 |
| 14 | 2 | 1647 | 2069 | 2492 | 2914 | 3337 | 3759 | 4182 | 4605 | 5027 | 5450 | 5873 | 6296 | 6718 | 7141 | 7564 | 7987 | 8410 |
| 21 | 3 | 1805 | 2228 | 2650 | 3072 | 3495 | 3917 | 4340 | 4763 | 5185 | 5608 | 6030 | 6453 | 6876 | 7298 | 7721 | 8144 | 8567 |
| 28 | 4 | 1964 | 2386 | 2809 | 3231 | 3653 | 4076 | 4498 | 4921 | 5344 | 5767 | 6189 | 6612 | 7034 | 7457 | 7880 | 8302 | 8725 |
| 35 | 5 | 116 2123 | 2545 | 2967 | 3390 | 3812 | 4234 | 4657 | 5079 | 5502 | 5925 | 6347 | 6770 | 7193 | 7616 | 8038 | 8461 | 8883 |
| 42 | 6 | 2281 | 2703 | 3125 | 3548 | 3970 | 4393 | 4815 | 5238 | 5660 | 6083 | 6506 | 6928 | 7351 | 7774 | 8197 | 8619 | 9042 |
| 49 | 7 | 2440 | 2862 | 3284 | 3707 | 4129 | 4551 | 4974 | 5396 | 5819 | 6241 | 6664 | 7086 | 7509 | 7932 | 8355 | 8777 | 9200 |
| 56 | 8 | 2599 | 3021 | 3443 | 3865 | 4287 | 4709 | 5132 | 5554 | 5977 | 6399 | 6822 | 7244 | 7667 | 8090 | 8513 | 8936 | 9359 |
| 63 | 9 | 2758 | 3180 | 3602 | 4024 | 4446 | 4868 | 5290 | 5713 | 6135 | 6557 | 6980 | 7402 | 7825 | 8248 | 8671 | 9094 | 9517 |
| 70 | 10 | 116 2917 | 3339 | 3761 | 4183 | 4605 | 5027 | 5449 | 5871 | 6293 | 6716 | 7138 | 7561 | 7983 | 8406 | 8829 | 9251 | 9674 |
| 77 | 11 | 3076 | 3498 | 3920 | 4342 | 4764 | 5186 | 5608 | 6030 | 6452 | 6874 | 7297 | 7719 | 8142 | 8564 | 8987 | 9410 | 9832 |
| 84 | 12 | 3236 | 3657 | 4079 | 4501 | 4923 | 5344 | 5766 | 6188 | 6611 | 7033 | 7455 | 7877 | 8300 | 8722 | 9145 | 9567 | 9990 |
| 91 | 13 | 116 (117) 3395 | 3817 | 4238 | 4660 | 5082 | 5503 | 5925 | 6347 | 6769 | 7191 | 7614 | 8036 | 8458 | 8881 | 9303 | 9725 | 0148 |
| 98 | 14 | 3554 | 3976 | 4397 | 4819 | 5241 | 5662 | 6084 | 6506 | 6928 | 7350 | 7772 | 8194 | 8617 | 9039 | 9461 | 9884 | 0306 |
| 105 | 15 | 116 (117) 3714 | 4135 | 4557 | 4978 | 5400 | 5821 | 6243 | 6665 | 7087 | 7509 | 7931 | 8353 | 8775 | 9197 | 9620 | 0042 | 0464 |
| 112 | 16 | 3873 | 4295 | 4716 | 5137 | 5559 | 5981 | 6402 | 6824 | 7246 | 7668 | 8090 | 8512 | 8934 | 9356 | 9778 | 0200 | 0623 |
| 119 | 17 | 4033 | 4454 | 4875 | 5297 | 5718 | 6140 | 6561 | 6983 | 7404 | 7826 | 8248 | 8670 | 9092 | 9514 | 9937 | 0359 | 0781 |
| 126 | 18 | 4192 | 4614 | 5035 | 5456 | 5878 | 6299 | 6721 | 7142 | 7564 | 7985 | 8407 | 8829 | 9251 | 9673 | 0095 | 0517 | 0939 |
| 133 | 19 | 4352 | 4773 | 5193 | 5614 | 6035 | 6457 | 6878 | 7300 | 7721 | 8144 | 8565 | 8988 | 9410 | 9832 | 0254 | 0676 | 1098 |
| 140 | 20 | 116 (117) 4511 | 4933 | 5354 | 5775 | 6197 | 6618 | 7039 | 7461 | 7882 | 8304 | 8725 | 9147 | 9569 | 9990 | 0412 | 0834 | 1256 |
| 147 | 21 | 4672 | 5093 | 5514 | 5935 | 6356 | 6777 | 7199 | 7620 | 8041 | 8463 | 8884 | 9306 | 9728 | 0149 | 0571 | 0993 | 1415 |
| 154 | 22 | 4832 | 5253 | 5674 | 6095 | 6516 | 6937 | 7358 | 7779 | 8200 | 8622 | 9043 | 9465 | 9887 | 0308 | 0730 | 1152 | 1574 |
| 161 | 23 | 4992 | 5413 | 5834 | 6255 | 6676 | 7097 | 7518 | 7939 | 8360 | 8781 | 9203 | 9624 | 0046 | 0467 | 0889 | 1311 | 1733 |
| 168 | 24 | 5153 | 5573 | 5994 | 6414 | 6835 | 7256 | 7677 | 8098 | 8519 | 8941 | 9362 | 9783 | 0205 | 0626 | 1048 | 1469 | 1891 |
| 175 | 25 | 116 (117) 5312 | 5733 | 6153 | 6574 | 6995 | 7416 | 7837 | 8258 | 8679 | 9100 | 9521 | 9942 | 0364 | 0785 | 1207 | 1628 | 2050 |
| 182 | 26 | 5472 | 5893 | 6314 | 6734 | 7155 | 7576 | 7997 | 8417 | 8838 | 9260 | 9681 | 0102 | 0523 | 0944 | 1366 | 1787 | 2209 |
| 189 | 27 | 5633 | 6053 | 6474 | 6894 | 7315 | 7736 | 8156 | 8577 | 8998 | 9419 | 9840 | 0261 | 0682 | 1104 | 1525 | 1946 | 2367 |
| 196 | 28 | 5793 | 6214 | 6634 | 7054 | 7475 | 7896 | 8316 | 8737 | 9158 | 9579 | 0000 | 0421 | 0842 | 1263 | 1684 | 2105 | 2527 |
| 203 | 29 | 5954 | 6374 | 6795 | 7215 | 7635 | 8056 | 8476 | 8897 | 9318 | 9738 | 0159 | 0580 | 1001 | 1422 | 1843 | 2264 | 2685 |
| 211 | 30 | 116 (117) 6114 | 6534 | 6955 | 7375 | 7795 | 8216 | 8636 | 9057 | 9477 | 9898 | 0319 | 0740 | 1161 | 1582 | 2003 | 2424 | 2845 |
| 218 | 31 | 6275 | 6695 | 7115 | 7535 | 7956 | 8376 | 8796 | 9217 | 9637 | 0058 | 0479 | 0900 | 1321 | 1741 | 2162 | 2583 | 3004 |
| 225 | 32 | 6435 | 6855 | 7275 | 7696 | 8116 | 8536 | 8956 | 9377 | 9797 | 0218 | 0639 | 1059 | 1480 | 1901 | 2322 | 2743 | 3164 |
| 232 | 33 | 6596 | 7016 | 7436 | 7856 | 8276 | 8697 | 9117 | 9537 | 9958 | 0378 | 0799 | 1220 | 1641 | 2061 | 2482 | 2903 | 3324 |
| 239 | 34 | 6757 | 7177 | 7597 | 8017 | 8437 | 8857 | 9277 | 9698 | 0118 | 0539 | 0960 | 1380 | 1801 | 2222 | 2643 | 3063 | 3484 |
| 246 | 35 | 116 (117) 6918 | 7338 | 7757 | 8177 | 8597 | 9017 | 9437 | 9858 | 0278 | 0698 | 1119 | 1539 | 1960 | 2380 | 2801 | 3222 | 3643 |
| 253 | 36 | 7079 | 7498 | 7918 | 8338 | 8758 | 9178 | 9598 | 0018 | 0438 | 0859 | 1279 | 1700 | 2120 | 2540 | 2961 | 3381 | 3802 |
| 260 | 37 | 7240 | 7659 | 8079 | 8499 | 8919 | 9339 | 9759 | 0179 | 0599 | 1019 | 1439 | 1859 | 2280 | 2700 | 3121 | 3541 | 3962 |
| 267 | 38 | 7401 | 7820 | 8240 | 8660 | 9080 | 9500 | 9920 | 0340 | 0760 | 1180 | 1600 | 2020 | 2440 | 2861 | 3281 | 3701 | 4122 |
| 274 | 39 | 7562 | 7981 | 8401 | 8821 | 9241 | 9661 | 0081 | 0501 | 0921 | 1341 | 1761 | 2181 | 2601 | 3021 | 3441 | 3861 | 4281 |
| 281 | 40 | 116 (117) 7723 | 8142 | 8562 | 8982 | 9402 | 9822 | 0242 | 0662 | 1082 | 1502 | 1922 | 2342 | 2762 | 3182 | 3601 | 4021 | 4441 |
| 288 | 41 | 7884 | 8303 | 8723 | 9143 | 9563 | 9983 | 0403 | 0823 | 1243 | 1663 | 2083 | 2503 | 2923 | 3342 | 3762 | 4182 | 4601 |
| 295 | 42 | 8045 | 8464 | 8884 | 9304 | 9724 | 0144 | 0564 | 0984 | 1404 | 1824 | 2244 | 2664 | 3083 | 3503 | 3923 | 4342 | 4762 |
| 302 | 43 | 8206 | 8625 | 9045 | 9465 | 9885 | 0305 | 0725 | 1145 | 1565 | 1985 | 2405 | 2824 | 3244 | 3664 | 4083 | 4503 | 4923 |
| 309 | 44 | 8367 | 8786 | 9206 | 9626 | 0046 | 0466 | 0886 | 1306 | 1726 | 2146 | 2565 | 2985 | 3405 | 3824 | 4244 | 4664 | 5083 |
| 316 | 45 | 116 (117) 8528 | 8947 | 9367 | 9787 | 0207 | 0627 | 1047 | 1467 | 1887 | 2306 | 2726 | 3146 | 3565 | 3985 | 4405 | 4824 | 5244 |
| 323 | 46 | 8692 | 9111 | 9530 | 9949 | 0368 | 0787 | 1206 | 1626 | 2045 | 2464 | 2884 | 3303 | 3723 | 4142 | 4561 | 4981 | 5400 |
| 330 | 47 | 8854 | 9272 | 9691 | 0110 | 0529 | 0948 | 1368 | 1787 | 2206 | 2625 | 3044 | 3464 | 3883 | 4302 | 4722 | 5141 | 5560 |
| 337 | 48 | 9015 | 9434 | 9853 | 0272 | 0691 | 1110 | 1529 | 1948 | 2367 | 2786 | 3206 | 3625 | 4044 | 4463 | 4882 | 5302 | 5721 |
| 344 | 49 | 9177 | 9596 | 0015 | 0434 | 0853 | 1272 | 1692 | 2110 | 2528 | 2947 | 3367 | 3786 | 4205 | 4624 | 5043 | 5462 | 5882 |
| 351 | 50 | 116 (117) 9338 | 9757 | 0176 | 0596 | 1014 | 1433 | 1852 | 2271 | 2690 | 3109 | 3528 | 3947 | 4366 | 4785 | 5204 | 5623 | 6042 |
| 358 | 51 | 9499 | 9918 | 0337 | 0757 | 1176 | 1595 | 2014 | 2433 | 2852 | 3271 | 3690 | 4109 | 4528 | 4947 | 5366 | 5785 | 6204 |
| 365 | 52 | 9660 | 0079 | 0498 | 0918 | 1337 | 1757 | 2176 | 2595 | 3014 | 3433 | 3852 | 4271 | 4690 | 5109 | 5528 | 5947 | 6366 |
| 372 | 53 | 9821 | 0240 | 0659 | 1079 | 1499 | 1918 | 2338 | 2757 | 3176 | 3595 | 4014 | 4433 | 4852 | 5271 | 5690 | 6109 | 6528 |
| 379 | 54 | 9982 | 0401 | 0820 | 1240 | 1660 | 2080 | 2499 | 2919 | 3338 | 3757 | 4176 | 4595 | 5014 | 5433 | 5852 | 6271 | 6690 |
| 386 | 55 | 117 0143 | 0562 | 0981 | 1401 | 1821 | 2241 | 2661 | 3080 | 3500 | 3919 | 4338 | 4757 | 5176 | 5595 | 6014 | 6433 | 6852 |
| 393 | 56 | 0304 | 0723 | 1142 | 1562 | 1982 | 2402 | 2822 | 3242 | 3661 | 4081 | 4500 | 4919 | 5338 | 5757 | 6176 | 6595 | 7014 |
| 400 | 57 | 0465 | 0884 | 1303 | 1723 | 2143 | 2563 | 2984 | 3402 | 3820 | 4239 | 4658 | 5076 | 5495 | 5914 | 6333 | 6752 | 7171 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

Parts for Seconds of Auxil. Additive

Auxiliary Arguments.

| A. D. 33 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 116 (117) 8523 | 8946 | 9371 | 9794 | 0217 | 0643 | 1067 | 1491 | 1915 | 2340 | 2764 | 3188 | 3613 | 4038 | 4462 | 4887 | 5311 |
| 7 | 8680 | 9104 | 9528 | 9951 | 0375 | 0799 | 1223 | 1647 | 2072 | 2496 | 2920 | 3345 | 3769 | 4194 | 4618 | 5043 | 5467 |
| 14 | 8837 | 9261 | 9685 | 0108 | 0532 | 0956 | 1380 | 1804 | 2228 | 2652 | 3077 | 3501 | 3925 | 4350 | 4774 | 5198 | 5623 |
| 21 | 8994 | 9418 | 9842 | 0265 | 0689 | 1113 | 1537 | 1961 | 2385 | 2809 | 3233 | 3657 | 4082 | 4506 | 4931 | 5355 | 5779 |
| 28 | 9152 | 9575 | 9999 | 0422 | 0846 | 1270 | 1694 | 2117 | 2542 | 2965 | 3390 | 3814 | 4238 | 4662 | 5087 | 5511 | 5936 |
| 35 | 116 (117) 9309 | 9733 | 0156 | 0580 | 1004 | 1427 | 1851 | 2274 | 2698 | 3122 | 3546 | 3970 | 4394 | 4819 | 5243 | 5667 | 6092 |
| 42 | 9467 | 9890 | 0313 | 0737 | 1160 | 1584 | 2008 | 2431 | 2855 | 3279 | 3703 | 4127 | 4551 | 4975 | 5399 | 5824 | 6248 |
| 49 | 9624 | 0047 | 0471 | 0894 | 1317 | 1741 | 2165 | 2588 | 3012 | 3436 | 3860 | 4284 | 4707 | 5132 | 5556 | 5980 | 6404 |
| 56 | 9782 | 0205 | 0628 | 1051 | 1475 | 1898 | 2322 | 2745 | 3169 | 3593 | 4016 | 4440 | 4864 | 5288 | 5712 | 6136 | 6560 |
| 63 | 9939 | 0363 | 0786 | 1209 | 1632 | 2055 | 2479 | 2902 | 3326 | 3750 | 4173 | 4597 | 5021 | 5445 | 5869 | 6293 | 6717 |
| 70 | 10 117 0097 | 0520 | 0943 | 1366 | 1790 | 2213 | 2636 | 3060 | 3483 | 3907 | 4330 | 4754 | 5178 | 5601 | 6025 | 6449 | 6873 |
| 77 | 11 0255 | 0678 | 1101 | 1524 | 1947 | 2371 | 2795 | 3217 | 3641 | 4064 | 4487 | 4911 | 5334 | 5758 | 6182 | 6606 | 7030 |
| 84 | 12 0413 | 0836 | 1259 | 1682 | 2105 | 2528 | 2951 | 3374 | 3797 | 4221 | 4644 | 5068 | 5491 | 5915 | 6339 | 6765 | 7186 |
| 91 | 13 0571 | 0994 | 1416 | 1839 | 2262 | 2685 | 3108 | 3531 | 3955 | 4378 | 4801 | 5225 | 5648 | 6072 | 6496 | 6919 | 7343 |
| 98 | 14 0729 | 1152 | 1574 | 1997 | 2420 | 2843 | 3266 | 3689 | 4112 | 4535 | 4959 | 5382 | 5805 | 6229 | 6652 | 7076 | 7500 |
| 106 | 15 117 0887 | 1310 | 1732 | 2155 | 2578 | 3000 | 3423 | 3846 | 4269 | 4693 | 5116 | 5539 | 5963 | 6386 | 6809 | 7233 | 7656 |
| 113 | 16 1045 | 1468 | 1890 | 2313 | 2735 | 3158 | 3581 | 4004 | 4427 | 4850 | 5273 | 5696 | 6120 | 6543 | 6966 | 7390 | 7813 |
| 120 | 17 1203 | 1626 | 2048 | 2471 | 2893 | 3316 | 3739 | 4162 | 4585 | 5008 | 5431 | 5854 | 6277 | 6700 | 7124 | 7547 | 7970 |
| 127 | 18 1362 | 1784 | 2206 | 2629 | 3051 | 3474 | 3897 | 4320 | 4743 | 5165 | 5588 | 6011 | 6434 | 6857 | 7281 | 7704 | 8127 |
| 134 | 19 1520 | 1942 | 2365 | 2787 | 3209 | 3632 | 4055 | 4477 | 4900 | 5323 | 5746 | 6169 | 6592 | 7015 | 7438 | 7861 | 8284 |
| 141 | 20 117 1678 | 2101 | 2523 | 2945 | 3368 | 3790 | 4213 | 4635 | 5058 | 5481 | 5903 | 6326 | 6749 | 7172 | 7595 | 8018 | 8441 |
| 148 | 21 1837 | 2259 | 2681 | 3103 | 3526 | 3948 | 4371 | 4793 | 5216 | 5638 | 6061 | 6484 | 6907 | 7330 | 7753 | 8175 | 8598 |
| 155 | 22 1995 | 2417 | 2839 | 3262 | 3684 | 4107 | 4530 | 4951 | 5374 | 5796 | 6219 | 6642 | 7064 | 7487 | 7910 | 8332 | 8755 |
| 162 | 23 2154 | 2576 | 2998 | 3420 | 3842 | 4265 | 4687 | 5109 | 5532 | 5954 | 6377 | 6800 | 7222 | 7645 | 8068 | 8489 | 8912 |
| 169 | 24 2313 | 2735 | 3157 | 3579 | 4001 | 4423 | 4845 | 5267 | 5690 | 6112 | 6535 | 6958 | 7380 | 7803 | 8226 | 8647 | 9069 |
| 176 | 25 117 2472 | 2893 | 3315 | 3737 | 4159 | 4581 | 5003 | 5426 | 5848 | 6271 | 6693 | 7116 | 7538 | 7961 | 8384 | 8805 | 9227 |
| 183 | 26 2631 | 3051 | 3474 | 3896 | 4318 | 4740 | 5162 | 5584 | 6006 | 6429 | 6851 | 7274 | 7696 | 8119 | 8542 | 8963 | 9385 |
| 190 | 27 2789 | 3211 | 3633 | 4054 | 4476 | 4898 | 5320 | 5742 | 6164 | 6587 | 7009 | 7432 | 7854 | 8277 | 8700 | 9121 | 9543 |
| 197 | 28 2948 | 3370 | 3792 | 4213 | 4635 | 5057 | 5479 | 5901 | 6323 | 6745 | 7168 | 7590 | 8012 | 8435 | 8858 | 9279 | 9701 |
| 204 | 29 3108 | 3529 | 3950 | 4372 | 4794 | 5215 | 5637 | 6059 | 6481 | 6903 | 7326 | 7748 | 8170 | 8593 | 9016 | 9437 | 9859 |
| 211 | 30 117 (118) 3267 | 3688 | 4109 | 4531 | 4953 | 5374 | 5796 | 6218 | 6640 | 7061 | | | | | | | |
| 218 | 31 3426 | 3847 | 4269 | 4690 | 5111 | 5533 | 5955 | 6376 | 6798 | 7220 | | | | | | | |
| 225 | 32 3585 | 4006 | 4428 | 4849 | 5270 | 5692 | 6113 | 6535 | 6957 | | | | | | | | |
| 232 | 33 3745 | 4166 | 4587 | 5008 | 5429 | 5851 | 6272 | 6694 | 7115 | | | | | | | | |
| 239 | 34 3904 | 4325 | 4746 | 5167 | 5589 | 6010 | 6431 | 6853 | 7274 | | | | | | | | |
| 246 | 35 117 (118) 4063 | 4484 | 4905 | 5327 | 5748 | 6169 | 6590 | 7012 | 7433 | 7855 | 8276 | 8698 | 9120 | | | | |
| 253 | 36 4223 | 4644 | 5065 | 5486 | 5907 | 6328 | 6749 | 7171 | 7592 | 8013 | 8435 | 8856 | 9278 | | | | |
| 260 | 37 4383 | 4803 | 5224 | 5645 | 6066 | 6487 | 6908 | 7330 | 7751 | 8172 | 8594 | 9015 | 9437 | | | | |
| 267 | 38 4542 | 4963 | 5384 | 5805 | 6226 | 6647 | 7068 | | | | 8331 | | | | | | |
| 274 | 39 4702 | 5123 | | | | | | | | | | | | | | | |
| 281 | 40 117 (118) 4862 | 5282 | | | | | | | | | | | | | | | |
| 288 | 41 5022 | 5442 | | | | | | | | | | | | | | | |
| 295 | 42 5182 | 5602 | | | | | | | | | | | | | | | |
| 302 | 43 5342 | 5762 | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | 117 (118) 5662 | 6082 | 6503 | 6923 | | | 764 | 8184 | 86 | | | | | | | | |
| | | 6242 | 6663 | 7 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 8664 | 9084 | 9504 | 992 | | | | | |
| | | | | | | 8403 | 8824 | 9244 | 9664 | | | | | | | | |
| 382 | 50 117 (118) 6464 | 6884 | 7304 | | | 8564 | 8984 | 9404 | 9824 | | | | | | | | |
| 389 | 51 6625 | 7044 | 7464 | | | | | | | | | | | | | | |
| 396 | 52 6785 | 7205 | 7625 | | | | | | | | | | | | | | |
| 403 | 53 6946 | 7366 | 7785 | 205 | 8625 | 9044 | 9464 | 9884 | 0304 | | | | | | | | |
| 410 | 54 | | | 365 | 8785 | 9205 | 9625 | 0044 | 0464 | | | | | | | | |
| 387 | 55 117 (118) 7268 | 7687 | 8107 | | | | | | | | | | | | | | |
| 394 | 56 7429 | 7848 | 8267 | 8687 | 9106 | 952 | 9945 | | | | | | | | | | |
| 401 | 57 7590 | 8009 | 8428 | 8848 | 9267 | 9686 | 01 | | | | | | | | | | |
| 408 | 58 7751 | 8170 | 8589 | 9008 | 9428 | 9847 | 0266 | 06 | | | | | | | | | |
| 415 | 59 7912 | 8331 | 8750 | 9169 | 9589 | 0008 | 0427 | 08 | | | | | | | | | |

| | ′ | 3 |
|---|---|---|
| 0 | 0 | |
| 3 | 1 | |
| 5 | 2 | |
| 8 | 3 | |
| 11 | 4 | |
| 13 | 5 | |
| 16 | 6 | |
| 19 | 7 | |
| 21 | 8 | |
| 24 | 9 | |
| 27 | 10 | 416 |
| 29 | 11 | |
| 32 | 12 | |
| 35 | 13 | |
| 38 | 14 | |
| 40 | 15 | 416 |
| 43 | 16 | |
| 46 | 17 | |
| 48 | 18 | |
| 51 | 19 | |
| 54 | 20 | |
| 56 | 21 | |
| 59 | 22 | |
| 62 | 23 | |
| 64 | 24 | |
| 67 | 25 | |
| 70 | 26 | |
| 72 | 27 | |
| 75 | 28 | |
| 78 | 29 | |
| | 30 | |
| | 31 | |
| | 32 | |
| | 33 | |
| | 34 | |
| | 35 | |
| | 36 | |
| | 37 | |
| | 38 | |
| | 39 | |
| | 40 | |
| | 41 | |
| | 42 | |
| | 43 | |
| | 44 | |
| | 45 | |
| | 46 | |
| | 47 | |
| | 48 | |
| | 49 | |
| | 50 | |
| | 51 | |
| | 52 | |
| | 53 | |
| | 54 | |
| | 55 | 417 |
| | 56 | |
| | 57 | |
| | 58 | |
| | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts for Sec. of Auxil. Argum. | S. A. A. & A. D. 34° | Numbers |
|---|---|---|
| 161 | 0 | 183 8512 |
| 158 | 1 | 8354 |
| 156 | 2 | 8195 |
| 153 | 3 | 8036 |
| 150 | 4 | 7877 |
| 148 | 5 | 183 7719 |
| 145 | 6 | 7560 |
| 142 | 7 | 7401 |
| 139 | 8 | 7242 |
| 137 | 9 | 7083 |
| 134 | 10 | 183 6924 |
| 131 | 11 | 6764 |
| 129 | 12 | 6605 |
| 126 | 13 | 6446 |
| 123 | 14 | 6286 |
| 121 | 15 | 183 6127 |
| 118 | 16 | 5967 |
| 115 | 17 | 5807 |
| 113 | 18 | 5647 |
| 110 | 19 | 5488 |
| 107 | 20 | 183 5328 |
| 105 | 21 | 5168 |
| 102 | 22 | 5008 |
| 99 | 23 | 4848 |
| 97 | 24 | 4688 |
| 94 | 25 | 183 4527 |
| 91 | 26 | 4367 |
| 89 | 27 | 4207 |
| 86 | 28 | 4047 |
| 83 | 29 | 3886 |
| 81 | 30 | 183 3725 |
| 78 | 31 | 3565 |
| 75 | 32 | 3404 |
| 72 | 33 | 3243 |
| 70 | 34 | 3082 |
| 67 | 35 | 183 2921 |
| 64 | 36 | 2760 |
| 62 | 37 | 2599 |
| 59 | 38 | 2438 |
| 56 | 39 | 2277 |
| 54 | 40 | 183 2115 |
| 51 | 41 | 1954 |
| 48 | 42 | 1793 |
| 46 | 43 | 1631 |
| 43 | 44 | 1470 |
| 40 | 45 | 183 1308 |
| 38 | 46 | 1147 |
| 35 | 47 | 0985 |
| 32 | 48 | 0824 |
| 29 | 49 | 0662 |
| 27 | 50 | 183 0501 |
| 24 | 51 | 0339 |
| 21 | 52 | 0178 |
| 19 | 53 | 0016 |
| 16 | 54 | 182 9854 |
| 13 | 55 | 182 9693 |
| 11 | 56 | 9532 |
| 8 | 57 | 9370 |
| 5 | 58 | 9208 |
| 3 | 59 | 9046 |

| Parts for Seconds of Auxil. Argum. | S. A. A. & A. D. 34° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numeers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 117 0362 | 1380 | 1798 | 2216 | 2634 | 3052 | 3470 | 3888 | 4306 | 4724 | 5143 | 5561 | 5980 | 6398 | 6817 | 7236 | 7655 |
| 7 | 1 | 1125 | 1543 | 1960 | 2378 | 2796 | 3214 | 3632 | 4050 | 4468 | 4886 | 5305 | 5723 | 6141 | 6560 | 6979 | 7397 | 7816 |
| 14 | 2 | 1288 | 1705 | 2123 | 2541 | 2958 | 3376 | 3794 | 4212 | 4630 | 5048 | 5467 | 5885 | 6303 | 6722 | 7140 | 7559 | 7977 |
| 21 | 3 | 1451 | 1868 | 2286 | 2703 | 3121 | 3539 | 3957 | 4375 | 4793 | 5211 | 5629 | 6047 | 6465 | 6883 | 7302 | 7720 | 8139 |
| 28 | 4 | 1614 | 2031 | 2448 | 2866 | 3284 | 3701 | 4119 | 4537 | 4955 | 5373 | 5791 | 6209 | 6627 | 7045 | 7464 | 7882 | 8300 |
| 35 | 5 | 117 1777 | 2194 | 2611 | 3029 | 3446 | 3864 | 4282 | 4700 | 5117 | 5535 | 5953 | 6371 | 6789 | 7207 | 7625 | 8044 | 8462 |
| 42 | 6 | 1940 | 2357 | 2774 | 3191 | 3609 | 4027 | 4444 | 4862 | 5279 | 5697 | 6115 | 6533 | 6951 | 7369 | 7787 | 8206 | 8624 |
| 49 | 7 | 2103 | 2520 | 2937 | 3354 | 3772 | 4189 | 4607 | 5024 | 5442 | 5860 | 6277 | 6695 | 7113 | 7531 | 7949 | 8367 | 8786 |
| 56 | 8 | 2266 | 2683 | 3100 | 3517 | 3935 | 4352 | 4769 | 5187 | 5605 | 6022 | 6440 | 6858 | 7275 | 7693 | 8111 | 8529 | 8947 |
| 62 | 9 | 2429 | 2846 | 3263 | 3680 | 4098 | 4515 | 4933 | 5350 | 5767 | 6185 | 6602 | 7020 | 7438 | 7856 | 8273 | 8691 | 9109 |
| 69 | 10 | 117 2592 | 3009 | 3426 | 3843 | 4261 | 4678 | 5095 | 5512 | 5930 | 6347 | 6765 | 7182 | 7600 | 8018 | 8436 | 8854 | 9271 |
| 76 | 11 | 2755 | 3172 | 3589 | 4007 | 4424 | 4841 | 5258 | 5675 | 6092 | 6510 | 6927 | 7345 | 7762 | 8180 | 8598 | 9016 | 9434 |
| 83 | 12 | 2918 | 3335 | 3752 | 4170 | 4587 | 5004 | 5421 | 5838 | 6255 | 6673 | 7090 | 7507 | 7925 | 8343 | 8760 | 9178 | 9596 |
| 90 | 13 | 3081 | 3498 | 3915 | 4333 | 4750 | 5167 | 5584 | 6001 | 6418 | 6835 | 7253 | 7670 | 8088 | 8505 | 8923 | 9340 | 9758 |
| 97 | 14 | 3247 | 3663 | 4080 | 4497 | 4913 | 5330 | 5747 | 6164 | 6581 | 6998 | 7415 | 7833 | 8250 | 8668 | 9085 | 9503 | 9920 |
| 104 | 15 | 117 (118) 3410 | 3827 | 4244 | 4661 | 5077 | 5493 | 5910 | 6327 | 6744 | 7161 | 7578 | 7995 | 8413 | 8830 | 9247 | 9665 | 0082 |
| 111 | 16 | 3574 | 3990 | 4407 | 4823 | 5240 | 5657 | 6074 | 6490 | 6907 | 7324 | 7741 | 8158 | 8575 | 8992 | 9410 | 9826 | 0245 |
| 118 | 17 | 3738 | 4154 | 4571 | 4987 | 5404 | 5820 | 6237 | 6654 | 7070 | 7487 | 7904 | 8321 | 8738 | 9155 | 9573 | 9990 | 0407 |
| 125 | 18 | 3902 | 4318 | 4734 | 5151 | 5567 | 5984 | 6400 | 6817 | 7234 | 7650 | 8067 | 8484 | 8901 | 9318 | 9736 | 0153 | 0570 |
| 132 | 19 | 4066 | 4482 | 4898 | 5314 | 5731 | 6147 | 6564 | 6980 | 7397 | 7814 | 8230 | 8647 | 9064 | 9481 | 9899 | 0315 | 0732 |
| 139 | 20 | 183 4230 | 4646 | 5062 | 5479 | 5894 | 6311 | 6727 | 7144 | 7560 | 7977 | 8394 | 8810 | 9227 | 9644 | 0061 | 0478 | 0895 |
| 146 | 21 | 4394 | 4810 | 5226 | 5642 | 6058 | 6474 | 6891 | 7307 | 7724 | 8140 | 8557 | 8974 | 9390 | 9807 | 0224 | 0641 | 1058 |
| 153 | 22 | 4558 | 4974 | 5390 | 5806 | 6222 | 6638 | 7054 | 7471 | 7887 | 8304 | 8720 | 9137 | 9554 | 9970 | 0387 | 0804 | 1221 |
| 160 | 23 | 4722 | 5138 | 5554 | 5970 | 6386 | 6802 | 7218 | 7634 | 8051 | 8467 | 8884 | 9300 | 9717 | 0133 | 0550 | 0967 | 1384 |
| 167 | 24 | 4886 | 5302 | 5718 | 6134 | 6550 | 6966 | 7382 | 7798 | 8214 | 8631 | 9047 | 9464 | 9880 | 0297 | 0713 | 1130 | 1547 |
| 174 | 25 | 183 5051 | 5467 | 5882 | 6298 | 6714 | 7130 | 7546 | 7962 | 8378 | 8794 | 9211 | 9627 | 0044 | 0460 | 0877 | 1293 | 1710 |
| 181 | 26 | 5215 | 5631 | 6047 | 6462 | 6878 | 7294 | 7710 | 8126 | 8542 | 8958 | 9374 | 9791 | 0207 | 0623 | 1040 | 1456 | 1873 |
| 189 | 27 | 5380 | 5795 | 6211 | 6627 | 7042 | 7458 | 7874 | 8290 | 8706 | 9122 | 9538 | 9954 | 0370 | 0787 | 1203 | 1620 | 2036 |
| 196 | 28 | 5544 | 5960 | 6375 | 6791 | 7207 | 7622 | 8038 | 8454 | 8870 | 9286 | 9702 | 0118 | 0534 | 0950 | 1367 | 1783 | 2199 |
| 203 | 29 | 5708 | 6124 | 6540 | 6955 | 7371 | 7787 | 8202 | 8618 | 9034 | 9450 | 9866 | 0282 | 0698 | 1114 | 1530 | 1946 | 2362 |
| 210 | 30 | 183 5872 | 6288 | 6704 | 7120 | 7535 | 7951 | 8366 | 8782 | 9198 | 9614 | 0030 | 0445 | 0861 | 1278 | 1694 | 2110 | 2526 |
| 218 | 31 | 6036 | 6452 | 6868 | 7284 | 7700 | 8115 | 8531 | 8946 | 9362 | 9778 | 0193 | 0609 | 1025 | 1441 | 1857 | 2273 | 2689 |
| 225 | 32 | 6200 | 6616 | 7032 | 7448 | 7864 | 8279 | 8695 | 9110 | 9526 | 9942 | 0357 | 0773 | 1189 | 1605 | 2021 | 2437 | 2853 |
| 232 | 33 | 6364 | 6780 | 7196 | 7612 | 8028 | 8444 | 8859 | 9275 | 9690 | 0106 | 0522 | 0937 | 1353 | 1769 | 2185 | 2601 | 3017 |
| 239 | 34 | 6528 | 6944 | 7360 | 7776 | 8192 | 8608 | 9023 | 9439 | 9855 | 0270 | 0686 | 1101 | 1517 | 1933 | 2349 | 2765 | 3181 |
| 247 | 35 | 183 6692 | 7108 | 7524 | 7940 | 8356 | 8772 | 9188 | 9604 | 0019 | 0434 | 0850 | 1266 | 1681 | 2097 | 2513 | 2928 | 3344 |
| 254 | 36 | 6856 | 7272 | 7688 | 8104 | 8520 | 8936 | 9352 | 9768 | 0183 | 0599 | 1014 | 1430 | 1845 | 2261 | 2677 | 3092 | 3508 |
| 262 | 37 | 7020 | 7436 | 7852 | 8268 | 8684 | 9100 | 9516 | 9932 | 0347 | 0763 | 1179 | 1594 | 2010 | 2425 | 2841 | 3256 | 3672 |
| 269 | 38 | 7184 | 7600 | 8016 | 8432 | 8848 | 9264 | 9680 | 0096 | 0512 | 0928 | 1343 | 1758 | 2174 | 2589 | 3005 | 3420 | 3836 |
| 277 | 39 | 7348 | 7764 | 8180 | 8596 | 9012 | 9428 | 9844 | 0260 | 0677 | 1092 | 1508 | 1923 | 2338 | 2753 | 3169 | 3584 | 4000 |
| 284 | 40 | 117 (118) 7512 | 7928 | 8344 | 8760 | 9176 | 9592 | 0008 | 0424 | 0841 | 1257 | 1672 | 2087 | 2503 | 2918 | 3333 | 3748 | 4164 |
| 292 | 41 | 7676 | 8092 | 8508 | 8924 | 9340 | 9756 | 0172 | 0588 | 1005 | 1421 | 1837 | 2252 | 2667 | 3082 | 3497 | 3913 | 4328 |
| 299 | 42 | 7840 | 8256 | 8672 | 9088 | 9504 | 9920 | 0336 | 0752 | 1169 | 1585 | 2001 | 2416 | 2831 | 3247 | 3662 | 4077 | 4492 |
| 307 | 43 | 8004 | 8420 | 8836 | 9252 | 9668 | 0084 | 0500 | 0916 | 1333 | 1749 | 2165 | 2580 | 2996 | 3411 | 3826 | 4241 | 4657 |
| 314 | 44 | 8168 | 8584 | 9000 | 9416 | 9832 | 0248 | 0664 | 1080 | 1497 | 1913 | 2329 | 2744 | 3160 | 3576 | 3991 | 4406 | 4821 |
| 322 | 45 | 117 (118) 8332 | 8748 | 9164 | 9580 | 9996 | 0412 | 0828 | 1244 | 1661 | 2077 | 2493 | 2909 | 3325 | 3741 | 4156 | 4570 | 4985 |
| 329 | 46 | 8496 | 8912 | 9328 | 9744 | 0160 | 0576 | 0992 | 1408 | 1825 | 2241 | 2657 | 3073 | 3489 | 3905 | 4320 | 4735 | 5150 |
| 337 | 47 | 8660 | 9076 | 9492 | 9908 | 0324 | 0740 | 1156 | 1572 | 1989 | 2405 | 2821 | 3237 | 3653 | 4069 | 4485 | 4900 | 5315 |
| 344 | 48 | 8824 | 9240 | 9656 | 0072 | 0488 | 0904 | 1320 | 1736 | 2153 | 2569 | 2985 | 3401 | 3817 | 4233 | 4650 | 5064 | 5479 |
| 352 | 49 | 8988 | 9404 | 9820 | 0236 | 0652 | 1068 | 1484 | 1900 | 2317 | 2733 | 3149 | 3565 | 3981 | 4397 | 4814 | 5229 | 5644 |
| 359 | 50 | 117 (118) 9152 | 9568 | 9984 | 0400 | 0816 | 1232 | 1648 | 2064 | 2481 | 2897 | 3313 | 3729 | 4145 | 4561 | 4978 | 5393 | 5808 |
| 367 | 51 | 9316 | 9732 | 0148 | 0564 | 0980 | 1396 | 1812 | 2228 | 2645 | 3061 | 3477 | 3893 | 4309 | 4725 | 5142 | 5558 | 5973 |
| 374 | 52 | 9480 | 9896 | 0312 | 0728 | 1144 | 1560 | 1976 | 2392 | 2809 | 3225 | 3641 | 4057 | 4473 | 4889 | 5306 | 5722 | 6137 |
| 382 | 53 | 9644 | 0060 | 0476 | 0892 | 1308 | 1724 | 2140 | 2556 | 2973 | 3389 | 3805 | 4221 | 4637 | 5053 | 5470 | 5886 | 6302 |
| 389 | 54 | 9808 | 0224 | 0640 | 1056 | 1472 | 1888 | 2304 | 2720 | 3137 | 3553 | 3969 | 4385 | 4801 | 5217 | 5634 | 6050 | 6466 |
| 397 | 55 | 118 9972 | 0388 | 0804 | 1220 | 1636 | 2052 | 2468 | 2884 | 3301 | 3717 | 4133 | 4549 | 4965 | 5381 | 5798 | 6214 | 6630 |
| 404 | 56 | 0136 | 0552 | 0968 | 1384 | 1800 | 2216 | 2632 | 3048 | 3465 | 3881 | 4297 | 4713 | 5129 | 5545 | 5962 | 6378 | 6794 |
| 412 | 57 | 0348 | 0761 | 1174 | 1587 | 2000 | 2413 | 2827 | 3240 | 3654 | 4067 | 4481 | 4895 | 5308 | 5722 | 6136 | 6550 | 6964 |
| 419 | 58 | 0512 | 0925 | 1338 | 1751 | 2164 | 2577 | 2991 | 3404 | 3818 | 4231 | 4645 | 5058 | 5472 | 5885 | 6299 | 6713 | 7126 |
| 427 | 59 | 0676 | 1089 | 1502 | 1915 | 2328 | 2741 | 3155 | 3568 | 3981 | 4395 | 4808 | 5222 | 5635 | 6049 | 6462 | 6876 | 7289 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Nos. for Seconds of Auxil. Arg. additive | Sun's & A.D. 34° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 117 (118)8073 | 8492 | 8911 | 9330 | 9749 | 0169 | 0588 | 1007 | 1427 | 1846 | 2266 | 2685 | 3105 | 35 | | | |
| 7 | 1 | 8235 | 8653 | 9072 | 9491 | 9910 | 0330 | 0749 | 1168 | 1587 | 2007 | 2426 | 2846 | 3265 | 368 | | | |
| 14 | 2 | 839 | 881 | 923 | 965 | | | | | | | | | | | | | |
| 21 | 3 | 8557 | 8976 | 9395 | 9814 | 0233 | 0652 | 1071 | 1490 | 1909 | 2328 | 2747 | 3167 | 3586 | 4006 | 4425 | 4 | |
| 28 | 4 | 871 | 913 | 955 | 997 | | | | | | | | | | | | | |
| 35 | 5 | 117 (118)8881 | 9299 | 9718 | 0136 | 0555 | 0974 | 1393 | 1812 | 2231 | 2650 | 3069 | 3488 | 3907 | 4327 | 4746 | 5165 | 55 |
| 42 | 6 | 9042 | 9461 | 9879 | 0298 | 0716 | 1135 | 1554 | 1973 | 2392 | 2811 | 3230 | 3649 | 4068 | 4487 | 4906 | 5326 | 5745 |
| 49 | 7 | 9204 | 9622 | 0041 | 0459 | 0878 | | | | | | | | | | | | |
| 56 | 8 | 9366 | 9784 | 0202 | 0621 | 1039 | 1458 | 1876 | 2295 | 2714 | 3133 | 3551 | 3970 | 4389 | 4808 | 5228 | 5647 | 6066 |
| 63 | 9 | 9528 | 9946 | 0364 | 0782 | | | | | | | | | | | | | |
| 70 | 10 | 117 (118) | | | | | | | | | | | | | | | | |
| 77 | 11 | 9852 | 0269 | 0688 | 1106 | 1524 | 1942 | 2361 | 2779 | 3197 | 3616 | 4035 | 4453 | 4872 | 5291 | 5710 | 6129 | 6548 |
| 84 | 12 | 118 | | | | | | | | | | | | | | | | |
| 91 | 13 | | | | | | | | | | | | | | | | | |
| 98 | 14 | | | | | | | | | | | | | | | | | |
| 105 | 15 | 118 | | | | | | | | | | | | | | | | |
| 111 | 16 | | | | | | | | | | | | | | | | | |
| 118 | 17 | | | | | | | | | | | | | | | | | |
| 125 | 18 | | | | | | | | | | | | | | | | | |
| 132 | 19 | | | | | | | | | | | | | | | | | |
| 139 | 20 | 118 | | | | | | | | | | | | | | | | |
| 146 | 21 | 1475 | 1892 | 2310 | 2727 | 3144 | 3562 | 3979 | 4397 | 4815 | 5232 | 565 | | | | | | |
| 153 | 22 | 1638 | 2055 | 2472 | 2890 | 3307 | 3724 | 4142 | 4559 | 4977 | 5394 | 581 | | | | | | |
| 160 | 23 | | | | | | | | | | | | | | | | | |
| 167 | 24 | 1961 | 2381 | 2798 | 3215 | 3632 | 4049 | 4466 | | | | | | | | | | |
| 174 | 25 | 118 | | | | | | | | | | | | | | | | |
| 181 | 26 | | | | | | | | | | | | | | | | | |
| 188 | 27 | | | | | | | | | | | | | | | | | |
| 195 | 28 | | | | | | | | | | | | | | | | | |
| 202 | 29 | | | | | | | | | | | | | | | | | |
| 209 | 30 | | | | | | | | | | | | | | | | | |
| 216 | 31 | | | | | | | | | | | | | | | | | |
| 223 | 32 | | | | | | | | | | | | | | | | | |
| 230 | 33 | 118 (119) | | | | | | | | | | | | | | | | |
| 237 | 34 | | | | | | | | | | | | | | | | | |
| 243 | 35 | 119 (119) | | | | | | | | | | | | | | | | |
| 250 | 36 | 3924 | 4340 | 4756 | 5172 | 5588 | 6004 | 6421 | 6837 | 7253 | 7670 | 8086 | 8503 | 8920 | 9336 | 9753 | 0170 | 0587 |
| 257 | 37 | | | | | | | | | | | | | | | | | |
| 264 | 38 | | | | | | | | | | | | | | | | | |
| 271 | 39 | | | | | | | | | | | | | | | | | |
| 278 | 40 | 119 (119) | | | | | | | | | | | | | | | | |
| 285 | 41 | 4744 | 5161 | 5578 | | | | | | | | | | | | | | |
| 292 | 42 | 4907 | 5324 | 5740 | | | | | | | | | | | | | | |
| 299 | 43 | 5071 | 5487 | | | | | | | | | | | | | | | |
| 306 | 44 | 5234 | 5651 | | | | | | | | | | | | | | | |
| 313 | 45 | 119 (119) | | | | | | | | | | | | | | | | |
| | 46 | | | | | | | | | | | | | | | | | |
| | 47 | | | | | | | | | | | | | | | | | |
| | 48 | | | | | | | | | | | | | | | | | |
| | 49 | | | | | | | | | | | | | | | | | |
| 348 | 50 | 118 (119)6223 | 6638 | 7053 | 7468 | 7883 | 8298 | 8713 | 9128 | 9543 | 9959 | 0374 | 0790 | 1205 | 1621 | 2036 | 2452 | 2868 |
| 354 | 51 | 6388 | 6803 | 7218 | 7632 | 8047 | 8462 | 8877 | 9292 | 9707 | 0123 | 0538 | 0953 | 1369 | 1784 | 2200 | 2616 | 3031 |
| 361 | 52 | | | | | | | | | | | | | | | | | |
| 368 | 53 | 6718 | 7132 | 7547 | 7962 | 8376 | 8791 | 9206 | 9621 | 0036 | 0451 | 0866 | 1281 | 1697 | 2112 | 2527 | 2943 | 3358 |
| | 54 | | | | | | | | | | | | | | | | | |
| | 55 | | | | | | | | | | | | | | | | | |
| | 56 | | | | | | | | | | | | | | | | | |
| 396 | 57 | 7378 | 7792 | 8207 | 8621 | 9035 | 9450 | 9864 | 0279 | 0693 | 1108 | 1523 | 1938 | 2353 | 2768 | 3183 | 3598 | 4013 |
| | 58 | | | | | | | | | | | | | | | | | |
| 410 | 59 | 7709 | 8123 | 8537 | 8951 | 9365 | 9779 | 0194 | 0608 | 1023 | 1437 | 1852 | 2267 | 2681 | 3096 | 3511 | 3926 | 4341 |

| Nos. for Seconds of Auxil. Arg. additive | Sun's & A.D. 34° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 117 |
| 7 | 1 | |
| 14 | 2 | |
| 21 | 3 | |
| 28 | 4 | |
| 35 | 5 | 117 |
| 42 | 6 | |
| 49 | 7 | |
| 56 | 8 | |
| 63 | 9 | |
| 70 | 10 | 117 |
| 77 | 11 | |
| 84 | 12 | |
| 91 | 13 | |
| 98 | 14 | |
| 105 | 15 | 117 |
| 111 | 16 | |
| 118 | 17 | |
| 125 | 18 | |
| 132 | 19 | |
| 139 | 20 | 117 |
| 146 | 21 | |
| 153 | 22 | |
| 160 | 23 | |
| 167 | 24 | |
| 174 | 25 | 117 |
| 181 | 26 | |
| 188 | 27 | |
| 195 | 28 | |
| 202 | 29 | |
| 209 | 30 | |
| 216 | 31 | |
| 223 | 32 | |
| 230 | 33 | |
| 237 | 34 | |
| 243 | 35 | 117 |
| 250 | 36 | 6864 |
| 257 | 37 | |
| 264 | 38 | |
| 271 | 39 | |
| 278 | 40 | 117 |
| 285 | 41 | |
| 292 | 42 | |
| 299 | 43 | |
| 306 | 44 | |
| 313 | 45 | 117 |
| | 46 | |
| | 47 | |
| | 48 | |
| | 49 | |
| 348 | 50 | 117 |
| 354 | 51 | |
| 361 | 52 | |
| 368 | 53 | |
| | 54 | |
| | 55 | |
| | 56 | |
| 396 | 57 | 117 |
| | 58 | |
| 410 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Parts for Sec. of C.S.A. | C.S.A 35° | Numbers |
|---|---|---|
| 0 | 0 | 182 8875 |
| 1 | 1 | 8718 |
| 2 | 2 | 8561 |
| 3 | 3 | 8404 |
| 4 | 4 | 8248 |
| 5 | 5 | 182 8091 |
| 6 | 6 | 7935 |
| 7 | 7 | 7778 |
| 8 | 8 | 7621 |
| 9 | 9 | 7465 |
| 10 | 10 | 182 7308 |
| 11 | 11 | 7152 |
| 12 | 12 | 6995 |
| 13 | 13 | 6838 |
| 14 | 14 | 6682 |
| 15 | 15 | 182 6525 |
| 16 | 16 | 6368 |
| 17 | 17 | 6212 |
| 18 | 18 | 6055 |
| 19 | 19 | 5898 |
| 20 | 20 | 182 5742 |
| 21 | 21 | 5585 |
| 22 | 22 | 5428 |
| 23 | 23 | 5272 |
| 24 | 24 | 4915 |
| 25 | 25 | 182 4758 |
| 26 | 26 | 4602 |
| 27 | 27 | 4445 |
| 28 | 28 | 4288 |
| 29 | 29 | 4132 |
| 30 | 30 | 182 3975 |
| 31 | 31 | 3818 |
| 32 | 32 | 3662 |
| 33 | 33 | 3505 |
| 34 | 34 | 3348 |
| 35 | 35 | 182 3192 |
| 36 | 36 | 3035 |
| 37 | 37 | 2878 |
| 38 | 38 | 2722 |
| 39 | 39 | 2565 |
| 40 | 40 | 182 2408 |
| 41 | 41 | 2252 |
| 42 | 42 | 2095 |
| 43 | 43 | 1938 |
| 44 | 44 | 1782 |
| 45 | 45 | 182 1625 |
| 46 | 46 | 1468 |
| 47 | 47 | 1312 |
| 48 | 48 | 1155 |
| 49 | 49 | 0998 |
| 50 | 50 | 182 0842 |
| 51 | 51 | 0685 |
| 52 | 52 | 0528 |
| 53 | 53 | 0372 |
| 54 | 54 | 181 9985 |
| 55 | 55 | 181 9828 |
| 56 | 56 | 9672 |
| 57 | 57 | 9515 |
| 58 | 58 | 9358 |
| 59 | 59 | 9202 |
| 60 | 60 | 181 9045 |

| Parts for Seconds of Auxil. Argum. | C.S.A & A.D. 35° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 0000 | 0156 | 0313 | 0469 | 0626 | 0782 | 0939 | 1095 | 1252 | 1408 | 1565 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 |
| 7 | 1 | 0156 | 0313 | 0469 | 0626 | 0782 | 0939 | 1095 | 1252 | 1408 | 1565 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 |
| 14 | 2 | 0313 | 0469 | 0626 | 0782 | 0939 | 1095 | 1252 | 1408 | 1565 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 |
| 21 | 3 | 0469 | 0626 | 0782 | 0939 | 1095 | 1252 | 1408 | 1565 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 |
| 28 | 4 | 0626 | 0782 | 0939 | 1095 | 1252 | 1408 | 1565 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 |
| 34 | 5 | 0782 | 0939 | 1095 | 1252 | 1408 | 1565 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 |
| 41 | 6 | 0939 | 1095 | 1252 | 1408 | 1565 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 |
| 48 | 7 | 1095 | 1252 | 1408 | 1565 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 |
| 55 | 8 | 1252 | 1408 | 1565 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 |
| 62 | 9 | 1408 | 1565 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 |
| 69 | 10 | 1565 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 |
| 75 | 11 | 1721 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 |
| 82 | 12 | 1878 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 |
| 89 | 13 | 2034 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 |
| 96 | 14 | 2191 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 |
| 103 | 15 | 2347 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 |
| 110 | 16 | 2504 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 |
| 117 | 17 | 2660 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 |
| 123 | 18 | 2817 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 |
| 130 | 19 | 2973 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 |
| 137 | 20 | 3130 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 |
| 144 | 21 | 3286 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 |
| 151 | 22 | 3443 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 |
| 158 | 23 | 3599 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 |
| 165 | 24 | 3756 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 |
| 171 | 25 | 3912 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 |
| 178 | 26 | 4069 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 |
| 185 | 27 | 4225 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 |
| 192 | 28 | 4382 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 |
| 199 | 29 | 4538 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 |
| 206 | 30 | 4695 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 |
| 212 | 31 | 4851 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 |
| 219 | 32 | 5008 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 |
| 226 | 33 | 5164 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 |
| 233 | 34 | 5321 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 |
| 240 | 35 | 5477 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 |
| 247 | 36 | 5634 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 |
| 254 | 37 | 5790 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 |
| 261 | 38 | 5947 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 |
| 267 | 39 | 6103 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 |
| 274 | 40 | 6260 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 |
| 281 | 41 | 6416 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 |
| 288 | 42 | 6573 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 |
| 295 | 43 | 6729 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 |
| 301 | 44 | 6886 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 |
| 308 | 45 | 7042 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 |
| 315 | 46 | 7199 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 |
| 322 | 47 | 7355 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 |
| 329 | 48 | 7512 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 |
| 336 | 49 | 7668 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 |
| 343 | 50 | 7825 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 | 0329 |
| 349 | 51 | 7981 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 | 0329 | 0485 |
| 356 | 52 | 8138 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 | 0329 | 0485 | 0642 |
| 363 | 53 | 8294 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 | 0329 | 0485 | 0642 | 0798 |
| 370 | 54 | 8451 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 | 0329 | 0485 | 0642 | 0798 | 0955 |
| 377 | 55 | 8607 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 | 0329 | 0485 | 0642 | 0798 | 0955 | 1111 |
| 383 | 56 | 8764 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 | 0329 | 0485 | 0642 | 0798 | 0955 | 1111 | 1268 |
| 390 | 57 | 8920 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 | 0329 | 0485 | 0642 | 0798 | 0955 | 1111 | 1268 | 1424 |
| 397 | 58 | 9077 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 | 0329 | 0485 | 0642 | 0798 | 0955 | 1111 | 1268 | 1424 | 1581 |
| 404 | 59 | 9233 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 | 0329 | 0485 | 0642 | 0798 | 0955 | 1111 | 1268 | 1424 | 1581 | 1737 |
| 411 | 60 | 9390 | 9546 | 9703 | 9859 | 0016 | 0172 | 0329 | 0485 | 0642 | 0798 | 0955 | 1111 | 1268 | 1424 | 1581 | 1737 | 1894 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. | S.M. & A.D. 35° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 118 (119) 7874 | 8285 | 8702 | 9116 | 9532 | 9944 | 0359 | 0773 | 1187 | 1602 | 2016 | 2431 | 2846 | 3260 | 3675 | 4090 | 4505 |
| 7 | 1 | | 8493 | 8907 | 9321 | 9736 | 0150 | 0564 | 0978 | 1392 | 1807 | 2221 | 2636 | 3050 | 3465 | 3879 | 4294 | 4708 |
| 14 | 2 | | 8701 | 9115 | 9529 | 9943 | 0357 | 0771 | 1184 | 1598 | 2012 | 2426 | 2840 | 3254 | 3668 | 4083 | 4497 | 4912 |
| 21 | 3 | | 8909 | 9322 | 9736 | 0150 | 0564 | 0978 | 1391 | 1805 | 2219 | 2633 | 3047 | 3461 | 3875 | 4289 | 4703 | 5117 |
| 28 | 4 | | 9116 | 9530 | 9943 | 0357 | 0771 | 1184 | 1598 | 2012 | 2426 | 2840 | 3254 | 3668 | 4082 | 4496 | 4910 | 5324 |
| 35 | 5 | 118 (119) 9324 | 9737 | 0150 | 0564 | 0977 | 1391 | 1805 | 2219 | 2633 | 3047 | 3461 | 3875 | 4289 | 4703 | 5117 | 5531 | |
| 41 | 6 | 8531 | 8945 | 9358 | 9772 | 0185 | 0599 | 1012 | 1426 | 1840 | 2254 | 2668 | 3082 | 3496 | 3910 | 4324 | 4738 | 5152 |
| 48 | 7 | 8738 | 9152 | 9565 | 9979 | 0392 | 0806 | 1219 | 1633 | 2047 | 2461 | 2875 | 3289 | 3703 | 4117 | 4531 | 4945 | 5359 |
| 55 | 8 | 8945 | 9359 | 9772 | 0185 | 0599 | 1012 | 1426 | 1840 | 2254 | 2668 | 3082 | 3496 | 3910 | 4324 | 4738 | 5152 | 5566 |
| 62 | 9 | 9152 | 9565 | 9979 | 0392 | 0806 | 1219 | 1633 | 2047 | 2461 | 2875 | 3289 | 3703 | 4117 | 4531 | 4945 | 5359 | 5773 |
| 69 | 10 | 118 (119) 9359 | 9772 | 0185 | 0599 | 1012 | 1426 | 1840 | 2254 | 2668 | 3082 | 3496 | 3910 | 4324 | 4738 | 5152 | 5566 | 5980 |
| 75 | 11 | 9565 | 9979 | 0392 | 0806 | 1219 | 1633 | 2047 | 2461 | 2875 | 3289 | 3703 | 4117 | 4531 | 4945 | 5359 | 5773 | 6187 |
| 82 | 12 | 9864 | 0277 | 0690 | 1103 | 1516 | 1929 | 2342 | 2756 | 3169 | 3583 | 3996 | 4410 | 4823 | 5237 | 5651 | 6065 | 6479 |
| 89 | 13 | 119 | 0070 | 0483 | 0896 | 1309 | 1722 | 2135 | 2549 | 2962 | 3376 | 3789 | 4203 | 4616 | 5030 | 5444 | 5858 | 6272 |
| 96 | 14 | 0197 | 0609 | 1022 | 1435 | 1848 | 2261 | 2674 | 3087 | 3500 | 3914 | 4327 | 4740 | 5154 | 5568 | 5981 | 6395 | 6809 |
| 103 | 15 | 119 | 0403 | 0816 | 1229 | 1642 | 2055 | 2468 | 2881 | 3294 | 3708 | 4121 | 4534 | 4948 | 5361 | 5775 | 6188 | 6602 |
| 110 | 16 | 0530 | 0942 | 1355 | 1767 | 2180 | 2593 | 3006 | 3419 | 3832 | 4246 | 4659 | 5072 | 5485 | 5899 | 6312 | 6725 | 7139 |
| 117 | 17 | 0736 | 1148 | 1561 | 1974 | 2387 | 2800 | 3213 | 3626 | 4040 | 4453 | 4866 | 5279 | 5693 | 6106 | 6519 | 6933 | 7346 |
| 124 | 18 | 0863 | 1275 | 1688 | 2100 | 2513 | 2925 | 3338 | 3751 | 4164 | 4577 | 4990 | 5403 | 5816 | 6229 | 6642 | 7056 | 7469 |
| 131 | 19 | 1069 | 1482 | 1894 | 2307 | 2720 | 3133 | 3546 | 3959 | 4372 | 4785 | 5198 | 5611 | 6025 | 6438 | 6851 | 7264 | 7678 |
| 137 | 20 | 119 | 1688 | 2101 | 2514 | 2927 | 3339 | 3752 | 4165 | 4578 | 4991 | 5404 | 5817 | 6230 | 6643 | 7056 | 7469 | 7882 |
| 144 | 21 | 1863 | 2275 | 2687 | 3100 | 3512 | 3924 | 4337 | 4749 | 5162 | 5575 | 5987 | 6400 | 6813 | 7225 | 7638 | 8051 | 8463 |
| 151 | 22 | 2038 | 2450 | 2862 | 3274 | 3686 | 4098 | 4510 | 4923 | 5335 | 5747 | 6159 | 6572 | 6984 | 7396 | 7808 | 8220 | 8633 |
| 158 | 23 | 2213 | 2625 | 3037 | 3448 | 3860 | 4272 | 4684 | 5096 | 5508 | 5920 | 6332 | 6744 | 7156 | 7568 | 7980 | 8392 | 8804 |
| 165 | 24 | 2388 | 2800 | 3211 | 3623 | 4034 | 4446 | 4858 | 5270 | 5681 | 6093 | 6505 | 6916 | 7328 | 7740 | 8152 | 8564 | 8976 |
| 172 | 25 | 119 | 2563 | 2975 | 3386 | 3798 | 4209 | 4621 | 5033 | 5445 | 5857 | 6269 | 6681 | 7093 | 7505 | 7917 | 8329 | 8741 |
| 178 | 26 | 2737 | 3149 | 3560 | 3972 | 4383 | 4795 | 5207 | 5619 | 6031 | 6443 | 6855 | 7267 | 7679 | 8091 | 8503 | 8915 | 9327 |
| 185 | 27 | 2912 | 3324 | 3735 | 4147 | 4558 | 4970 | 5382 | 5794 | 6206 | 6618 | 7030 | 7442 | 7854 | 8266 | 8678 | 9090 | 9502 |
| 192 | 28 | 3087 | 3498 | 3910 | 4321 | 4733 | 5145 | 5557 | 5969 | 6381 | 6793 | 7205 | 7617 | 8029 | 8441 | 8853 | 9265 | 9677 |
| 199 | 29 | 3262 | 3673 | 4085 | 4496 | 4908 | 5320 | 5732 | 6144 | 6556 | 6968 | 7380 | 7792 | 8204 | 8616 | 9028 | 9440 | 9852 |
| 206 | 30 | 119 | 3847 | 4260 | 4672 | 5083 | 5495 | 5907 | 6319 | 6731 | 7143 | 7555 | 7967 | 8379 | 8791 | 9203 | 9615 | 0027 |
| 213 | 31 | 4022 | 4435 | 4847 | 5258 | 5670 | 6082 | 6494 | 6906 | 7318 | 7730 | 8142 | 8554 | 8966 | 9378 | 9790 | 0202 | 0614 |
| 220 | 32 | 4197 | 4610 | 5022 | 5433 | 5845 | 6257 | 6669 | 7081 | 7493 | 7905 | 8317 | 8729 | 9141 | 9553 | 9965 | 0377 | 0789 |
| 227 | 33 | 4372 | 4784 | 5197 | 5608 | 6020 | 6432 | 6844 | 7256 | 7668 | 8080 | 8492 | 8904 | 9316 | 9728 | 0140 | 0552 | 0964 |
| 233 | 34 | 119 (120) 4547 | 4959 | 5371 | 5783 | 6195 | 6607 | 7019 | 7431 | 7843 | 8255 | 8667 | 9079 | 9491 | 9903 | 0315 | 0727 | 1139 |
| 240 | 35 | 119 (120) 4722 | 5134 | 5546 | 5958 | 6370 | 6782 | 7194 | 7606 | 8018 | 8430 | 8842 | 9254 | 9666 | 0078 | 0490 | 0902 | 1314 |
| 247 | 36 | 4897 | 5309 | 5721 | 6133 | 6545 | 6957 | 7369 | 7781 | 8193 | 8605 | 9017 | 9429 | 9841 | 0253 | 0665 | 1077 | 1489 |
| 254 | 37 | 5072 | 5484 | 5896 | 6308 | 6720 | 7132 | 7544 | 7956 | 8368 | 8780 | 9192 | 9604 | 0016 | 0428 | 0840 | 1252 | 1664 |
| 261 | 38 | 5247 | 5659 | 6071 | 6483 | 6895 | 7307 | 7719 | 8131 | 8543 | 8955 | 9367 | 9779 | 0191 | 0603 | 1015 | 1427 | 1839 |
| 268 | 39 | 5422 | 5834 | 6246 | 6658 | 7070 | 7482 | 7894 | 8306 | 8718 | 9130 | 9542 | 9954 | 0366 | 0778 | 1190 | 1602 | 2014 |
| 275 | 40 | 119 (120) 5597 | 6009 | 6421 | 6833 | 7245 | 7657 | 8069 | 8481 | 8893 | 9305 | 9717 | 0129 | 0541 | 0953 | 1365 | 1777 | 2189 |
| 282 | 41 | 5772 | 6184 | 6596 | 7008 | 7420 | 7832 | 8244 | 8656 | 9068 | 9480 | 9892 | 0304 | 0716 | 1128 | 1540 | 1952 | 2364 |
| 289 | 42 | 5947 | 6359 | 6771 | 7183 | 7595 | 8007 | 8419 | 8831 | 9243 | 9655 | 0067 | 0479 | 0891 | 1303 | 1715 | 2127 | 2539 |
| 296 | 43 | 6122 | 6534 | 6946 | 7358 | 7770 | 8182 | 8594 | 9006 | 9418 | 9830 | 0242 | 0654 | 1066 | 1478 | 1890 | 2302 | 2714 |
| 303 | 44 | 6297 | 6709 | 7121 | 7533 | 7945 | 8357 | 8769 | 9181 | 9593 | 0005 | 0417 | 0829 | 1241 | 1653 | 2065 | 2477 | 2889 |
| 310 | 45 | 119 (120) 6472 | 6884 | 7296 | 7708 | 8120 | 8532 | 8944 | 9356 | 9768 | 0180 | 0592 | 1004 | 1416 | 1828 | 2240 | 2652 | 3064 |
| 316 | 46 | 6647 | 7059 | 7471 | 7883 | 8295 | 8707 | 9119 | 9531 | 9943 | 0355 | 0767 | 1179 | 1591 | 2003 | 2415 | 2827 | 3239 |
| 323 | 47 | 6822 | 7234 | 7646 | 8058 | 8470 | 8882 | 9294 | 9706 | 0118 | 0530 | 0942 | 1354 | 1766 | 2178 | 2590 | 3002 | 3414 |
| 330 | 48 | 6997 | 7409 | 7821 | 8233 | 8645 | 9057 | 9469 | 9881 | 0293 | 0705 | 1117 | 1529 | 1941 | 2353 | 2765 | 3177 | 3589 |
| 337 | 49 | 7172 | 7584 | 7996 | 8408 | 8820 | 9232 | 9644 | 0056 | 0468 | 0880 | 1292 | 1704 | 2116 | 2528 | 2940 | 3352 | 3764 |
| 344 | 50 | 7347 | 7759 | 8171 | 8583 | 8995 | 9407 | 9819 | 0231 | 0643 | 1055 | 1467 | 1879 | 2291 | 2703 | 3115 | 3527 | 3939 |
| 350 | 51 | 6399 | 6809 | 7219 | 7628 | 8038 | 8448 | 8858 | 9268 | 9678 | 0088 | 0498 | 0908 | 1319 | 1729 | 2140 | 2550 | 2960 |
| 357 | 52 | 6574 | 6984 | 7394 | 7803 | 8213 | 8623 | 9033 | 9443 | 9853 | 0263 | 0673 | 1083 | 1494 | 1904 | 2315 | 2725 | 3135 |
| 364 | 53 | 6737 | 7147 | 7556 | 7966 | 8375 | 8785 | 9195 | 9605 | 0014 | 0424 | 0834 | 1244 | | | | | |
| 371 | 54 | 6912 | 7322 | 7732 | 8141 | 8551 | 8961 | 9371 | 9781 | 0190 | 0600 | 1010 | 1420 | 1830 | 2240 | 2650 | 3060 | 3470 |
| 378 | 55 | 119 (120) 7087 | 7497 | 7907 | 8317 | 8727 | 9137 | 9547 | 9957 | 0367 | 0777 | 1187 | 1597 | 2007 | 2417 | 2827 | 3237 | 3647 |
| 385 | 56 | 7245 | 7654 | 8063 | 8472 | 8882 | 9291 | 9701 | 0110 | | | | | | | | | |
| 391 | 57 | 7414 | 7823 | 8232 | 8641 | 9051 | 9460 | 9869 | 0279 | | | | | | | | | |
| 398 | 58 | 7589 | 7998 | 8407 | 8816 | 9226 | 9635 | 0045 | 0454 | | | | | | | | | |
| 405 | 59 | 7753 | 8162 | 8571 | 8980 | 9389 | 9798 | 0207 | 0616 | | | | | | | | | |

| Parts for Sec. of Auxil. Argum. | S.M. & A.D. 35° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 418 0548 |
| 3 | 1 | 1015 |
| 6 | 2 | 1482 |
| 8 | 3 | 1949 |
| 11 | 4 | 2416 |
| 14 | 5 | 2883 |
| 17 | 6 | 3350 |
| 20 | 7 | 3817 |
| 22 | 8 | 4285 |
| 25 | 9 | 4752 |
| 28 | 10 | 5219 |
| 31 | 11 | 5687 |
| 34 | 12 | 6155 |
| 37 | 13 | 6623 |
| 39 | 14 | 7091 |
| 42 | 15 | 7559 |
| 45 | 16 | 8027 |
| 48 | 17 | 8495 |
| 51 | 18 | 8963 |
| 53 | 19 | 9431 |
| 56 | 20 | 9900 |
| 59 | 21 | 0368 |
| 62 | 22 | 0836 |
| 65 | 23 | 1304 |
| 68 | 24 | 1773 |
| 70 | 25 | 2241 |
| 73 | 26 | 2709 |
| 76 | 27 | 3177 |
| 79 | 28 | 3645 |
| 82 | 29 | 4113 |
| 84 | 30 | 4582 |
| 87 | 31 | 5050 |
| 90 | 32 | 5518 |
| 93 | 33 | 5986 |
| 96 | 34 | 6454 |
| 99 | 35 | 6923 |
| 101 | 36 | 7391 |
| 104 | 37 | 7859 |
| 107 | 38 | 8327 |
| 110 | 39 | 8796 |
| 113 | 40 | 9264 |
| 115 | 41 | 9732 |
| 118 | 42 | 0200 |
| 121 | 43 | 0669 |
| 124 | 44 | 1137 |
| 127 | 45 | 1605 |
| 130 | 46 | 2073 |
| 132 | 47 | 2542 |
| 135 | 48 | 3010 |
| 138 | 49 | 3478 |
| 141 | 50 | 3946 |
| 143 | 51 | 4415 |
| 146 | 52 | 4883 |
| 149 | 53 | 5351 |
| 152 | 54 | 5819 |
| 155 | 55 | 6288 |
| 157 | 56 | 6756 |
| 160 | 57 | 7224 |
| 163 | 58 | 7692 |
| 166 | 59 | 8161 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| 36° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 119 0983 | 1391 | 1798 | 2206 | 2614 | 3022 | 3430 | 3838 | 4246 | 4654 | 5063 | 5471 | 5879 | 6288 | 6696 | 7105 | 7513 |
| 1 | 1154 | 1562 | 1969 | 2377 | 2785 | 3192 | 3600 | 4008 | 4416 | 4824 | 5233 | 5641 | 6049 | 6458 | 6866 | 7274 | [illegible] |
| 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 3 | 1496 | 1904 | 2311 | 2719 | 3126 | 3534 | 3942 | 4349 | 4757 | 5165 | 5573 | 5981 | 6389 | 6798 | 7206 | 7614 | [illegible] |
| 4 | 1667 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | 119 1838 | [illegible] | 2653 | [illegible] | [illegible] | 3875 | 4283 | 4691 | [illegible] | 5506 | 5914 | 6322 | 6730 | 7138 | 7546 | [illegible] | [illegible] |
| 6 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7 | 2181 | 2588 | 2996 | 3403 | 3810 | 4217 | 4625 | 5032 | 5440 | 5847 | 6255 | 6663 | 7070 | 7478 | 7886 | 8294 | [illegible] |
| 8 | 2353 | 2760 | 3167 | 3574 | 3981 | 4388 | 4796 | 5203 | 5610 | 6018 | 6426 | 6833 | 7241 | [illegible] | [illegible] | [illegible] | [illegible] |
| 9 | 2525 | 2931 | 3338 | 3745 | 4152 | 4560 | 4967 | 5374 | 5781 | 6189 | 6596 | 7004 | 7411 | 7818 | 8227 | [illegible] | [illegible] |
| 10 | 119 2696 | 3103 | 3510 | 3917 | 4324 | 4731 | 5138 | 5545 | 5952 | 6360 | 6767 | 7175 | 7582 | [illegible] | [illegible] | [illegible] | [illegible] |
| 11 | 2868 | 3275 | 3681 | 4088 | 4495 | 4902 | 5309 | 5716 | 6123 | 6531 | 6938 | 7345 | 7753 | [illegible] | [illegible] | [illegible] | [illegible] |
| 12 | 3040 | 3446 | 3853 | 4260 | 4666 | 5073 | 5480 | 5887 | 6294 | 6702 | 7109 | 7516 | 7923 | [illegible] | [illegible] | [illegible] | [illegible] |
| 13 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 119(120) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 17 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18 | 4072 | 4478 | 4884 | 5290 | 5696 | 6103 | 6509 | 6916 | 7322 | 7729 | 8136 | 8542 | 8949 | 9356 | 9763 | [illegible] | [illegible] |
| 19 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 119(120) 4416 | 4822 | 5228 | 5634 | 6040 | 6446 | 6853 | 7259 | 7665 | 8072 | 8478 | 8885 | 9292 | 9698 | [illegible] | [illegible] | [illegible] |
| 21 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 22 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 23 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 119(120) 5279 | 5684 | 6090 | 6495 | 6901 | 7307 | 7713 | 8119 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | 5452 | 5857 | 6262 | 6668 | 7073 | 7479 | 7885 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 5624 | 6030 | 6435 | 6840 | 7246 | 7651 | 8057 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 28 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | 5970 | 6375 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | 119(120) 6143 | 6548 | 695[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | 6316 | 6721 | 7126 | 7531 | 7936 | 8342 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 32 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | 6662 | 7067 | 7472 | 7877 | 8282 | 8687 | 9092 | 9497 | 90[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 34 | 6836 | 7240 | 7645 | 8050 | 8455 | 8860 | 9265 | 9670 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | 119(120) 7009 | 7414 | 7818 | 8223 | 8628 | 9033 | 9438 | 9843 | 0248 | 0653 | 1058 | 1464 | 1869 | 2274 | [illegible] | [illegible] | [illegible] |
| 36 | 7183 | 7587 | 7992 | 8396 | 8801 | 9206 | 9611 | 0016 | 0421 | 0826 | 1231 | 1636 | 2041 | 2447 | [illegible] | [illegible] | [illegible] |
| 37 | 7356 | 7760 | 8165 | 8569 | 8974 | 9379 | 9784 | 0188 | 0593 | 0998 | 1403 | 1808 | 2214 | 2619 | [illegible] | [illegible] | [illegible] |
| 38 | 7530 | 7934 | 8338 | 8743 | 9147 | 9552 | 9957 | 0361 | 0766 | 1171 | 1576 | 1981 | 2386 | 2791 | [illegible] | [illegible] | [illegible] |
| 39 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 44 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 45 | 119(120) 8746 | 9150 | 9554 | 9958 | 0361 | 0765 | 1169 | 1574 | 197[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 46 | 8920 | 9324 | 9728 | 0131 | 0535 | 0939 | 1343 | 1747 | 2151 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 47 | 9094 | 9498 | 9902 | 0305 | 0709 | 1113 | 1517 | 1921 | 2325 | 27[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | 9269 | 9672 | 0076 | 0479 | 0883 | 1287 | 1690 | 2094 | 2498 | 29[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 49 | 9443 | 9846 | 0250 | 0653 | 1057 | 1460 | 1864 | 2268 | 2672 | 3[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 50 | 119(120) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | 119 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 9315 | 0718 | 1121 | 1524 | 1927 | 2331 | 2734 | 3137 | 3541 | 3944 | 434[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | 119 0490 | 0893 | 1296 | 1699 | 2102 | 2505 | 2908 | 3311 | 3715 | 4118 | 4522 | 4925 | 5329 | 573[illegible] | [illegible] | [illegible] | [illegible] |
| 56 | 0665 | 1067 | 1470 | 1873 | 2276 | 2679 | 3082 | 3486 | 3889 | 4292 | 4695 | 5099 | 5502 | 590[illegible] | [illegible] | [illegible] | [illegible] |
| 57 | 0840 | 1242 | 1645 | 2048 | 2451 | 2854 | 3257 | 3660 | 4063 | 4466 | 4869 | 5273 | 5676 | 6079 | [illegible] | [illegible] | [illegible] |
| 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | 1189 | 1592 | 1995 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. | A. A & A. D | Auxiliary Arguments. | | | | | | | | | | | | | | | | | | Sums for finding the Corrected Distances. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 36 | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ | | 36′ | Sums | |
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | | ′ | | |
| 0 | 0 | 119 (120) | 7922 | 8331 | 8740 | 9149 | 9558 | 9967 | 0376 | 0785 | 1194 | 1604 | 2013 | 2423 | 2832 | 3242 | 3653 | 4061 | 4471 | 0 | 0 | 419 |
| 7 | 1 | | 8092 | 8500 | 8909 | 9318 | 9727 | 0136 | 0545 | 0954 | 1363 | 1773 | 2182 | 2591 | 3001 | 3410 | 3820 | 4230 | 4639 | 3 | 1 | |
| 14 | 2 | | 8261 | 8670 | 9079 | 9487 | 9896 | 0305 | 0714 | 1123 | 1532 | 1941 | 2351 | 2760 | 3169 | 3579 | 3988 | 4398 | 4807 | 6 | 2 | |
| 20 | 3 | | 8431 | 8840 | 9248 | 9657 | 0066 | 0474 | 0883 | 1292 | 1701 | 2110 | 2519 | 2929 | 3338 | 3747 | 4157 | 4566 | 4976 | 9 | 3 | |
| 27 | 4 | | 8601 | 9009 | 9418 | 9826 | 0235 | 0644 | 1053 | 1461 | 1870 | 2279 | 2688 | 3097 | 3507 | 3916 | 4325 | 4735 | 5144 | 11 | 4 | |
| 34 | 5 | 119 (120) | 8771 | 9179 | 9587 | 9996 | 0405 | 0813 | 1222 | 1631 | 2039 | 2448 | 2857 | 3266 | 3675 | 4084 | 4494 | 4903 | 5313 | 14 | 5 | 419 |
| 41 | 6 | | 8941 | 9349 | 9757 | 0166 | 0574 | 0983 | 1391 | 1800 | 2209 | 2617 | 3026 | 3435 | 3844 | 4253 | 4663 | 5072 | 5481 | 17 | 6 | |
| 48 | 7 | | 9110 | 9519 | 9927 | 0335 | 0744 | 1152 | 1561 | 1969 | 2378 | 2787 | 3195 | 3604 | 4013 | 4422 | 4831 | 5240 | 5650 | 20 | 7 | |
| 54 | 8 | | 9280 | 9689 | 0097 | 0505 | 0913 | 1322 | 1730 | 2139 | 2547 | 2956 | 3365 | 3773 | 4182 | 4591 | 5000 | 5409 | 5818 | 23 | 8 | |
| 61 | 9 | | 9451 | 9859 | 0267 | 0675 | 1083 | 1491 | 1900 | 2308 | 2717 | 3125 | 3534 | 3943 | 4351 | 4760 | 5169 | 5577 | 5987 | 26 | 9 | |
| 68 | 10 | 119 (120) | 9621 | 0029 | 0437 | 0845 | 1253 | 1661 | 2069 | 2478 | 2886 | 3295 | 3703 | 4112 | 4520 | 4929 | 5338 | 5747 | 6156 | 29 | 10 | 419 |
| 75 | 11 | | 9791 | 0199 | 0607 | 1015 | 1423 | 1831 | 2239 | 2647 | 3056 | 3464 | 3873 | 4281 | 4690 | 5098 | 5507 | 5916 | 6325 | 32 | 11 | |
| 81 | 12 | | 9961 | 0369 | 0777 | 1185 | 1593 | 2001 | 2409 | 2817 | 3225 | 3634 | 4042 | 4450 | 4859 | 5267 | 5676 | 6085 | 6494 | 35 | 12 | |
| 88 | 13 | 120 | 0132 | 0539 | 0947 | 1355 | 1763 | 2171 | 2579 | 2987 | 3395 | 3803 | 4211 | 4620 | 5028 | 5437 | 5845 | 6254 | 6663 | 37 | 13 | |
| 95 | 14 | | 0302 | 0710 | 1117 | 1525 | 1933 | 2341 | 2749 | 3157 | 3565 | 3973 | 4381 | 4789 | 5198 | 5606 | 6014 | 6423 | 6832 | 40 | 14 | |
| 102 | 15 | 120 | 0472 | 0880 | 1288 | 1695 | 2103 | 2511 | 2919 | 3326 | 3734 | 4142 | 4551 | 4959 | 5367 | 5775 | 6184 | 6592 | 7001 | 43 | 15 | 419 |
| 109 | 16 | | 0643 | 1050 | 1458 | 1866 | 2273 | 2681 | 3089 | 3496 | 3904 | 4312 | 4720 | 5128 | 5537 | 5945 | 6353 | 6761 | 7170 | 46 | 16 | |
| 115 | 17 | | 0814 | 1221 | 1628 | 2036 | 2443 | 2851 | 3259 | 3666 | 4074 | 4482 | 4890 | 5297 | 5706 | 6114 | 6522 | 6931 | 7339 | 49 | 17 | |
| 122 | 18 | | 0984 | 1392 | 1799 | 2206 | 2614 | 3021 | 3429 | 3836 | 4244 | 4652 | 5059 | 5468 | 5876 | 6284 | 6692 | 7100 | 7508 | 52 | 18 | |
| 129 | 19 | | 1155 | 1562 | 1970 | 2377 | 2784 | 3192 | 3599 | 4007 | 4414 | 4822 | 5230 | 5638 | 6046 | 6453 | 6861 | 7270 | 7678 | 55 | 19 | |
| 136 | 20 | 120 | 1326 | 1733 | 2140 | 2547 | 2955 | 3362 | 3769 | 4177 | 4584 | 4992 | 5400 | 5807 | 6215 | 6623 | 7031 | 7438 | 7847 | 58 | 20 | 419 |
| 143 | 21 | | 1497 | 1904 | 2311 | 2718 | 3125 | 3532 | 3940 | 4347 | 4755 | 5162 | 5570 | 5977 | 6385 | 6793 | 7201 | 7609 | 8017 | 61 | 21 | |
| 149 | 22 | | 1668 | 2075 | 2482 | 2889 | 3296 | 3703 | 4110 | 4518 | 4925 | 5332 | 5740 | 6147 | 6555 | 6963 | 7371 | 7778 | 8186 | 63 | 22 | |
| 156 | 23 | | 1839 | 2246 | 2653 | 3059 | 3467 | 3874 | 4281 | 4688 | 5095 | 5503 | 5910 | 6317 | 6725 | 7133 | 7540 | 7948 | 8356 | 66 | 23 | |
| 163 | 24 | | 2010 | 2417 | 2823 | 3230 | 3637 | 4044 | 4451 | 4858 | 5266 | 5673 | 6080 | 6488 | 6895 | 7303 | 7710 | 8118 | 8526 | 69 | 24 | |
| 170 | 25 | 120 | 2181 | 2588 | 2994 | 3401 | 3808 | 4215 | 4622 | 5029 | 5436 | 5843 | 6251 | 6658 | 7065 | 7473 | 7880 | 8288 | 8695 | 72 | 25 | 419 |
| 176 | 26 | | 2352 | 2759 | 3166 | 3572 | 3979 | 4386 | 4793 | 5200 | 5607 | 6014 | 6421 | 6828 | 7235 | 7643 | 8050 | 8458 | 8865 | 75 | 26 | |
| 183 | 27 | | 2524 | 2930 | 3337 | 3743 | 4150 | 4557 | 4963 | 5370 | 5777 | 6184 | 6591 | 6998 | 7406 | 7813 | 8220 | 8628 | 9035 | 78 | 27 | |
| 190 | 28 | | 2695 | 3102 | 3508 | 3914 | 4321 | 4728 | 5134 | 5541 | 5948 | 6355 | 6762 | 7169 | 7576 | 7983 | 8390 | 8798 | 9205 | 81 | 28 | |
| 197 | 29 | | 2867 | 3273 | 3679 | 4086 | 4492 | 4899 | 5305 | 5712 | 6119 | 6525 | 6932 | 7339 | 7746 | 8153 | 8561 | 8968 | 9375 | 84 | 29 | |
| 204 | 30 | 120 | 3038 | 3444 | 3851 | 4257 | 4663 | 5070 | 5476 | 5883 | 6289 | 6696 | 7103 | 7510 | 7917 | 8324 | 8731 | 9138 | 9544 | 87 | 30 | 419 |
| 210 | 31 | | 3210 | 3616 | 4022 | 4428 | 4835 | 5241 | 5647 | 6054 | 6460 | 6867 | 7274 | 7680 | 8087 | 8494 | 8901 | 9308 | 9714 | 89 | 31 | |
| 217 | 32 | | 3381 | 3787 | 4193 | 4600 | 5006 | 5412 | 5818 | 6225 | 6631 | 7038 | 7444 | 7851 | 8258 | 8665 | 9072 | 9479 | 9885 | 92 | 32 | |
| 224 | 33 | 120 (121) | 3553 | 3959 | 4365 | 4771 | 5177 | 5583 | 5990 | 6396 | 6802 | 7209 | 7615 | 8022 | 8429 | 8835 | 9242 | 9649 | 0056 | 95 | 33 | |
| 231 | 34 | | 3725 | 4131 | 4537 | 4943 | 5349 | 5755 | 6161 | 6567 | 6973 | 7380 | 7786 | 8193 | 8599 | 9006 | 9413 | 9820 | 0226 | 98 | 34 | |
| 237 | 35 | 120 (121) | 3897 | 4302 | 4708 | 5114 | 5520 | 5926 | 6332 | 6738 | 7145 | 7551 | 7957 | 8364 | 8770 | 9177 | 9583 | 9990 | 0397 | 101 | 35 | 419 |
| 244 | 36 | | 4069 | 4474 | 4880 | 5286 | 5692 | 6098 | 6504 | 6910 | 7316 | 7722 | 8128 | 8535 | 8941 | 9347 | 9754 | 0161 | 0567 | 104 | 36 | |
| 251 | 37 | | 4241 | 4646 | 5052 | 5457 | 5863 | 6269 | 6675 | 7081 | 7487 | 7893 | 8299 | 8706 | 9112 | 9518 | 9925 | 0331 | 0738 | 107 | 37 | |
| 258 | 38 | | 4413 | 4818 | 5224 | 5629 | 6035 | 6441 | 6847 | 7252 | 7658 | 8064 | 8471 | 8877 | 9283 | 9689 | 0096 | 0502 | 0908 | 110 | 38 | |
| 265 | 39 | | 4585 | 4990 | 5396 | 5801 | 6207 | 6612 | 7018 | 7424 | 7830 | 8236 | 8642 | 9048 | 9454 | 9860 | 0266 | 0673 | 1079 | 113 | 39 | |
| 271 | 40 | 120 (121) | 4757 | 5162 | 5568 | 5973 | 6379 | 6784 | 7190 | 7595 | 8001 | 8407 | 8813 | 9219 | 9625 | 0031 | 0437 | 0844 | 1250 | 115 | 40 | 419 |
| 278 | 41 | | 4929 | 5334 | 5740 | 6145 | 6550 | 6956 | 7361 | 7767 | 8173 | 8578 | 8984 | 9390 | 9796 | 0202 | 0608 | 1015 | 1421 | 118 | 41 | |
| 285 | 42 | | 5101 | 5507 | 5912 | 6317 | 6722 | 7128 | 7533 | 7939 | 8344 | 8750 | 9156 | 9562 | 9968 | 0373 | 0779 | 1186 | 1592 | 121 | 42 | |
| 292 | 43 | | 5274 | 5679 | 6084 | 6489 | 6894 | 7300 | 7705 | 8111 | 8516 | 8922 | 9327 | 9733 | 0139 | 0545 | 0951 | 1357 | 1763 | 124 | 43 | |
| 299 | 44 | | 5446 | 5851 | 6256 | 6661 | 7067 | 7472 | 7877 | 8282 | 8688 | 9093 | 9499 | 9905 | 0311 | 0716 | 1122 | 1528 | 1934 | 127 | 44 | |
| 305 | 45 | 120 (121) | 5619 | 6024 | 6429 | 6834 | 7239 | 7644 | 8049 | 8454 | 8860 | 9265 | 9671 | 0076 | 0482 | 0887 | 1293 | 1699 | 2105 | 130 | 45 | 419 |
| 312 | 46 | | 5791 | 6196 | 6601 | 7006 | 7411 | 7816 | 8221 | 8626 | 9032 | 9437 | 9842 | 0248 | 0653 | 1059 | 1465 | 1870 | 2276 | 133 | 46 | |
| 319 | 47 | | 5964 | 6369 | 6774 | 7178 | 7583 | 7988 | 8393 | 8798 | 9204 | 9609 | 0014 | 0419 | 0825 | 1230 | 1636 | 2041 | 2447 | 135 | 47 | |
| 326 | 48 | | 6137 | 6541 | 6946 | 7351 | 7756 | 8160 | 8565 | 8970 | 9376 | 9781 | 0186 | 0591 | 0997 | 1402 | 1807 | 2213 | 2618 | 138 | 48 | |
| 332 | 49 | | 6310 | 6714 | 7119 | 7523 | 7928 | 8333 | 8738 | 9143 | 9548 | 9953 | 0358 | 0763 | 1168 | 1574 | 1979 | 2384 | 2789 | 141 | 49 | |
| 339 | 50 | 120 (121) | 6482 | 6887 | 7291 | 7696 | 8101 | 8505 | 8910 | 9315 | 9720 | 0125 | 0530 | 0935 | 1340 | 1745 | 2151 | 2556 | 2960 | 144 | 50 | 419 |
| 346 | 51 | | 6655 | 7060 | 7464 | 7869 | 8273 | 8678 | 9082 | 9487 | 9892 | 0297 | 0702 | 1107 | 1512 | 1917 | 2322 | 2728 | 3133 | 147 | 51 | |
| 353 | 52 | | 6828 | 7233 | 7637 | 8041 | 8446 | 8850 | 9255 | 9660 | 0064 | 0469 | 0874 | 1279 | 1684 | 2089 | 2494 | 2899 | 3305 | 150 | 52 | |
| 360 | 53 | | 7001 | 7406 | 7810 | 8214 | 8618 | 9023 | 9427 | 9832 | 0237 | 0641 | 1046 | 1451 | 1856 | 2261 | 2666 | 3071 | 3477 | 153 | 53 | 420 |
| 366 | 54 | | 7174 | 7579 | 7983 | 8387 | 8791 | 9196 | 9600 | 0004 | 0409 | 0814 | 1218 | 1623 | 2028 | 2433 | 2838 | 3243 | 3648 | 156 | 54 | |
| 373 | 55 | 120 (121) | 7348 | 7752 | 8156 | 8560 | 8964 | 9368 | 9773 | 0177 | 0581 | 0986 | 1391 | 1795 | 2200 | 2605 | 3010 | 3415 | 3820 | 159 | 55 | 420 |
| 380 | 56 | | 7521 | 7925 | 8329 | 8733 | 9137 | 9541 | 9945 | 0349 | 0754 | 1158 | 1563 | 1968 | 2372 | 2777 | 3181 | 3587 | 3992 | 161 | 56 | |
| 387 | 57 | | 7694 | 8098 | 8502 | 8906 | 9310 | 9714 | 0118 | 0522 | 0927 | 1331 | 1735 | 2140 | 2545 | 2949 | 3354 | 3759 | 4163 | 164 | 57 | |
| 393 | 58 | | 7866 | 8271 | 8675 | 9079 | 9483 | 9887 | 0291 | 0695 | 1099 | 1504 | 1908 | 2312 | 2717 | 3121 | 3526 | 3931 | 4335 | 167 | 58 | |
| 400 | 59 | | 8041 | 8445 | 8848 | 9252 | 9656 | 0060 | 0464 | 0868 | 1272 | 1676 | 2081 | 2485 | 2889 | 3293 | 3697 | 4103 | 4507 | 170 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. | Sec. 37 | Numbers |
|---|---|---|
| | ′ | |
| 173 | 0 | 8847 |
| 171 | 1 | 8675 |
| 169 | 2 | 8504 |
| 164 | 3 | 8333 |
| 161 | 4 | 8161 |
| 159 | 5 | 7990 |
| 156 | 6 | 7818 |
| 153 | 7 | 7647 |
| 150 | 8 | 7475 |
| 147 | 9 | 7304 |
| 144 | 10 | 7132 |
| 141 | 11 | 6961 |
| 138 | 12 | 6788 |
| 135 | 13 | 6617 |
| 133 | 14 | 6445 |
| 130 | 15 | 6273 |
| 127 | 16 | 6102 |
| 124 | 17 | 5930 |
| 121 | 18 | 5756 |
| 118 | 19 | 5584 |
| 115 | 20 | 5411 |
| 112 | 21 | 5239 |
| 110 | 22 | 5066 |
| 107 | 23 | 4894 |
| 104 | 24 | 4721 |
| 101 | 25 | 4548 |
| 98 | 26 | 4376 |
| 95 | 27 | 4203 |
| 92 | 28 | 4030 |
| 89 | 29 | 3857 |
| 86 | 30 | 3684 |
| 84 | 31 | 3511 |
| 81 | 32 | 3337 |
| 78 | 33 | 3164 |
| 75 | 34 | 2991 |
| 72 | 35 | 2817 |
| 69 | 36 | 2644 |
| 67 | 37 | 2470 |
| 63 | 38 | 2297 |
| 61 | 39 | 2123 |
| 58 | 40 | 1949 |
| 55 | 41 | 1776 |
| 52 | 42 | 1602 |
| 49 | 43 | 1428 |
| 47 | 44 | 1254 |
| 43 | 45 | 1080 |
| 41 | 46 | 0907 |
| 37 | 47 | 0731 |
| 35 | 48 | 0557 |
| 34 | 49 | 0383 |
| 29 | 50 | 0208 |
| 26 | 51 | 0034 |
| 23 | 52 | 179 9859 |
| 20 | 53 | 9685 |
| 17 | 54 | 9511 |
| 14 | 55 | 9335 |
| 11 | 56 | 9161 |
| 9 | 57 | 8985 |
| 6 | 58 | 8811 |
| 3 | 59 | 8636 |

| Parts for Secs. of Appar. Alt. & Dist. | Sec. 37 | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 120 | 1364 | 1767 | 2169 | 2572 | 2974 | 3377 | 3778 | 4183 | 4586 | 4988 | 5390 | 5795 | 6198 | 6601 | 7004 | 7408 | 7811 |
| 7 | 1 | | 1546 | 1948 | 2344 | 2747 | 3149 | 3552 | 3954 | 4357 | 4760 | 5163 | 5566 | 5969 | 6372 | 6775 | 7178 | 7581 | 7985 |
| 13 | 2 | | 1715 | 2117 | 2519 | 2922 | 3324 | 3727 | 4129 | 4534 | 4937 | 5340 | 5743 | 6143 | 6546 | 6949 | 7352 | 7755 | 8159 |
| 20 | 3 | | 1890 | 2292 | 2694 | 3097 | 3499 | 3901 | 4304 | 4706 | 5109 | 5512 | 5914 | 6317 | 6720 | 7123 | 7526 | 7929 | 8332 |
| 27 | 4 | | 2065 | 2467 | 2869 | 3272 | 3674 | 4079 | 4479 | 4881 | 5284 | 5686 | 6088 | 6492 | 6894 | 7297 | 7700 | 8103 | 8506 |
| 33 | 5 | 120 | 2241 | 2643 | 3045 | 3447 | 3849 | 4251 | 4653 | 5056 | 5458 | 5861 | 6263 | 6667 | 7069 | 7471 | 7874 | 8277 | 8680 |
| 40 | 6 | | 2416 | 2818 | 3220 | 3622 | 4024 | 4427 | 4828 | 5231 | 5633 | 6035 | 6438 | 6842 | 7245 | 7649 | 8054 | 8451 | 8854 |
| 47 | 7 | | 2591 | 2993 | 3395 | 3797 | 4199 | 4601 | 5003 | 5405 | 5808 | 6210 | 6613 | 7015 | 7417 | 7820 | 8223 | 8625 | 9028 |
| 53 | 8 | | 2767 | 3171 | 3571 | 3972 | 4374 | 4776 | 5178 | 5580 | 5983 | 6385 | 6787 | 7190 | 7592 | 7995 | 8397 | 8800 | 9202 |
| 60 | 9 | | 2943 | 3344 | 3746 | 4148 | 4550 | 4951 | 5353 | 5755 | 6158 | 6560 | 6962 | 7364 | 7767 | 8169 | 8571 | 8974 | 9377 |
| 67 | 10 | 120 | 3118 | 3520 | 3922 | 4323 | 4725 | 5127 | 5529 | 5931 | 6333 | 6735 | 7137 | 7539 | 7941 | 8343 | 8746 | 9148 | 9551 |
| 73 | 11 | | 3294 | 3697 | 4097 | 4499 | 4900 | 5302 | 5704 | 6106 | 6508 | 6910 | 7312 | 7714 | 8116 | 8518 | 8921 | 9323 | 9725 |
| 80 | 12 | | 3470 | 3871 | 4273 | 4674 | 5076 | 5477 | 5879 | 6281 | 6683 | 7085 | 7487 | 7889 | 8291 | 8693 | 9095 | 9497 | 9900 |
| 87 | 13 | 120 (121) | 3644 | 4047 | 4449 | 4850 | 5251 | 5653 | 6054 | 6456 | 6858 | 7260 | 7662 | 8064 | 8466 | 8868 | 9270 | 9672 | 0074 |
| 93 | 14 | | 3822 | 4223 | 4624 | 5026 | 5427 | 5828 | 6230 | 6632 | 7033 | 7435 | 7837 | 8239 | 8640 | 9042 | 9444 | 9847 | 0249 |
| 100 | 15 | 120 (121) | 3998 | 4399 | 4800 | 5201 | 5603 | 6004 | 6406 | 6807 | 7208 | 7610 | 8012 | 8414 | 8815 | 9217 | 9618 | 0021 | 0423 |
| 107 | 16 | | 4174 | 4575 | 4976 | 5377 | 5778 | 6180 | 6581 | 6982 | 7384 | 7785 | 8187 | 8589 | 8989 | 9392 | 9794 | 0196 | 0598 |
| 113 | 17 | | 4350 | 4751 | 5152 | 5553 | 5954 | 6355 | 6757 | 7158 | 7559 | 7961 | 8362 | 8764 | 9166 | 9567 | 9969 | 0371 | 0773 |
| 120 | 18 | | 4526 | 4927 | 5328 | 5729 | 6130 | 6531 | 6932 | 7334 | 7735 | 8136 | 8538 | 8939 | 9341 | 9742 | 0144 | 0546 | 0948 |
| 127 | 19 | | 4703 | 5103 | 5504 | 5905 | 6306 | 6707 | 7108 | 7509 | 7910 | 8312 | 8713 | 9115 | 9516 | 9918 | 0319 | 0721 | 1123 |
| 133 | 20 | 120 (121) | 4879 | 5280 | 5681 | 6082 | 6483 | 6884 | 7285 | 7686 | 8087 | 8488 | 8889 | 9291 | 9691 | 0093 | 0494 | 0896 | 1297 |
| 140 | 21 | | 5056 | 5456 | 5857 | 6257 | 6658 | 7059 | 7460 | 7861 | 8262 | 8663 | 9064 | 9465 | 9867 | 0268 | 0669 | 1071 | 1472 |
| 147 | 22 | | 5233 | 5633 | 6034 | 6434 | 6834 | 7235 | 7636 | 8037 | 8438 | 8839 | 9240 | 9641 | 0042 | 0443 | 0845 | 1246 | 1648 |
| 153 | 23 | | 5409 | 5809 | 6210 | 6610 | 7011 | 7411 | 7812 | 8213 | 8614 | 9015 | 9415 | 9816 | 0218 | 0619 | 1020 | 1421 | 1823 |
| 160 | 24 | | 5585 | 5986 | 6386 | 6786 | 7187 | 7587 | 7988 | 8388 | 8789 | 9190 | 9591 | 9992 | 0393 | 0794 | 1195 | 1597 | 1998 |
| 167 | 25 | 120 (121) | 5761 | 6162 | 6562 | 6963 | 7363 | 7764 | 8164 | 8565 | 8965 | 9366 | 9767 | 0168 | 0569 | 0970 | 1371 | 1772 | 2173 |
| 174 | 26 | | 5939 | 6339 | 6739 | 7139 | 7540 | 7940 | 8341 | 8741 | 9142 | 9542 | 9943 | 0344 | 0745 | 1145 | 1546 | 1947 | 2349 |
| 180 | 27 | | 6116 | 6516 | 6916 | 7316 | 7716 | 8116 | 8517 | 8917 | 9318 | 9718 | 0119 | 0520 | 0920 | 1321 | 1722 | 2123 | 2524 |
| 187 | 28 | | 6293 | 6693 | 7093 | 7493 | 7893 | 8293 | 8693 | 9094 | 9494 | 9894 | 0295 | 0695 | 1096 | 1497 | 1898 | 2299 | 2699 |
| 194 | 29 | | 6472 | 6872 | 7269 | 7668 | 8068 | 8469 | 8867 | 9267 | 9667 | 0071 | 0471 | 0871 | 1272 | 1673 | 2073 | 2474 | 2875 |
| 200 | 30 | 120 (121) | 6647 | 7047 | 7447 | 7846 | 8246 | 8646 | 9046 | 9446 | 9846 | 0247 | 0647 | 1048 | 1448 | 1849 | 2249 | 2650 | 3051 |
| 207 | 31 | | 6824 | 7223 | 7623 | 8023 | 8423 | 8823 | 9223 | 9623 | 0023 | 0423 | 0823 | 1224 | 1624 | 2025 | 2425 | 2826 | 3226 |
| 214 | 32 | | 7001 | 7400 | 7800 | 8200 | 8600 | 9000 | 9400 | 9800 | 0200 | 0600 | 1000 | 1400 | 1800 | 2201 | 2601 | 3001 | 3402 |
| 220 | 33 | | 7178 | 7577 | 7977 | 8377 | 8776 | 9176 | 9576 | 9976 | 0376 | 0776 | 1176 | 1576 | 1976 | 2377 | 2777 | 3177 | 3578 |
| 227 | 34 | | 7355 | 7755 | 8154 | 8554 | 8953 | 9353 | 9753 | 0153 | 0553 | 0953 | 1354 | 1754 | 2153 | 2553 | 2953 | 3353 | 3754 |
| 234 | 35 | 120 (121) | 7533 | 7932 | 8331 | 8731 | 9130 | 9530 | 9930 | 0329 | 0729 | 1129 | 1529 | 1929 | 2329 | 2729 | 3129 | 3530 | 3930 |
| 240 | 36 | | 7710 | 8110 | 8509 | 8908 | 9307 | 9707 | 0107 | 0506 | 0906 | 1306 | 1706 | 2106 | 2505 | 2905 | 3306 | 3706 | 4106 |
| 247 | 37 | | 7888 | 8287 | 8685 | 9085 | 9484 | 9884 | 0283 | 0683 | 1083 | 1482 | 1882 | 2282 | 2682 | 3082 | 3482 | 3882 | 4282 |
| 254 | 38 | | 8065 | 8464 | 8864 | 9263 | 9662 | 0061 | 0461 | 0860 | 1260 | 1659 | 2059 | 2459 | 2858 | 3258 | 3658 | 4058 | 4458 |
| 260 | 39 | | 8243 | 8642 | 9041 | 9440 | 9839 | 0238 | 0638 | 1037 | 1437 | 1836 | 2235 | 2635 | 3035 | 3435 | 3834 | 4234 | 4634 |
| 267 | 40 | 120 (121) | 8421 | 8820 | 9218 | 9617 | 0015 | 0415 | 0815 | 1214 | 1614 | 2013 | 2412 | 2811 | 3211 | 3611 | 4011 | 4411 | 4811 |
| 274 | 41 | | 8599 | 8997 | 9396 | 9795 | 0194 | 0593 | 0992 | 1391 | 1791 | 2190 | 2589 | 2988 | 3388 | 3788 | 4187 | 4587 | 4987 |
| 280 | 42 | | 8776 | 9175 | 9574 | 9973 | 0371 | 0771 | 1170 | 1569 | 1968 | 2367 | 2767 | 3167 | 3565 | 3964 | 4364 | 4763 | 5163 |
| 287 | 43 | | 8954 | 9353 | 9752 | 0150 | 0549 | 0948 | 1347 | 1746 | 2145 | 2544 | 2943 | 3342 | 3741 | 4141 | 4541 | 4940 | 5340 |
| 294 | 44 | | 9132 | 9531 | 9930 | 0328 | 0727 | 1126 | 1524 | 1923 | 2322 | 2721 | 3120 | 3520 | 3918 | 4317 | 4717 | 5117 | 5516 |
| 300 | 45 | 120 (121) | 9310 | 9708 | 0107 | 0505 | 0904 | 1303 | 1702 | 2101 | 2500 | 2899 | 3298 | 3697 | 4096 | 4494 | 4894 | 5293 | 5693 |
| 307 | 46 | | 9488 | 9886 | 0284 | 0683 | 1081 | 1480 | 1879 | 2278 | 2677 | 3076 | 3475 | 3874 | 4273 | 4672 | 5071 | 5470 | 5870 |
| 314 | 47 | | 9667 | 0065 | 0463 | 0860 | 1258 | 1656 | 2054 | 2453 | 2852 | 3251 | 3650 | 4049 | 4447 | 4846 | 5246 | 5645 | 6044 |
| 320 | 48 | | 9845 | 0243 | 0641 | 1038 | 1435 | 1833 | 2231 | 2630 | 3028 | 3427 | 3826 | 4225 | 4624 | 5022 | 5421 | 5820 | 6219 |
| 327 | 49 | 121 | 0023 | 0421 | 0819 | 1216 | 1613 | 2011 | 2408 | 2811 | 3205 | 3604 | 4003 | 4402 | 4801 | 5199 | 5598 | 5997 | 6396 |
| 334 | 50 | 121 | 0202 | 0599 | 0997 | 1394 | 1791 | 2189 | 2587 | 2984 | 3383 | 3781 | 4180 | 4578 | 4977 | 5376 | 5775 | 6173 | 6572 |
| 340 | 51 | | 0380 | 0777 | 1174 | 1572 | 1970 | 2367 | 2765 | 3162 | 3560 | 3958 | 4357 | 4755 | 5154 | 5553 | 5952 | 6350 | 6749 |
| 347 | 52 | | 0559 | 0956 | 1354 | 1751 | 2150 | 2548 | 2946 | 3344 | 3743 | 4141 | 4539 | 4938 | 5336 | 5735 | 6134 | 6533 | 6931 |
| 354 | 53 | | 0737 | 1135 | 1533 | 1931 | 2328 | 2726 | 3124 | 3522 | 3921 | 4319 | 4717 | 5116 | 5514 | 5913 | 6311 | 6710 | 7108 |
| 360 | 54 | | 0916 | 1314 | 1711 | 2110 | 2507 | 2904 | 3302 | 3701 | 4099 | 4497 | 4895 | 5294 | 5693 | 6091 | 6490 | 6888 | 7287 |
| 367 | 55 | 121 | 1095 | 1493 | 1890 | 2287 | 2685 | 3083 | 3481 | 3879 | 4277 | 4675 | 5073 | 5472 | 5870 | 6269 | 6667 | 7066 | 7464 |
| 374 | 56 | | 1273 | 1671 | 2069 | 2466 | 2863 | 3261 | 3659 | 4057 | 4455 | 4853 | 5251 | 5650 | 6047 | 6445 | 6843 | 7242 | 7640 |
| 380 | 57 | | 1454 | 1850 | 2247 | 2644 | 3042 | 3440 | 3837 | 4235 | 4633 | 5031 | 5429 | 5827 | 6225 | 6623 | 7021 | 7419 | 7817 |
| 387 | 58 | | 1631 | 2029 | 2426 | 2823 | 3221 | 3618 | 4016 | 4414 | 4811 | 5209 | 5607 | 6005 | 6403 | 6801 | 7199 | 7597 | 7995 |
| 393 | 59 | | 1811 | 2207 | 2604 | 3001 | 3398 | 3797 | 4194 | 4592 | 4989 | 5387 | 5785 | 6183 | 6581 | 6978 | 7376 | 7774 | 8172 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

Parts for Seconds of Anal. Ang. or Diff.

| A. A & A. D. 37′ | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 120 (121) 9815 | 9618 | 9822 | 9425 | 9829 | 9233 | 9637 | 1041 | 1445 | 1849 | 2253 | 2657 | 3062 | 3466 | 3871 | 4275 | 4679 |
| 1 | 1 8388 | 8792 | 9195 | 9599 | 0002 | 0406 | 0810 | 1214 | 1618 | 2022 | 2426 | 2830 | 3234 | 3639 | 4043 | 4447 | 4851 |
| 2 | 2 8562 | 8965 | 9369 | 9772 | 0176 | 0579 | 0983 | 1387 | 1791 | 2195 | 2599 | 3003 | 3407 | 3811 | 4215 | 4620 | 5024 |
| 3 | 3 8736 | 9139 | 9542 | 9946 | 0349 | 0753 | 1156 | 1560 | 1964 | 2368 | 2772 | 3175 | 3580 | 3984 | 4388 | 4792 | 5196 |
| 4 | 4 | 8913 | 9316 | 9720 | 0123 | 0526 | 0930 | 1333 | 1737 | 2141 | 2544 | 2948 | 3352 | 3756 | 4160 | 4564 | 4969 |
| 5 | 5 120 (121) 9083 | 9486 | 9890 | 0293 | 0696 | 1099 | 1503 | 1906 | 2310 | 2714 | 3117 | 3521 | 3925 | 4329 | 4733 | 5137 | 5541 |
| 6 | 6 9257 | 9660 | 0063 | 0466 | 0870 | 1273 | 1676 | 2080 | 2483 | 2887 | 3290 | 3694 | 4098 | 4502 | 4906 | 5310 | 5714 |
| 7 | 7 9431 | 9834 | 0237 | 0640 | 1043 | 1447 | 1850 | 2253 | 2657 | 3060 | 3464 | 3867 | 4271 | 4675 | 5078 | 5482 | 5886 |
| 8 | 8 9605 | 0008 | 0411 | 0814 | 1217 | 1620 | 2023 | 2427 | 2830 | 3233 | 3637 | 4040 | 4444 | 4847 | 5251 | 5655 | 6059 |
| 9 | 9 9779 | 0182 | 0585 | 0988 | 1391 | 1794 | 2197 | 2600 | 3003 | 3407 | 3810 | 4213 | 4617 | 5020 | 5424 | 5828 | 6232 |
| 10 | 10 120 (121) 9954 | 0357 | 0759 | 1162 | 1565 | 1968 | 2371 | 2774 | 3177 | 3580 | 3983 | 4387 | 4790 | 5193 | 5597 | 6001 | 6404 |
| 11 | 11 121 0128 | 0530 | 0933 | 1336 | 1739 | 2141 | 2544 | 2947 | 3350 | 3753 | 4157 | 4560 | 4963 | 5367 | 5770 | 6174 | 6577 |
| 12 | 12 0302 | 0705 | 1107 | 1510 | 1913 | 2315 | 2718 | 3121 | 3524 | 3927 | 4330 | 4733 | 5136 | 5540 | 5943 | 6347 | 6750 |
| 13 | 13 0477 | 0879 | 1281 | 1684 | 2087 | 2489 | 2892 | 3295 | 3698 | 4101 | 4504 | 4907 | 5310 | 5713 | 6116 | 6520 | 6923 |
| 14 | 14 0651 | 1053 | 1456 | 1858 | 2261 | 2663 | 3066 | 3469 | 3871 | 4274 | 4677 | 5080 | 5483 | 5886 | 6289 | 6693 | 7096 |
| 15 | 15 121 0826 | 1228 | 1631 | 2032 | 2435 | 2837 | 3240 | 3642 | 4045 | 4448 | 4851 | 5254 | 5657 | 6060 | 6463 | 6866 | 7270 |
| 16 | 16 1000 | 1402 | 1805 | 2207 | 2610 | 3011 | 3414 | 3816 | 4219 | 4622 | 5024 | 5427 | 5830 | 6233 | 6636 | 7039 | 7443 |
| 17 | 17 1175 | 1577 | 1979 | 2381 | 2783 | 3186 | 3588 | 3991 | 4393 | 4796 | 5198 | 5601 | 6004 | 6407 | 6810 | 7213 | 7616 |
| 18 | 18 1350 | 1751 | 2153 | 2555 | 2958 | 3360 | 3762 | 4165 | 4567 | 4970 | 5372 | 5775 | 6177 | 6580 | 6983 | 7386 | 7789 |
| 19 | 19 1524 | 1926 | 2328 | 2730 | 3132 | 3534 | 3937 | 4339 | 4741 | 5144 | 5546 | 5949 | 6351 | 6754 | 7157 | 7559 | 7962 |
| 20 | 20 121 1699 | 2101 | 2503 | 2905 | 3307 | 3709 | 4111 | 4513 | 4916 | 5318 | 5720 | 6122 | 6525 | 6927 | 7330 | 7733 | 8136 |
| 21 | 21 1874 | 2276 | 2678 | 3079 | 3481 | 3883 | 4285 | 4687 | 5089 | 5492 | 5894 | 6296 | 6698 | 7101 | 7504 | 7906 | 8309 |
| 22 | 22 2049 | 2451 | 2852 | 3254 | 3656 | 4058 | 4460 | 4862 | 5264 | 5666 | 6068 | 6470 | 6873 | 7275 | 7678 | 8080 | 8483 |
| 23 | 23 2224 | 2626 | 3027 | 3429 | 3831 | 4232 | 4634 | 5036 | 5438 | 5840 | 6242 | 6644 | 7047 | 7449 | 7851 | 8254 | 8656 |
| 24 | 24 2399 | 2801 | 3202 | 3604 | 4005 | 4407 | 4808 | 5211 | 5613 | 6014 | 6417 | 6819 | 7221 | 7623 | 8025 | 8428 | 8830 |
| 25 | 25 121 2575 | 2977 | 3377 | 3779 | 4181 | 4582 | 4984 | 5385 | 5787 | 6189 | 6591 | 6993 | 7395 | 7797 | 8199 | 8602 | 9004 |
| 26 | 26 2750 | 3151 | 3553 | 3954 | 4355 | 4757 | 5158 | 5560 | 5962 | 6363 | 6765 | 7167 | 7569 | 7971 | 8373 | 8775 | 9178 |
| 27 | 27 2925 | 3326 | 3728 | 4129 | 4530 | 4932 | 5333 | 5735 | 6136 | 6538 | 6940 | 7341 | 7743 | 8145 | 8547 | 8949 | 9352 |
| 28 | 28 3100 | 3502 | 3903 | 4304 | 4705 | 5107 | 5508 | 5910 | 6311 | 6712 | 7114 | 7516 | 7918 | 8320 | 8721 | 9123 | 9526 |
| 29 | 29 3276 | 3677 | 4078 | 4480 | 4882 | 5283 | 5685 | 6086 | 6488 | 6889 | 7290 | 7690 | 8092 | 8494 | 8896 | 9298 | 9700 |
| 30 | 30 121 3452 | 3852 | 4253 | 4654 | 5055 | 5457 | 5858 | 6260 | 6661 | 7063 | 7463 | 7865 | 8266 | 8668 | 9070 | 9472 | 9874 |
| 31 | 31 121 (122) 3627 | 4028 | 4429 | 4831 | 5231 | 5633 | 6034 | 6435 | 6837 | 7238 | 7638 | 8039 | 8441 | 8843 | 9244 | 9646 | 0048 |
| 32 | 32 3803 | 4203 | 4604 | 5005 | 5406 | 5808 | 6209 | 6611 | 7012 | 7413 | 7813 | 8214 | 8616 | 9017 | 9419 | 9820 | 0222 |
| 33 | 33 3978 | 4379 | 4781 | 5181 | 5581 | 5982 | 6384 | 6784 | 7185 | 7587 | 7988 | 8389 | 8790 | 9192 | 9593 | 9995 | 0396 |
| 34 | 34 4154 | 4555 | 4955 | 5356 | 5757 | 6157 | 6558 | 6960 | 7360 | 7761 | 8163 | 8564 | 8965 | 9366 | 9768 | 0169 | 0571 |
| 35 | 35 121 (122) 4330 | 4731 | 5131 | 5532 | 5932 | 6333 | 6734 | 7135 | 7537 | 7938 | 8338 | 8739 | 9140 | 9541 | 9942 | 0344 | 0745 |
| 36 | 36 4506 | 4906 | 5307 | 5708 | 6108 | 6509 | 6910 | 7311 | 7711 | 8113 | 8513 | 8914 | 9315 | 9716 | 0117 | 0518 | 0920 |
| 37 | 37 4682 | 5082 | 5483 | 5884 | 6284 | 6685 | 7086 | 7487 | 7888 | 8288 | 8688 | 9089 | 9490 | 9891 | 0292 | 0693 | 1094 |
| 38 | 38 4858 | 5258 | 5659 | 6059 | 6459 | 6860 | 7260 | 7661 | 8062 | 8462 | 8863 | 9264 | 9665 | 0066 | 0466 | 0868 | 1269 |
| 39 | 39 5034 | 5434 | 5835 | 6235 | 6635 | 7035 | 7436 | 7836 | 8237 | 8637 | 9038 | 9439 | 9840 | 0241 | 0641 | 1042 | 1443 |
| 40 | 40 121 (122) 5210 | 5611 | 6011 | 6411 | 6811 | 7211 | 7611 | 8011 | 8412 | 8812 | 9213 | 9613 | 0014 | 0414 | 0815 | 1216 | 1617 |
| 41 | 41 5387 | 5787 | 6187 | 6587 | 6987 | 7387 | 7787 | 8187 | 8588 | 8988 | 9389 | 9789 | 0190 | 0591 | 0991 | 1392 | 1793 |
| 42 | 42 5563 | 5963 | 6363 | 6763 | 7163 | 7563 | 7963 | 8363 | 8763 | 9164 | 9564 | 9965 | 0365 | 0766 | 1166 | 1567 | 1968 |
| 43 | 43 5738 | 6138 | 6538 | 6939 | 7338 | 7738 | 8138 | 8538 | 8939 | 9339 | 9740 | 0140 | 0541 | 0941 | 1341 | 1742 | 2142 |
| 44 | 44 5914 | 6314 | 6715 | 7115 | 7515 | 7915 | 8315 | 8715 | 9115 | 9515 | 9916 | 0316 | 0716 | 1117 | 1517 | 1918 | 2318 |
| 45 | 45 121 (122) 6090 | 6490 | 6890 | 7290 | 7690 | 8090 | 8490 | 8891 | 9291 | 9691 | 0091 | 0492 | 0892 | 1292 | 1693 | 2093 | 2494 |
| 46 | 46 6266 | 6666 | 7066 | 7466 | 7867 | 8267 | 8667 | 9067 | 9467 | 9867 | 0267 | 0667 | 1068 | 1468 | 1868 | 2269 | 2669 |
| 47 | 47 6446 | 6845 | 7244 | 7644 | 8044 | 8443 | 8843 | 9243 | 9642 | 0042 | 0442 | 0842 | 1242 | 1643 | 2043 | 2443 | 2843 |
| 48 | 48 6622 | 7022 | 7421 | 7820 | 8220 | 8619 | 9019 | 9419 | 9818 | 0218 | 0618 | 1018 | 1418 | 1818 | 2218 | 2618 | 3019 |
| 49 | 49 6799 | 7198 | 7598 | 7997 | 8397 | 8796 | 9196 | 9595 | 9995 | 0394 | 0794 | 1193 | 1593 | 1994 | 2394 | 2795 | 3195 |
| 50 | 50 121 (122) 6976 | 7375 | 7774 | 8174 | 8573 | 8972 | 9372 | 9771 | 0171 | 0570 | 0970 | 1369 | 1769 | 2169 | 2569 | 2969 | 3369 |
| 51 | 51 7153 | 7553 | 7951 | 8350 | 8749 | 9149 | 9548 | 9947 | 0347 | 0746 | 1147 | 1546 | 1945 | 2345 | 2745 | 3145 | 3545 |
| 52 | 52 7331 | 7729 | 8128 | 8527 | 8926 | 9325 | 9724 | 0124 | 0523 | 0923 | 1322 | 1722 | 2121 | 2521 | 2921 | 3321 | 3720 |
| 53 | 53 7509 | 7907 | 8305 | 8704 | 9103 | 9502 | 9901 | 0301 | 0700 | 1099 | 1498 | 1897 | 2297 | 2697 | 3096 | 3496 | 3896 |
| 54 | 54 7688 | 8086 | 8484 | 8883 | 9282 | 9681 | 0080 | 0479 | 0878 | 1277 | 1676 | 2075 | 2473 | 2873 | 3273 | 3673 | 4074 |
| 55 | 55 121 (122) 7867 | 8265 | 8664 | 9063 | 9462 | 9861 | 0260 | 0659 | 1058 | 1457 | 1857 | 2256 | 2655 | 3054 | 3454 | 3853 | 4253 |
| 56 | 56 8046 | 8445 | 8844 | 9243 | 9642 | 0041 | 0440 | 0839 | 1238 | 1637 | 2036 | 2435 | 2834 | 3233 | 3633 | 4032 | 4432 |
| 57 | 57 8226 | 8625 | 9024 | 9423 | 9822 | 0221 | 0620 | 1019 | 1418 | 1817 | 2216 | 2615 | 3014 | 3413 | 3812 | 4212 | 4611 |
| 58 | 58 8406 | 8805 | 9204 | 9603 | 0002 | 0401 | 0800 | 1199 | 1598 | 1997 | 2396 | 2795 | 3194 | 3593 | 3992 | 4391 | 4790 |
| 59 | 59 8587 | 8986 | 9385 | 9784 | 0183 | 0582 | 0981 | 1380 | 1779 | 2178 | 2577 | 2976 | 3375 | 3774 | 4173 | 4572 | 4971 |

Sums for finding the Corrected Distances.

| Parts for Seconds of Anal. Ang. or Diff. | A. A. & A. D. 37′ | Sums |
|---|---|---|
| 0 | 0 | 420 1364 |
| 1 | 1 | 1548 |
| 2 | 2 | 1715 |
| 3 | 3 | 1896 |
| 4 | 4 | 2095 |
| 5 | 5 | 420 2241 |
| 6 | 6 | 2416 |
| 7 | 7 | 2592 |
| 8 | 8 | 2767 |
| 9 | 9 | 2943 |
| 10 | 10 | 420 3118 |
| 11 | 11 | 3294 |
| 12 | 12 | 3471 |
| 13 | 13 | 3647 |
| 14 | 14 | 3823 |
| 15 | 15 | 420 3999 |
| 16 | 16 | 4174 |
| 17 | 17 | 4350 |
| 18 | 18 | 4527 |
| 19 | 19 | 4703 |
| 20 | 20 | 420 4879 |
| 21 | 21 | 5056 |
| 22 | 22 | 5232 |
| 23 | 23 | 5409 |
| 24 | 24 | 5585 |
| 25 | 25 | 420 5762 |
| 26 | 26 | 5939 |
| 27 | 27 | 6116 |
| 28 | 28 | 6293 |
| 29 | 29 | 6470 |
| 30 | 30 | 6647 |
| 31 | 31 | 6824 |
| 32 | 32 | 7001 |
| 33 | 33 | 7178 |
| 34 | 34 | 7356 |
| 35 | 35 | 420 7533 |
| 36 | 36 | 7710 |
| 37 | 37 | 7888 |
| 38 | 38 | 8065 |
| 39 | 39 | 8243 |
| 40 | 40 | 420 8421 |
| 41 | 41 | 8599 |
| 42 | 42 | 8776 |
| 43 | 43 | 8954 |
| 44 | 44 | 9134 |
| 45 | 45 | 420 9311 |
| 46 | 46 | 9490 |
| 47 | 47 | 9667 |
| 48 | 48 | 9845 |
| 49 | 49 | 421 0023 |
| 50 | 50 | 421 0202 |
| 51 | 51 | 0380 |
| 52 | 52 | 0559 |
| 53 | 53 | 0737 |
| 54 | 54 | 0916 |
| 55 | 55 | 421 1095 |
| 56 | 56 | 1273 |
| 57 | 57 | 1452 |
| 58 | 58 | 1631 |
| 59 | 59 | 1810 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for 1 Sec. of C.S.A. additive | 38° | Numbers |
|---|---|---|
| 177 | 0 | 179 8460 |
| 174 | 1 | 8285 |
| 171 | 2 | 8110 |
| 168 | 3 | 7935 |
| 165 | 4 | 7759 |
| 162 | 5 | 179 7584 |
| 159 | 6 | 7408 |
| 156 | 7 | 7233 |
| 153 | 8 | 7057 |
| 150 | 9 | 6882 |
| 147 | 10 | 179 6706 |
| 145 | 11 | 6530 |
| 142 | 12 | 6354 |
| 139 | 13 | 6178 |
| 136 | 14 | 6002 |
| 133 | 15 | 179 5826 |
| 130 | 16 | 5650 |
| 127 | 17 | 5473 |
| 124 | 18 | 5297 |
| 121 | 19 | 5121 |
| 118 | 20 | 179 4944 |
| 115 | 21 | 4768 |
| 112 | 22 | 4591 |
| 109 | 23 | 4415 |
| 106 | 24 | 4238 |
| 103 | 25 | 179 4061 |
| 100 | 26 | 3884 |
| 97 | 27 | 3707 |
| 94 | 28 | 3530 |
| 91 | 29 | 3353 |
| 88 | 30 | 179 3176 |
| 86 | 31 | 2999 |
| 83 | 32 | 2822 |
| 80 | 33 | 2644 |
| 77 | 34 | 2467 |
| 74 | 35 | 179 2289 |
| 71 | 36 | 2112 |
| 68 | 37 | 1935 |
| 65 | 38 | 1757 |
| 62 | 39 | 1579 |
| 59 | 40 | 179 1401 |
| 56 | 41 | 1224 |
| 53 | 42 | 1046 |
| 50 | 43 | 0868 |
| 47 | 44 | 0690 |
| 44 | 45 | 179 0511 |
| 41 | 46 | 0333 |
| 38 | 47 | 0155 |
| 35 | 48 | 178 9977 |
| 32 | 49 | 9799 |
| 29 | 50 | 178 9621 |
| 27 | 51 | 9441 |
| 24 | 52 | 9263 |
| 21 | 53 | 9084 |
| 18 | 54 | 8905 |
| 15 | 55 | 178 8727 |
| 12 | 56 | 8548 |
| 9 | 57 | 8369 |
| 6 | 58 | 8190 |
| 3 | 59 | 8011 |

| Parts for 1 Sec. of Auxil. Argum additive | A.A. & A. D. 38° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0′ | 121 1989 | 2386 | 2783 | 3181 | 3578 | 3975 | 4373 | 4770 | 5168 | 5565 | 5963 | 6360 | 6758 | 7156 | 7554 | 7952 | 8350 |
| 7 | 1 | | 2165 | 2565 | 2962 | 3359 | 3757 | 4154 | 4551 | 4949 | 5346 | 5743 | 6141 | 6538 | 6936 | 7334 | 7732 | 8131 |
| 13 | 2 | | 2345 | 2744 | 3141 | 3538 | 3935 | 4333 | 4730 | 5127 | 5524 | 5922 | 6319 | 6717 | 7114 | 7512 | 7912 | 8308 |
| 20 | 3 | 2527 | 2924 | 3320 | 3717 | 4114 | 4511 | 4908 | 5306 | 5703 | 6100 | 6498 | 6895 | 7293 | 7690 | 8088 | 8486 | 8883 |
| 26 | 4 | 2706 | 3103 | 3500 | 3896 | 4293 | 4690 | 5087 | 5484 | 5881 | 6279 | 6676 | 7073 | 7471 | 7868 | 8266 | 8664 | 9061 |
| 33 | 5 | 121 2885 | 3282 | 3679 | 4076 | 4472 | 4869 | 5266 | 5663 | 6060 | 6457 | 6855 | 7252 | 7649 | 8047 | 8444 | 8844 | 9239 |
| 39 | 6 | 3065 | 3461 | 3858 | 4255 | 4651 | 5048 | 5445 | 5842 | 6239 | 6636 | 7033 | 7430 | 7828 | 8225 | 8622 | 9020 | 9417 |
| 46 | 7 | 3244 | 3641 | 4037 | 4434 | 4831 | 5227 | 5624 | 6021 | 6418 | 6815 | 7212 | 7610 | 8006 | 8403 | 8800 | 9198 | 9595 |
| 53 | 8 | 3424 | 3820 | 4217 | 4614 | 5010 | 5407 | 5803 | 6200 | 6597 | 6994 | 7390 | 7787 | 8184 | 8582 | 8979 | 9377 | 9773 |
| 59 | 9 | 3604 | 4000 | 4396 | 4793 | 5190 | 5586 | 5983 | 6379 | 6776 | 7173 | 7569 | 7966 | 8363 | 8760 | 9157 | 9554 | 9954 |
| 66 | 10 | 121 (122) 3783 | 4180 | 4577 | 4974 | 5370 | 5767 | 6164 | 6560 | 6957 | 7354 | 7751 | 8148 | 8545 | 8942 | 9339 | 9735 | 0132 |
| 73 | 11 | 3963 | 4359 | 4756 | 5152 | 5549 | 5944 | 6341 | 6737 | 7134 | 7530 | 7927 | 8324 | 8720 | 9117 | 9514 | 9911 | 0308 |
| 79 | 12 | 4143 | 4539 | 4935 | 5331 | 5727 | 6124 | 6520 | 6916 | 7313 | 7709 | 8106 | 8502 | 8899 | 9296 | 9693 | 0090 | 0487 |
| 86 | 13 | 4323 | 4719 | 5115 | 5511 | 5907 | 6303 | 6699 | 7095 | 7492 | 7888 | 8285 | 8681 | 9078 | 9475 | 9871 | 0268 | 0665 |
| 93 | 14 | 4503 | 4899 | 5295 | 5691 | 6087 | 6483 | 6879 | 7275 | 7671 | 8068 | 8464 | 8860 | 9257 | 9653 | 0050 | 0447 | 0844 |
| 99 | 15 | 121 (122) 4683 | 5079 | 5475 | 5872 | 6268 | 6662 | 7058 | 7454 | 7851 | 8247 | 8643 | 9039 | 9436 | 9833 | 0229 | 0625 | 1021 |
| 106 | 16 | 4863 | 5259 | 5655 | 6051 | 6446 | 6842 | 7238 | 7634 | 8030 | 8426 | 8822 | 9218 | 9615 | 0011 | 0408 | 0804 | 1201 |
| 112 | 17 | 5043 | 5439 | 5834 | 6230 | 6626 | 7022 | 7417 | 7813 | 8209 | 8605 | 9002 | 9398 | 9794 | 0190 | 0587 | 0983 | 1380 |
| 119 | 18 | 5224 | 5619 | 6014 | 6410 | 6806 | 7201 | 7597 | 7993 | 8389 | 8785 | 9181 | 9577 | 9973 | 0369 | 0766 | 1162 | 1559 |
| 125 | 19 | 5404 | 5799 | 6193 | 6589 | 6985 | 7381 | 7777 | 8173 | 8569 | 8964 | 9360 | 9756 | 0152 | 0548 | 0945 | 1341 | 1737 |
| 132 | 20 | 121 (123) 5584 | 5980 | 6375 | 6772 | 7168 | 7564 | 7957 | 8352 | 8748 | 9144 | 9540 | 9936 | 0332 | 0728 | 1124 | 1520 | 1916 |
| 138 | 21 | 5765 | 6160 | 6555 | 6951 | 7347 | 7741 | 8137 | 8532 | 8928 | 9324 | 9719 | 0115 | 0511 | 0907 | 1303 | 1699 | 2095 |
| 145 | 22 | 5945 | 6340 | 6735 | 7131 | 7528 | 7921 | 8317 | 8712 | 9108 | 9505 | 9900 | 0296 | 0692 | 1086 | 1482 | 1878 | 2274 |
| 151 | 23 | 6125 | 6521 | 6916 | 7311 | 7708 | 8101 | 8497 | 8892 | 9287 | 9683 | 0079 | 0474 | 0870 | 1266 | 1662 | 2057 | 2453 |
| 158 | 24 | 6305 | 6701 | 7096 | 7491 | 7888 | 8281 | 8677 | 9072 | 9467 | 9863 | 0258 | 0654 | 1049 | 1445 | 1841 | 2237 | 2633 |
| 164 | 25 | 121 (122) 6485 | 6882 | 7277 | 7672 | 8067 | 8462 | 8857 | 9252 | 9647 | 0043 | 0438 | 0834 | 1229 | 1625 | 2020 | 2416 | 2812 |
| 171 | 26 | 6665 | 7063 | 7457 | 7852 | 8247 | 8642 | 9037 | 9433 | 9827 | 0223 | 0618 | 1013 | 1409 | 1804 | 2200 | 2595 | 2991 |
| 177 | 27 | 6845 | 7243 | 7638 | 8032 | 8427 | 8822 | 9217 | 9613 | 0008 | 0403 | 0798 | 1193 | 1588 | 1984 | 2379 | 2775 | 3171 |
| 184 | 28 | 7025 | 7424 | 7818 | 8212 | 8607 | 9002 | 9397 | 9793 | 0188 | 0583 | 0978 | 1373 | 1768 | 2164 | 2559 | 2955 | 3350 |
| 191 | 29 | 7205 | 7604 | 7998 | 8392 | 8787 | 9182 | 9577 | 9973 | 0368 | 0763 | 1158 | 1553 | 1948 | 2343 | 2739 | 3134 | 3530 |
| 197 | 30 | 121 (122) 7385 | 7784 | 8178 | 8573 | 8967 | 9362 | 9756 | 0152 | 0547 | 0943 | 1338 | 1733 | 2128 | 2523 | 2919 | 3314 | 3709 |
| 204 | 31 | 7565 | 7964 | 8358 | 8753 | 9147 | 9542 | 9936 | 0332 | 0727 | 1123 | 1518 | 1913 | 2308 | 2703 | 3098 | 3494 | 3889 |
| 211 | 32 | 7745 | 8145 | 8539 | 8933 | 9327 | 9722 | 0116 | 0511 | 0906 | 1302 | 1697 | 2093 | 2488 | 2883 | 3278 | 3673 | 4069 |
| 217 | 33 | 7925 | 8325 | 8719 | 9113 | 9507 | 9902 | 0296 | 0691 | 1086 | 1482 | 1877 | 2273 | 2668 | 3063 | 3458 | 3853 | 4248 |
| 224 | 34 | 8105 | 8505 | 8899 | 9293 | 9687 | 0082 | 0476 | 0871 | 1266 | 1662 | 2057 | 2453 | 2848 | 3243 | 3638 | 4033 | 4428 |
| 230 | 35 | 121 (122) 8285 | 8685 | 9079 | 9473 | 9867 | 0262 | 0656 | 1051 | 1446 | 1842 | 2237 | 2633 | 3028 | 3423 | 3818 | 4213 | 4608 |
| 237 | 36 | 8465 | 8865 | 9259 | 9653 | 0047 | 0442 | 0836 | 1231 | 1626 | 2022 | 2417 | 2813 | 3208 | 3603 | 3998 | 4393 | 4788 |
| 243 | 37 | 8645 | 9045 | 9439 | 9833 | 0227 | 0622 | 1016 | 1411 | 1806 | 2202 | 2597 | 2993 | 3388 | 3783 | 4178 | 4573 | 4968 |
| 250 | 38 | 8825 | 9225 | 9619 | 0013 | 0407 | 0802 | 1196 | 1591 | 1986 | 2382 | 2777 | 3173 | 3568 | 3963 | 4358 | 4753 | 5148 |
| 257 | 39 | 9004 | 9404 | 9799 | 0193 | 0587 | 0982 | 1376 | 1771 | 2166 | 2562 | 2957 | 3353 | 3748 | 4143 | 4538 | 4933 | 5328 |
| 263 | 40 | 121 (122) 9184 | 9584 | 9979 | 0373 | 0767 | 1162 | 1556 | 1951 | 2346 | 2742 | 3137 | 3533 | 3928 | 4323 | 4718 | 5113 | 5508 |
| 270 | 41 | 9364 | 9764 | 0159 | 0553 | 0947 | 1342 | 1736 | 2131 | 2526 | 2922 | 3317 | 3713 | 4108 | 4503 | 4898 | 5293 | 5688 |
| 276 | 42 | 9544 | 9944 | 0339 | 0733 | 1127 | 1522 | 1916 | 2311 | 2706 | 3102 | 3497 | 3893 | 4288 | 4683 | 5078 | 5473 | 5868 |
| 283 | 43 | 9724 | 0124 | 0519 | 0913 | 1307 | 1702 | 2096 | 2491 | 2886 | 3282 | 3677 | 4073 | 4468 | 4863 | 5258 | 5653 | 6048 |
| 289 | 44 | 9904 | 0304 | 0699 | 1093 | 1487 | 1882 | 2276 | 2671 | 3066 | 3462 | 3857 | 4253 | 4648 | 5043 | 5438 | 5833 | 6228 |
| 296 | 45 | 122 0084 | 0484 | 0879 | 1273 | 1667 | 2062 | 2456 | 2851 | 3246 | 3642 | 4037 | 4433 | 4828 | 5223 | 5618 | 6013 | 6408 |
| 302 | 46 | 0264 | 0664 | 1059 | 1453 | 1847 | 2242 | 2636 | 3031 | 3426 | 3822 | 4217 | 4613 | 5008 | 5403 | 5798 | 6193 | 6588 |
| 309 | 47 | 0444 | 0844 | 1239 | 1633 | 2027 | 2422 | 2816 | 3211 | 3606 | 4002 | 4397 | 4793 | 5188 | 5583 | 5978 | 6373 | 6768 |
| 315 | 48 | 0624 | 1024 | 1419 | 1813 | 2207 | 2602 | 2996 | 3391 | 3786 | 4182 | 4577 | 4973 | 5368 | 5763 | 6158 | 6553 | 6948 |
| 322 | 49 | 0804 | 1204 | 1599 | 1993 | 2387 | 2782 | 3176 | 3571 | 3966 | 4362 | 4757 | 5153 | 5548 | 5943 | 6338 | 6733 | 7128 |
| 328 | 50 | 122 0984 | 1384 | 1779 | 2173 | 2567 | 2962 | 3356 | 3751 | 4146 | 4542 | 4937 | 5333 | 5728 | 6123 | 6518 | 6913 | 7308 |
| 335 | 51 | 1164 | 1564 | 1959 | 2353 | 2747 | 3142 | 3536 | 3931 | 4326 | 4722 | 5117 | 5513 | 5908 | 6303 | 6698 | 7093 | 7488 |
| 342 | 52 | 1392 | 1784 | 2176 | 2569 | 2961 | 3354 | 3747 | 4139 | 4532 | 4925 | 5318 | 5711 | 6104 | 6497 | 6890 | 7283 | 7677 |
| 349 | 53 | 1574 | 1966 | 2359 | 2751 | 3143 | 3536 | 3929 | 4321 | 4714 | 5107 | 5499 | 5892 | 6285 | 6678 | 7071 | 7465 | 7858 |
| 355 | 54 | 1757 | 2149 | 2541 | 2933 | 3326 | 3718 | 4111 | 4503 | 4896 | 5288 | 5681 | 6074 | 6467 | 6860 | 7253 | 7646 | 8039 |
| 362 | 55 | 122 1940 | 2332 | 2724 | 3116 | 3508 | 3901 | 4293 | 4686 | 5078 | 5471 | 5863 | 6256 | 6648 | 7041 | 7434 | 7827 | 8220 |
| 368 | 56 | 2122 | 2514 | 2906 | 3298 | 3691 | 4083 | 4475 | 4867 | 5260 | 5653 | 6045 | 6437 | 6830 | 7223 | 7616 | 8009 | 8401 |
| 375 | 57 | 2305 | 2697 | 3089 | 3481 | 3873 | 4265 | 4657 | 5050 | 5442 | 5835 | 6227 | 6619 | 7012 | 7404 | 7797 | 8190 | 8583 |
| 381 | 58 | 2487 | 2879 | 3271 | 3663 | 4055 | 4447 | 4840 | 5232 | 5624 | 6016 | 6408 | 6801 | 7194 | 7587 | 7979 | 8372 | 8765 |
| 388 | 59 | 2671 | 3062 | 3454 | 3846 | 4238 | 4630 | 5022 | 5414 | 5806 | 6198 | 6591 | 6983 | 7375 | 7767 | 8160 | 8553 | 8946 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Sums of Apparent Altitudes and Apparent Distances | A. & A. D. | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ | 34′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ° | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 121 (122) 8748 | 9146 | 9544 | 9943 | 0341 | 0739 | 1138 | 1537 | 1936 | | | | | | | | | |
| 7 | 1 | | 8926 | 9324 | 9722 | 0120 | 0519 | 0917 | 1315 | 1714 | 2112 | | | | | | | | |
| 13 | 2 | | 9103 | 9502 | 9900 | 0298 | 0696 | 1094 | 1493 | 1891 | 2289 | 2687 | | | | | | | |
| 20 | 3 | | 9281 | 9679 | 0077 | 0475 | 0873 | 1271 | 1670 | 2068 | 2466 | 2864 | | | | | | | |
| 27 | 4 | | 9459 | 9857 | 0255 | 0653 | 1051 | 1449 | 1847 | 2245 | 2643 | 3041 | | | | | | | |
| 33 | 5 | 121 (122) 9637 | 0034 | 0432 | 0830 | 1228 | 1626 | 2024 | 2422 | 2820 | | | | | | | | | |
| 40 | 6 | | 9815 | 0212 | 0610 | 1008 | 1406 | 1804 | 2202 | 2600 | 2998 | | | | | | | | |
| 47 | 7 | | 9993 | 0390 | 0788 | 1186 | 1583 | 1981 | 2379 | 2777 | 3175 | 3573 | | | | | | | |
| 53 | 8 | 122 | 0171 | 0568 | 0966 | 1363 | 1761 | 2159 | 2557 | 2954 | 3352 | | | | | | | | |
| 60 | 9 | | 0349 | 0746 | 1144 | 1541 | 1939 | 2336 | 2734 | 3132 | 3530 | 3927 | | | | | | | |
| 67 | 10 | 122 | | | | | | | | | | | | | | | | | |
| 73 | 11 | | 0705 | 1103 | 1500 | 1897 | 2295 | 2692 | 3089 | 3487 | 3885 | 4282 | 4680 | 5078 | 5476 | 5874 | 6272 | 6670 | 7068 |
| 80 | 12 | | | | | | | | | | | | | | | | | | |
| 87 | 13 | | 1062 | 1459 | 1856 | 2253 | 2650 | 3048 | 3445 | 3842 | 4240 | 4637 | 5035 | 5433 | 5830 | 6228 | 6626 | 7024 | 7422 |
| 93 | 14 | | | | | | | | | | | | | | | | | | |
| 100 | 15 | 122 | | | | | | | | | | | | | | | | | |
| 107 | 16 | | 1598 | 1994 | 2391 | 2788 | 3185 | 3582 | 3979 | 4376 | 4773 | 5171 | 5568 | 5965 | 6363 | 6760 | 7158 | 7555 | 7953 |
| 114 | 17 | | 1776 | 2173 | 2569 | 2966 | 3363 | 3760 | 4157 | 4554 | 4951 | 5348 | 5746 | 6143 | 6540 | 6938 | 7335 | 7733 | 8130 |
| 120 | 18 | | 1955 | 2351 | 2748 | 3145 | 3541 | 3938 | 4335 | 4732 | 5129 | 5526 | 5923 | 6321 | 6718 | 7115 | 7513 | 7910 | 8308 |
| 127 | 19 | | | | | | | | | | | | | | | | | | |
| 134 | 20 | 122 | 2312 | 2709 | 3105 | 3502 | 3898 | 4295 | 4692 | 5088 | 5485 | 5882 | 6279 | 6676 | 7073 | 7470 | 7868 | 8265 | 8662 |
| 137 | 21 | | 2491 | 2888 | 3284 | 3680 | 4077 | 4474 | 4870 | 5267 | 5663 | 6060 | 6457 | 6854 | 7251 | | | | |
| 145 | 22 | | 2670 | 3067 | 3463 | 3859 | 4256 | 4652 | 5049 | 5445 | 5842 | 6238 | 6635 | 7032 | 7429 | 7826 | 8223 | 8620 | 9017 |
| 152 | 23 | | 2849 | 3246 | 3642 | 4038 | 4434 | 4831 | 5227 | 5624 | 6020 | 6417 | 6813 | 7210 | 7607 | 8004 | 8401 | 8798 | 9195 |
| 158 | 24 | | | | | | | | | | | | | | | | | | |
| 165 | 25 | 122 | 3208 | 3604 | 4000 | 4396 | 4792 | 5188 | 5584 | 5980 | 6377 | 6773 | 7170 | 7566 | 7963 | 8360 | 8756 | 9153 | 9550 |
| 172 | 26 | | | | | | | | | | | | | | | | | | |
| 178 | 27 | | | | | | | | | | | | | | | | | | |
| 185 | 28 | 122 (123) 3746 | 4141 | 4537 | 4933 | 5329 | 5724 | 6120 | 6516 | 6913 | | | | | | | | | |
| 191 | 29 | | 3925 | 4321 | 4716 | 5112 | 5508 | 5903 | 6299 | 6695 | 7091 | 7487 | 7883 | | | | | | |
| 198 | 30 | 122 (123) | | | | | | | | | | | | | | | | | |
| 205 | 31 | | | | | | | | | | | | | | | | | | |
| 211 | 32 | | | | | | | | | | | | | | | | | | |
| 218 | 33 | | | | | | | | | | | | | | | | | | |
| 224 | 34 | | 4823 | 5218 | 5613 | 6009 | 6404 | 6799 | 7195 | 7590 | 7986 | 8381 | 8777 | 9173 | 9569 | 9964 | | | |
| 231 | 35 | 122 (123) | 5003 | 5398 | 5793 | 6188 | 6583 | 6979 | 7374 | 7769 | 8165 | 8560 | 8956 | 9352 | 9747 | 0143 | 0539 | 0935 | 1331 |
| 238 | 36 | | | | | | | | | | | | | | | | | | |
| 244 | 37 | | 5363 | 5758 | 6152 | 6547 | 6942 | 7338 | 7733 | 8128 | 8523 | 8918 | 9314 | 9709 | 0105 | 0501 | 0896 | 1292 | 1688 |
| 251 | 38 | | | | | | | | | | | | | | | | | | |
| 257 | 39 | | 5723 | 6118 | 6512 | 6907 | 7302 | 7697 | 8092 | 8487 | 8882 | 9277 | 9672 | 0067 | 0463 | 0858 | 1254 | 1649 | 2045 |
| 264 | 40 | | | | | | | | | | | | | | | | | | |
| 270 | 41 | | | | | | | | | | | | | | | | | | |
| 277 | 42 | | | | | | | | | | | | | | | | | | |
| 283 | 43 | | | | | | | | | | | | | | | | | | |
| 290 | 44 | | | | | | | | | | | | | | | | | | |
| 296 | 45 | | | | | | | | | | | | | | | | | | |
| 303 | 46 | | | | | | | | | | | | | | | | | | |
| 309 | 47 | | | | | | | | | | | | | | | | | | |
| 316 | 48 | | | | | | | | | | | | | | | | | | |
| 322 | 49 | | | | | | | | | | | | | | | | | | |
| 329 | 50 | | | | | | | | | | | | | | | | | | |
| 335 | 51 | | | | | | | | | | | | | | | | | | |
| 342 | 52 | | | | | | | | | | | | | | | | | | |
| 348 | 53 | | | | | | | | | | | | | | | | | | |
| 355 | 54 | | | | | | | | | | | | | | | | | | |
| 361 | 55 | | | | | | | | | | | | | | | | | | |
| 368 | 56 | | | | | | | | | | | | | | | | | | |
| 374 | 57 | | | | | | | | | | | | | | | | | | |
| 381 | 58 | | | | | | | | | | | | | | | | | | |
| 387 | 59 | | | | | | | | | | | | | | | | | | |
| 394 | 60 | | | | | | | | | | | | | | | | | | |

Sums for finding the Corrected Distance.

| Parts for Sums | C. D. | Sums |
|---|---|---|
| ′ | ° | |
| 0 | 0 | 121 1089 |
| 1 | 1 | |
| 2 | 2 | |
| 3 | 3 | |
| 4 | 4 | |
| 5 | 5 | 121 |
| 6 | 6 | |
| 7 | 7 | |
| 8 | 8 | |
| 9 | 9 | |
| 10 | 10 | 121 |
| 11 | 11 | |
| 12 | 12 | |
| 13 | 13 | |
| 14 | 14 | |
| 15 | 15 | 121 |
| 16 | 16 | |
| 17 | 17 | |
| 18 | 18 | |
| 19 | 19 | |
| 20 | 20 | 121 |
| 21 | 21 | |
| 22 | 22 | |
| 23 | 23 | |
| 24 | 24 | |
| 25 | 25 | 121 |
| 26 | 26 | |
| 27 | 27 | |
| 28 | 28 | |
| 29 | 29 | |
| 30 | 30 | 121 |
| 31 | 31 | |
| 32 | 32 | |
| 33 | 33 | |
| 34 | 34 | |
| 35 | 35 | 121 |
| 36 | 36 | |
| 37 | 37 | |
| 38 | 38 | |
| 39 | 39 | |
| 40 | 40 | 121 |
| 41 | 41 | |
| 42 | 42 | |
| 43 | 43 | |
| 44 | 44 | |
| 45 | 45 | 122 |
| 46 | 46 | |
| 47 | 47 | |
| 48 | 48 | |
| 49 | 49 | |
| 50 | 50 | 122 |
| 51 | 51 | |
| 52 | 52 | |
| 53 | 53 | |
| 54 | 54 | |
| 55 | 55 | 122 |
| 56 | 56 | |
| 57 | 57 | |
| 58 | 58 | |
| 59 | 59 | |
| 60 | 60 | |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Part for Sec. of C.S.A addit. | C.S.A 39° | Numbers |
|---|---|---|
| 181 | 0 | 178 7885 |
| 178 | 1 | 7961 |
| 175 | 2 | 7475 |
| 172 | 3 | 7204 |
| 169 | 4 | 7114 |
| 166 | 5 | 178 6935 |
| 163 | 6 | 6756 |
| 160 | 7 | 6577 |
| 157 | 8 | 6396 |
| 154 | 9 | 6217 |
| 151 | 10 | 178 6037 |
| 148 | 11 | 5857 |
| 145 | 12 | 5677 |
| 142 | 13 | 5497 |
| 139 | 14 | 5317 |
| 136 | 15 | 178 5137 |
| 133 | 16 | 4957 |
| 130 | 17 | 4776 |
| 127 | 18 | 4596 |
| 124 | 19 | 4417 |
| 121 | 20 | 178 4235 |
| 118 | 21 | 4055 |
| 115 | 22 | 3874 |
| 112 | 23 | 3693 |
| 109 | 24 | 3513 |
| 106 | 25 | 178 3333 |
| 103 | 26 | 3151 |
| 100 | 27 | 2970 |
| 97 | 28 | 2789 |
| 94 | 29 | 2608 |
| 90 | 30 | 178 2427 |
| 87 | 31 | 2246 |
| 84 | 32 | 2065 |
| 81 | 33 | 1883 |
| 78 | 34 | 1702 |
| 75 | 35 | 178 1520 |
| 72 | 36 | 1339 |
| 69 | 37 | 1157 |
| 66 | 38 | 0976 |
| 63 | 39 | 0794 |
| 60 | 40 | 178 0613 |
| 57 | 41 | 0431 |
| 54 | 42 | 0249 |
| 51 | 43 | 0068 |
| 48 | 44 | 177 9886 |
| 45 | 45 | 177 9705 |
| 42 | 46 | 9523 |
| 39 | 47 | 9341 |
| 36 | 48 | 9159 |
| 33 | 49 | 8977 |
| 30 | 50 | 177 8795 |
| 27 | 51 | 8613 |
| 24 | 52 | 8431 |
| 21 | 53 | 8249 |
| 18 | 54 | 8067 |
| 15 | 55 | 177 7885 |
| 12 | 56 | 7703 |
| 9 | 57 | 7521 |
| 6 | 58 | 7339 |
| 3 | 59 | 7157 |

| Part for Secon. of Addit. from Antive | A.M. & A.D. 39 | ó | Auxiliary Arguments. ′ | ″ | ‴ | ⁗ | ⁗′ | ⁗″ | ⁗‴ | ⁗⁗ | ⁗⁗′ | ⁗⁗″ | ⁗⁗‴ | ⁗⁗⁗ | ⁗⁗⁗′ | ⁗⁗⁗″ | ⁗⁗⁗‴ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 7 | 0 | 122 2854 | 3246 | 3637 | 4029 | 4421 | 4813 | 5205 | 5596 | 5989 | 6381 | 6773 | 7165 | 7557 | 7950 | 8342 | 8735 | 9127 |
| 13 | 1 | 3037 | 3429 | 3820 | 4212 | 4603 | 4995 | 5387 | 5779 | 6171 | 6563 | 6955 | 7347 | 7739 | 8132 | 8524 | 8916 | 9309 |
| 20 | 2 | 3220 | 3612 | 4003 | 4395 | 4786 | 5178 | 5570 | 5961 | 6353 | 6745 | 7137 | 7529 | 7921 | 8314 | 8706 | 9098 | 9490 |
| 26 | 3 | 3404 | 3795 | 4186 | 4578 | 4969 | 5361 | 5752 | 6144 | 6536 | 6928 | 7319 | 7712 | 8104 | 8496 | 8888 | 9280 | 9672 |
| 33 | 4 | 3587 | 3978 | 4369 | 4761 | 5152 | 5544 | 5935 | 6327 | 6718 | 7110 | 7502 | 7894 | 8286 | 8678 | 9070 | 9462 | 9854 |
| 39 | 5 | 122 (123) 3771 | 4161 | 4552 | 4944 | 5335 | 5726 | 6118 | 6509 | 6901 | 7293 | 7684 | 8076 | 8468 | 8860 | 9251 | 9644 | 0036 |
| 46 | 6 | 3954 | 4345 | 4736 | 5127 | 5518 | 5909 | 6301 | 6692 | 7084 | 7475 | 7867 | 8258 | 8650 | 9042 | 9434 | 9826 | 0218 |
| 52 | 7 | 4137 | 4528 | 4919 | 5310 | 5701 | 6092 | 6484 | 6875 | 7266 | 7658 | 8049 | 8441 | 8833 | 9224 | 9616 | 0008 | 0400 |
| 59 | 8 | 4321 | 4711 | 5102 | 5493 | 5884 | 6275 | 6667 | 7058 | 7449 | 7841 | 8232 | 8624 | 9015 | 9407 | 9798 | 0190 | 0582 |
| 65 | 9 | 4504 | 4895 | 5286 | 5677 | 6068 | 6459 | 6850 | 7241 | 7632 | 8023 | 8415 | 8806 | 9198 | 9589 | 9981 | 0372 | 0764 |
| 71 | 10 | 122 (123) 4688 | 5079 | 5470 | 5860 | 6251 | 6642 | 7033 | 7424 | 7815 | 8206 | 8597 | 8988 | 9380 | 9772 | 0163 | 0555 | 0946 |
| 78 | 11 | 4871 | 5262 | 5653 | 6044 | 6434 | 6825 | 7216 | 7607 | 7998 | 8389 | 8780 | 9172 | 9563 | 9954 | 0346 | 0737 | 1129 |
| 85 | 12 | 5055 | 5446 | 5837 | 6227 | 6618 | 7008 | 7399 | 7790 | 8181 | 8572 | 8963 | 9354 | 9746 | 0137 | 0528 | 0919 | 1311 |
| 91 | 13 | 5239 | 5630 | 6020 | 6411 | 6801 | 7192 | 7583 | 7973 | 8364 | 8755 | 9146 | 9537 | 9925 | 0319 | 0711 | 1102 | 1493 |
| 98 | 14 | 5423 | 5814 | 6204 | 6594 | 6985 | 7375 | 7766 | 8157 | 8547 | 8938 | 9329 | 9720 | 0111 | 0502 | 0893 | 1285 | 1676 |
| 104 | 15 | 122 (123) 5607 | 5998 | 6388 | 6778 | 7169 | 7559 | 7950 | 8340 | 8731 | 9121 | 9512 | 9903 | 0294 | 0685 | 1076 | 1467 | 1858 |
| 111 | 16 | 5791 | 6182 | 6572 | 6962 | 7352 | 7743 | 8133 | 8524 | 8914 | 9305 | 9695 | 0086 | 0477 | 0868 | 1259 | 1650 | 2041 |
| 117 | 17 | 5975 | 6366 | 6756 | 7146 | 7536 | 7926 | 8317 | 8707 | 9097 | 9488 | 9879 | 0269 | 0660 | 1051 | 1442 | 1833 | 2224 |
| 124 | 18 | 6160 | 6550 | 6940 | 7330 | 7720 | 8110 | 8500 | 8891 | 9281 | 9671 | 0062 | 0452 | 0843 | 1234 | 1625 | 2015 | 2406 |
| 130 | 19 | 6344 | 6734 | 7124 | 7514 | 7904 | 8294 | 8684 | 9074 | 9464 | 9855 | 0245 | 0636 | 1026 | 1417 | 1808 | 2198 | 2589 |
| 137 | 20 | 122 (123) 6528 | 6918 | 7308 | 7698 | 8088 | 8478 | 8868 | 9258 | 9648 | 0038 | 0429 | 0819 | 1209 | 1600 | 1991 | 2381 | 2772 |
| 143 | 21 | 6713 | 7102 | 7492 | 7882 | 8272 | 8662 | 9052 | 9442 | 9832 | 0222 | 0612 | 1002 | 1393 | 1783 | 2174 | 2564 | 2955 |
| 150 | 22 | 6897 | 7287 | 7676 | 8066 | 8456 | 8846 | 9236 | 9625 | 0015 | 0406 | 0796 | 1186 | 1576 | 1966 | 2357 | 2747 | 3138 |
| 156 | 23 | 7081 | 7471 | 7861 | 8250 | 8641 | 9030 | 9420 | 9809 | 0199 | 0589 | 0979 | 1369 | 1760 | 2150 | 2540 | 2930 | 3321 |
| 163 | 24 | 7266 | 7656 | 8045 | 8435 | 8824 | 9214 | 9603 | 9993 | 0383 | 0773 | 1163 | 1553 | 1943 | 2333 | 2723 | 3114 | 3504 |
| 169 | 25 | 122 (123) 7451 | 7840 | 8230 | 8619 | 9009 | 9398 | 9788 | 0177 | 0567 | 0957 | 1347 | 1737 | 2127 | 2517 | 2907 | 3297 | 3687 |
| 176 | 26 | 7636 | 8025 | 8414 | 8803 | 9193 | 9582 | 9972 | 0361 | 0751 | 1141 | 1530 | 1920 | 2310 | 2700 | 3090 | 3480 | 3870 |
| 182 | 27 | 7821 | 8210 | 8599 | 8988 | 9377 | 9767 | 0156 | 0545 | 0935 | 1325 | 1714 | 2104 | 2494 | 2884 | 3274 | 3664 | 4054 |
| 189 | 28 | 8005 | 8394 | 8783 | 9173 | 9562 | 9951 | 0340 | 0730 | 1119 | 1509 | 1898 | 2288 | 2678 | 3067 | 3457 | 3847 | 4237 |
| 195 | 29 | 8190 | 8579 | 8968 | 9357 | 9746 | 0135 | 0525 | 0914 | 1303 | 1693 | 2082 | 2472 | 2861 | 3251 | 3641 | 4031 | 4421 |
| 202 | 30 | 122 (123) 8375 | 8764 | 9153 | 9542 | 9931 | 0320 | 0709 | 1098 | 1488 | 1877 | 2267 | 2656 | 3045 | 3435 | 3825 | 4214 | 4604 |
| 208 | 31 | 8560 | 8949 | 9338 | 9727 | 0116 | 0505 | 0894 | 1283 | 1672 | 2061 | 2450 | 2840 | 3229 | 3619 | 4008 | 4398 | 4788 |
| 215 | 32 | 8744 | 9134 | 9523 | 9912 | 0300 | 0689 | 1078 | 1467 | 1856 | 2245 | 2635 | 3024 | 3413 | 3803 | 4192 | 4582 | 4971 |
| 221 | 33 | 8928 | 9318 | 9707 | 0096 | 0485 | 0874 | 1263 | 1652 | 2041 | 2431 | 2819 | 3208 | 3597 | 3987 | 4376 | 4765 | 5155 |
| 228 | 34 | 9112 | 9502 | 9891 | 0279 | 0670 | 1059 | 1448 | 1836 | 2225 | 2614 | 3003 | 3392 | 3781 | 4171 | 4560 | 4949 | 5339 |
| 234 | 35 | 122 (123) 9296 | 9686 | 0075 | 0464 | 0855 | 1244 | 1632 | 2021 | 2410 | 2799 | 3188 | 3577 | 3966 | 4355 | 4744 | 5133 | 5523 |
| 241 | 36 | 9487 | 9875 | 0263 | 0652 | 1040 | 1429 | 1817 | 2206 | 2594 | 2983 | 3372 | 3761 | 4150 | 4539 | 4928 | 5317 | 5706 |
| 247 | 37 | 9672 | 0060 | 0449 | 0837 | 1225 | 1614 | 2003 | 2391 | 2779 | 3168 | 3557 | 3945 | 4334 | 4723 | 5112 | 5501 | 5890 |
| 254 | 38 | 9857 | 0244 | 0633 | 1022 | 1410 | 1799 | 2187 | 2575 | 2964 | 3352 | 3741 | 4130 | 4519 | 4907 | 5296 | 5685 | 6074 |
| 260 | 39 | 123 0041 | 0429 | 0818 | 1207 | 1595 | 1984 | 2372 | 2760 | 3149 | 3537 | 3926 | 4314 | 4703 | 5092 | 5481 | 5870 | 6258 |
| 267 | 40 | 123 0226 | 0613 | 1001 | 1390 | 1781 | 2169 | 2557 | 2945 | 3334 | 3722 | 4111 | 4499 | 4888 | 5276 | 5665 | 6054 | 6443 |
| 273 | 41 | 0411 | 0798 | 1186 | 1575 | 1964 | 2354 | 2743 | 3131 | 3519 | 3907 | 4295 | 4683 | 5072 | 5461 | 5849 | 6238 | 6627 |
| 280 | 42 | 0596 | 0982 | 1371 | 1760 | 2150 | 2538 | 2927 | 3315 | 3704 | 4092 | 4480 | 4868 | 5257 | 5645 | 6034 | 6423 | 6811 |
| 286 | 43 | 0780 | 1174 | 1561 | 1949 | 2337 | 2725 | 3113 | 3501 | 3889 | 4277 | 4665 | 5053 | 5442 | 5830 | 6218 | 6607 | 6995 |
| 293 | 44 | 0972 | 1360 | 1747 | 2135 | 2523 | 2910 | 3298 | 3686 | 4074 | 4462 | 4850 | 5238 | 5626 | 6015 | 6403 | 6791 | 7180 |
| 299 | 45 | 123 1153 | 1547 | 1933 | 2321 | 2709 | 3097 | 3484 | 3871 | 4259 | 4647 | 5035 | 5423 | 5811 | 6199 | 6587 | 6976 | 7364 |
| 306 | 46 | 1344 | 1731 | 2119 | 2506 | 2894 | 3281 | 3669 | 4057 | 4444 | 4832 | 5220 | 5608 | 5997 | 6384 | 6772 | 7161 | 7549 |
| 312 | 47 | 1530 | 1917 | 2305 | 2692 | 3080 | 3467 | 3854 | 4242 | 4630 | 5018 | 5405 | 5793 | 6181 | 6569 | 6957 | 7345 | 7733 |
| 319 | 48 | 1716 | 2104 | 2491 | 2878 | 3265 | 3652 | 4040 | 4427 | 4815 | 5202 | 5591 | 5978 | 6366 | 6754 | 7142 | 7530 | 7918 |
| 325 | 49 | 1902 | 2290 | 2677 | 3064 | 3451 | 3838 | 4226 | 4613 | 5001 | 5388 | 5776 | 6163 | 6551 | 6939 | 7327 | 7715 | 8103 |
| 332 | 50 | 123 2089 | 2476 | 2863 | 3250 | 3637 | 4024 | 4412 | 4799 | 5186 | 5574 | 5961 | 6349 | 6736 | 7124 | 7512 | 7900 | 8288 |
| 338 | 51 | 2275 | 2662 | 3049 | 3436 | 3823 | 4210 | 4597 | 4985 | 5372 | 5759 | 6147 | 6534 | 6922 | 7309 | 7697 | 8085 | 8472 |
| 345 | 52 | 2462 | 2848 | 3235 | 3622 | 4009 | 4396 | 4783 | 5170 | 5558 | 5945 | 6332 | 6719 | 7107 | 7494 | 7882 | 8270 | 8657 |
| 351 | 53 | 2648 | 3035 | 3422 | 3809 | 4195 | 4582 | 4969 | 5356 | 5743 | 6130 | 6517 | 6904 | 7292 | 7679 | 8067 | 8454 | 8842 |
| 358 | 54 | 2835 | 3221 | 3608 | 3995 | 4382 | 4768 | 5155 | 5542 | 5929 | 6316 | 6703 | 7090 | 7477 | 7864 | 8252 | 8639 | 9027 |
| 364 | 55 | 123 3021 | 3408 | 3795 | 4181 | 4568 | 4955 | 5341 | 5728 | 6115 | 6502 | 6889 | 7276 | 7663 | 8050 | 8437 | 8825 | 9212 |
| 371 | 56 | 3208 | 3594 | 3981 | 4367 | 4754 | 5141 | 5527 | 5914 | 6301 | 6688 | 7075 | 7462 | 7849 | 8236 | 8623 | 9010 | 9397 |
| 377 | 57 | 3394 | 3781 | 4167 | 4554 | 4940 | 5327 | 5714 | 6100 | 6487 | 6874 | 7261 | 7648 | 8035 | 8422 | 8809 | 9196 | 9583 |
| 384 | 58 | 3581 | 3967 | 4354 | 4740 | 5127 | 5513 | 5900 | 6286 | 6673 | 7060 | 7447 | 7834 | 8221 | 8608 | 8995 | 9382 | 9769 |
| 390 | 59 | 3767 | 4154 | 4540 | 4927 | 5313 | 5700 | 6086 | 6473 | 6860 | 7246 | 7633 | 8020 | 8407 | 8794 | 9181 | 9568 | 9955 |

# C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
## and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. additive | A.A & A.D. 39° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | | 122 (123)9520 | 9913 | 0305 | 0698 | 1691 | 1484 | 1877 | 2270 | 2663 | 3056 | 3450 | 3843 | 4237 | 4630 | 5024 | 5417 | 5811 |
| 7 | 1 | | 9701 | 0094 | 0487 | 0879 | 1272 | 1665 | 2058 | 2451 | 2844 | 3237 | 3630 | 4024 | 4417 | 4810 | 5204 | 5597 |
| 13 | 2 | | 9883 | 0275 | 0668 | 1061 | 1453 | 1846 | 2239 | 2632 | 3025 | 3418 | 3811 | 4204 | 4597 | 4990 | 5383 | 5777 |
| 20 | 3 | 123 | 0065 | 0457 | 0850 | 1242 | 1635 | 2027 | 2420 | 2813 | 3206 | 3599 | 3992 | 4385 | 4778 | 5171 | 5564 | 5957 |
| 26 | 4 | | 0246 | 0639 | 1031 | 1424 | 1816 | 2209 | 2601 | 2994 | 3387 | 3779 | 4172 | 4565 | 4958 | 5351 | 5743 | 6136 |
| 33 | 5 | 123 | 0428 | 0820 | 1213 | 1605 | 1997 | 2390 | 2783 | 3175 | 3568 | 3961 | 4353 | 4746 | 5139 | 5532 | 5924 | 6317 |
| 39 | 6 | | 0610 | 1002 | 1394 | 1787 | 2179 | 2571 | 2964 | 3356 | 3749 | 4142 | 4534 | 4927 | 5319 | 5712 | 6104 | 6497 |
| 46 | 7 | | 0792 | 1184 | 1576 | 1968 | 2360 | 2753 | 3145 | 3538 | 3930 | 4323 | 4715 | 5108 | 5500 | 5893 | 6285 | 6678 |
| 52 | 8 | | 0974 | 1366 | 1758 | 2150 | 2542 | 2934 | 3327 | 3719 | 4111 | 4504 | 4896 | 5289 | 5681 | 6074 | 6466 | 6859 |
| 59 | 9 | | 1156 | 1548 | 1940 | 2332 | 2724 | 3116 | 3508 | 3901 | 4293 | 4685 | 5077 | 5470 | 5862 | 6255 | 6647 | 7040 |
| 65 | 10 | 123 | 1338 | 1730 | 2122 | 2514 | 2905 | 3297 | 3689 | 4082 | 4474 | 4866 | 5259 | 5651 | 6044 | 6436 | 6828 | 7221 |
| 72 | 11 | | 1520 | 1912 | 2304 | 2695 | 3087 | 3479 | 3871 | 4263 | 4655 | 5048 | 5440 | 5832 | 6225 | 6617 | 7010 | 7402 |
| 78 | 12 | | 1702 | 2094 | 2486 | 2877 | 3269 | 3661 | 4053 | 4445 | 4837 | 5229 | 5621 | 6013 | 6406 | 6798 | 7191 | 7583 |
| 85 | 13 | | 1885 | 2276 | 2668 | 3059 | 3451 | 3843 | 4235 | 4627 | 5018 | 5410 | 5802 | 6194 | 6587 | 6979 | 7372 | 7764 |
| 91 | 14 | | 2067 | 2459 | 2852 | 3244 | 3636 | 4028 | 4419 | 4812 | 5204 | 5596 | 5988 | 6381 | 6773 | 7166 | 7558 | 7951 |
| 98 | 15 | 123 | 2250 | 2641 | 3033 | 3424 | 3815 | 4207 | 4599 | 4990 | 5382 | 5774 | 6166 | 6557 | 6949 | 7342 | 7734 | 8126 |
| 104 | 16 | | 2432 | 2823 | 3215 | 3606 | 3997 | 4389 | 4781 | 5172 | 5564 | 5955 | 6347 | 6739 | 7131 | 7523 | 7915 | 8307 |
| 111 | 17 | | 2615 | 3006 | 3397 | 3788 | 4179 | 4571 | 4962 | 5354 | 5745 | 6137 | 6528 | 6920 | 7312 | 7704 | 8096 | 8488 |
| 117 | 18 | | 2797 | 3188 | 3579 | 3970 | 4362 | 4753 | 5144 | 5536 | 5927 | 6319 | 6711 | 7102 | 7494 | 7885 | 8277 | 8669 |
| 124 | 19 | | 2980 | 3371 | 3762 | 4153 | 4544 | 4935 | 5327 | 5718 | 6109 | 6501 | 6892 | 7284 | 7675 | 8067 | 8458 | 8851 |
| 130 | 20 | 123 | 3163 | 3553 | 3944 | 4335 | 4726 | 5118 | 5509 | 5900 | 6291 | 6683 | 7074 | 7466 | 7857 | 8249 | 8641 | 9032 |
| 137 | 21 | | 3345 | 3736 | 4127 | 4518 | 4909 | 5300 | 5691 | 6082 | 6473 | 6865 | 7256 | 7647 | 8039 | 8430 | 8822 | 9213 |
| 143 | 22 | | 3528 | 3919 | 4310 | 4701 | 5091 | 5482 | 5873 | 6264 | 6655 | 7047 | 7438 | 7829 | 8221 | 8612 | 9003 | 9395 |
| 150 | 23 | | 3711 | 4102 | 4493 | 4883 | 5274 | 5665 | 6056 | 6447 | 6838 | 7229 | 7620 | 8011 | 8402 | 8794 | 9185 | 9577 |
| 156 | 24 | 123 (124) | 3894 | 4285 | 4675 | 5066 | 5457 | 5847 | 6238 | 6629 | 7020 | 7411 | 7802 | 8193 | 8584 | 8976 | 9367 | 9758 |
| 163 | 25 | 123 (124) | 4077 | 4468 | 4858 | 5249 | 5639 | 6030 | 6421 | 6811 | 7202 | 7593 | 7984 | 8375 | 8766 | 9157 | 9549 | 9940 |
| 169 | 26 | | 4261 | 4651 | 5041 | 5432 | 5822 | 6213 | 6603 | 6994 | 7385 | 7776 | 8166 | 8557 | 8948 | 9339 | 9730 | 0121 |
| 176 | 27 | | 4444 | 4834 | 5224 | 5615 | 6005 | 6396 | 6787 | 7177 | 7567 | 7958 | 8349 | 8739 | 9130 | 9521 | 9912 | 0303 |
| 182 | 28 | | 4627 | 5017 | 5407 | 5798 | 6188 | 6579 | 6969 | 7360 | 7750 | 8140 | 8531 | 8922 | 9313 | 9703 | 0094 | 0485 |
| 189 | 29 | | 4810 | 5200 | 5591 | 5981 | 6371 | 6761 | 7151 | 7542 | 7932 | 8323 | 8713 | 9104 | 9495 | 9886 | 0276 | 0667 |
| 195 | 30 | 123 (124) | 4994 | 5384 | 5774 | 6164 | 6554 | 6944 | 7334 | 7725 | 8115 | 8505 | 8896 | 9286 | 9677 | 0068 | 0458 | 0849 |
| 202 | 31 | | 5177 | 5567 | 5957 | 6347 | 6737 | 7127 | 7517 | 7907 | 8298 | 8688 | 9078 | 9469 | 9859 | 0250 | 0641 | 1031 |
| 208 | 32 | | 5361 | 5751 | 6140 | 6530 | 6920 | 7310 | 7700 | 8090 | 8480 | 8871 | 9261 | 9651 | 0042 | 0432 | 0823 | 1213 |
| 215 | 33 | | 5545 | 5934 | 6324 | 6714 | 7103 | 7493 | 7883 | 8273 | 8663 | 9053 | 9444 | 9834 | 0224 | 0615 | 1005 | 1396 |
| 221 | 34 | | 5728 | 6118 | 6507 | 6897 | 7287 | 7676 | 8066 | 8456 | 8846 | 9236 | 9626 | 0016 | 0407 | 0797 | 1187 | 1578 |
| 228 | 35 | 123 (124) | 5912 | 6301 | 6691 | 7080 | 7470 | 7860 | 8249 | 8639 | 9029 | 9419 | 9809 | 0199 | 0589 | 0979 | 1370 | 1760 |
| 234 | 36 | | 6095 | 6485 | 6874 | 7264 | 7653 | 8043 | 8433 | 8822 | 9212 | 9602 | 9992 | 0382 | 0772 | 1162 | 1552 | 1943 |
| 241 | 37 | | 6278 | 6668 | 7057 | 7447 | 7837 | 8226 | 8616 | 9006 | 9395 | 9785 | 0175 | 0565 | 0955 | 1345 | 1735 | 2125 |
| 247 | 38 | | 6463 | 6853 | 7243 | 7631 | 8021 | 8410 | 8799 | 9189 | 9579 | 9968 | 0358 | 0748 | 1138 | 1528 | 1918 | 2308 |
| 254 | 39 | | 6647 | 7037 | 7426 | 7815 | 8204 | 8593 | 8983 | 9372 | 9762 | 0151 | 0541 | 0931 | 1321 | 1710 | 2100 | 2490 |
| 260 | 40 | 123 (124) | 6832 | 7220 | 7610 | 7999 | 8388 | 8777 | 9166 | 9556 | 9945 | 0334 | 0724 | 1114 | 1503 | 1893 | 2283 | 2673 |
| 267 | 41 | | 7016 | 7405 | 7793 | 8182 | 8572 | 8961 | 9350 | 9739 | 0128 | 0518 | 0907 | 1297 | 1686 | 2076 | 2466 | 2856 |
| 273 | 42 | | 7200 | 7589 | 7977 | 8366 | 8755 | 9144 | 9533 | 9923 | 0312 | 0701 | 1091 | 1480 | 1869 | 2259 | 2649 | 3038 |
| 280 | 43 | | 7384 | 7773 | 8162 | 8550 | 8939 | 9328 | 9717 | 0106 | 0495 | 0885 | 1274 | 1663 | 2053 | 2442 | 2832 | 3221 |
| 286 | 44 | | 7568 | 7957 | 8346 | 8734 | 9123 | 9512 | 9901 | 0290 | 0679 | 1069 | 1457 | 1846 | 2236 | 2625 | 3015 | 3404 |
| 293 | 45 | 123 (124) | 7753 | 8141 | 8530 | 8918 | 9307 | 9696 | 0085 | 0474 | 0863 | 1252 | 1641 | 2030 | 2419 | 2808 | 3198 | 3587 |
| 299 | 46 | | 7937 | 8326 | 8714 | 9103 | 9491 | 9880 | 0269 | 0657 | 1046 | 1435 | 1824 | 2213 | 2602 | 2991 | 3381 | 3770 |
| 306 | 47 | | 8122 | 8510 | 8899 | 9287 | 9675 | 0064 | 0453 | 0841 | 1230 | 1619 | 2008 | 2397 | 2786 | 3175 | 3564 | 3953 |
| 312 | 48 | | 8306 | 8694 | 9083 | 9471 | 9860 | 0248 | 0637 | 1025 | 1414 | 1803 | 2191 | 2580 | 2969 | 3358 | 3747 | 4136 |
| 319 | 49 | | 8491 | 8879 | 9267 | 9655 | 0044 | 0432 | 0821 | 1209 | 1598 | 1986 | 2375 | 2764 | 3153 | 3542 | 3931 | 4319 |
| 325 | 50 | 123 (124) | 8675 | 9063 | 9451 | 9839 | 0227 | 0615 | 1004 | 1393 | 1781 | 2170 | 2559 | 2947 | 3336 | 3725 | 4114 | 4503 |
| 332 | 51 | | 8860 | 9248 | 9636 | 0024 | 0412 | 0801 | 1189 | 1577 | 1966 | 2354 | 2743 | 3131 | 3520 | 3909 | 4297 | 4686 |
| 338 | 52 | | 9045 | 9433 | 9821 | 0209 | 0597 | 0986 | 1374 | 1761 | 2150 | 2538 | 2927 | 3315 | 3704 | 4092 | 4481 | 4870 |
| 345 | 53 | | 9230 | 9618 | 0006 | 0394 | 0782 | 1171 | 1559 | 1946 | 2334 | 2722 | 3110 | 3499 | 3887 | 4276 | 4664 | 5053 |
| 351 | 54 | | 9415 | 9803 | 0191 | 0579 | 0967 | 1356 | 1744 | 2131 | 2518 | 2906 | 3294 | 3683 | 4071 | 4459 | 4847 | 5236 |
| 358 | 55 | 123 (124) | 9601 | 9988 | 0376 | 0764 | 1151 | 1539 | 1926 | 2314 | 2702 | 3090 | 3478 | 3866 | 4255 | 4643 | 5031 | 5419 |
| 364 | 56 | | 9786 | 0174 | 0561 | 0949 | 1336 | 1724 | 2111 | 2499 | 2887 | 3275 | 3663 | 4051 | 4439 | 4827 | 5215 | 5604 |
| 371 | 57 | | 9972 | 0359 | 0746 | 1134 | 1521 | 1909 | 2296 | 2684 | 3071 | 3459 | 3847 | 4235 | 4623 | 5011 | 5399 | 5787 |
| 377 | 58 | 124 | 0155 | 0543 | 0931 | 1318 | 1705 | 2093 | 2480 | 2868 | 3256 | 3643 | 4031 | 4419 | 4807 | 5195 | 5583 | 5971 |
| 384 | 59 | | 0341 | 0728 | 1116 | 1503 | 1890 | 2278 | 2665 | 3053 | 3440 | 3828 | 4216 | 4603 | 4991 | 5379 | 5767 | 6155 |

| Parts for | A.A. & A.D. | Sums |
|---|---|---|
| ′ | ° | |
| 0 | 0 | 422 2854 |
| 3 | 1 | 3237 |
| 6 | 2 | 3620 |
| 9 | 3 | 4003 |
| 12 | 4 | 4386 |
| 15 | 5 | 422 4770 |
| 18 | 6 | 5153 |
| 21 | 7 | 4737 |
| 24 | 8 | 4544 |
| 27 | 9 | 4504 |
| 31 | 10 | 422 4088 |
| 34 | 11 | 4472 |
| 37 | 12 | 4855 |
| 40 | 13 | 5240 |
| 43 | 14 | 5624 |
| 46 | 15 | 422 6007 |
| 49 | 16 | 6391 |
| 52 | 17 | 6774 |
| 55 | 18 | 7158 |
| 58 | 19 | 7542 |
| 62 | 20 | 422 7925 |
| 65 | 21 | 8308 |
| 68 | 22 | 8692 |
| 71 | 23 | 9076 |
| 74 | 24 | 9460 |
| 77 | 25 | 422 9843 |
| 80 | 26 | 0227 |
| 83 | 27 | 0611 |
| 86 | 28 | 0995 |
| 89 | 29 | 1380 |
| 92 | 30 | 422 1763 |
| 96 | 31 | 2148 |
| 99 | 32 | 2532 |
| 102 | 33 | 2916 |
| 105 | 34 | 3300 |
| 108 | 35 | 422 3684 |
| 111 | 36 | 4068 |
| 114 | 37 | 4452 |
| 117 | 38 | 4836 |
| 120 | 39 | 423 0220 |
| 123 | 40 | 423 0229 |
| 126 | 41 | 0613 |
| 130 | 42 | 0998 |
| 133 | 43 | 1382 |
| 136 | 44 | 1767 |
| 139 | 45 | 423 2151 |
| 142 | 46 | 2536 |
| 145 | 47 | 2921 |
| 148 | 48 | 3306 |
| 151 | 49 | 3691 |
| 154 | 50 | 423 4076 |
| 157 | 51 | 4461 |
| 160 | 52 | 4846 |
| 163 | 53 | 5231 |
| 166 | 54 | 5616 |
| 170 | 55 | 423 6001 |
| 173 | 56 | 6386 |
| 176 | 57 | 6771 |
| 179 | 58 | 7156 |
| 182 | 59 | 7541 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Parts for 1 sec. of | C. S. A. 40° | Numbers | Parts for Seconds of Auxil. Arguments. | S. A. A & A. D. 40° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 177 6953 | 0 | 0 | 123 (124) 3956 | 4341 | 4728 | 5114 | 5500 | 5886 | 6272 | 6659 | 7045 | 7432 | 7818 | 8205 | 8591 | | | | |
| 1 | 1 | 6780 | 6 | 1 | 4143 | 4528 | 4914 | 5300 | 5686 | 6073 | 6459 | 6845 | 7231 | 7618 | 8004 | 8391 | 8778 | | | | |
| 2 | 2 | 6596 | 13 | 2 | 4330 | 4715 | 5101 | 5487 | 5873 | 6259 | 6645 | 7032 | 7418 | 7804 | 8190 | 8577 | 8963 | | | | |
| 3 | 3 | 6413 | 19 | 3 | 4517 | 4902 | 5288 | 5674 | 6060 | 6446 | 6832 | 7218 | 7604 | 7990 | | | | | | | |
| 4 | 4 | | | 4 | | | | | | | | | | | | | | | | | |
| 5 | 5 | 177 | | 5 | | | | | | | | | | | | | | | | | |
| 6 | 6 | | | 6 | | | | | | | | | | | | | | | | | |
| 7 | 7 | | | 7 | | | | | | | | | | | | | | | | | |
| 8 | 8 | | | 8 | | | | | | | | | | | | | | | | | |
| 9 | 9 | | | 9 | | | | | | | | | | | | | | | | | |
| 10 | 10 | 177 | | 10 | | | | | | | | | | | | | | | | | |
| 11 | 11 | | | 11 | | | | | | | | | | | | | | | | | |
| 12 | 12 | 4761 | 77 | 12 | 6204 | 6589 | 6974 | 7359 | 7744 | 8129 | 8514 | 8899 | 9285 | 9670 | 0055 | 0441 | 0826 | | | | |
| 13 | 13 | 4577 | 83 | 13 | 6392 | 6776 | 7161 | 7546 | 7931 | 8316 | 8701 | 9086 | 9472 | 9857 | 0242 | 0628 | 1013 | | | | |
| 14 | 14 | | | 14 | | | | | | | | | | | | | | | | | |
| 15 | 15 | 177 | | 15 | | | | | | | | | | | | | | | | | |
| 16 | 16 | 177 | 61 | 16 | 123 (124) | | | | | | | | | | | | | | | | |
| 17 | 17 | 4944 | 72 | 17 | 6016 | 6401 | 6786 | 7171 | 7556 | 7942 | 8327 | 8712 | 9098 | 9483 | 9869 | 0254 | 0640 | | | | |
| 18 | 18 | 4761 | 77 | 18 | 6204 | 6589 | 6974 | 7359 | 7744 | 8129 | 8514 | 8899 | 9285 | 9670 | 0055 | 0441 | 0826 | | | | |
| 19 | 19 | 4577 | 83 | 19 | 6392 | 6776 | 7161 | 7546 | 7931 | 8316 | 8701 | 9086 | 9472 | 9857 | 0242 | 0628 | 1013 | | | | |
| 20 | 20 | | | 20 | | | | | | | | | | | | | | | | | |
| 21 | 21 | 177 | | 21 | | | | | | | | | | | | | | | | | |
| 22 | 22 | | | 22 | | | | | | | | | | | | | | | | | |
| 23 | 23 | | | 23 | | | | | | | | | | | | | | | | | |
| 24 | 24 | | | 24 | | | | | | | | | | | | | | | | | |
| 25 | 25 | 177 | | 25 | | | | | | | | | | | | | | | | | |
| 26 | 26 | | | 26 | | | | | | | | | | | | | | | | | |
| 27 | 27 | | | 27 | | | | | | | | | | | | | | | | | |
| 28 | 28 | | | 28 | | | | | | | | | | | | | | | | | |
| 29 | 29 | 1625 | 185 | 29 | 9405 | 9788 | 0172 | 0555 | 0938 | 1322 | 1706 | 2089 | 2473 | 2857 | 3240 | 3624 | 4008 | 4392 | 4776 | 5160 | 5543 |
| 30 | 30 | 177 | 192 | 30 | 123 (124) | | | | | | | | | | | | | | | | |
| 31 | 31 | 1254 | 198 | 31 | 9783 | 0166 | 0549 | 0932 | 1316 | 1699 | 2082 | 2466 | 2849 | 3233 | 3616 | 4000 | 4384 | 4768 | 5152 | 5535 | 5920 |
| 32 | 32 | | | 32 | | | | | | | | | | | | | | | | | |
| 33 | 33 | 0884 | 211 | 33 | 124 | 0161 | 0544 | 0927 | 1310 | 1693 | 2076 | 2459 | 2842 | 3226 | 3609 | 3993 | 4376 | 4760 | 5143 | 5527 | 5911 | 6295 |
| 34 | 34 | | 217 | 34 | | | | | | | | | | | | | | | | | |
| 35 | 35 | 177 | 223 | 35 | 124 | | | | | | | | | | | | | | | | |
| 36 | 36 | | | 36 | | | | | | | | | | | | | | | | | |
| 37 | 37 | | 236 | 37 | | | | | | | | | | | | | | | | | |
| 38 | 38 | 9957 | 243 | 38 | | 1107 | 1490 | 1872 | 2255 | 2637 | 3020 | 3403 | 3785 | 4168 | 4551 | 4934 | 5317 | 5700 | 6084 | 6467 | 6850 | 7233 |
| 39 | 39 | 9771 | 249 | 39 | | 1297 | 1679 | 2062 | 2444 | 2826 | 3209 | 3592 | 3974 | 4357 | 4740 | 5123 | 5506 | 5889 | 6272 | 6655 | 7038 |
| 40 | 40 | 9586 | 255 | 40 | 124 | | | | | | | | | | | | | | | | |
| 41 | 41 | 9400 | 262 | 41 | | 1676 | 2058 | 2440 | 2822 | 3205 | 3587 | 3970 | 4352 | 4735 | 5117 | 5500 | 5883 | 6265 | 6648 | 7031 | |
| 42 | 42 | 9214 | 268 | 42 | | 1866 | 2248 | 2630 | 3012 | 3394 | 3776 | 4159 | 4541 | 4923 | 5306 | 5689 | 6071 | 6454 | 6837 | | |
| 43 | 43 | 9028 | 275 | 43 | | 2055 | 2437 | 2819 | 3201 | 3583 | 3966 | 4348 | 4730 | 5113 | 5495 | 5877 | 6260 | 6642 | 7025 | 7407 | |
| 44 | 44 | 8842 | 281 | 44 | | 2245 | 2627 | 3009 | 3391 | 3773 | 4155 | 4537 | 4919 | 5302 | 5684 | 6066 | 6449 | 6831 | 7214 | 7596 | |
| 45 | 45 | 176 8656 | 288 | 45 | 124 | | | | | | | | | | | | | | | | |
| 46 | 46 | 8470 | 294 | 46 | | 2625 | 3007 | 3388 | 3770 | 4152 | 4534 | 4916 | 5298 | 5680 | 6062 | 6444 | | | | | |
| 47 | 47 | 8284 | 300 | 47 | | 2815 | 3196 | 3578 | 3960 | 4341 | 4723 | 5105 | 5487 | 5869 | 6251 | 6633 | | | | | |
| 48 | 48 | 8097 | 307 | 48 | | 3005 | 3386 | 3768 | 4149 | 4531 | 4913 | 5294 | 5676 | 6058 | 6440 | 6822 | | | | | |
| 49 | 49 | 7911 | 313 | 49 | | 3195 | 3576 | 3958 | 4339 | 4721 | 5102 | 5484 | 5866 | 6247 | 6629 | 7011 | | | | | |
| 50 | 50 | 170 7725 | 320 | 50 | 124 | | | | | | | | | | | | | | | | |
| 51 | 51 | | | 51 | | | | | | | | | | | | | | | | | |
| 52 | 52 | | | 52 | | | | | | | | | | | | | | | | | |
| 53 | 53 | | | 53 | | | | | | | | | | | | | | | | | |
| 54 | 54 | | | 54 | | | | | | | | | | | | | | | | | |
| 55 | 55 | 177 | | 55 | | | | | | | | | | | | | | | | | |
| 56 | 56 | | | 56 | | | | | | | | | | | | | | | | | |
| 57 | 57 | | | 57 | | | | | | | | | | | | | | | | | |
| 58 | 58 | | | 58 | | | | | | | | | | | | | | | | | |
| 59 | 59 | | | 59 | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Parts for Seconds of Auxil. Argum.

| S.A.A. & A. D. 40′ | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 124 0526 | 0913 | 1300 | 1688 | 2075 | 2462 | 2850 | 3237 | 3625 | 4012 | 4400 | 4788 | 5175 | 5563 | 5951 | 6338 | 6727 |
| 1 | 0712 | 1099 | 1486 | 1873 | 2260 | 2647 | 3034 | 3422 | 3809 | 4197 | 4584 | 4972 | 5360 | 5747 | 6135 | 6523 | 6911 |
| 2 | 0897 | 1284 | 1671 | 2058 | 2445 | 2832 | 3219 | 3607 | 3994 | 4381 | 4769 | 5156 | 5544 | 5932 | 6320 | 6707 | 7095 |
| 3 | 1083 | 1469 | 1856 | 2243 | 2630 | 3017 | 3404 | 3792 | 4179 | 4566 | 4953 | 5341 | 5728 | 6116 | 6504 | 6891 | 7279 |
| 4 | 1268 | 1655 | 2042 | 2428 | 2815 | 3202 | 3589 | 3977 | 4364 | 4751 | 5138 | 5525 | 5913 | 6301 | 6689 | 7076 | 7463 |
| 5 | 124 1454 | 1840 | 2227 | 2614 | 3001 | 3388 | 3775 | 4162 | 4549 | 4936 | 5323 | 5710 | 6097 | 6485 | 6873 | 7260 | 7647 |
| 6 | 1640 | 2026 | 2413 | 2799 | 3186 | 3573 | 3960 | 4347 | 4734 | 5121 | 5508 | 5895 | 6282 | 6669 | 7057 | 7444 | 7832 |
| 7 | 1825 | 2212 | 2598 | 2985 | 3371 | 3758 | 4145 | 4532 | 4919 | 5306 | 5693 | 6080 | 6467 | 6854 | 7241 | 7628 | 8016 |
| 8 | 2011 | 2397 | 2784 | 3170 | 3557 | 3943 | 4330 | 4717 | 5104 | 5491 | 5877 | 6264 | 6651 | 7039 | 7426 | 7813 | 8200 |
| 9 | 2197 | 2583 | 2970 | 3356 | 3742 | 4129 | 4515 | 4902 | 5289 | 5676 | 6062 | 6449 | 6836 | 7223 | 7610 | 7997 | 8385 |
| 10 | 124 2383 | 2769 | 3155 | 3542 | 3928 | 4314 | 4701 | 5087 | 5474 | 5861 | 6247 | 6634 | 7021 | 7408 | 7795 | 8182 | 8569 |
| 11 | 2569 | 2955 | 3341 | 3727 | 4114 | 4500 | 4886 | 5273 | 5659 | 6046 | 6433 | 6819 | 7206 | 7593 | 7980 | 8367 | 8754 |
| 12 | 2755 | 3141 | 3527 | 3913 | 4299 | 4686 | 5072 | 5458 | 5845 | 6231 | 6618 | 7004 | 7391 | 7778 | 8164 | 8551 | 8938 |
| 13 | 2941 | 3327 | 3713 | 4099 | 4485 | 4871 | 5258 | 5644 | 6030 | 6417 | 6803 | 7189 | 7576 | 7963 | 8349 | 8736 | 9123 |
| 14 | 3128 | 3513 | 3899 | 4285 | 4671 | 5057 | 5443 | 5829 | 6216 | 6602 | 6988 | 7375 | 7761 | 8148 | 8534 | 8921 | 9308 |
| 15 | 124 3314 | 3700 | 4085 | 4471 | 4857 | 5243 | 5629 | 6015 | 6401 | 6787 | 7174 | 7560 | 7946 | 8333 | 8719 | 9106 | 9492 |
| 16 | 3500 | 3886 | 4272 | 4657 | 5043 | 5429 | 5815 | 6201 | 6587 | 6973 | 7359 | 7745 | 8131 | 8515 | 8904 | 9291 | 9677 |
| 17 | 3687 | 4072 | 4458 | 4843 | 5229 | 5615 | 6001 | 6387 | 6772 | 7158 | 7544 | 7931 | 8317 | 8703 | 9089 | 9476 | 9862 |
| 18 | 124 (125) 3873 | 4259 | 4644 | 5030 | 5415 | 5801 | 6187 | 6572 | 6958 | 7344 | 7730 | 8116 | 8502 | 8888 | 9274 | 9661 | 0047 |
| 19 | 4060 | 4445 | 4831 | 5216 | 5601 | 5987 | 6373 | 6758 | 7144 | 7530 | 7916 | 8302 | 8687 | 9074 | 9460 | 9846 | 0232 |
| 20 | 124 (125) 4247 | 4632 | 5017 | 5402 | 5788 | 6173 | 6559 | 6944 | 7330 | 7715 | 8101 | 8487 | 8873 | 9259 | 9645 | 0031 | 0417 |
| 21 | 4433 | 4818 | 5203 | 5588 | 5974 | 6359 | 6745 | 7130 | 7516 | 7901 | 8287 | 8673 | 9059 | 9444 | 9830 | 0216 | 0602 |
| 22 | 4620 | 5005 | 5390 | 5775 | 6160 | 6546 | 6931 | 7316 | 7702 | 8087 | 8473 | 8858 | 9244 | 9630 | 0016 | 0402 | 0788 |
| 23 | 4807 | 5192 | 5577 | 5962 | 6347 | 6732 | 7117 | 7502 | 7888 | 8273 | 8659 | 9044 | 9430 | 9816 | 0201 | 0587 | 0973 |
| 24 | 4994 | 5378 | 5763 | 6148 | 6533 | 6918 | 7303 | 7689 | 8074 | 8459 | 8845 | 9230 | 9616 | 0001 | 0387 | 0773 | 1158 |
| 25 | 124 (125) 5181 | 5565 | 5950 | 6335 | 6720 | 7105 | 7490 | 7875 | 8260 | 8645 | 9031 | 9416 | 9801 | 0187 | 0572 | 0958 | 1344 |
| 26 | 5368 | 5753 | 6137 | 6522 | 6906 | 7291 | 7676 | 8061 | 8446 | 8831 | 9217 | 9602 | 9987 | 0373 | 0758 | 1144 | 1529 |
| 27 | 5555 | 5939 | 6324 | 6708 | 7093 | 7478 | 7863 | 8248 | 8633 | 9018 | 9403 | 9788 | 0173 | 0558 | 0944 | 1329 | 1715 |
| 28 | 5742 | 6126 | 6511 | 6895 | 7280 | 7665 | 8049 | 8434 | 8819 | 9204 | 9588 | 9974 | 0359 | 0744 | 1130 | 1515 | 1901 |
| 29 | 5929 | 6313 | 6698 | 7082 | 7467 | 7851 | 8236 | 8621 | 9005 | 9390 | 9775 | 0160 | 0545 | 0930 | 1315 | 1701 | 2086 |
| 30 | 124 (125) 6116 | 6500 | 6885 | 7269 | 7654 | 8038 | 8423 | 8807 | 9192 | 9577 | 9962 | 0346 | 0731 | 1116 | 1501 | 1886 | 2272 |
| 31 | 6304 | 6688 | 7072 | 7456 | 7841 | 8225 | 8609 | 8994 | 9379 | 9763 | 0148 | 0533 | 0918 | 1302 | 1687 | 2072 | 2457 |
| 32 | 6491 | 6875 | 7259 | 7643 | 8028 | 8412 | 8796 | 9181 | 9565 | 9950 | 0334 | 0719 | 1104 | 1489 | 1873 | 2258 | 2643 |
| 33 | 6678 | 7063 | 7447 | 7831 | 8215 | 8599 | 8983 | 9367 | 9752 | 0136 | 0521 | 0905 | 1290 | 1674 | 2059 | 2444 | 2829 |
| 34 | 6866 | 7250 | 7634 | 8018 | 8402 | 8786 | 9170 | 9554 | 9939 | 0323 | 0707 | 1092 | 1476 | 1861 | 2246 | 2631 | 3015 |
| 35 | 124 (125) 7054 | 7437 | 7821 | 8205 | 8589 | 8973 | 9357 | 9741 | 0125 | 0510 | 0894 | 1278 | 1663 | 2047 | 2432 | 2817 | 3201 |
| 36 | 7241 | 7625 | 8009 | 8392 | 8776 | 9160 | 9544 | 9928 | 0312 | 0697 | 1081 | 1465 | 1849 | 2234 | 2618 | 3003 | 3387 |
| 37 | 7429 | 7812 | 8196 | 8580 | 8964 | 9347 | 9731 | 0115 | 0499 | 0883 | 1267 | 1652 | 2036 | 2420 | 2805 | 3189 | 3574 |
| 38 | 7617 | 8000 | 8384 | 8767 | 9151 | 9535 | 9918 | 0302 | 0686 | 1070 | 1454 | 1838 | 2223 | 2607 | 2991 | 3375 | 3760 |
| 39 | 7805 | 8188 | 8571 | 8955 | 9338 | 9722 | 0106 | 0490 | 0873 | 1257 | 1641 | 2025 | 2409 | 2793 | 3177 | 3562 | 3946 |
| 40 | 124 (125) 7992 | 8376 | 8760 | 9144 | 9528 | 9911 | 0295 | 0679 | 1063 | 1447 | 1831 | 2215 | 2599 | 2983 | 3367 | 3751 | 4135 |
| 41 | 8180 | 8564 | 8947 | 9330 | 9714 | 0097 | 0480 | 0864 | 1248 | 1631 | 2015 | 2399 | 2782 | 3166 | 3550 | 3934 | 4319 |
| 42 | 8368 | 8752 | 9135 | 9518 | 9901 | 0284 | 0668 | 1051 | 1435 | 1819 | 2202 | 2586 | 2970 | 3353 | 3737 | 4121 | 4504 |
| 43 | 8556 | 8940 | 9323 | 9706 | 0089 | 0472 | 0855 | 1239 | 1622 | 2006 | 2389 | 2773 | 3157 | 3541 | 3924 | 4308 | 4692 |
| 44 | 8744 | 9128 | 9511 | 9893 | 0277 | 0660 | 1043 | 1427 | 1810 | 2193 | 2577 | 2960 | 3344 | 3727 | 4111 | 4495 | 4876 |
| 45 | 124 (125) 8933 | 9316 | 9699 | 0081 | 0464 | 0848 | 1231 | 1614 | 1997 | 2381 | 2764 | 3147 | 3531 | 3914 | 4298 | 4681 | 5065 |
| 46 | 9121 | 9504 | 9887 | 0270 | 0653 | 1036 | 1419 | 1802 | 2185 | 2568 | 2951 | 3334 | 3717 | 4101 | 4484 | 4867 | 5251 |
| 47 | 9310 | 9693 | 0075 | 0458 | 0840 | 1223 | 1606 | 1989 | 2372 | 2755 | 3138 | 3522 | 3905 | 4288 | 4672 | 5055 | 5438 |
| 48 | 9499 | 9882 | 0263 | 0646 | 1028 | 1411 | 1794 | 2177 | 2560 | 2943 | 3326 | 3709 | 4092 | 4476 | 4859 | 5242 | 5626 |
| 49 | 9688 | 0070 | 0451 | 0834 | 1216 | 1599 | 1982 | 2365 | 2747 | 3130 | 3513 | 3896 | 4280 | 4663 | 5046 | 5429 | 5813 |
| 50 | 124 (125) 9875 | 0257 | 0640 | 1022 | 1405 | 1787 | 2170 | 2552 | 2935 | 3318 | 3701 | 4084 | 4467 | 4850 | 5233 | 5616 | 6000 |
| 51 | 125 0063 | 0446 | 0828 | 1210 | 1593 | 1975 | 2358 | 2740 | 3123 | 3506 | 3889 | 4272 | 4654 | 5037 | 5420 | 5803 | 6187 |
| 52 | 0252 | 0634 | 1017 | 1399 | 1781 | 2163 | 2546 | 2928 | 3311 | 3694 | 4076 | 4459 | 4842 | 5225 | 5608 | 5990 | 6374 |
| 53 | 0441 | 0823 | 1205 | 1587 | 1969 | 2352 | 2734 | 3117 | 3499 | 3882 | 4264 | 4647 | 5030 | 5413 | 5796 | 6178 | 6561 |
| 54 | 0630 | 1012 | 1394 | 1776 | 2158 | 2540 | 2922 | 3305 | 3687 | 4069 | 4452 | 4834 | 5217 | 5600 | 5982 | 6365 | 6748 |
| 55 | 125 0819 | 1200 | 1582 | 1964 | 2346 | 2728 | 3111 | 3493 | 3875 | 4257 | 4640 | 5022 | 5405 | 5787 | 6170 | 6552 | 6935 |
| 56 | 1008 | 1389 | 1771 | 2153 | 2535 | 2917 | 3299 | 3681 | 4063 | 4445 | 4828 | 5211 | 5593 | 5975 | 6358 | 6740 | 7123 |
| 57 | 1197 | 1578 | 1960 | 2342 | 2723 | 3105 | 3487 | 3869 | 4251 | 4633 | 5016 | 5398 | 5780 | 6163 | 6545 | 6928 | 7310 |
| 58 | 1386 | 1767 | 2149 | 2531 | 2911 | 3294 | 3676 | 4058 | 4440 | 4822 | 5204 | 5586 | 5969 | 6351 | 6733 | 7115 | 7498 |
| 59 | 1575 | 1956 | 2338 | 2719 | 3101 | 3483 | 3864 | 4246 | 4628 | 5010 | 5392 | 5774 | 6156 | 6538 | 6921 | 7303 | 7685 |

Sums for finding the Corrected Distances.

| Parts for Seconds | 40′ | Sums |
|---|---|---|
| ′ | | |
| 0 | 0 | 423 3050 |
| 1 | 1 | 4143 |
| 2 | 2 | 4537 |
| 3 | 3 | 4517 |
| 4 | 4 | 4724 |
| 5 | 5 | 423 4911 |
| 6 | 6 | 5079 |
| 7 | 7 | 5266 |
| 8 | 8 | 5453 |
| 9 | 9 | 5641 |
| 10 | 10 | 423 5829 |
| 11 | 11 | 6016 |
| 12 | 12 | 6204 |
| 13 | 13 | 6392 |
| 14 | 14 | 6580 |
| 15 | 15 | 423 6768 |
| 16 | 16 | 6956 |
| 17 | 17 | 7144 |
| 18 | 18 | 7332 |
| 19 | 19 | 7520 |
| 20 | 20 | 423 7708 |
| 21 | 21 | 7896 |
| 22 | 22 | 8085 |
| 23 | 23 | 8273 |
| 24 | 24 | 8462 |
| 25 | 25 | 423 8650 |
| 26 | 26 | 8839 |
| 27 | 27 | 9028 |
| 28 | 28 | 9216 |
| 29 | 29 | 9405 |
| 30 | 30 | 423 9594 |
| 31 | 31 | 9783 |
| 32 | 32 | 9972 |
| 33 | 33 | 424 0161 |
| 34 | 34 | 0350 |
| 35 | 35 | 424 0539 |
| 36 | 36 | 0729 |
| 37 | 37 | 0918 |
| 38 | 38 | 1107 |
| 39 | 39 | 1297 |
| 40 | 40 | 424 1486 |
| 41 | 41 | 1676 |
| 42 | 42 | 1865 |
| 43 | 43 | 2055 |
| 44 | 44 | 2245 |
| 45 | 45 | 424 2435 |
| 46 | 46 | 2625 |
| 47 | 47 | 2815 |
| 48 | 48 | 3005 |
| 49 | 49 | 3195 |
| 50 | 50 | 424 3385 |
| 51 | 51 | 3575 |
| 52 | 52 | 3766 |
| 53 | 53 | 3956 |
| 54 | 54 | 4147 |
| 55 | 55 | 424 4337 |
| 56 | 56 | 4528 |
| 57 | 57 | 4718 |
| 58 | 58 | 4909 |
| 59 | 59 | 5100 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances - - - - - -
} and Auxiliary Arguments.

| Deg. in Sums of Alt. | Mer. Alt. 41° | Numbers | Parts for Sums of Alt. | Mer. Alt. & A. D. 41 | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 1 | 0 | 176 5857 | 0 | 0 | 124 (125)5290 | 5671 | 6051 | 6431 | 6812 | 7192 | 7573 | 7954 | 8334 | 8715 | 9096 | 9477 | 9858 | 0239 | 0620 | 1001 | 1382 |
| 1 | 1 | 5 | 0 | 1 | 5481 | 5861 | 6242 | 6622 | 7002 | 7383 | 7763 | 8144 | 8524 | 8905 | 9286 | 9667 | 0048 | 0429 | 0810 | 1191 | 1572 |
| 1 | 2 | 5453 | 13 | 2 | 5672 | 6052 | 6432 | 6813 | 7193 | 7573 | 7954 | 8334 | 8715 | 9095 | 9476 | 9857 | 0237 | 0618 | 0999 | 1380 | 1761 |
| 1 | 3 | 5296 | 10 | 3 | 5863 | 6243 | 6623 | 7003 | 7384 | 7764 | 8144 | 8524 | 8905 | 9285 | 9666 | 0047 | 0427 | 0808 | 1189 | 1570 | 1951 |
| 1 | 4 | 5140 | 25 | 4 | 6054 | 6434 | 6814 | 7194 | 7574 | 7954 | 8335 | 8715 | 9095 | 9476 | 9856 | 0237 | 0617 | 0998 | 1379 | 1759 | 2140 |
| 1 | 5 | 176 4981 | 31 | 5 | 124 (125)6245 | 6625 | 7005 | 7385 | 7765 | 8145 | 8525 | 8905 | 9286 | 9666 | 0046 | 0427 | 0807 | 1188 | 1568 | 1949 | 2330 |
| 1 | 6 | 4824 | 38 | 6 | 6437 | 6816 | 7196 | 7576 | 7956 | 8336 | 8716 | 9096 | 9476 | 9856 | 0236 | 0617 | 0997 | 1378 | 1758 | 2139 | 2519 |
| 1 | 7 | 4667 | 44 | 7 | 6628 | 7007 | 7387 | 7767 | 8147 | 8527 | 8906 | 9286 | 9666 | 0047 | 0427 | 0807 | 1187 | 1568 | 1948 | 2329 | 2709 |
| 1 | 8 | 4510 | 50 | 8 | 6819 | 7199 | 7578 | 7958 | 8338 | 8717 | 9097 | 9477 | 9857 | 0237 | 0617 | 0997 | 1377 | 1758 | 2138 | 2518 | 2899 |
| 1 | 9 | 4353 | 57 | 9 | 7010 | 7390 | 7769 | 8149 | 8529 | 8908 | 9288 | 9668 | 0047 | 0427 | 0808 | 1188 | 1568 | 1948 | 2328 | 2708 | 3089 |
| 1 | 10 | 176 4196 | 63 | 10 | 124 (125)7201 | 7581 | 7961 | 8340 | 8720 | 9099 | 9479 | 9859 | 0238 | 0618 | 0998 | 1378 | 1758 | 2138 | 2518 | 2898 | 3279 |
| 1 | 11 | 4039 | 69 | 11 | 7393 | 7773 | 8152 | 8531 | 8911 | 9290 | 9670 | 0049 | 0429 | 0809 | 1189 | 1568 | 1948 | 2328 | 2708 | 3088 | 3469 |
| 1 | 12 | 3882 | 76 | 12 | 7585 | 7964 | 8343 | 8723 | 9102 | 9481 | 9861 | 0240 | 0620 | 0999 | 1379 | 1759 | 2139 | 2519 | 2899 | 3278 | 3659 |
| 1 | 13 | 3725 | 82 | 13 | 7777 | 8156 | 8535 | 8914 | 9293 | 9672 | 0052 | 0431 | 0811 | 1190 | 1570 | 1949 | 2329 | 2709 | 3089 | 3469 | 3849 |
| 1 | 14 | 3568 | 88 | 14 | 7968 | 8347 | 8726 | 9105 | 9484 | 9864 | 0243 | 0622 | 1002 | 1381 | 1760 | 2140 | 2520 | 2899 | 3279 | 3659 | 4039 |
| 1 | 15 | 179 3411 | 94 | 15 | 124 (125)8160 | 8539 | 8918 | 9297 | 9676 | 0055 | 0434 | 0813 | 1193 | 1572 | 1951 | 2331 | 2710 | 3090 | 3470 | 3849 | 4229 |
| 1 | 16 | 3254 | 101 | 16 | 8352 | 8731 | 9109 | 9488 | 9867 | 0246 | 0625 | 1004 | 1384 | 1763 | 2142 | 2522 | 2901 | 3281 | 3660 | 4040 | 4419 |
| 1 | 17 | 3097 | 107 | 17 | 8544 | 8922 | 9301 | 9680 | 0059 | 0438 | 0817 | 1196 | 1575 | 1954 | 2333 | 2712 | 3092 | 3471 | 3851 | 4230 | 4610 |
| 1 | 18 | 2940 | 113 | 18 | 8736 | 9114 | 9493 | 9872 | 0250 | 0629 | 1008 | 1387 | 1766 | 2145 | 2524 | 2903 | 3282 | 3662 | 4041 | 4421 | 4800 |
| 1 | 19 | 2783 | 120 | 19 | 8928 | 9306 | 9685 | 0063 | 0442 | 0821 | 1199 | 1578 | 1957 | 2336 | 2715 | 3094 | 3473 | 3853 | 4232 | 4611 | 4991 |
| 1 | 20 | 176 2626 | 126 | 20 | 124 (125)9120 | 9498 | 9877 | 0255 | 0634 | 1012 | 1391 | 1770 | 2149 | 2527 | 2906 | 3285 | 3664 | 4043 | 4423 | 4802 | 5181 |
| 1 | 21 | 2469 | 132 | 21 | 9312 | 9690 | 0068 | 0447 | 0825 | 1204 | 1583 | 1961 | 2340 | 2719 | 3097 | 3476 | 3855 | 4234 | 4613 | 4992 | 5372 |
| 1 | 22 | 2312 | 139 | 22 | 9504 | 9882 | 0261 | 0639 | 1017 | 1396 | 1774 | 2153 | 2531 | 2910 | 3289 | 3667 | 4046 | 4425 | 4804 | 5183 | 5562 |
| 1 | 23 | 2155 | 145 | 23 | 9697 | 0075 | 0453 | 0831 | 1209 | 1587 | 1966 | 2344 | 2723 | 3101 | 3480 | 3859 | 4237 | 4616 | 4995 | 5374 | 5753 |
| 1 | 24 | 1998 | 151 | 24 | 9889 | 0267 | 0645 | 1023 | 1401 | 1779 | 2158 | 2536 | 2914 | 3293 | 3671 | 4050 | 4429 | 4807 | 5186 | 5565 | 5944 |
| 1 | 25 | 176 1841 | 157 | 25 | 125 | 0081 | 0459 | 0837 | 1215 | 1593 | 1971 | 2349 | 2728 | 3106 | 3484 | 3863 | 4241 | 4620 | 4998 | 5377 | 5756 | 6135 |
| 1 | 26 | 1684 | 164 | 26 | | 0274 | 0651 | 1029 | 1407 | 1785 | 2163 | 2541 | 2919 | 3298 | 3676 | 4054 | 4433 | 4811 | 5190 | 5568 | 5947 | 6326 |
| 1 | 27 | 1527 | 170 | 27 | | 0466 | 0844 | 1222 | 1599 | 1977 | 2355 | 2733 | 3111 | 3489 | 3868 | 4246 | 4624 | 5003 | 5381 | 5759 | 6138 | 6517 |
| 1 | 28 | 1370 | 176 | 28 | | 0658 | 1036 | 1414 | 1792 | 2170 | 2547 | 2925 | 3303 | 3681 | 4059 | 4437 | 4816 | 5194 | 5572 | 5951 | 6329 | 6708 |
| 1 | 29 | 1213 | 182 | 29 | | 0852 | 1229 | 1607 | 1984 | 2362 | 2740 | 3117 | 3495 | 3873 | 4251 | 4629 | 5007 | 5385 | 5764 | 6142 | 6520 | 6899 |
| 1 | 30 | 176 1056 | 188 | 30 | 125 | 1044 | 1422 | 1799 | 2177 | 2554 | 2932 | 3309 | 3687 | 4065 | 4443 | 4821 | 5199 | 5577 | 5955 | 6333 | 6712 | 7090 |
| 1 | 31 | 0899 | 195 | 31 | | 1237 | 1614 | 1992 | 2369 | 2747 | 3124 | 3502 | 3879 | 4257 | 4635 | 5013 | 5391 | 5769 | 6146 | 6525 | 6903 | 7281 |
| 1 | 32 | 0742 | 201 | 32 | | 1430 | 1807 | 2184 | 2562 | 2939 | 3316 | 3694 | 4071 | 4449 | 4827 | 5205 | 5582 | 5960 | 6338 | 6716 | 7094 | 7472 |
| 1 | 33 | 0585 | 207 | 33 | | 1623 | 2000 | 2377 | 2754 | 3132 | 3509 | 3886 | 4264 | 4641 | 5019 | 5396 | 5774 | 6152 | 6530 | 6908 | 7286 | 7664 |
| 1 | 34 | 0428 | 214 | 34 | | 1816 | 2193 | 2570 | 2947 | 3324 | 3701 | 4079 | 4456 | 4833 | 5211 | 5588 | 5966 | 6344 | 6722 | 7099 | 7477 | 7855 |
| 1 | 35 | 176 0271 | 220 | 35 | 125 | 2009 | 2386 | 2763 | 3140 | 3517 | 3894 | 4271 | 4648 | 5026 | 5403 | 5781 | 6158 | 6536 | 6913 | 7291 | 7669 | 8047 |
| 1 | 36 | 0114 | 226 | 36 | | 2202 | 2579 | 2956 | 3332 | 3709 | 4086 | 4464 | 4841 | 5218 | 5595 | 5973 | 6350 | 6728 | 7105 | 7483 | 7860 | 8238 |
| 1 | 37 | 175 9957 | 233 | 37 | | 2395 | 2772 | 3149 | 3525 | 3902 | 4279 | 4656 | 5033 | 5410 | 5788 | 6165 | 6542 | 6920 | 7297 | 7675 | 8052 | 8430 |
| 1 | 38 | 9800 | 239 | 38 | | 2588 | 2965 | 3342 | 3718 | 4095 | 4472 | 4849 | 5225 | 5602 | 5980 | 6357 | 6734 | 7112 | 7489 | 7866 | 8244 | 8621 |
| 1 | 39 | 9643 | 245 | 39 | | 2782 | 3158 | 3535 | 3911 | 4288 | 4665 | 5042 | 5418 | 5795 | 6172 | 6549 | 6927 | 7304 | 7681 | 8058 | 8436 | 8813 |
| 1 | 40 | 175 9486 | 252 | 40 | 125 | 2975 | 3351 | 3728 | 4104 | 4481 | 4858 | 5234 | 5611 | 5988 | 6365 | 6741 | 7118 | 7496 | 7873 | 8250 | 8628 | 9005 |
| 1 | 41 | 9329 | 258 | 41 | | 3168 | 3545 | 3921 | 4297 | 4674 | 5050 | 5427 | 5804 | 6181 | 6557 | 6934 | 7311 | 7688 | 8065 | 8442 | 8820 | 9197 |
| 1 | 42 | 9172 | 264 | 42 | | 3362 | 3738 | 4114 | 4491 | 4867 | 5243 | 5620 | 5997 | 6373 | 6750 | 7127 | 7504 | 7880 | 8257 | 8634 | 9012 | 9389 |
| 1 | 43 | 9015 | 271 | 43 | | 3555 | 3931 | 4308 | 4684 | 5060 | 5437 | 5813 | 6189 | 6566 | 6943 | 7319 | 7696 | 8073 | 8450 | 8827 | 9204 | 9581 |
| 1 | 44 | 8858 | 277 | 44 | | 3749 | 4125 | 4501 | 4877 | 5253 | 5630 | 6006 | 6382 | 6759 | 7135 | 7512 | 7889 | 8265 | 8642 | 9019 | 9396 | 9773 |
| 1 | 45 | 175 8701 | 283 | 45 | 125 | 3943 | 4319 | 4695 | 5071 | 5447 | 5823 | 6199 | 6575 | 6952 | 7328 | 7705 | 8081 | 8458 | 8834 | 9211 | 9588 | 9965 |
| 1 | 46 | 8544 | 289 | 46 | 125 (126) | 4136 | 4513 | 4889 | 5266 | 5640 | 6016 | 6392 | 6768 | 7145 | 7521 | 7897 | 8274 | 8650 | 9027 | 9404 | 9780 | 0157 |
| 1 | 47 | 8387 | 296 | 47 | | 4331 | 4707 | 5083 | 5458 | 5833 | 6209 | 6585 | 6962 | 7338 | 7714 | 8090 | 8467 | 8843 | 9219 | 9596 | 9973 | 0349 |
| 1 | 48 | 8230 | 302 | 48 | | 4524 | 4900 | 5276 | 5651 | 6027 | 6403 | 6778 | 7155 | 7531 | 7907 | 8284 | 8660 | 9036 | 9412 | 9788 | 0165 | 0542 |
| 1 | 49 | 8073 | 308 | 49 | | 4718 | 5093 | 5469 | 5845 | 6220 | 6596 | 6972 | 7347 | 7724 | 8100 | 8477 | 8852 | 9228 | 9605 | 9981 | 0357 | 0734 |
| 1 | 50 | 175 7916 | 315 | 50 | 125 (126) | 4912 | 5287 | 5663 | 6038 | 6414 | 6790 | 7165 | 7541 | 7917 | 8293 | 8669 | 9045 | 9421 | 9797 | 0174 | 0550 | 0926 |
| 1 | 51 | 7759 | 321 | 51 | | 5106 | 5481 | 5857 | 6232 | 6608 | 6983 | 7359 | 7735 | 8110 | 8486 | 8862 | 9238 | 9614 | 9990 | 0366 | 0743 | 1119 |
| 1 | 52 | 7602 | 327 | 52 | | 5300 | 5675 | 6051 | 6426 | 6801 | 7177 | 7552 | 7928 | 8304 | 8679 | 9055 | 9431 | 9807 | 0183 | 0559 | 0935 | 1311 |
| 1 | 53 | 7445 | 333 | 53 | | 5494 | 5869 | 6245 | 6620 | 6995 | 7370 | 7746 | 8121 | 8497 | 8873 | 9248 | 9624 | 0000 | 0376 | 0752 | 1128 | 1504 |
| 1 | 54 | 7288 | 340 | 54 | | 5688 | 6063 | 6439 | 6814 | 7189 | 7564 | 7940 | 8315 | 8690 | 9066 | 9442 | 9817 | 0193 | 0569 | 0945 | 1321 | 1697 |
| 1 | 55 | 175 7131 | 346 | 55 | 125 (126) | 5883 | 6258 | 6633 | 7008 | 7383 | 7758 | 8133 | 8509 | 8884 | 9259 | 9635 | 0011 | 0386 | 0762 | 1138 | 1513 | 1889 |
| 1 | 56 | 6974 | 352 | 56 | | 6077 | 6452 | 6827 | 7202 | 7577 | 7952 | 8327 | 8702 | 9078 | 9453 | 9828 | 0204 | 0579 | 0955 | 1331 | 1706 | 2082 |
| 1 | 57 | 6817 | 359 | 57 | | 6271 | 6646 | 7021 | 7396 | 7771 | 8146 | 8521 | 8896 | 9271 | 9646 | 0022 | 0397 | 0773 | 1148 | 1524 | 1899 | 2275 |
| 1 | 58 | 6660 | 365 | 58 | | 6466 | 6841 | 7215 | 7590 | 7965 | 8340 | 8715 | 9090 | 9465 | 9840 | 0215 | 0591 | 0966 | 1341 | 1717 | 2092 | 2468 |
| 1 | 59 | 6503 | 371 | 59 | | 6661 | 7035 | 7410 | 7784 | 8159 | 8534 | 8909 | 9283 | 9658 | 0033 | 0408 | 0784 | 1159 | 1534 | 1911 | 2285 | 2661 |

# C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| Parts for Seconds of Auxil. Argum. additive | A. & A. D. 41° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 125 1764 | 2145 | 2527 | 2908 | 3290 | 3671 | 4053 | 4435 | 4816 | 5198 | 5580 | 5962 | 6344 | 6726 | 7109 | 7491 | 7873 |
| 6 | 1 | 1953 | 2334 | 2716 | 3097 | 3479 | 3860 | 4242 | 4623 | 5005 | 5387 | 5769 | 6150 | 6533 | 6914 | 7296 | 7679 | 8061 |
| 13 | 2 | 2142 | 2523 | 2905 | 3286 | 3667 | 4049 | 4430 | 4812 | 5193 | 5575 | 5957 | 6339 | 6721 | 7102 | 7484 | 7866 | 8249 |
| 19 | 3 | 2332 | 2713 | 3094 | 3475 | 3856 | 4238 | 4619 | 5000 | 5382 | 5764 | 6145 | 6527 | 6909 | 7291 | 7672 | 8054 | 8436 |
| 25 | 4 | 2521 | 2902 | 3284 | 3665 | 4046 | 4427 | 4808 | 5189 | 5571 | 5952 | 6334 | 6715 | 7097 | 7479 | 7861 | 8242 | 8624 |
| 32 | 5 | 125 2711 | 3091 | 3473 | 3853 | 4234 | 4616 | 4997 | 5378 | 5759 | 6141 | 6522 | 6904 | 7285 | 7667 | 8049 | 8430 | 8812 |
| 38 | 6 | 2900 | 3281 | 3661 | 4042 | 4423 | 4803 | 5186 | 5567 | 5948 | 6329 | 6711 | 7092 | 7474 | 7855 | 8237 | 8618 | 9000 |
| 44 | 7 | 3090 | 3470 | 3851 | 4232 | 4613 | 4994 | 5375 | 5756 | 6137 | 6518 | 6899 | 7281 | 7662 | 8044 | 8425 | 8807 | 9188 |
| 51 | 8 | 3279 | 3660 | 4041 | 4421 | 4802 | 5183 | 5564 | 5945 | 6326 | 6707 | 7088 | 7469 | 7851 | 8232 | 8613 | 8995 | 9376 |
| 57 | 9 | 3469 | 3850 | 4231 | 4611 | 4992 | 5372 | 5753 | 6134 | 6515 | 6896 | 7277 | 7658 | 8039 | 8422 | 8802 | 9183 | 9565 |
| 63 | 10 | 125 3659 | 4039 | 4420 | 4800 | 5181 | 5561 | 5942 | 6323 | 6704 | 7085 | 7466 | 7847 | 8228 | 8609 | 8990 | 9372 | 9753 |
| 70 | 11 | 3849 | 4229 | 4609 | 4990 | 5370 | 5751 | 6131 | 6512 | 6893 | 7274 | 7655 | 8035 | 8417 | 8798 | 9179 | 9560 | 9941 |
| 76 | 12 | 125 (126) 4039 | 4419 | 4799 | 5180 | 5560 | 5940 | 6321 | 6701 | 7082 | 7463 | 7844 | 8224 | 8605 | 8986 | 9367 | 9748 | 0130 |
| 82 | 13 | 4229 | 4609 | 4989 | 5369 | 5750 | 6130 | 6510 | 6891 | 7271 | 7652 | 8033 | 8413 | 8794 | 9175 | 9556 | 9937 | 0318 |
| 88 | 14 | 4419 | 4799 | 5179 | 5559 | 5939 | 6319 | 6700 | 7081 | 7461 | 7841 | 8222 | 8602 | 8983 | 9364 | 9745 | 0125 | 0506 |
| 95 | 15 | 125 (126) 4609 | 4989 | 5369 | 5749 | 6129 | 6509 | 6889 | 7269 | 7650 | 8030 | 8411 | 8791 | 9172 | 9553 | 9933 | 0314 | 0695 |
| 101 | 16 | 4799 | 5179 | 5559 | 5939 | 6319 | 6699 | 7079 | 7459 | 7839 | 8220 | 8600 | 8980 | 9361 | 9742 | 0122 | 0503 | 0884 |
| 107 | 17 | 4989 | 5369 | 5749 | 6129 | 6509 | 6889 | 7269 | 7649 | 8029 | 8409 | 8789 | 9170 | 9550 | 9931 | 0311 | 0692 | 1072 |
| 114 | 18 | 5178 | 5559 | 5939 | 6319 | 6699 | 7078 | 7458 | 7838 | 8218 | 8598 | 8978 | 9358 | 9739 | 0120 | 0500 | 0881 | 1261 |
| 120 | 19 | 5368 | 5748 | 6129 | 6509 | 6888 | 7268 | 7648 | 8028 | 8408 | 8787 | 9167 | 9547 | 9927 | 0307 | 0687 | 1067 | 1450 |
| 126 | 20 | 125 (126) 5561 | 5940 | 6319 | 6699 | 7079 | 7458 | 7838 | 8218 | 8598 | 8978 | 9358 | 9738 | 0118 | 0498 | 0878 | 1258 | 1639 |
| 133 | 21 | 5751 | 6130 | 6510 | 6888 | 7268 | 7648 | 8028 | 8408 | 8787 | 9167 | 9547 | 9927 | 0307 | 0687 | 1067 | 1447 | 1828 |
| 139 | 22 | 5942 | 6321 | 6700 | 7079 | 7459 | 7838 | 8218 | 8597 | 8977 | 9357 | 9737 | 0117 | 0496 | 0876 | 1256 | 1637 | 2017 |
| 145 | 23 | 6132 | 6511 | 6890 | 7269 | 7649 | 8029 | 8408 | 8787 | 9167 | 9547 | 9926 | 0306 | 0686 | 1066 | 1446 | 1826 | 2206 |
| 152 | 24 | 6323 | 6702 | 7081 | 7460 | 7839 | 8219 | 8598 | 8977 | 9357 | 9736 | 0116 | 0495 | 0875 | 1255 | 1635 | 2015 | 2395 |
| 158 | 25 | 125 (126) 6514 | 6893 | 7271 | 7651 | 8030 | 8409 | 8788 | 9168 | 9547 | 9926 | 0306 | 0685 | 1065 | 1445 | 1824 | 2204 | 2584 |
| 164 | 26 | 6704 | 7083 | 7462 | 7841 | 8220 | 8599 | 8978 | 9357 | 9737 | 0116 | 0496 | 0875 | 1255 | 1634 | 2014 | 2394 | 2773 |
| 171 | 27 | 6895 | 7274 | 7653 | 8032 | 8411 | 8791 | 9168 | 9548 | 9927 | 0306 | 0685 | 1065 | 1444 | 1824 | 2203 | 2583 | 2963 |
| 177 | 28 | 7086 | 7465 | 7844 | 8223 | 8601 | 8980 | 9358 | 9737 | 0117 | 0496 | 0876 | 1255 | 1634 | 2014 | 2393 | 2773 | 3152 |
| 183 | 29 | 7277 | 7656 | 8034 | 8413 | 8792 | 9171 | 9549 | 9928 | 0307 | 0686 | 1066 | 1445 | 1824 | 2203 | 2583 | 2962 | 3342 |
| 190 | 30 | 125 (126) 7468 | 7847 | 8225 | 8604 | 8982 | 9361 | 9740 | 0119 | 0497 | 0877 | 1256 | 1635 | 2014 | 2393 | 2772 | 3152 | 3531 |
| 196 | 31 | 7659 | 8038 | 8416 | 8795 | 9173 | 9552 | 9931 | 0310 | 0688 | 1067 | 1446 | 1825 | 2204 | 2583 | 2962 | 3341 | 3721 |
| 202 | 32 | 7851 | 8229 | 8607 | 8986 | 9364 | 9743 | 0121 | 0500 | 0878 | 1257 | 1636 | 2015 | 2394 | 2773 | 3152 | 3531 | 3911 |
| 209 | 33 | 8042 | 8420 | 8798 | 9176 | 9555 | 9933 | 0312 | 0690 | 1069 | 1448 | 1826 | 2205 | 2584 | 2963 | 3342 | 3721 | 4100 |
| 215 | 34 | 8233 | 8611 | 8989 | 9368 | 9746 | 0124 | 0502 | 0881 | 1259 | 1638 | 2017 | 2396 | 2774 | 3153 | 3532 | 3911 | 4290 |
| 221 | 35 | 125 (126) 8425 | 8802 | 9181 | 9559 | 9937 | 0315 | 0693 | 1072 | 1450 | 1828 | 2207 | 2586 | 2964 | 3343 | 3722 | 4101 | 4480 |
| 227 | 36 | 8616 | 8994 | 9372 | 9750 | 0128 | 0506 | 0884 | 1262 | 1641 | 2019 | 2397 | 2776 | 3155 | 3533 | 3912 | 4291 | 4669 |
| 234 | 37 | 8808 | 9185 | 9563 | 9941 | 0319 | 0697 | 1075 | 1453 | 1831 | 2210 | 2588 | 2966 | 3345 | 3723 | 4101 | 4480 | 4858 |
| 240 | 38 | 8999 | 9377 | 9754 | 0132 | 0510 | 0888 | 1266 | 1644 | 2022 | 2400 | 2778 | 3157 | 3535 | 3914 | 4292 | 4671 | 5049 |
| 246 | 39 | 9191 | 9568 | 9946 | 0324 | 0701 | 1079 | 1457 | 1835 | 2213 | 2591 | 2969 | 3347 | 3726 | 4104 | 4482 | 4861 | 5238 |
| 253 | 40 | 125 (126) 9382 | 9760 | 0137 | 0515 | 0893 | 1271 | 1648 | 2026 | 2404 | 2782 | 3160 | 3538 | 3916 | 4294 | 4673 | 5051 | 5428 |
| 259 | 41 | 9574 | 9952 | 0329 | 0707 | 1084 | 1462 | 1840 | 2217 | 2595 | 2973 | 3351 | 3729 | 4107 | 4485 | 4863 | 5241 | 5618 |
| 265 | 42 | 9766 | 0143 | 0521 | 0898 | 1275 | 1653 | 2031 | 2408 | 2786 | 3164 | 3542 | 3919 | 4297 | 4675 | 5054 | 5431 | 5808 |
| 272 | 43 | 9958 | 0335 | 0712 | 1090 | 1467 | 1844 | 2222 | 2599 | 2977 | 3355 | 3734 | 4111 | 4488 | 4866 | 5244 | 5622 | 5998 |
| 278 | 44 | 126 0150 | 0527 | 0904 | 1282 | 1658 | 2036 | 2413 | 2791 | 3169 | 3546 | 3923 | 4301 | 4679 | 5057 | 5435 | 5813 | 6191 |
| 284 | 45 | 126 0342 | 0719 | 1096 | 1473 | 1851 | 2227 | 2605 | 2982 | 3359 | 3737 | 4114 | 4492 | 4870 | 5248 | 5626 | 6003 | 6381 |
| 291 | 46 | 0534 | 0911 | 1288 | 1665 | 2042 | 2419 | 2797 | 3173 | 3551 | 3928 | 4306 | 4683 | 5061 | 5438 | 5816 | 6194 | 6571 |
| 297 | 47 | 0726 | 1103 | 1480 | 1857 | 2234 | 2611 | 2988 | 3365 | 3742 | 4119 | 4497 | 4874 | 5252 | 5629 | 6007 | 6384 | 6761 |
| 303 | 48 | 0918 | 1295 | 1672 | 2049 | 2425 | 2802 | 3179 | 3556 | 3933 | 4311 | 4688 | 5065 | 5443 | 5820 | 6198 | 6575 | 6951 |
| 310 | 49 | 1110 | 1487 | 1864 | 2241 | 2617 | 2994 | 3371 | 3748 | 4125 | 4502 | 4879 | 5256 | 5634 | 6011 | 6388 | 6765 | 7141 |
| 316 | 50 | 126 1303 | 1679 | 2056 | 2433 | 2810 | 3186 | 3563 | 3940 | 4317 | 4693 | 5071 | 5448 | 5825 | 6202 | 6579 | 6957 | 7334 |
| 322 | 51 | 1495 | 1871 | 2248 | 2625 | 3001 | 3378 | 3754 | 4131 | 4508 | 4885 | 5262 | 5639 | 6016 | 6393 | 6770 | 7148 | 7525 |
| 329 | 52 | 1688 | 2064 | 2440 | 2817 | 3193 | 3570 | 3946 | 4323 | 4700 | 5077 | 5453 | 5830 | 6207 | 6584 | 6961 | 7338 | 7714 |
| 335 | 53 | 1880 | 2256 | 2633 | 3009 | 3385 | 3762 | 4138 | 4515 | 4891 | 5268 | 5645 | 6022 | 6399 | 6776 | 7153 | 7530 | 7907 |
| 341 | 54 | 2073 | 2448 | 2825 | 3201 | 3577 | 3954 | 4330 | 4707 | 5083 | 5460 | 5836 | 6213 | 6590 | 6967 | 7344 | 7721 | 8098 |
| 347 | 55 | 126 2265 | 2641 | 3017 | 3393 | 3770 | 4146 | 4522 | 4899 | 5275 | 5652 | 6028 | 6405 | 6781 | 7158 | 7535 | 7911 | 8287 |
| 354 | 56 | 2458 | 2834 | 3210 | 3586 | 3962 | 4338 | 4714 | 5091 | 5467 | 5843 | 6220 | 6596 | 6973 | 7350 | 7727 | 8103 | 8480 |
| 360 | 57 | 2651 | 3027 | 3402 | 3778 | 4154 | 4530 | 4907 | 5283 | 5660 | 6036 | 6412 | 6788 | 7165 | 7541 | 7918 | 8294 | 8671 |
| 367 | 58 | 2844 | 3219 | 3595 | 3971 | 4347 | 4723 | 5099 | 5476 | 5851 | 6227 | 6603 | 6980 | 7356 | 7733 | 8110 | 8486 | 8862 |
| 373 | 59 | 3036 | 3412 | 3788 | 4163 | 4539 | 4915 | 5291 | 5667 | 6043 | 6419 | 6795 | 7171 | 7548 | 7924 | 8301 | 8677 | 9054 |

## Sums for finding the Corrected Distances.

| Parts for Sec. of C. D. addit. | C. D. 41° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 424 5297 |
| 3 | 1 | 5481 |
| 6 | 2 | 5674 |
| 10 | 3 | 5863 |
| 13 | 4 | 6054 |
| 16 | 5 | 424 6245 |
| 19 | 6 | 6437 |
| 22 | 7 | 6626 |
| 26 | 8 | 6819 |
| 29 | 9 | 7011 |
| 32 | 10 | 424 7202 |
| 36 | 11 | 7394 |
| 39 | 12 | 7585 |
| 42 | 13 | 7777 |
| 45 | 14 | 7968 |
| 48 | 15 | 424 8160 |
| 51 | 16 | 8351 |
| 55 | 17 | 8544 |
| 58 | 18 | 8736 |
| 61 | 19 | 8928 |
| 64 | 20 | 424 9120 |
| 68 | 21 | 9312 |
| 71 | 22 | 9504 |
| 74 | 23 | 9697 |
| 77 | 24 | 9890 |
| 80 | 25 | 425 0081 |
| 84 | 26 | 0274 |
| 87 | 27 | 0468 |
| 90 | 28 | 0660 |
| 93 | 29 | 0853 |
| 96 | 30 | 425 1045 |
| 100 | 31 | 1238 |
| 103 | 32 | 1431 |
| 106 | 33 | 1623 |
| 109 | 34 | 1816 |
| 113 | 35 | 425 2009 |
| 116 | 36 | 2202 |
| 119 | 37 | 2395 |
| 122 | 38 | 2588 |
| 125 | 39 | 2782 |
| 129 | 40 | 425 2975 |
| 132 | 41 | 3168 |
| 135 | 42 | 3362 |
| 138 | 43 | 3555 |
| 141 | 44 | 3749 |
| 145 | 45 | 425 3943 |
| 148 | 46 | 4137 |
| 151 | 47 | 4331 |
| 154 | 48 | 4525 |
| 158 | 49 | 4719 |
| 161 | 50 | 425 4913 |
| 164 | 51 | 5107 |
| 167 | 52 | 5301 |
| 170 | 53 | 5494 |
| 174 | 54 | 5688 |
| 177 | 55 | 425 5882 |
| 180 | 56 | 6077 |
| 183 | 57 | 6271 |
| 186 | 58 | 6465 |
| 190 | 59 | 6661 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Seconds of Corr. additive | S.A. & A.D. 42′ | Numbers II. | Parts for Seconds of Auxil. Argum. additive | S.A. & A.D. 42′ | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 193 | 0′ | 175 4519 | 0 | 0′ | 125 (126)6855 | 7230 | 7604 | 7979 | 8353 | 8728 | 9103 | 9477 | 9853 | 0227 | 0602 | 0978 | 1353 | 1728 | 2103 | 2479 | 2854 |
| 190 | 1 | 4328 | 6 | 1 | 7050 | 7424 | 7799 | 8173 | 8548 | 8922 | 9297 | 9672 | 0046 | 0421 | 0796 | 1171 | 1546 | 1921 | 2296 | 2672 | 3047 |
| 187 | 2 | 4137 | 12 | 2 | 7245 | 7619 | 7993 | 8367 | 8741 | 9116 | 9491 | 9865 | 0240 | 0615 | 0990 | 1365 | 1740 | 2115 | 2490 | 2865 | 3240 |
| 183 | 3 | 3947 | 19 | 3 | 7439 | 7814 | 8188 | 8562 | 8936 | 9311 | 9685 | 0060 | 0434 | 0809 | 1184 | 1559 | 1933 | 2308 | 2683 | 3058 | 3433 |
| 180 | 4 | 3755 | 25 | 4 | 7634 | 8008 | 8382 | 8757 | 9131 | 9505 | 9879 | 0254 | 0628 | 1003 | 1378 | 1752 | 2127 | 2502 | 2877 | 3252 | 3627 |
| 177 | 5 | 175 3563 | 31 | 5 | 125 (126)7829 | 8203 | 8577 | 8951 | 9325 | 9700 | 0074 | 0448 | 0823 | 1197 | 1572 | 1946 | 2321 | 2696 | 3070 | 3445 | 3820 |
| 174 | 6 | 3372 | 37 | 6 | 8024 | 8398 | 8772 | 9146 | 9520 | 9894 | 0268 | 0642 | 1017 | 1391 | 1766 | 2140 | 2515 | 2889 | 3264 | 3639 | 4013 |
| 170 | 7 | 3181 | 43 | 7 | 8216 | 8593 | 8967 | 9341 | 9715 | 0089 | 0463 | 0837 | 1211 | 1585 | 1960 | 2334 | 2708 | 3083 | 3458 | 3832 | 4207 |
| 167 | 8 | 2989 | 50 | 8 | 8414 | 8788 | 9162 | 9535 | 9909 | 0283 | 0657 | 1031 | 1405 | 1780 | 2154 | 2528 | 2902 | 3277 | 3651 | 4026 | 4400 |
| 164 | 9 | 2795 | 56 | 9 | 8609 | 8983 | 9357 | 9730 | 0104 | 0478 | 0852 | 1226 | 1600 | 1974 | 2348 | 2722 | 3096 | 3471 | 3845 | 4220 | 4594 |
| 161 | 10 | 175 2606 | 62 | 10 | 125 (126)8805 | 9178 | 9552 | 9925 | 0299 | 0673 | 1046 | 1420 | 1794 | 2168 | 2542 | 2916 | 3290 | 3665 | 4039 | 4413 | 4788 |
| 158 | 11 | 2415 | 68 | 11 | 9000 | 9373 | 9747 | 0121 | 0494 | 0867 | 1241 | 1615 | 1989 | 2363 | 2736 | 3111 | 3485 | 3859 | 4233 | 4607 | 4981 |
| 154 | 12 | 2223 | 74 | 12 | 9195 | 9569 | 9942 | 0315 | 0688 | 1062 | 1436 | 1810 | 2183 | 2557 | 2931 | 3305 | 3679 | 4053 | 4427 | 4801 | 5175 |
| 151 | 13 | 2032 | 81 | 13 | 9391 | 9764 | 0137 | 0510 | 0884 | 1257 | 1631 | 2004 | 2378 | 2752 | 3125 | 3499 | 3873 | 4247 | 4621 | 4995 | 5369 |
| 148 | 14 | 1840 | 87 | 14 | 9586 | 9959 | 0332 | 0706 | 1079 | 1452 | 1826 | 2199 | 2573 | 2946 | 3320 | 3694 | 4067 | 4441 | 4815 | 5189 | 5563 |
| 145 | 15 | 175 1648 | 93 | 15 | 125 (126)9782 | 0155 | 0528 | 0901 | 1274 | 1647 | 2021 | 2394 | 2767 | 3141 | 3514 | 3888 | 4262 | 4635 | 5009 | 5383 | 5757 |
| 141 | 16 | 1456 | 99 | 16 | 9977 | 0350 | 0723 | 1096 | 1469 | 1842 | 2216 | 2589 | 2962 | 3336 | 3709 | 4083 | 4456 | 4830 | 5203 | 5577 | 5951 |
| 138 | 17 | 1264 | 105 | 17 | 126 0173 | 0546 | 0919 | 1292 | 1665 | 2038 | 2411 | 2784 | 3157 | 3530 | 3904 | 4277 | 4651 | 5024 | 5398 | 5771 | 6145 |
| 135 | 18 | 1072 | 112 | 18 | 0369 | 0742 | 1114 | 1487 | 1860 | 2233 | 2606 | 2979 | 3352 | 3725 | 4098 | 4472 | 4845 | 5219 | 5592 | 5966 | 6339 |
| 132 | 19 | 0880 | 118 | 19 | 0565 | 0937 | 1310 | 1683 | 2055 | 2428 | 2801 | 3174 | 3547 | 3920 | 4293 | 4666 | 5040 | 5413 | 5786 | 6160 | 6533 |
| 129 | 20 | 175 0688 | 124 | 20 | 126 0761 | 1133 | 1506 | 1878 | 2251 | 2624 | 2996 | 3369 | 3742 | 4115 | 4488 | 4861 | 5234 | 5608 | 5981 | 6354 | 6727 |
| 125 | 21 | 0496 | 130 | 21 | 0956 | 1329 | 1701 | 2074 | 2446 | 2819 | 3192 | 3564 | 3937 | 4310 | 4683 | 5056 | 5429 | 5802 | 6175 | 6549 | 6922 |
| 122 | 22 | 0303 | 136 | 22 | 1152 | 1525 | 1897 | 2269 | 2642 | 3015 | 3387 | 3760 | 4132 | 4505 | 4878 | 5251 | 5624 | 5997 | 6370 | 6743 | 7117 |
| 119 | 23 | 0111 | 143 | 23 | 1348 | 1721 | 2093 | 2465 | 2838 | 3210 | 3583 | 3955 | 4328 | 4700 | 5073 | 5446 | 5819 | 6192 | 6565 | 6938 | 7311 |
| 116 | 24 | 174 9919 | 149 | 24 | 1545 | 1917 | 2289 | 2661 | 3033 | 3406 | 3778 | 4151 | 4523 | 4896 | 5268 | 5641 | 6014 | 6387 | 6760 | 7132 | 7505 |
| 113 | 25 | 174 9726 | 155 | 25 | 126 1741 | 2113 | 2485 | 2857 | 3229 | 3601 | 3974 | 4346 | 4718 | 5091 | 5463 | 5836 | 6209 | 6582 | 6954 | 7327 | 7700 |
| 109 | 26 | 9534 | 161 | 26 | 1937 | 2309 | 2681 | 3053 | 3425 | 3797 | 4169 | 4542 | 4914 | 5286 | 5659 | 6031 | 6404 | 6776 | 7149 | 7522 | 7895 |
| 106 | 27 | 9341 | 167 | 27 | 2133 | 2505 | 2877 | 3249 | 3621 | 3993 | 4365 | 4737 | 5109 | 5482 | 5854 | 6227 | 6599 | 6971 | 7344 | 7717 | 8090 |
| 103 | 28 | 9148 | 174 | 28 | 2330 | 2701 | 3073 | 3445 | 3817 | 4189 | 4561 | 4933 | 5305 | 5677 | 6049 | 6422 | 6794 | 7167 | 7539 | 7912 | 8284 |
| 100 | 29 | 8956 | 180 | 29 | 2526 | 2898 | 3270 | 3641 | 4013 | 4385 | 4757 | 5129 | 5501 | 5873 | 6245 | 6617 | 6989 | 7362 | 7734 | 8107 | 8479 |
| 97 | 30 | 174 8763 | 186 | 30 | 126 2723 | 3094 | 3466 | 3837 | 4209 | 4581 | 4952 | 5324 | 5696 | 6068 | 6440 | 6812 | 7185 | 7557 | 7929 | 8302 | 8674 |
| 93 | 31 | 8570 | 192 | 31 | 2919 | 3291 | 3662 | 4034 | 4405 | 4777 | 5148 | 5520 | 5892 | 6264 | 6636 | 7008 | 7380 | 7752 | 8124 | 8497 | 8869 |
| 90 | 32 | 8377 | 198 | 32 | 3116 | 3487 | 3858 | 4230 | 4601 | 4973 | 5345 | 5716 | 6088 | 6460 | 6832 | 7204 | 7576 | 7947 | 8320 | 8692 | 9064 |
| 87 | 33 | 8184 | 205 | 33 | 3312 | 3684 | 4055 | 4426 | 4798 | 5169 | 5541 | 5913 | 6284 | 6655 | 7027 | 7399 | 7771 | 8143 | 8515 | 8887 | 9259 |
| 84 | 34 | 7991 | 211 | 34 | 3509 | 3880 | 4251 | 4623 | 4994 | 5365 | 5737 | 6108 | 6480 | 6851 | 7223 | 7595 | 7966 | 8338 | 8710 | 9082 | 9454 |
| 80 | 35 | 174 7798 | 217 | 35 | 126 3706 | 4077 | 4448 | 4819 | 5190 | 5562 | 5933 | 6304 | 6676 | 7047 | 7419 | 7790 | 8162 | 8534 | 8906 | 9278 | 9649 |
| 77 | 36 | 7605 | 223 | 36 | 3903 | 4274 | 4645 | 5016 | 5387 | 5758 | 6129 | 6501 | 6872 | 7243 | 7615 | 7986 | 8358 | 8730 | 9101 | 9473 | 9845 |
| 74 | 37 | 7412 | 230 | 37 | 126 (127)4100 | 4471 | 4841 | 5212 | 5583 | 5954 | 6325 | 6697 | 7068 | 7439 | 7811 | 8182 | 8553 | 8925 | 9297 | 9668 | 0040 |
| 71 | 38 | 7218 | 236 | 38 | 4297 | 4667 | 5038 | 5409 | 5780 | 6151 | 6522 | 6893 | 7264 | 7635 | 8007 | 8378 | 8749 | 9121 | 9492 | 9864 | 0235 |
| 68 | 39 | 7025 | 242 | 39 | 4494 | 4864 | 5235 | 5607 | 5977 | 6347 | 6718 | 7089 | 7460 | 7831 | 8203 | 8574 | 8945 | 9317 | 9688 | 0059 | 0431 |
| 64 | 40 | 174 6832 | 248 | 40 | 126 (127)4691 | 5062 | 5433 | 5803 | 6173 | 6544 | 6915 | 7286 | 7657 | 8028 | 8399 | 8770 | 9141 | 9511 | 9882 | 0253 | 0624 |
| 61 | 41 | 6638 | 255 | 41 | 4888 | 5259 | 5630 | 6000 | 6371 | 6741 | 7111 | 7482 | 7853 | 8224 | 8595 | 8966 | 9337 | 9708 | 0078 | 0449 | 0820 |
| 58 | 42 | 6445 | 261 | 42 | 5085 | 5456 | 5826 | 6197 | 6567 | 6937 | 7308 | 7679 | 8050 | 8421 | 8792 | 9163 | 9534 | 9905 | 0276 | 0647 | 1018 |
| 55 | 43 | 6251 | 267 | 43 | 5282 | 5653 | 6023 | 6393 | 6764 | 7134 | 7505 | 7875 | 8246 | 8617 | 8988 | 9358 | 9729 | 0100 | 0471 | 0842 | 1213 |
| 51 | 44 | 6057 | 273 | 44 | 5480 | 5850 | 6220 | 6590 | 6961 | 7331 | 7702 | 8072 | 8443 | 8814 | 9184 | 9555 | 9926 | 0296 | 0667 | 1038 | 1409 |
| 48 | 45 | 174 5864 | 279 | 45 | 126 (127)5677 | 6047 | 6417 | 6787 | 7158 | 7528 | 7898 | 8269 | 8639 | 9010 | 9380 | 9751 | 0121 | 0492 | 0862 | 1233 | 1604 |
| 45 | 46 | 5670 | 285 | 46 | 5875 | 6245 | 6615 | 6985 | 7355 | 7725 | 8096 | 8466 | 8836 | 9207 | 9577 | 9947 | 0318 | 0688 | 1059 | 1429 | 1800 |
| 42 | 47 | 5477 | 291 | 47 | 6072 | 6442 | 6812 | 7182 | 7552 | 7922 | 8293 | 8663 | 9033 | 9403 | 9774 | 0144 | 0514 | 0885 | 1255 | 1626 | 1996 |
| 38 | 48 | 5283 | 297 | 48 | 6269 | 6639 | 7009 | 7379 | 7749 | 8119 | 8489 | 8860 | 9230 | 9600 | 9971 | 0341 | 0711 | 1081 | 1452 | 1822 | 2193 |
| 35 | 49 | 5089 | 303 | 49 | 6467 | 6836 | 7206 | 7576 | 7946 | 8316 | 8686 | 9057 | 9427 | 9797 | 0168 | 0538 | 0908 | 1279 | 1649 | 2019 | 2390 |
| 32 | 50 | 174 4895 | 310 | 50 | 126 (127)6664 | 7033 | 7403 | 7773 | 8143 | 8513 | 8883 | 9253 | 9624 | 9994 | 0364 | 0735 | 1105 | 1475 | 1846 | 2216 | 2587 |
| 29 | 51 | 4701 | 316 | 51 | 6861 | 7231 | 7600 | 7970 | 8340 | 8710 | 9080 | 9450 | 9821 | 0191 | 0561 | 0932 | 1302 | 1673 | 2043 | 2414 | 2784 |
| 25 | 52 | 4507 | 322 | 52 | 7059 | 7428 | 7798 | 8167 | 8537 | 8907 | 9277 | 9647 | 0018 | 0388 | 0758 | 1129 | 1499 | 1870 | 2240 | 2611 | 2981 |
| 22 | 53 | 4312 | 328 | 53 | 7256 | 7626 | 7995 | 8365 | 8734 | 9104 | 9474 | 9844 | 0215 | 0585 | 0955 | 1326 | 1696 | 2067 | 2437 | 2808 | 3178 |
| 19 | 54 | 4117 | 335 | 54 | 7454 | 7823 | 8193 | 8562 | 8932 | 9302 | 9672 | 0042 | 0412 | 0782 | 1153 | 1523 | 1894 | 2264 | 2635 | 3005 | 3376 |
| 16 | 55 | 174 3923 | 341 | 55 | 126 (127)7652 | 8021 | 8390 | 8760 | 9130 | 9500 | 9870 | 0240 | 0610 | 0980 | 1351 | 1721 | 2092 | 2462 | 2833 | 3203 | 3574 |
| 13 | 56 | 3728 | 347 | 56 | 7850 | 8219 | 8588 | 8958 | 9328 | 9698 | 0068 | 0438 | 0808 | 1178 | 1548 | 1919 | 2289 | 2660 | 3030 | 3401 | 3771 |
| 10 | 57 | 3534 | 353 | 57 | 8051 | 8420 | 8789 | 9158 | 9527 | 9896 | 0265 | 0634 | 1004 | 1373 | 1742 | 2112 | 2481 | 2851 | 3221 | 3590 | 3960 |
| 6 | 58 | 3339 | 360 | 58 | 8252 | 8621 | 8989 | 9358 | 9727 | 0096 | 0466 | 0835 | 1205 | 1574 | 1943 | 2313 | 2682 | 3052 | 3422 | 3791 | 4161 |
| 3 | 59 | 3145 | 366 | 60 | 8448 | 8817 | 9185 | 9554 | 9923 | 0292 | 0661 | 1029 | 1398 | 1768 | 2137 | 2506 | 2875 | 3245 | 3614 | 3984 | 4353 |

# C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
## and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Seconds of Auxil. A. | S. A.A. & A.D. 42° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0′ | 126 | 229 | 3605 | 3980 | 4356 | 4732 | 5108 | 5483 | 5859 | 6235 | 6611 | 6987 | 7363 | 7740 | 8116 | 8492 | 8869 | 9245 |
| 6 | 1 | | | | | | | | | | | | | | | | | | |
| 12 | 2 | | | | | | | | | | | | | | | | | | |
| 18 | 3 | | | | | | | | | | | | | | | | | | |
| 24 | 4 | 126 (127) | | | | | | | | | | | | | | | | | |
| 31 | 5 | 127 (128) | | | | | | | | | | | | | | | | | |
| 37 | 6 | | | | | | | | | | | | | | | | | | |
| 43 | 7 | | | | | | | | | | | | | | | | | | |
| 50 | 8 | | | | | | | | | | | | | | | | | | |
| 56 | 9 | | | | | | | | | | | | | | | | | | |
| 62 | 10 | 128 (127) | | | | | | | | | | | | | | | | | |
| 68 | 11 | | | | | | | | | | | | | | | | | | |
| 75 | 12 | | | | | | | | | | | | | | | | | | |
| 81 | 13 | | 5743 | 6117 | 6492 | 6866 | 7241 | 7615 | 7990 | 8364 | 8739 | 9114 | 9488 | 9863 | 0238 | 0613 | 0988 | 1363 | 1738 |
| 87 | 14 | | | | | | | | | | | | | | | | | | |
| 93 | 15 | 126 (127) | | | | | | | | | | | | | | | | | |
| 100 | 16 | | | | | | | | | | | | | | | | | | |
| 106 | 17 | | | | | | | | | | | | | | | | | | |
| 112 | 18 | | | | | | | | | | | | | | | | | | |
| 118 | 19 | | | | | | | | | | | | | | | | | | |
| 124 | 20 | 126 (127) | | | | | | | | | | | | | | | | | |
| 131 | 21 | | | | | | | | | | | | | | | | | | |
| 137 | 22 | | | | | | | | | | | | | | | | | | |
| 143 | 23 | | | | | | | | | | | | | | | | | | |
| 149 | 24 | | | | | | | | | | | | | | | | | | |
| 156 | 25 | 129 (127) | | | | | | | | | | | | | | | | | |
| 162 | 26 | | | | | | | | | | | | | | | | | | |
| 168 | 27 | | | | | | | | | | | | | | | | | | |
| 174 | 28 | | | | | | | | | | | | | | | | | | |
| 181 | 29 | | | | | | | | | | | | | | | | | | |
| 187 | 30 | 129 (127) | | | | | | | | | | | | | | | | | |
| 193 | 31 | | 9241 | 9614 | 9986 | 0359 | 0732 | 1104 | 1477 | 1850 | 2223 | 2596 | 2969 | 3342 | 3715 | 4088 | 4461 | 4835 | 5208 |
| 199 | 32 | | | | | | | | | | | | | | | | | | |
| 205 | 33 | | | | | | | | | | | | | | | | | | |
| 212 | 34 | | | | | | | | | | | | | | | | | | |
| 218 | 35 | 127 | | | | | | | | | | | | | | | | | |
| 224 | 36 | | 0217 | 0589 | 0961 | 1333 | 1705 | 2077 | 2449 | 2822 | 3194 | 3566 | 3939 | 4311 | 4684 | 5057 | 5430 | 5802 | 6175 |
| 230 | 37 | | | | | | | | | | | | | | | | | | |
| 237 | 38 | | | | | | | | | | | | | | | | | | |
| 243 | 39 | | | | | | | | | | | | | | | | | | |
| 249 | 40 | 127 | | | | | | | | | | | | | | | | | |
| 255 | 41 | | | | | | | | | | | | | | | | | | |
| 261 | 42 | | | | | | | | | | | | | | | | | | |
| 268 | 43 | | | | | | | | | | | | | | | | | | |
| 274 | 44 | | | | | | | | | | | | | | | | | | |
| 280 | 45 | 127 | | | | | | | | | | | | | | | | | |
| 286 | 46 | | | | | | | | | | | | | | | | | | |
| 293 | 47 | | 2368 | 2739 | 3100 | 3480 | 3851 | 4223 | 4594 | 4965 | 5336 | 5708 | 6079 | 6450 | 6822 | 7194 | 7565 | 7937 | 8309 |
| 299 | 48 | | | | | | | | | | | | | | | | | | |
| 305 | 49 | | | | | | | | | | | | | | | | | | |
| 311 | 50 | 127 | | | | | | | | | | | | | | | | | |
| 317 | 51 | | 3152 | 3522 | 3893 | 4263 | 4634 | 5005 | 5375 | 5746 | 6117 | 6488 | 6859 | 7230 | 7601 | 7972 | 8344 | 8715 | 9086 |
| 324 | 52 | | | | | | | | | | | | | | | | | | |
| 330 | 53 | | | | | | | | | | | | | | | | | | |
| 336 | 54 | | | | | | | | | | | | | | | | | | |
| 342 | 55 | 127 | | | | | | | | | | | | | | | | | |
| 348 | 56 | 127 (128) | | | | | | | | | | | | | | | | | |
| 355 | 57 | | | | | | | | | | | | | | | | | | |
| 361 | 58 | | | | | | | | | | | | | | | | | | |
| 367 | 59 | | | | | | | | | | | | | | | | | | |

Sums for finding the Corrected Distance.

| Parts for Sec. of C. D. | C. D. 42° | Sums |
|---|---|---|
| 0 | 0 | |
| 6 | 1 | |
| 12 | 2 | |
| 18 | 3 | |
| 24 | 4 | |
| 31 | 5 | |
| 37 | 6 | |
| 43 | 7 | |
| 50 | 8 | |
| 56 | 9 | |
| 62 | 10 | |
| 68 | 11 | |
| 75 | 12 | 9105 |
| 81 | 13 | 9391 |
| 87 | 14 | |
| 93 | 15 | |
| 100 | 16 | |
| 106 | 17 | |
| 112 | 18 | |
| 118 | 19 | |
| 124 | 20 | |
| 131 | 21 | |
| 137 | 22 | |
| 143 | 23 | |
| 149 | 24 | |
| 156 | 25 | |
| 162 | 26 | |
| 168 | 27 | |
| 174 | 28 | |
| 181 | 29 | |
| 187 | 30 | |
| 193 | 31 | |
| 199 | 32 | |
| 205 | 33 | |
| 212 | 34 | |
| 218 | 35 | |
| 224 | 36 | |
| 230 | 37 | |
| 237 | 38 | 4207 |
| 243 | 39 | |
| 249 | 40 | |
| 255 | 41 | |
| 261 | 42 | |
| 268 | 43 | |
| 274 | 44 | |
| 280 | 45 | |
| 286 | 46 | |
| 293 | 47 | |
| 299 | 48 | |
| 305 | 49 | |
| 311 | 50 | |
| 317 | 51 | |
| 324 | 52 | |
| 330 | 53 | |
| 336 | 54 | |
| 342 | 55 | |
| 348 | 56 | |
| 355 | 57 | |
| 361 | 58 | |
| 367 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - - } and Auxiliary Arguments.

| Sum of App. Alt. | 48° | Numbers |
|---|---|---|
| 174 | 0 | 2656 |
| 173 | 1 | 2753 |
| 172 | 2 | 2851 |
| 171 | 3 | 2947 |
| 170 | 4 | 3044 |
| 169 | 5 | 1970 |
| 168 | 6 | 1781 |
| 167 | 7 | 1586 |
| 166 | 8 | 1391 |
| 165 | 9 | 1195 |
| 164 | 10 | 1000 |
| 163 | 11 | 0805 |
| 162 | 12 | 0609 |
| 161 | 13 | 0414 |
| 160 | 14 | 0218 |
| 159 | 15 | 0023 |
| 158 | 16 | 9827 |
| 157 | 17 | 9631 |
| 156 | 18 | 9435 |
| 155 | 19 | 9239 |
| 154 | 20 | 9043 |
| 153 | 21 | 8847 |
| 152 | 22 | 8651 |
| 151 | 23 | 8455 |
| 150 | 24 | 8259 |
| 149 | 25 | 8063 |
| 148 | 26 | 7867 |
| 147 | 27 | 7670 |
| 146 | 28 | 7473 |
| 145 | 29 | 7277 |
| 144 | 30 | 7081 |
| 143 | 31 | 6884 |
| 142 | 32 | 6687 |
| 141 | 33 | 6491 |
| 140 | 34 | 6294 |
| 139 | 35 | 6097 |
| 138 | 36 | 5900 |
| 137 | 37 | 5703 |
| 136 | 38 | 5506 |
| 135 | 39 | 5309 |
| 134 | 40 | 5113 |
| 133 | 41 | 4916 |
| 132 | 42 | 4719 |
| 131 | 43 | 4523 |
| 130 | 44 | 4326 |
| 129 | 45 | 4129 |
| 128 | 46 | 3932 |
| 127 | 47 | 3735 |
| 126 | 48 | 3538 |
| 125 | 49 | 3341 |
| 124 | 50 | 3143 |
| 123 | 51 | 2946 |
| 122 | 52 | 2749 |
| 121 | 53 | 2551 |
| 120 | 54 | 2354 |
| 119 | 55 | 2156 |
| 118 | 56 | 1959 |
| 117 | 57 | 1761 |
| 116 | 58 | 1563 |
| 115 | 59 | 1365 |

| Sum of App. Alt. & A. D. | 48 | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 180 | 0 | 126 (127)8646 | 9015 | 9383 | 9752 | 0121 | 0489 | 0858 | 1227 | 1596 | 1965 | 2334 | 2703 | 3072 | 3442 | 3811 | 4180 | 4550 |
| 179 | 1 | 8645 | 9213 | 9582 | 9950 | 0319 | 0687 | 1056 | 1425 | 1794 | 2163 | 2532 | 2901 | 3270 | 3639 | 4008 | 4377 | 4747 |
| 178 | 2 | 8843 | 9411 | 9780 | 0148 | 0517 | 0885 | 1254 | 1623 | 1991 | 2360 | 2729 | 3098 | 3467 | 3836 | 4205 | 4574 | 4944 |
| 177 | 3 | 9042 | 9610 | 9979 | 0346 | 0715 | 1083 | 1452 | 1820 | 2189 | 2558 | 2927 | 3295 | 3664 | 4033 | 4402 | 4771 | 5141 |
| 176 | 4 | 9240 | 9808 | 0177 | 0545 | 0913 | 1281 | 1650 | 2018 | 2387 | 2756 | 3124 | 3493 | 3862 | 4230 | 4599 | 4968 | 5338 |
| 175 | 5 | 126 (127)9639 | 0007 | 0375 | 0743 | 1111 | 1480 | 1848 | 2216 | 2585 | 2953 | 3322 | 3690 | 4059 | 4428 | 4797 | 5166 | 5535 |
| 174 | 6 | 9837 | 0206 | 0574 | 0942 | 1310 | 1678 | 2046 | 2414 | 2783 | 3151 | 3520 | 3888 | 4257 | 4625 | 4994 | 5363 | 5732 |
| 173 | 7 | 127 | 0404 | 0772 | 1140 | 1508 | 1876 | 2244 | 2612 | 2981 | 3349 | 3717 | 4086 | 4454 | 4823 | 5191 | 5560 | 5929 |
| 172 | 8 | 0235 | 0603 | 0971 | 1339 | 1707 | 2075 | 2442 | 2811 | 3179 | 3547 | 3915 | 4284 | 4652 | 5020 | 5389 | 5757 | 6126 |
| 171 | 9 | 0434 | 0802 | 1170 | 1537 | 1905 | 2273 | 2641 | 3009 | 3377 | 3745 | 4113 | 4481 | 4850 | 5218 | 5586 | 5955 | 6323 |
| 170 | 10 | 127 | 0033 | 1001 | 1368 | 1736 | 2104 | 2471 | 2839 | 3207 | 3575 | 3943 | 4311 | 4679 | 5047 | 5416 | 5784 | 6152 | 6521 |
| 169 | 11 | | 0832 | 1200 | 1567 | 1935 | 2302 | 2670 | 3038 | 3405 | 3773 | 4141 | 4509 | 4877 | 5245 | 5613 | 5982 | 6350 | 6718 |
| 168 | 12 | | 1031 | 1399 | 1766 | 2133 | 2501 | 2868 | 3236 | 3604 | 3972 | 4339 | 4707 | 5075 | 5443 | 5811 | 6179 | 6547 | 6916 |
| 167 | 13 | | 1231 | 1598 | 1965 | 2332 | 2700 | 3067 | 3435 | 3802 | 4170 | 4538 | 4905 | 5273 | 5641 | 6009 | 6377 | 6745 | 7113 |
| 166 | 14 | | 1430 | 1797 | 2164 | 2531 | 2898 | 3266 | 3633 | 4001 | 4368 | 4736 | 5104 | 5471 | 5839 | 6207 | 6575 | 6943 | 7311 |
| 165 | 15 | 127 | 1629 | 1996 | 2363 | 2730 | 3097 | 3465 | 3832 | 4199 | 4567 | 4934 | 5302 | 5669 | 6037 | 6405 | 6773 | 7141 | 7509 |
| 164 | 16 | | 1828 | 2195 | 2562 | 2929 | 3296 | 3663 | 4031 | 4398 | 4765 | 5133 | 5500 | 5868 | 6235 | 6603 | 6971 | 7338 | 7706 |
| 163 | 17 | | 2028 | 2394 | 2761 | 3128 | 3495 | 3862 | 4229 | 4597 | 4964 | 5331 | 5699 | 6066 | 6433 | 6801 | 7169 | 7536 | 7904 |
| 162 | 18 | | 2227 | 2594 | 2961 | 3327 | 3694 | 4061 | 4428 | 4795 | 5163 | 5530 | 5897 | 6264 | 6632 | 6999 | 7367 | 7734 | 8102 |
| 161 | 19 | | 2427 | 2793 | 3160 | 3527 | 3893 | 4261 | 4627 | 4994 | 5361 | 5728 | 6096 | 6463 | 6830 | 7197 | 7565 | 7932 | 8300 |
| 160 | 20 | 127 | 2626 | 2993 | 3359 | 3726 | 4093 | 4460 | 4826 | 5193 | 5560 | 5927 | 6294 | 6661 | 7028 | 7396 | 7763 | 8130 | 8498 |
| 159 | 21 | | 2826 | 3192 | 3559 | 3925 | 4292 | 4659 | 5025 | 5392 | 5759 | 6126 | 6493 | 6860 | 7227 | 7594 | 7961 | 8328 | 8696 |
| 158 | 22 | | 3026 | 3392 | 3758 | 4125 | 4491 | 4858 | 5224 | 5591 | 5958 | 6325 | 6691 | 7058 | 7425 | 7792 | 8160 | 8527 | 8894 |
| 157 | 23 | | 3225 | 3592 | 3958 | 4324 | 4691 | 5057 | 5424 | 5790 | 6157 | 6523 | 6890 | 7257 | 7624 | 7991 | 8358 | 8725 | 9092 |
| 156 | 24 | | 3425 | 3791 | 4158 | 4524 | 4890 | 5256 | 5623 | 5989 | 6356 | 6722 | 7089 | 7456 | 7823 | 8189 | 8556 | 8923 | 9290 |
| 155 | 25 | 127 | 3625 | 3991 | 4357 | 4723 | 5090 | 5456 | 5822 | 6188 | 6555 | 6921 | 7288 | 7655 | 8021 | 8388 | 8755 | 9122 | 9489 |
| 154 | 26 | | 3825 | 4191 | 4557 | 4923 | 5289 | 5655 | 6021 | 6387 | 6754 | 7120 | 7487 | 7853 | 8220 | 8587 | 8953 | 9320 | 9687 |
| 153 | 27 | | 4025 | 4391 | 4757 | 5123 | 5489 | 5855 | 6221 | 6587 | 6953 | 7320 | 7686 | 8052 | 8419 | 8785 | 9152 | 9519 | 9885 |
| 152 | 28 | 127 (128) | 4225 | 4591 | 4957 | 5323 | 5688 | 6054 | 6420 | 6786 | 7153 | 7519 | 7885 | 8251 | 8618 | 8984 | 9351 | 9717 | 0084 |
| 151 | 29 | | 4425 | 4791 | 5157 | 5522 | 5888 | 6254 | 6620 | 6986 | 7352 | 7718 | 8084 | 8450 | 8817 | 9183 | 9549 | 9916 | 0282 |
| 150 | 30 | 127 (128) | 4626 | 4991 | 5357 | 5722 | 6088 | 6454 | 6819 | 7185 | 7551 | 7917 | 8283 | 8649 | 9016 | 9382 | 9748 | 0114 | 0481 |
| 149 | 31 | | 4829 | 5191 | 5557 | 5922 | 6288 | 6653 | 7019 | 7385 | 7751 | 8117 | 8483 | 8849 | 9215 | 9581 | 9947 | 0313 | 0680 |
| 148 | 32 | | 5026 | 5391 | 5757 | 6122 | 6488 | 6853 | 7219 | 7585 | 7950 | 8316 | 8682 | 9048 | 9414 | 9780 | 0146 | 0512 | 0879 |
| 147 | 33 | | 5227 | 5592 | 5957 | 6322 | 6688 | 7053 | 7419 | 7784 | 8150 | 8515 | 8881 | 9247 | 9613 | 9979 | 0345 | 0711 | 1077 |
| 146 | 34 | | 5427 | 5792 | 6157 | 6522 | 6888 | 7253 | 7619 | 7984 | 8349 | 8715 | 9080 | 9446 | 9812 | 0178 | 0544 | 0910 | 1276 |
| 145 | 35 | 127 (128) | 5628 | 5992 | 6358 | 6723 | 7088 | 7453 | 7818 | 8184 | 8546 | 8915 | 9280 | 9646 | 0012 | 0377 | 0743 | 1109 | 1475 |
| 144 | 36 | | 5828 | 6193 | 6558 | 6923 | 7288 | 7653 | 8018 | 8384 | 8749 | 9114 | 9480 | 9845 | 0211 | 0576 | 0942 | 1308 | 1674 |
| 143 | 37 | | 6028 | 6393 | 6758 | 7123 | 7488 | 7853 | 8218 | 8584 | 8949 | 9314 | 9679 | 0045 | 0410 | 0776 | 1141 | 1507 | 1873 |
| 142 | 38 | | 6228 | 6594 | 6959 | 7324 | 7688 | 8053 | 8418 | 8784 | 9149 | 9514 | 9879 | 0244 | 0610 | 0975 | 1341 | 1706 | 2072 |
| 141 | 39 | | 6428 | 6795 | 7159 | 7524 | 7888 | 8254 | 8619 | 8984 | 9349 | 9714 | 0079 | 0444 | 0809 | 1175 | 1540 | 1905 | 2271 |
| 140 | 40 | 127 (128) | 6631 | 6995 | 7360 | 7725 | 8089 | 8454 | 8819 | 9184 | 9549 | 9914 | 0279 | 0644 | 1009 | 1374 | 1739 | 2105 | 2470 |
| 139 | 41 | | 6832 | 7196 | 7561 | 7925 | 8290 | 8654 | 9019 | 9384 | 9748 | 0113 | 0478 | 0844 | 1209 | 1574 | 1939 | 2304 | 2669 |
| 138 | 42 | | 7033 | 7397 | 7761 | 8126 | 8490 | 8855 | 9219 | 9584 | 9949 | 0314 | 0678 | 1043 | 1408 | 1773 | 2138 | 2504 | 2869 |
| 137 | 43 | | 7234 | 7598 | 7962 | 8327 | 8691 | 9056 | 9420 | 9785 | 0150 | 0514 | 0879 | 1244 | 1608 | 1973 | 2338 | 2703 | 3068 |
| 136 | 44 | | 7436 | 7800 | 8163 | 8528 | 8893 | 9257 | 9622 | 9986 | 0351 | 0715 | 1080 | 1445 | 1809 | 2174 | 2539 | 2904 | 3268 |
| 135 | 45 | 127 (128) | 7637 | 8001 | 8365 | 8730 | 9094 | 9459 | 9823 | 0188 | 0552 | 0917 | 1281 | 1646 | 2010 | 2375 | 2739 | 3104 | 3468 |
| 134 | 46 | | 7838 | 8202 | 8566 | 8931 | 9295 | 9660 | 0024 | 0389 | 0753 | 1118 | 1482 | 1847 | 2211 | 2576 | 2940 | 3305 | 3669 |
| 133 | 47 | | 8040 | 8403 | 8767 | 9132 | 9496 | 9861 | 0225 | 0590 | 0954 | 1319 | 1683 | 2048 | 2412 | 2777 | 3141 | 3506 | 3870 |
| 132 | 48 | | 8241 | 8604 | 8968 | 9333 | 9697 | 0062 | 0426 | 0791 | 1155 | 1520 | 1884 | 2249 | 2613 | 2978 | 3342 | 3707 | 4071 |
| 131 | 49 | | 8441 | 8805 | 9169 | 9534 | 9898 | 0263 | 0627 | 0992 | 1356 | 1721 | 2085 | 2450 | 2814 | 3179 | 3543 | 3908 | 4272 |
| 130 | 50 | 127 (128) | 8644 | 9007 | 9371 | 9736 | 0100 | 0465 | 0829 | 1194 | 1558 | 1923 | 2287 | 2652 | 3016 | 3381 | 3745 | 4110 | 4474 |
| 129 | 51 | | 8844 | 9207 | 9571 | 9934 | 0298 | 0661 | 1025 | 1390 | 1754 | 2119 | 2483 | 2848 | 3212 | 3577 | 3941 | 4306 | 4670 |
| 128 | 52 | | 9046 | 9409 | 9773 | 0136 | 0499 | 0863 | 1226 | 1590 | 1955 | 2319 | 2683 | 3048 | 3412 | 3777 | 4141 | 4506 | 4870 |
| 127 | 53 | | 9247 | 9610 | 9974 | 0337 | 0700 | 1064 | 1427 | 1791 | 2156 | 2520 | 2884 | 3249 | 3613 | 3978 | 4342 | 4707 | 5071 |
| 126 | 54 | | 9449 | 9812 | 0176 | 0539 | 0902 | 1266 | 1629 | 1993 | 2357 | 2721 | 3085 | 3450 | 3814 | 4179 | 4543 | 4908 | 5272 |
| 125 | 55 | 127 (128) | 9651 | 0014 | 0378 | 0741 | 1104 | 1467 | 1830 | 2194 | 2558 | 2922 | 3286 | 3650 | 4014 | 4379 | 4743 | 5108 | 5472 |
| 124 | 56 | | 9853 | 0216 | 0580 | 0943 | 1306 | 1669 | 2032 | 2396 | 2759 | 3123 | 3487 | 3851 | 4215 | 4580 | 4944 | 5309 | 5673 |
| 123 | 57 | 128 | 0056 | 0418 | 0781 | 1145 | 1508 | 1871 | 2234 | 2597 | 2961 | 3324 | 3688 | 4052 | 4416 | 4781 | 5145 | 5510 | 5874 |
| 122 | 58 | | 0258 | 0621 | 0984 | 1347 | 1710 | 2073 | 2436 | 2799 | 3162 | 3526 | 3889 | 4253 | 4617 | 4982 | 5346 | 5711 | 6075 |
| 121 | 59 | | 0461 | 0824 | 1187 | 1550 | 1913 | 2276 | 2639 | 3002 | 3365 | 3728 | 4091 | 4455 | 4819 | 5183 | 5548 | 5912 | 6277 |
| 120 | 60 | | 0664 | 1027 | 1390 | 1753 | 2116 | 2479 | 2842 | 3205 | 3568 | 3931 | 4294 | 4658 | 5022 | 5386 | 5750 | 6115 | 6479 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Additive | S. A. A. & A. D. 43° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ′ | Numbers. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 127 (128) | 4910 | 5289 | 5665 | 6028 | 6398 | 6768 | 7138 | 7508 | 7878 | 8248 | 8618 | 8988 | 9358 | 0728 | 1098 | 1468 |
| 6 | 1 | | 5116 | 5485 | 5855 | 6225 | 6594 | 6964 | 7334 | 7704 | 8074 | 8443 | 8813 | 9183 | 9554 | 9924 | 0294 | 0664 |
| 12 | 2 | | 5313 | 5682 | 6052 | 6421 | 6791 | 7161 | 7530 | 7900 | 8270 | 8639 | 9009 | 9379 | 9749 | 0119 | 0489 | 0858 |
| 18 | 3 | | 5510 | 5879 | 6248 | 6617 | 6987 | 7357 | 7726 | 8096 | 8465 | 8835 | 9205 | 9575 | 9945 | 0315 | 0685 | 1055 |
| 25 | 4 | | 5707 | 6076 | 6445 | 6814 | 7184 | 7553 | 7922 | 8292 | 8662 | 9031 | 9401 | 9771 | 0140 | 0510 | 0880 | 1250 |
| 31 | 5 | 127 (128) | 5904 | 6273 | 6642 | 7011 | 7380 | 7749 | 8119 | 8488 | 8858 | 9227 | 9597 | 9966 | 0336 | 0706 | 1076 | 1446 |
| 37 | 6 | | 6101 | 6470 | 6839 | 7208 | 7577 | 7946 | 8315 | 8685 | 9054 | 9423 | 9793 | 0162 | 0532 | 0902 | 1271 | 1641 |
| 43 | 7 | | 6298 | 6667 | 7035 | 7404 | 7773 | 8143 | 8512 | 8881 | 9250 | 9619 | 9989 | 0358 | 0728 | 1097 | 1467 | 1837 |
| 49 | 8 | | 6495 | 6864 | 7232 | 7601 | 7970 | 8339 | 8708 | 9077 | 9446 | 9816 | 0185 | 0554 | 0924 | 1293 | 1663 | 2033 |
| 55 | 9 | | 6692 | 7061 | 7429 | 7798 | 8167 | 8536 | 8905 | 9274 | 9643 | 0012 | 0381 | 0750 | 1120 | 1489 | 1859 | 2228 |
| 61 | 10 | 127 (128) | 6888 | 7257 | 7626 | 7995 | 8364 | 8733 | 9101 | 9470 | 9839 | 0208 | 0577 | 0947 | 1316 | 1685 | 2055 | 2424 |
| 67 | 11 | | 7085 | 7454 | 7823 | 8192 | 8561 | 8929 | 9298 | 9667 | 0036 | 0405 | 0774 | 1143 | 1512 | 1881 | 2250 | 2620 |
| 73 | 12 | | 7281 | 7650 | 8018 | 8387 | 8755 | 9124 | 9493 | 9862 | 0231 | 0600 | 0968 | 1337 | 1706 | 2075 | 2444 | 2813 |
| 80 | 13 | | 7478 | 7846 | 8215 | 8583 | 8952 | 9321 | 9690 | 0058 | 0427 | 0795 | 1164 | 1533 | 1902 | 2271 | 2640 | 3008 |
| 86 | 14 | | 7674 | 8042 | 8411 | 8780 | 9148 | 9517 | 9886 | 0254 | 0623 | 0992 | 1360 | 1729 | 2098 | 2467 | 2835 | 3204 |
| 92 | 15 | 127 (128) | 7870 | 8238 | 8607 | 8976 | 9344 | 9713 | 0082 | 0450 | 0819 | 1188 | 1556 | 1925 | 2294 | 2662 | 3031 | 3400 |
| 98 | 16 | | 8066 | 8434 | 8803 | 9172 | 9540 | 9909 | 0278 | 0646 | 1015 | 1383 | 1752 | 2121 | 2489 | 2858 | 3227 | 3595 |
| 104 | 17 | | 8262 | 8630 | 8999 | 9368 | 9736 | 0105 | 0473 | 0842 | 1211 | 1579 | 1948 | 2316 | 2685 | 3054 | 3422 | 3791 |
| 110 | 18 | | 8457 | 8826 | 9194 | 9563 | 9931 | 0300 | 0669 | 1037 | 1406 | 1774 | 2143 | 2512 | 2880 | 3249 | 3617 | 3986 |
| 116 | 19 | | 8653 | 9021 | 9390 | 9758 | 0127 | 0496 | 0864 | 1233 | 1601 | 1970 | 2339 | 2707 | 3076 | 3444 | 3813 | 4181 |
| 122 | 20 | 127 (128) | 8848 | 9216 | 9585 | 9953 | 0322 | 0691 | 1059 | 1428 | 1797 | 2165 | 2534 | 2902 | 3271 | 3639 | 4008 | 4376 |
| 129 | 21 | | 9043 | 9412 | 9780 | 0149 | 0517 | 0886 | 1255 | 1623 | 1992 | 2360 | 2729 | 3097 | 3466 | 3834 | 4203 | 4571 |
| 135 | 22 | | 9239 | 9607 | 9976 | 0344 | 0713 | 1081 | 1450 | 1818 | 2187 | 2555 | 2924 | 3292 | 3661 | 4029 | 4398 | 4766 |
| 141 | 23 | | 9434 | 9802 | 0171 | 0539 | 0908 | 1276 | 1645 | 2013 | 2382 | 2750 | 3119 | 3487 | 3856 | 4224 | 4593 | 4961 |
| 147 | 24 | | 9629 | 9997 | 0366 | 0734 | 1103 | 1471 | 1840 | 2208 | 2577 | 2945 | 3314 | 3682 | 4051 | 4419 | 4788 | 5156 |
| 153 | 25 | 127 (128) | 9824 | 0192 | 0561 | 0929 | 1298 | 1666 | 2035 | 2403 | 2772 | 3140 | 3509 | 3877 | 4246 | 4614 | 4983 | 5351 |
| 159 | 26 | 128 | 0019 | 0387 | 0756 | 1124 | 1493 | 1861 | 2230 | 2598 | 2967 | 3335 | 3704 | 4072 | 4441 | 4809 | 5178 | 5546 |
| 165 | 27 | | 0214 | 0583 | 0951 | 1319 | 1688 | 2056 | 2425 | 2793 | 3162 | 3530 | 3899 | 4267 | 4636 | 5004 | 5373 | 5741 |
| 171 | 28 | | 0409 | 0778 | 1146 | 1515 | 1883 | 2252 | 2620 | 2989 | 3357 | 3726 | 4094 | 4463 | 4831 | 5200 | 5568 | 5936 |
| 177 | 29 | | 0604 | 0973 | 1341 | 1710 | 2078 | 2447 | 2815 | 3184 | 3552 | 3921 | 4289 | 4658 | 5026 | 5395 | 5763 | 6131 |
| 184 | 30 | 128 | 0800 | 1168 | 1537 | 1905 | 2274 | 2642 | 3011 | 3379 | 3748 | 4116 | 4485 | 4853 | 5222 | 5590 | 5958 | 6326 |
| 190 | 31 | | 0995 | 1363 | 1732 | 2100 | 2469 | 2837 | 3206 | 3574 | 3943 | 4311 | 4680 | 5048 | 5417 | 5785 | 6153 | 6521 |
| 196 | 32 | | 1190 | 1558 | 1927 | 2295 | 2664 | 3032 | 3401 | 3769 | 4138 | 4506 | 4875 | 5243 | 5612 | 5980 | 6348 | 6716 |
| 202 | 33 | | 1385 | 1753 | 2122 | 2490 | 2859 | 3227 | 3596 | 3964 | 4333 | 4701 | 5070 | 5438 | 5807 | 6175 | 6543 | 6911 |
| 208 | 34 | | 1580 | 1948 | 2317 | 2685 | 3054 | 3422 | 3791 | 4159 | 4528 | 4896 | 5265 | 5633 | 6002 | 6370 | 6738 | 7106 |
| 214 | 35 | 128 | 1775 | 2143 | 2512 | 2880 | 3249 | 3617 | 3986 | 4354 | 4723 | 5091 | 5460 | 5828 | 6197 | 6565 | 6933 | 7301 |
| 220 | 36 | | 1970 | 2338 | 2707 | 3075 | 3444 | 3812 | 4181 | 4549 | 4918 | 5286 | 5655 | 6023 | 6392 | 6760 | 7128 | 7496 |
| 226 | 37 | | 2165 | 2533 | 2902 | 3270 | 3639 | 4007 | 4376 | 4744 | 5113 | 5481 | 5850 | 6218 | 6587 | 6955 | 7323 | 7691 |
| 232 | 38 | | 2360 | 2728 | 3097 | 3465 | 3834 | 4202 | 4571 | 4939 | 5308 | 5676 | 6045 | 6413 | 6782 | 7150 | 7518 | 7886 |
| 239 | 39 | | 2555 | 2923 | 3292 | 3660 | 4029 | 4397 | 4766 | 5134 | 5503 | 5871 | 6240 | 6608 | 6977 | 7345 | 7713 | 8081 |
| 245 | 40 | 128 | 2750 | 3118 | 3487 | 3855 | 4224 | 4592 | 4961 | 5329 | 5698 | 6066 | 6435 | 6803 | 7172 | 7540 | 7908 | 8276 |
| 251 | 41 | | 3035 | 3400 | 3766 | 4131 | 4497 | 4862 | 5228 | 5594 | 5960 | 6326 | 6692 | 7058 | 7424 | 7790 | 8156 | 8522 |
| 257 | 42 | | 3234 | 3599 | 3965 | 4330 | 4696 | 5061 | 5427 | 5792 | 6158 | 6524 | 6890 | 7256 | 7622 | 7988 | 8354 | 8720 |
| 263 | 43 | | 3433 | 3798 | 4164 | 4529 | 4895 | 5260 | 5625 | 5991 | 6357 | 6723 | 7089 | 7454 | 7820 | 8186 | 8552 | 8918 |
| 269 | 44 | | 3633 | 3998 | 4363 | 4728 | 5094 | 5459 | 5824 | 6190 | 6556 | 6921 | 7287 | 7653 | 8019 | 8385 | 8751 | 9117 |
| 275 | 45 | 128 | 3832 | 4197 | 4562 | 4927 | 5293 | 5658 | 6023 | 6389 | 6754 | 7119 | 7485 | 7851 | 8217 | 8583 | 8949 | 9315 |
| 281 | 46 | | 4031 | 4396 | 4761 | 5126 | 5492 | 5857 | 6222 | 6588 | 6953 | 7318 | 7684 | 8050 | 8416 | 8782 | 9148 | 9514 |
| 288 | 47 | 128 (129) | 4231 | 4596 | 4961 | 5326 | 5691 | 6056 | 6421 | 6787 | 7151 | 7516 | 7882 | 8247 | 8613 | 8979 | 9344 | 9710 |
| 294 | 48 | | 4431 | 4795 | 5160 | 5525 | 5890 | 6255 | 6620 | 6985 | 7350 | 7715 | 8080 | 8446 | 8811 | 9176 | 9542 | 9907 |
| 300 | 49 | | 4631 | 4995 | 5360 | 5724 | 6089 | 6454 | 6819 | 7184 | 7549 | 7914 | 8279 | 8644 | 9009 | 9375 | 9740 | 0105 |
| 306 | 50 | 128 (129) | 4830 | 5194 | 5559 | 5924 | 6288 | 6653 | 7018 | 7383 | 7748 | 8113 | 8478 | 8843 | 9208 | 9573 | 9938 | 0303 |
| 312 | 51 | | 5030 | 5394 | 5758 | 6123 | 6487 | 6852 | 7217 | 7582 | 7947 | 8311 | 8676 | 9041 | 9406 | 9771 | 0137 | 0502 |
| 318 | 52 | | 5230 | 5594 | 5958 | 6322 | 6687 | 7051 | 7416 | 7781 | 8146 | 8511 | 8875 | 9240 | 9605 | 9970 | 0335 | 0700 |
| 324 | 53 | | 5429 | 5794 | 6158 | 6522 | 6886 | 7251 | 7615 | 7980 | 8345 | 8709 | 9074 | 9439 | 9804 | 0169 | 0533 | 0898 |
| 331 | 54 | | 5629 | 5993 | 6357 | 6721 | 7086 | 7450 | 7815 | 8179 | 8544 | 8908 | 9273 | 9638 | 0003 | 0367 | 0732 | 1096 |
| 337 | 55 | 128 (129) | 5828 | 6192 | 6556 | 6921 | 7285 | 7649 | 8014 | 8378 | 8743 | 9107 | 9472 | 9837 | 0201 | 0566 | 0931 | 1295 |
| 343 | 56 | | 6028 | 6392 | 6756 | 7120 | 7484 | 7848 | 8213 | 8577 | 8942 | 9306 | 9671 | 0035 | 0400 | 0765 | 1129 | 1494 |
| 349 | 57 | | 6227 | 6591 | 6955 | 7319 | 7683 | 8048 | 8412 | 8776 | 9141 | 9505 | 9870 | 0234 | 0599 | 0963 | 1328 | 1693 |
| 355 | 58 | | 6427 | 6791 | 7155 | 7519 | 7883 | 8247 | 8611 | 8976 | 9340 | 9704 | 0069 | 0433 | 0798 | 1162 | 1527 | 1892 |
| 361 | 59 | | 6626 | 6990 | 7354 | 7718 | 8082 | 8446 | 8810 | 9175 | 9539 | 9903 | 0268 | 0632 | 0997 | 1361 | 1726 | 2091 |

| Parts for Sec. of C. D. Additive | C. D. 43° | Sums |
|---|---|---|
| ′ | ′ | |
| 0 | 0 | 426 |
| 3 | 1 | |
| 7 | 2 | |
| 11 | 3 | 427 |
| 15 | 4 | |
| 19 | 5 | |
| 22 | 6 | |
| 26 | 7 | |
| 30 | 8 | |
| 33 | 9 | |
| 37 | 10 | |
| 41 | 11 | |
| 45 | 12 | |
| 48 | 13 | |
| 52 | 14 | |
| 56 | 15 | |
| 60 | 16 | |
| 63 | 17 | |
| 67 | 18 | |
| 71 | 19 | |
| 75 | 20 | |
| 78 | 21 | |
| 82 | 22 | |
| 86 | 23 | |
| 90 | 24 | |
| 93 | 25 | |
| 97 | 26 | |
| 101 | 27 | |
| 105 | 28 | |
| 108 | 29 | |
| 112 | 30 | |
| 116 | 31 | |
| 120 | 32 | |
| 123 | 33 | |
| 127 | 34 | |
| 131 | 35 | |
| 135 | 36 | |
| 139 | 37 | |
| 142 | 38 | |
| 146 | 39 | |
| 150 | 40 | |
| 154 | 41 | |
| 157 | 42 | |
| 161 | 43 | |
| 165 | 44 | |
| 169 | 45 | |
| 172 | 46 | |
| 176 | 47 | |
| 180 | 48 | |
| 184 | 49 | |
| 187 | 50 | |
| 191 | 51 | |
| 195 | 52 | |
| 199 | 53 | |
| 202 | 54 | |
| 206 | 55 | |
| 210 | 56 | |
| 214 | 57 | |
| 217 | 58 | |
| 221 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Parts in Min. of a Degree

Numbers

Auxiliary Arguments.

| ′ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0660 | 1027 | 1394 | 1761 | 2128 | 2495 | 2863 | 3230 | 3597 | 3964 | 4331 | 4698 | 5065 | 5432 | 5799 | 6167 | 6534 |
| 1 | 1028 | 1395 | 1762 | 2129 | 2496 | 2864 | 3231 | 3598 | 3965 | 4332 | 4699 | 5066 | 5433 | 5800 | 6168 | 6535 | 6902 |
| 2 | 1396 | 1763 | 2130 | 2497 | 2865 | 3232 | 3599 | 3966 | 4333 | 4700 | 5067 | 5434 | 5801 | 6169 | 6536 | 6903 | 7270 |
| 3 | 1764 | 2131 | 2498 | 2866 | 3233 | 3600 | 3967 | 4334 | 4701 | 5068 | 5435 | 5802 | 6170 | 6537 | 6904 | 7271 | 7638 |
| 4 | 2132 | 2499 | 2867 | 3234 | 3601 | 3968 | 4335 | 4702 | 5069 | 5436 | 5803 | 6171 | 6538 | 6905 | 7272 | 7639 | 8006 |
| 5 | 2500 | 2868 | 3235 | 3602 | 3969 | 4336 | 4703 | 5070 | 5437 | 5804 | 6172 | 6539 | 6906 | 7273 | 7640 | 8007 | 8374 |
| 6 | 2869 | 3236 | 3603 | 3970 | 4337 | 4704 | 5071 | 5438 | 5805 | 6173 | 6540 | 6907 | 7274 | 7641 | 8008 | 8375 | 8742 |
| 7 | 3237 | 3604 | 3971 | 4338 | 4705 | 5072 | 5439 | 5806 | 6174 | 6541 | 6908 | 7275 | 7642 | 8009 | 8376 | 8743 | 9110 |
| 8 | 3605 | 3972 | 4339 | 4706 | 5073 | 5440 | 5807 | 6175 | 6542 | 6909 | 7276 | 7643 | 8010 | 8377 | 8744 | 9111 | 9478 |
| 9 | 3973 | 4340 | 4707 | 5074 | 5441 | 5808 | 6176 | 6543 | 6910 | 7277 | 7644 | 8011 | 8378 | 8745 | 9112 | 9479 | 9846 |
| 10 | 4341 | 4708 | 5075 | 5442 | 5809 | 6177 | 6544 | 6911 | 7278 | 7645 | 8012 | 8379 | 8746 | 9113 | 9480 | 9847 | 10214 |
| 11 | 4709 | 5076 | 5443 | 5810 | 6178 | 6545 | 6912 | 7279 | 7646 | 8013 | 8380 | 8747 | 9114 | 9481 | 9848 | 10215 | 10582 |
| 12 | 5077 | 5444 | 5811 | 6179 | 6546 | 6913 | 7280 | 7647 | 8014 | 8381 | 8748 | 9115 | 9482 | 9849 | 10216 | 10583 | 10950 |
| 13 | 5445 | 5812 | 6180 | 6547 | 6914 | 7281 | 7648 | 8015 | 8382 | 8749 | 9116 | 9483 | 9850 | 10217 | 10584 | 10951 | 11318 |
| 14 | 5813 | 6181 | 6548 | 6915 | 7282 | 7649 | 8016 | 8383 | 8750 | 9117 | 9484 | 9851 | 10218 | 10585 | 10952 | 11319 | 11686 |
| 15 | 6182 | 6549 | 6916 | 7283 | 7650 | 8017 | 8384 | 8751 | 9118 | 9485 | 9852 | 10219 | 10586 | 10953 | 11320 | 11687 | 12054 |
| 16 | 6550 | 6917 | 7284 | 7651 | 8018 | 8385 | 8752 | 9119 | 9486 | 9853 | 10220 | 10587 | 10954 | 11321 | 11688 | 12055 | 12422 |
| 17 | 6918 | 7285 | 7652 | 8019 | 8386 | 8753 | 9120 | 9487 | 9854 | 10221 | 10588 | 10955 | 11322 | 11689 | 12056 | 12423 | 12790 |
| 18 | 7286 | 7653 | 8020 | 8387 | 8754 | 9121 | 9488 | 9855 | 10222 | 10589 | 10956 | 11323 | 11690 | 12057 | 12424 | 12791 | 13158 |
| 19 | 7654 | 8021 | 8388 | 8755 | 9122 | 9489 | 9856 | 10223 | 10590 | 10957 | 11324 | 11691 | 12058 | 12425 | 12792 | 13159 | 13526 |
| 20 | 8022 | 8389 | 8756 | 9123 | 9490 | 9857 | 10224 | 10591 | 10958 | 11325 | 11692 | 12059 | 12426 | 12793 | 13160 | 13527 | 13894 |
| 21 | 8390 | 8757 | 9124 | 9491 | 9858 | 10225 | 10592 | 10959 | 11326 | 11693 | 12060 | 12427 | 12794 | 13161 | 13528 | 13895 | 14262 |
| 22 | 8758 | 9125 | 9492 | 9859 | 10226 | 10593 | 10960 | 11327 | 11694 | 12061 | 12428 | 12795 | 13162 | 13529 | 13896 | 14263 | 14630 |
| 23 | 9126 | 9493 | 9860 | 10227 | 10594 | 10961 | 11328 | 11695 | 12062 | 12429 | 12796 | 13163 | 13530 | 13897 | 14264 | 14631 | 14998 |
| 24 | 9494 | 9861 | 10228 | 10595 | 10962 | 11329 | 11696 | 12063 | 12430 | 12797 | 13164 | 13531 | 13898 | 14265 | 14632 | 14999 | 15366 |
| 25 | 9862 | 10229 | 10596 | 10963 | 11330 | 11697 | 12064 | 12431 | 12798 | 13165 | 13532 | 13899 | 14266 | 14633 | 15000 | 15367 | 15734 |
| 26 | 10230 | 10597 | 10964 | 11331 | 11698 | 12065 | 12432 | 12799 | 13166 | 13533 | 13900 | 14267 | 14634 | 15001 | 15368 | 15735 | 16102 |
| 27 | 10598 | 10965 | 11332 | 11699 | 12066 | 12433 | 12800 | 13167 | 13534 | 13901 | 14268 | 14635 | 15002 | 15369 | 15736 | 16103 | 16470 |
| 28 | 10966 | 11333 | 11700 | 12067 | 12434 | 12801 | 13168 | 13535 | 13902 | 14269 | 14636 | 15003 | 15370 | 15737 | 16104 | 16471 | 16838 |
| 29 | 11334 | 11701 | 12068 | 12435 | 12802 | 13169 | 13536 | 13903 | 14270 | 14637 | 15004 | 15371 | 15738 | 16105 | 16472 | 16839 | 17206 |
| 30 | 11702 | 12069 | 12436 | 12803 | 13170 | 13537 | 13904 | 14271 | 14638 | 15005 | 15372 | 15739 | 16106 | 16473 | 16840 | 17207 | 17574 |
| 31 | 12070 | 12437 | 12804 | 13171 | 13538 | 13905 | 14272 | 14639 | 15006 | 15373 | 15740 | 16107 | 16474 | 16841 | 17208 | 17575 | 17942 |
| 32 | 12438 | 12805 | 13172 | 13539 | 13906 | 14273 | 14640 | 15007 | 15374 | 15741 | 16108 | 16475 | 16842 | 17209 | 17576 | 17943 | 18310 |
| 33 | 12806 | 13173 | 13540 | 13907 | 14274 | 14641 | 15008 | 15375 | 15742 | 16109 | 16476 | 16843 | 17210 | 17577 | 17944 | 18311 | 18678 |
| 34 | 13174 | 13541 | 13908 | 14275 | 14642 | 15009 | 15376 | 15743 | 16110 | 16477 | 16844 | 17211 | 17578 | 17945 | 18312 | 18679 | 19046 |
| 35 | 13542 | 13909 | 14276 | 14643 | 15010 | 15377 | 15744 | 16111 | 16478 | 16845 | 17212 | 17579 | 17946 | 18313 | 18680 | 19047 | 19414 |
| 36 | 13910 | 14277 | 14644 | 15011 | 15378 | 15745 | 16112 | 16479 | 16846 | 17213 | 17580 | 17947 | 18314 | 18681 | 19048 | 19415 | 19782 |
| 37 | 14278 | 14645 | 15012 | 15379 | 15746 | 16113 | 16480 | 16847 | 17214 | 17581 | 17948 | 18315 | 18682 | 19049 | 19416 | 19783 | 20150 |
| 38 | 14646 | 15013 | 15380 | 15747 | 16114 | 16481 | 16848 | 17215 | 17582 | 17949 | 18316 | 18683 | 19050 | 19417 | 19784 | 20151 | 20518 |
| 39 | 15014 | 15381 | 15748 | 16115 | 16482 | 16849 | 17216 | 17583 | 17950 | 18317 | 18684 | 19051 | 19418 | 19785 | 20152 | 20519 | 20886 |
| 40 | 15382 | 15749 | 16116 | 16483 | 16850 | 17217 | 17584 | 17951 | 18318 | 18685 | 19052 | 19419 | 19786 | 20153 | 20520 | 20887 | 21254 |
| 41 | 15750 | 16117 | 16484 | 16851 | 17218 | 17585 | 17952 | 18319 | 18686 | 19053 | 19420 | 19787 | 20154 | 20521 | 20888 | 21255 | 21622 |
| 42 | 16118 | 16485 | 16852 | 17219 | 17586 | 17953 | 18320 | 18687 | 19054 | 19421 | 19788 | 20155 | 20522 | 20889 | 21256 | 21623 | 21990 |
| 43 | 16486 | 16853 | 17220 | 17587 | 17954 | 18321 | 18688 | 19055 | 19422 | 19789 | 20156 | 20523 | 20890 | 21257 | 21624 | 21991 | 22358 |
| 44 | 16854 | 17221 | 17588 | 17955 | 18322 | 18689 | 19056 | 19423 | 19790 | 20157 | 20524 | 20891 | 21258 | 21625 | 21992 | 22359 | 22726 |
| 45 | 17222 | 17589 | 17956 | 18323 | 18690 | 19057 | 19424 | 19791 | 20158 | 20525 | 20892 | 21259 | 21626 | 21993 | 22360 | 22727 | 23094 |
| 46 | 17590 | 17957 | 18324 | 18691 | 19058 | 19425 | 19792 | 20159 | 20526 | 20893 | 21260 | 21627 | 21994 | 22361 | 22728 | 23095 | 23462 |
| 47 | 17958 | 18325 | 18692 | 19059 | 19426 | 19793 | 20160 | 20527 | 20894 | 21261 | 21628 | 21995 | 22362 | 22729 | 23096 | 23463 | 23830 |
| 48 | 18326 | 18693 | 19060 | 19427 | 19794 | 20161 | 20528 | 20895 | 21262 | 21629 | 21996 | 22363 | 22730 | 23097 | 23464 | 23831 | 24198 |
| 49 | 18694 | 19061 | 19428 | 19795 | 20162 | 20529 | 20896 | 21263 | 21630 | 21997 | 22364 | 22731 | 23098 | 23465 | 23832 | 24199 | 24566 |
| 50 | 19062 | 19429 | 19796 | 20163 | 20530 | 20897 | 21264 | 21631 | 21998 | 22365 | 22732 | 23099 | 23466 | 23833 | 24200 | 24567 | 24934 |
| 51 | 19430 | 19797 | 20164 | 20531 | 20898 | 21265 | 21632 | 21999 | 22366 | 22733 | 23100 | 23467 | 23834 | 24201 | 24568 | 24935 | 25302 |
| 52 | 19798 | 20165 | 20532 | 20899 | 21266 | 21633 | 22000 | 22367 | 22734 | 23101 | 23468 | 23835 | 24202 | 24569 | 24936 | 25303 | 25670 |
| 53 | 20166 | 20533 | 20900 | 21267 | 21634 | 22001 | 22368 | 22735 | 23102 | 23469 | 23836 | 24203 | 24570 | 24937 | 25304 | 25671 | 26038 |
| 54 | 20534 | 20901 | 21268 | 21635 | 22002 | 22369 | 22736 | 23103 | 23470 | 23837 | 24204 | 24571 | 24938 | 25305 | 25672 | 26039 | 26406 |
| 55 | 20902 | 21269 | 21636 | 22003 | 22370 | 22737 | 23104 | 23471 | 23838 | 24205 | 24572 | 24939 | 25306 | 25673 | 26040 | 26407 | 26774 |
| 56 | 21270 | 21637 | 22004 | 22371 | 22738 | 23105 | 23472 | 23839 | 24206 | 24573 | 24940 | 25307 | 25674 | 26041 | 26408 | 26775 | 27142 |
| 57 | 21638 | 22005 | 22372 | 22739 | 23106 | 23473 | 23840 | 24207 | 24574 | 24941 | 25308 | 25675 | 26042 | 26409 | 26776 | 27143 | 27510 |
| 58 | 22006 | 22373 | 22740 | 23107 | 23474 | 23841 | 24208 | 24575 | 24942 | 25309 | 25676 | 26043 | 26410 | 26777 | 27144 | 27511 | 27878 |
| 59 | 22374 | 22741 | 23108 | 23475 | 23842 | 24209 | 24576 | 24943 | 25310 | 25677 | 26044 | 26411 | 26778 | 27145 | 27512 | 27879 | 28246 |
| 60 | 22742 | 23109 | 23476 | 23843 | 24210 | 24577 | 24944 | 25311 | 25678 | 26045 | 26412 | 26779 | 27146 | 27513 | 27880 | 28247 | 28614 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

| Parts for Seconds of Argum. | S. A. A. & A. D. 44° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0′ | 128 (129)6830 | 7194 | 7557 | 7921 | 8284 | 8648 | 9012 | 9376 | 9740 | 0104 | 0468 | 0832 | 1196 | 1560 | 1924 | 2289 | 2653 |
| 6 | 1 | 7031 | 7394 | 7757 | 8121 | 8484 | 8848 | 9212 | 9575 | 9939 | 0303 | 0667 | 1031 | 1395 | 1759 | 2123 | 2488 | 2852 |
| 12 | 2 | 7231 | 7594 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3051 |
| 18 | 3 | 7431 | 7795 | 8158 | 8521 | 8885 | 9248 | 9612 | 9975 | 0339 | 0702 | 1066 | 1430 | 1794 | 2158 | 2521 | 2886 | 3250 |
| 24 | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | 5 | 128 (129)[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | 6 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | 7 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | 8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 9 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 60 | 10 | 128 (129)[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 66 | 11 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 72 | 12 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 78 | 13 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 84 | 14 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 90 | 15 | 128 (129)[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 96 | 16 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 102 | 17 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 108 | 18 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 114 | 19 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 120 | 20 | 129 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 126 | 21 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 132 | 22 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 138 | 23 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 144 | 24 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 150 | 25 | 129 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 156 | 26 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 162 | 27 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 168 | 28 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 174 | 29 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 180 | 30 | 129 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 186 | 31 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 192 | 32 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 198 | 33 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 204 | 34 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 210 | 35 | 129 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 216 | 36 | 4081 | 4441 | 4801 | 5161 | 5521 | 5881 | 6241 | 6601 | 6961 | 7322 | 7682 | 8042 | 8403 | 8763 | 9124 | 9484 | 9845 |
| 222 | 37 | 129 (13[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 228 | 38 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 234 | 39 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 240 | 40 | 129 (13[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 246 | 41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 252 | 42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 258 | 43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 264 | 44 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 270 | 45 | 129 (13[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 276 | 46 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 282 | 47 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 288 | 48 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 294 | 49 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 300 | 50 | 129 (13[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 306 | 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 312 | 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 318 | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 324 | 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 330 | 55 | 129 (13[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 336 | 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 342 | 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 348 | 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 354 | 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 360 | 60 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| Parts for Sec. of C. D. addit | C. D. 44° | Sums |
|---|---|---|
| 0 | 0′ | 428 0660 |
| 3 | 1 | 0862 |
| 7 | 2 | [illegible] |
| 10 | 3 | 1267 |
| 14 | 4 | [illegible] |
| 17 | 5 | [illegible] |
| 20 | 6 | [illegible] |
| 24 | 7 | [illegible] |
| 27 | 8 | [illegible] |
| 31 | 9 | [illegible] |
| 34 | 10 | [illegible] |
| 37 | 11 | [illegible] |
| 41 | 12 | [illegible] |
| 44 | 13 | [illegible] |
| 48 | 14 | [illegible] |
| 51 | 15 | [illegible] |
| 54 | 16 | [illegible] |
| 58 | 17 | [illegible] |
| 61 | 18 | [illegible] |
| 65 | 19 | [illegible] |
| 68 | 20 | [illegible] |
| 71 | 21 | [illegible] |
| 75 | 22 | [illegible] |
| 78 | 23 | [illegible] |
| 82 | 24 | [illegible] |
| 85 | 25 | 428 5731 |
| 88 | 26 | [illegible] |
| 92 | 27 | [illegible] |
| 95 | 28 | [illegible] |
| 99 | 29 | [illegible] |
| 102 | 30 | [illegible] |
| 106 | 31 | [illegible] |
| 109 | 32 | [illegible] |
| 113 | 33 | [illegible] |
| 116 | 34 | [illegible] |
| 119 | 35 | [illegible] |
| 123 | 36 | 7974 |
| 126 | 37 | [illegible] |
| 130 | 38 | [illegible] |
| 133 | 39 | [illegible] |
| 136 | 40 | [illegible] |
| 140 | 41 | [illegible] |
| 143 | 42 | [illegible] |
| 147 | 43 | [illegible] |
| 150 | 44 | [illegible] |
| 153 | 45 | [illegible] |
| 157 | 46 | [illegible] |
| 160 | 47 | [illegible] |
| 163 | 48 | [illegible] |
| 167 | 49 | [illegible] |
| 170 | 50 | [illegible] |
| 173 | 51 | [illegible] |
| 177 | 52 | [illegible] |
| 180 | 53 | [illegible] |
| 184 | 54 | [illegible] |
| 187 | 55 | [illegible] |
| 191 | 56 | [illegible] |
| 194 | 57 | [illegible] |
| 198 | 58 | [illegible] |
| 201 | 59 | [illegible] |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| 45° | Numbers |
|---|---|
| 0 | 71 9138 |
| 1 | 8935 |
| 2 | 8733 |
| 3 | 8531 |
| 4 | 8328 |
| 5 | 171 8126 |
| 6 | 7924 |
| 7 | 7721 |
| 8 | 7519 |
| 9 | 7316 |
| 10 | 171 7113 |
| 11 | 6911 |
| 12 | 6708 |
| 13 | 6505 |
| 14 | 6302 |
| 15 | 171 6099 |
| 16 | 5896 |
| 17 | 5693 |
| 18 | 5490 |
| 19 | 5286 |
| 20 | 171 5083 |
| 21 | 4880 |
| 22 | 4676 |
| 23 | 4473 |
| 24 | 4270 |
| 25 | 171 4066 |
| 26 | 3862 |
| 27 | 3658 |
| 28 | 3454 |
| 29 | 3250 |
| 30 | 171 3047 |
| 31 | 2843 |
| 32 | 2639 |
| 33 | 2434 |
| 34 | 2230 |
| 35 | 171 2026 |
| 36 | 1822 |
| 37 | 1617 |
| 38 | 1413 |
| 39 | 1209 |
| 40 | 171 1004 |
| 41 | 0799 |
| 42 | 0595 |
| 43 | 0390 |
| 44 | 0185 |
| 45 | 170 9981 |
| 46 | 9776 |
| 47 | 9571 |
| 48 | 9366 |
| 49 | 9161 |
| 50 | 170 8956 |
| 51 | 8750 |
| 52 | 8545 |
| 53 | [illegible] |
| 54 | 8141 |
| 55 | 170 [illegible] |
| 56 | 7731 |
| 57 | 7526 |
| 58 | 7321 |
| 59 | 7115 |

| Parts for Seconds of Auxil. Argum. | A.M. & A.D. 45° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 129 2893 | 3249 | 3606 | 3962 | 4319 | 4675 | 5031 | 5388 | 5745 | 6102 | 6459 | 6816 | 7173 | 7530 | 7887 | 8244 | 8601 |
| 6 | 1 | 3690 | 3455 | 3811 | 4168 | 4524 | 4880 | 5237 | 5594 | 5951 | 6307 | 6664 | 7020 | 7377 | 7734 | 8091 | 8448 | 8805 |
| 12 | 2 | 3305 | 3661 | 4017 | 4373 | 4729 | 5086 | 5442 | 5799 | 6155 | 6511 | 6868 | 7225 | 7582 | 7938 | 8295 | 8652 | 9009 |
| 18 | 3 | 3511 | 3867 | 4223 | 4579 | 4935 | 5291 | 5647 | 6004 | 6360 | 6717 | 7073 | 7430 | 7786 | 8143 | 8500 | 8856 | 9213 |
| 24 | 4 | 3716 | 4072 | 4428 | 4784 | 5140 | 5496 | 5853 | 6209 | 6565 | 6922 | 7278 | 7634 | 7991 | 8348 | 8704 | 9061 | 9418 |
| 29 | 5 | 3922 | 4278 | 4634 | 4990 | 5346 | 5702 | 6058 | 6414 | 6770 | 7127 | 7483 | 7839 | 8196 | 8552 | 8909 | 9265 | 9622 |
| 35 | 6 | 4128 | 4484 | 4840 | 5196 | 5551 | 5907 | 6263 | 6619 | 6975 | 7332 | 7688 | 8044 | 8400 | 8757 | 9113 | 9470 | 9826 |
| 41 | 7 | 129 (130) 4334 | 4690 | 5046 | 5401 | 5757 | 6113 | 6469 | 6825 | 7181 | 7537 | 7893 | 8249 | 8605 | 8962 | 9318 | 9674 | [illegible] |
| 47 | 8 | 4541 | 4896 | 5252 | 5607 | 5963 | 6319 | 6674 | 7030 | 7386 | 7742 | [illegible] | 8454 | 8811 | 9166 | [illegible] | 9878 | 0235 |
| 53 | 9 | 4747 | 5102 | 5458 | 5813 | 6168 | 6524 | 6880 | 7236 | 7591 | 7947 | 8303 | 8659 | 9015 | 9371 | [illegible] | [illegible] | [illegible] |
| 59 | 10 | 129 (130) 4953 | 5308 | 5664 | 6019 | 6374 | 6730 | 7085 | 7441 | 7797 | 8152 | 8508 | 8864 | 9220 | 9576 | [illegible] | [illegible] | [illegible] |
| 65 | 11 | 5159 | 5515 | 5870 | 6225 | [illegible] | 6936 | 7291 | 7647 | 8002 | 8358 | 8714 | [illegible] | 9425 | 9781 | [illegible] | [illegible] | [illegible] |
| 71 | 12 | 5366 | 5721 | [illegible] | 6431 | [illegible] | 7142 | 7497 | 7852 | 8208 | 8563 | 8919 | [illegible] | 9630 | 9986 | [illegible] | [illegible] | [illegible] |
| 77 | 13 | 5572 | 5927 | [illegible] | [illegible] | [illegible] | 7347 | 7703 | 8058 | 8413 | 8769 | [illegible] | [illegible] | 9835 | [illegible] | [illegible] | [illegible] | [illegible] |
| 83 | 14 | 5779 | [illegible] | [illegible] | [illegible] | [illegible] | 7553 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 88 | 15 | 129 (130) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 94 | 16 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 100 | 17 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 106 | 18 | 6605 | 6960 | 7314 | 7669 | 8023 | 8378 | 8733 | 9088 | 9442 | 9797 | 0152 | 0507 | 0862 | 1217 | 1573 | 1928 | 2283 |
| 112 | 19 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 118 | 20 | 129 (130) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 124 | 21 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 130 | 22 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 135 | 23 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 141 | 24 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 147 | 25 | 129 (130) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 153 | 26 | 8461 | 8815 | 9168 | 9522 | 9876 | 0230 | 0584 | 0938 | 1292 | 1646 | 2000 | 2354 | 2708 | 3062 | 3417 | 3771 | 4125 |
| 159 | 27 | 8468 | 8822 | 9176 | 9529 | 9883 | 0236 | 0590 | 0944 | 1298 | 1652 | 2006 | 2360 | 2714 | 3068 | 3423 | 3777 | 4131 |
| 165 | 28 | 8676 | 9029 | 9383 | 9736 | 0090 | 0443 | 0797 | 1151 | 1505 | 1858 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 171 | 29 | 8883 | 9237 | 9590 | 9943 | 0297 | 0650 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 177 | 30 | 129 (130) 9091 | 9444 | 9797 | 0150 | 0504 | 0857 | 1211 | 1564 | 1918 | 2271 | 2625 | 2979 | 3333 | [illegible] | [illegible] | [illegible] | [illegible] |
| 183 | 31 | 9298 | 9651 | 0004 | 0358 | 0711 | 1064 | 1417 | 1771 | 2124 | 2478 | 2832 | 3185 | 3539 | [illegible] | [illegible] | [illegible] | [illegible] |
| 189 | 32 | 9506 | 9859 | 0212 | 0565 | 0918 | 1271 | 1624 | 1978 | 2331 | 2685 | 3038 | 3392 | 3745 | [illegible] | [illegible] | [illegible] | [illegible] |
| 194 | 33 | 9713 | 0066 | 0419 | 0772 | 1125 | 1478 | 1831 | 2185 | 2538 | 2891 | 3245 | 3598 | 3951 | [illegible] | [illegible] | [illegible] | [illegible] |
| 200 | 34 | 9921 | 0274 | 0627 | 0980 | 1332 | 1685 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 206 | 35 | 130 0129 | 0481 | 0834 | 1187 | 1540 | 1893 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 212 | 36 | 0337 | 0689 | 1042 | 1394 | 1747 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 218 | 37 | 0544 | 0897 | 1249 | 1602 | 1955 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 224 | 38 | 0752 | 1105 | 1457 | 1810 | 2162 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 230 | 39 | 0960 | 1313 | 1665 | 2017 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 236 | 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 242 | 41 | 1377 | 1729 | 2081 | 2433 | 2785 | 3137 | 3489 | 3842 | 4194 | 4547 | 4899 | 5252 | 5605 | 5957 | [illegible] | [illegible] | [illegible] |
| 247 | 42 | 1585 | 1937 | 2289 | 2641 | 2993 | 3345 | 3697 | 4049 | 4402 | 4754 | 5107 | 5459 | 5812 | 6164 | 6517 | 6870 | [illegible] |
| 253 | 43 | 1793 | 2145 | 2497 | 2848 | 3200 | 3552 | 3905 | 4257 | 4609 | 4961 | 5314 | 5666 | 6019 | 6371 | [illegible] | [illegible] | [illegible] |
| 259 | 44 | 2001 | 2353 | 2705 | 3056 | 3408 | 3760 | 4112 | 4464 | 4816 | 5169 | 5521 | 5873 | 6226 | [illegible] | [illegible] | [illegible] | [illegible] |
| 265 | 45 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 271 | 46 | 2418 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 277 | 47 | 2626 | 2978 | 3330 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 283 | 48 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 289 | 49 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 295 | 50 | 130 3252 | 3603 | 3954 | 4305 | 4657 | 5008 | 5359 | 5711 | 6062 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 301 | 51 | 3461 | 3812 | 4163 | 4514 | 4865 | 5216 | 5567 | 5919 | 6270 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 306 | 52 | 3670 | 4020 | 4371 | 4722 | 5073 | 5424 | 5776 | 6127 | 6478 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 312 | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6335 | 6686 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 318 | 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6543 | 6894 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 324 | 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6049 | 6400 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 330 | 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6258 | 6609 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 336 | 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6466 | 6817 | [illegible] | [illegible] | [illegible] | 7869 | 8220 | 8571 | 8922 | 9273 | 9624 | 9975 |
| 342 | 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8077 | 8428 | 8779 | 9130 | 9481 | 9832 | 0183 |
| 348 | 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8286 | 8636 | 8987 | 9338 | 9689 | 0039 | 0390 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Part of Sum of App. Alt. & S. D. 45°

Auxiliary Arguments.

| ´ | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 129 (130)8958 | 9316 | 9673 | 0030 | 0388 | 0745 | 1103 | 1461 | 1819 | 2177 | 2534 | 2892 | 3250 | 3608 | 3966 | 4324 | 4682 |
| 6 | 1 | | 9162 | 9519 | 9877 | 0234 | 0591 | 0949 | 1306 | 1664 | 2022 | 2379 | 2737 | 3095 | 3453 | 3811 | 4169 | 4526 | 4885 |
| 12 | 2 | | 9366 | 9723 | 0081 | 0438 | 0795 | 1152 | 1510 | 1867 | 2225 | 2582 | 2940 | 3298 | 3656 | 4013 | 4371 | 4729 | 5087 |
| 18 | 3 | | 9570 | 9927 | 0284 | 0642 | 0999 | 1356 | 1713 | 2070 | 2428 | 2785 | 3143 | 3501 | 3858 | 4216 | 4574 | 4931 | 5289 |
| 24 | 4 | | 9774 | 0131 | 0488 | 0845 | 1202 | 1560 | 1917 | 2274 | 2631 | 2989 | 3346 | 3704 | 4061 | 4419 | 4776 | 5134 | 5492 |
| 30 | 5 | 129 (130)9978 | 0335 | 0692 | 1049 | 1406 | 1763 | 2120 | 2477 | 2835 | 3192 | 3549 | 3907 | 4264 | 4621 | 4979 | 5337 | 5694 |
| 36 | 6 | 130 | 0183 | 0540 | 0896 | 1253 | 1610 | 1967 | 2324 | 2681 | 3038 | 3396 | 3753 | 4110 | 4467 | 4824 | 5182 | 5539 | 5897 |
| 42 | 7 | | 0387 | 0744 | 1100 | 1457 | 1814 | 2171 | 2528 | 2885 | 3241 | 3599 | 3956 | 4313 | 4670 | 5027 | 5385 | 5742 | 6100 |
| 48 | 8 | | 0592 | 0948 | 1305 | 1661 | 2018 | 2375 | 2731 | 3088 | 3445 | 3802 | 4159 | 4516 | 4873 | 5230 | 5588 | 5945 | 6302 |
| 54 | 9 | | 0796 | 1153 | 1509 | 1865 | 2222 | 2578 | 2935 | 3292 | 3649 | 4005 | 4362 | 4719 | 5076 | 5433 | 5791 | 6148 | 6505 |
| 60 | 10 | 130 | 1000 | 1357 | 1713 | 2069 | 2426 | 2782 | 3139 | 3496 | 3852 | 4209 | 4566 | 4923 | 5280 | 5637 | 5995 | 6352 | 6709 |
| 66 | 11 | | 1205 | 1561 | 1917 | 2274 | 2630 | 2986 | 3343 | 3699 | 4056 | 4413 | 4769 | 5126 | 5483 | 5840 | 6197 | 6554 | 6911 |
| 72 | 12 | | 1409 | 1766 | 2122 | 2478 | 2834 | 3190 | 3547 | 3903 | 4260 | 4616 | 4973 | 5329 | 5686 | 6043 | 6400 | 6757 | 7114 |
| 78 | 13 | | 1614 | 1970 | 2326 | 2682 | 3038 | 3395 | 3751 | 4107 | 4464 | 4820 | 5176 | 5533 | 5890 | 6246 | 6603 | 6960 | 7318 |
| 84 | 14 | | 1818 | 2175 | 2531 | 2887 | 3243 | 3599 | 3955 | 4311 | 4667 | 5024 | 5380 | 5737 | 6093 | 6450 | 6806 | 7163 | 7521 |
| 90 | 15 | 130 | 2024 | 2380 | 2735 | 3091 | 3447 | 3803 | 4159 | 4515 | 4871 | 5228 | 5584 | 5940 | 6297 | 6653 | 7010 | 7366 | 7723 |
| 96 | 16 | | 2229 | 2584 | 2940 | 3296 | 3652 | 4007 | 4363 | 4719 | 5075 | 5432 | 5788 | 6144 | 6500 | 6857 | 7213 | 7569 | 7926 |
| 102 | 17 | | 2434 | 2789 | 3145 | 3500 | 3856 | 4212 | 4568 | 4924 | 5279 | 5635 | 5991 | 6348 | 6704 | 7060 | 7416 | 7773 | 8129 |
| 108 | 18 | | 2639 | 2994 | 3349 | 3705 | 4061 | 4417 | 4772 | 5128 | 5484 | 5839 | 6195 | 6551 | 6907 | 7264 | 7620 | 7976 | 8333 |
| 114 | 19 | | 2844 | 3199 | 3554 | 3910 | 4265 | 4621 | 4976 | 5332 | 5688 | 6044 | 6399 | 6755 | 7111 | 7467 | 7823 | 8180 | 8536 |
| 120 | 20 | 130 | 3049 | 3404 | 3759 | 4114 | 4470 | 4825 | 5181 | 5536 | 5892 | 6248 | 6603 | 6959 | 7314 | 7671 | 8027 | 8383 | 8739 |
| 126 | 21 | | 3254 | 3609 | 3964 | 4319 | 4675 | 5030 | 5385 | 5741 | 6096 | 6452 | 6807 | 7163 | 7519 | 7875 | 8231 | 8587 | 8943 |
| 132 | 22 | | 3459 | 3814 | 4169 | 4524 | 4879 | 5235 | 5590 | 5945 | 6301 | 6656 | 7011 | 7367 | 7723 | 8079 | 8434 | 8790 | 9146 |
| 138 | 23 | | 3664 | 4019 | 4374 | 4729 | 5084 | 5439 | 5795 | 6150 | 6505 | 6860 | 7216 | 7571 | 7927 | 8283 | 8638 | 8994 | 9350 |
| 144 | 24 | | 3870 | 4224 | 4579 | 4934 | 5289 | 5644 | 5999 | 6354 | 6710 | 7065 | 7420 | 7775 | 8131 | 8487 | 8842 | 9198 | 9553 |
| 150 | 25 | 130 | 4075 | 4430 | 4785 | 5140 | 5494 | 5849 | 6204 | 6559 | 6914 | 7269 | 7625 | 7980 | 8335 | 8691 | 9046 | 9402 | 9757 |
| 156 | 26 | | 4280 | 4635 | 4990 | 5344 | 5699 | 6054 | 6409 | 6764 | 7119 | 7474 | 7829 | 8184 | 8539 | 8895 | 9250 | 9605 | 9961 |
| 162 | 27 | 130 (131)4485 | 4840 | 5195 | 5549 | 5904 | 6259 | 6614 | 6968 | 7323 | 7678 | 8033 | 8388 | 8743 | 9098 | 9454 | 9809 | 0165 | |
| 168 | 28 | | 4691 | 5045 | 5400 | 5755 | 6110 | 6464 | 6819 | 7173 | 7528 | 7883 | 8238 | 8593 | 8948 | 9303 | 9658 | 0013 | 0369 |
| 174 | 29 | | 4896 | 5251 | 5606 | 5960 | 6315 | 6670 | 7024 | 7379 | 7733 | 8088 | 8443 | 8797 | 9152 | 9507 | 9862 | 0217 | 0573 |
| 180 | 30 | 130 (131)5101 | 5456 | 5811 | 6165 | 6520 | 6874 | 7229 | 7583 | 7938 | 8292 | 8647 | 9002 | 9357 | 9712 | 0066 | 0421 | 0776 | |
| 186 | 31 | | 5306 | 5661 | 6016 | 6371 | 6725 | 7080 | 7434 | 7789 | 8143 | 8498 | 8852 | 9207 | 9561 | 9916 | 0271 | 0625 | 0980 |
| 192 | 32 | | 5511 | 5866 | 6221 | 6576 | 6931 | 7285 | 7639 | 7993 | 8348 | 8702 | 9056 | 9411 | 9766 | 0120 | 0475 | 0830 | 1185 |
| 198 | 33 | | 5716 | 6071 | 6426 | 6782 | 7136 | 7490 | 7844 | 8198 | 8552 | 8907 | 9261 | 9616 | 9970 | 0325 | 0679 | 1034 | 1389 |
| 204 | 34 | | 5921 | 6276 | 6631 | 6987 | 7341 | 7695 | 8049 | 8403 | 8758 | 9112 | 9466 | 9820 | 0175 | 0529 | 0884 | 1238 | 1593 |
| 210 | 35 | 130 (131)6126 | 6481 | 6836 | 7193 | 7547 | 7901 | 8255 | 8609 | 8963 | 9317 | 9671 | 0025 | 0379 | 0734 | 1088 | 1443 | 1797 | |
| 216 | 36 | | 6331 | 6686 | 7041 | 7399 | 7753 | 8107 | 8460 | 8814 | 9168 | 9522 | 9876 | 0230 | 0584 | 0939 | 1293 | 1647 | 2002 |
| 222 | 37 | | 6536 | 6891 | 7246 | 7604 | 7958 | 8312 | 8666 | 9019 | 9373 | 9727 | 0081 | 0435 | 0789 | 1143 | 1497 | 1852 | 2206 |
| 228 | 38 | | 6741 | 7096 | 7451 | 7809 | 8163 | 8517 | 8871 | 9225 | 9578 | 9932 | 0286 | 0640 | 0994 | 1348 | 1702 | 2056 | 2411 |
| 234 | 39 | | 6946 | 7301 | 7656 | 8014 | 8368 | 8722 | 9076 | 9430 | 9784 | 0137 | 0491 | 0845 | 1199 | 1553 | 1907 | 2261 | 2615 |
| 240 | 40 | 130 (131)7151 | 7506 | 7861 | 8219 | 8573 | 8927 | 9282 | 9636 | 9989 | | | | | | | | | |
| 246 | 41 | | 7711 | 8066 | 8424 | 8778 | 9132 | 9487 | 9841 | 0195 | | | | | | | | | |
| 252 | 42 | | 7916 | 8271 | 8629 | 8983 | 9337 | 9692 | 0046 | | | | | | | | | | |
| 258 | 43 | | 8121 | 8476 | 8834 | 9188 | 9542 | 9897 | | | | | | | | | | | |
| 264 | 44 | | 8326 | 8681 | 9039 | 9393 | 9747 | | | | | | | | | | | | |
| 270 | 45 | 130 (131)8531 | 8886 | 9241 | 9598 | 9952 | | | | | | | | | | | | | |
| 276 | 46 | | 9091 | 9446 | 9803 | | | | | | | | | | | | | | |
| 282 | 47 | | 9296 | 9651 | 0008 | | | | | | | | | | | | | | |
| 288 | 48 | | 9501 | 9856 | | | | | | | | | | | | | | | |
| 294 | 49 | | 9706 | 0061 | | | | | | | | | | | | | | | |
| 300 | 50 | 131 | | | | | | 1342 | 1694 | | | | | | | | | | |
| 306 | 51 | | | | | | | 1548 | 1900 | | | | | | | | | | |
| 312 | 52 | | | | | | | 1754 | 2106 | | | | | | | | | | |
| 318 | 53 | | | | | | | | | | | | | | | | | | |
| 324 | 54 | 131 | | | | | | | | | | | | | | | | | |
| 330 | 55 | | | | | | | | | | 3077 | 3429 | 3781 | 4134 | 4486 | 4838 | | | |
| 336 | 56 | | | | | | | | | | 3284 | 3636 | 3988 | 4340 | 4692 | 5044 | | | |
| 342 | 57 | | | | | | | | | | 3490 | 3842 | 4194 | 4546 | 4898 | 5250 | 5602 | | |
| 348 | 58 | | | | | | | | | | 3697 | 4048 | 4400 | 4752 | 5104 | 5456 | | | |
| 354 | 59 | | | | | | | | | | | | | | | | | | |

Sums for finding the Corrected Distances.

| ´ | 45 | Sums |
|---|---|---|
| 0 | 0 | 429 2893 |
| 6 | 1 | 3099 |
| 12 | 2 | 3305 |
| 18 | 3 | 3511 |
| 24 | 4 | 3716 |
| 30 | 5 | 429 3922 |
| 36 | 6 | 4128 |
| 42 | 7 | 4335 |
| 48 | 8 | 4541 |
| 54 | 9 | 4747 |
| 60 | 10 | |
| 66 | 11 | |
| 72 | 12 | |
| 78 | 13 | |
| 84 | 14 | |
| 90 | 15 | |
| 96 | 16 | |
| 102 | 17 | |
| 108 | 18 | |
| 114 | 19 | |
| 120 | 20 | |
| 126 | 21 | |
| 132 | 22 | |
| 138 | 23 | |
| 144 | 24 | |
| 150 | 25 | |
| 156 | 26 | 8261 |
| 162 | 27 | 8469 |
| 168 | 28 | |
| 174 | 29 | |
| 180 | 30 | 429 9091 |
| 186 | 31 | 9296 |
| 192 | 32 | 9506 |
| 198 | 33 | 9713 |
| 204 | 34 | 9921 |
| 210 | 35 | 430 0129 |
| 216 | 36 | 0337 |
| 222 | 37 | 0545 |
| 228 | 38 | 0752 |
| 234 | 39 | 0960 |
| 240 | 40 | |
| 246 | 41 | |
| 252 | 42 | |
| 258 | 43 | |
| 264 | 44 | |
| 270 | 45 | |
| 276 | 46 | |
| 282 | 47 | |
| 288 | 48 | |
| 294 | 49 | |
| 300 | 50 | |
| 306 | 51 | |
| 312 | 52 | |
| 318 | 53 | |
| 324 | 54 | |
| 330 | 55 | |
| 336 | 56 | |
| 342 | 57 | |
| 348 | 58 | |
| 354 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| Diff. for Sec. of C.S.A. additive | C.S.A. 46° | Numbers |
|---|---|---|
| | 0 | 170 6291 |
| | 1 | 6695 |
| | 2 | 6489 |
| 207 | 3 | 6284 |
| 104 | 4 | 6078 |
| | 5 | 170 5872 |
| | 6 | 5668 |
| | 7 | 5459 |
| | 8 | 5253 |
| | 9 | 5047 |
| 173 | 10 | 170 4841 |
| | 11 | 4634 |
| 166 | 12 | 4428 |
| 163 | 13 | 4221 |
| 159 | 14 | 4015 |
| 156 | 15 | 169 3808 |
| 152 | 16 | 3601 |
| 149 | 17 | 3395 |
| 145 | 18 | 3188 |
| 141 | 19 | 2981 |
| 138 | 20 | 169 2774 |
| 135 | 21 | 2567 |
| 131 | 22 | 2360 |
| 128 | 23 | 2153 |
| 124 | 24 | 1946 |
| 121 | 25 | 170 1739 |
| 118 | 26 | 1531 |
| 114 | 27 | 1324 |
| 111 | 28 | 1117 |
| 107 | 29 | 0910 |
| 104 | 30 | 169 0703 |
| 100 | 31 | 0496 |
| 97 | 32 | 0287 |
| 93 | 33 | 0079 |
| 90 | 34 | 169 9871 |
| 86 | 35 | 9663 |
| 83 | 36 | 9455 |
| 80 | 37 | 9248 |
| 76 | 38 | 9040 |
| 73 | 39 | 8832 |
| 69 | 40 | 169 8624 |
| 66 | 41 | 8415 |
| 62 | 42 | 8207 |
| 59 | 43 | 7998 |
| 55 | 44 | 7790 |
| 52 | 45 | 169 7581 |
| 48 | 46 | 7374 |
| 45 | 47 | 7165 |
| 41 | 48 | 6957 |
| 38 | 49 | 6748 |
| 34 | 50 | 169 6539 |
| 31 | 51 | 6330 |
| 28 | 52 | 6122 |
| 24 | 53 | 5913 |
| 21 | 54 | 5704 |
| 17 | 55 | 169 5495 |
| 14 | 56 | 5286 |
| 10 | 57 | 5077 |
| 7 | 58 | 4868 |
| 3 | 59 | 4659 |

| Diff. for Seconds of Auxil. Argum. additive | Sums & A. D. 46° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| | 0 | 130 (131)5534 | [illegible] | | | | | | | | | | | | | | | |
| 6 | 1 | 5551 | 5901 | 6251 | 6601 | 6951 | 7301 | 7651 | 8002 | 8352 | 8702 | 9053 | 9403 | 9754 | 0104 | 0455 | 0805 | [illegible] |
| 12 | 2 | 5760 | 6110 | 6460 | 6810 | 7160 | 7510 | 7860 | 8210 | 8560 | 8911 | 9261 | 9611 | 9961 | 0311 | 0663 | 1013 | [illegible] |
| 17 | 3 | 5970 | 6319 | 6669 | 7019 | 7369 | 7718 | 8069 | 8419 | 8769 | 9119 | 9469 | 9820 | 0170 | 0520 | 0871 | 1221 | 1572 |
| 23 | 4 | [illegible] | | | | | | | | | | | | | | | | |
| 29 | 5 | 130 (131)6389 | 6738 | 7088 | 7437 | 7787 | 8137 | 8486 | 8836 | 9186 | 9536 | 9886 | 0236 | 0586 | 0937 | 1287 | [illegible] | |
| 35 | 6 | [illegible] | | | | | | | | | | | | | | | | |
| 41 | 7 | [illegible] | | | | | | | | | | | | | | | | |
| 46 | 8 | [illegible] | | | | | | | | | | | | | | | | |
| 52 | 9 | 7227 | 7576 | 7925 | 8275 | 8624 | 8973 | 9322 | 9672 | 0021 | 0371 | 0721 | 1070 | 1420 | 1770 | 2120 | 2469 | 2819 |
| 58 | 10 | 130 (131)7437 | 7786 | 8135 | 8484 | 8833 | 9182 | 9532 | 9881 | 0230 | 0580 | 0929 | 1279 | 1628 | 1978 | 2328 | [illegible] | |
| 64 | 11 | [illegible] | | | | | | | | | | | | | | | | |
| 69 | 12 | 7857 | 8205 | 8554 | 8903 | 9252 | 9601 | 9950 | 0299 | 0648 | 0998 | 1347 | 1696 | 2046 | 2395 | 2745 | 3094 | 3444 |
| 75 | 13 | [illegible] | | | | | | | | | | | | | | | | |
| 81 | 14 | [illegible] | | | | | | | | | | | | | | | | |
| 87 | 15 | 130 (131)[illegible] | | | | | | | | | | | | | | | | |
| 93 | 16 | [illegible] | | | | | | | | | | | | | | | | |
| 98 | 17 | [illegible] | | | | | | | | | | | | | | | | |
| 104 | 18 | [illegible] | | | | | | | | | | | | | | | | |
| 110 | 19 | [illegible] | | | | | | | | | | | | | | | | |
| 116 | 20 | 130 (131)[illegible] | | | | | | | | | | | | | | | | |
| 122 | 21 | [illegible] | | | | | | | | | | | | | | | | |
| 127 | 22 | [illegible] | | | | | | | | | | | | | | | | |
| 133 | 23 | 131 [illegible] | | | | | | | | | | | | | | | | |
| 139 | 24 | [illegible] | | | | | | | | | | | | | | | | |
| 145 | 25 | 131 | 0591 | 0938 | 1286 | 1633 | 1981 | 2329 | 2676 | 3024 | 3372 | 3720 | 4067 | 4415 | 4763 | 5112 | 5460 | 5808 |
| 151 | 26 | | 0802 | 1149 | 1496 | 1844 | 2191 | 2539 | 2886 | 3234 | 3582 | 3929 | 4277 | 4625 | 4973 | 5321 | 5669 | 6017 |
| 157 | 27 | [illegible] | | | | | | | | | | | | | | | | |
| 163 | 28 | [illegible] | | | | | | | | | | | | | | | | |
| 168 | 29 | [illegible] | | | | | | | | | | | | | | | | |
| 174 | 30 | 131 [illegible] | | | | | | | | | | | | | | | | |
| 180 | 31 | 1856 | 2203 | 2551 | 2897 | 3244 | 3591 | 3938 | 4285 | 4632 | 4979 | 5326 | 5674 | 6021 | 6368 | 6716 | 7063 | 7411 |
| 185 | 32 | 2067 | 2414 | 2761 | 3108 | 3454 | 3801 | 4148 | 4495 | 4842 | 5189 | 5536 | 5884 | 6231 | 6578 | [illegible] | | |
| 191 | 33 | [illegible] | | | | | | | | | | | | | | | | |
| 197 | 34 | 2490 | 2836 | 3183 | 3529 | 3876 | 4223 | 4569 | 4916 | 5263 | 5610 | 5957 | 6304 | 6651 | 6998 | 7345 | 7692 | 8040 |
| 202 | 35 | 131 [illegible] | | | | | | | | | | | | | | | | |
| 208 | 36 | 2912 | 3259 | 3605 | 3951 | 4298 | 4644 | 4991 | 5337 | 5684 | 6030 | 6377 | 6724 | 7071 | 7418 | 7765 | 8112 | 8458 |
| 214 | 37 | 3124 | 3470 | 3816 | 4162 | 4509 | 4855 | 5201 | 5548 | 5894 | 6241 | 6587 | 6934 | 7281 | 7628 | 7974 | 8321 | 8667 |
| 220 | 38 | 3335 | 3681 | 4027 | 4373 | 4720 | 5066 | 5412 | 5758 | 6105 | 6451 | 6798 | 7144 | 7491 | 7838 | 8184 | 8531 | 8877 |
| 226 | 39 | 3547 | 3893 | 4239 | 4585 | 4931 | 5277 | 5623 | 5969 | 6315 | 6662 | 7008 | 7355 | 7701 | 8048 | 8394 | 8741 | 9088 |
| 232 | 40 | 131 [illegible] | | | | | | | | | | | | | | | | |
| 237 | 41 | [illegible] | | | | | | | | | | | | | | | | |
| 243 | 42 | [illegible] | | | | | | | | | | | | | | | | |
| 249 | 43 | [illegible] | | | | | | | | | | | | | | | | |
| 255 | 44 | 131 (132)[illegible] | | | | | | | | | | | | | | | | |
| 261 | 45 | 131 (132)[illegible] | | | | | | | | | | | | | | | | |
| 266 | 46 | 5029 | 5374 | 5719 | 6064 | 6410 | 6755 | 7101 | 7446 | 7792 | 8137 | 8483 | 8829 | 9174 | 9520 | 9866 | 0212 | 0558 |
| 272 | 47 | 5241 | 5586 | 5931 | 6276 | 6621 | 6967 | 7312 | [illegible] | | | | | | | | | |
| 278 | 48 | 5453 | 5798 | 6143 | 6488 | 6833 | 7178 | 75 [illegible] | | | | | | | | | | |
| 284 | 49 | 5665 | 6010 | 6355 | 6700 | 7045 | 7390 | 77 [illegible] | | | | | | | | | | |
| 289 | 50 | 131 (132)[illegible] | | | | | | | | | | | | | | | | |
| 295 | 51 | 6089 | 643 [illegible] | | | | | | | | | | | | | | | |
| 301 | 52 | 6302 | 664 [illegible] | | | | | | | | | | | | | | | |
| 307 | 53 | 6514 | 6858 [illegible] | | | | | | | | | | | | | | | |
| 313 | 54 | [illegible] | | | | | | | | | | | | | | | | |
| 319 | 55 | 131 (132)[illegible] | | | | | | | | | | | | | | | | |
| 324 | 50 | [illegible] | | | | | | | | | | | | | | | | |
| 330 | 57 | [illegible] | | | | | | | | | | | | | | | | |
| 336 | 58 | [illegible] | | | | | | | | | | | | | | | | |
| 342 | 59 | [illegible] | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Prop. for Seconds of Auxil. Argum. additive | 45° & A. D. 46° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 131 | 1600 | 1651 | 1702 | 1753 | 1804 | 1855 | 1906 | 1957 | 2008 | 2059 | 2110 | 2161 | 2212 | 2263 | 2314 | 2365 |
| 1 | 1 | | 1597 | 1648 | 1699 | 1750 | 1801 | 1852 | 1903 | 1954 | 2005 | 2056 | 2107 | 2158 | 2209 | 2260 | 2311 | 2362 |
| 2 | 2 | | 1594 | 1645 | 1696 | 1747 | 1798 | 1849 | 1900 | 1951 | 2002 | 2053 | 2104 | 2155 | 2206 | 2257 | 2308 | 2359 |
| 3 | 3 | | 1591 | 1642 | 1693 | 1744 | 1795 | 1846 | 1897 | 1948 | 1999 | 2050 | 2101 | 2152 | 2203 | 2254 | 2305 | 2356 |
| 4 | 4 | | 1588 | 1639 | 1690 | 1741 | 1792 | 1843 | 1894 | 1945 | 1996 | 2047 | 2098 | 2149 | 2200 | 2251 | 2302 | 2353 |
| 5 | 5 | 131 | 1585 | 1636 | 1687 | 1738 | 1789 | 1840 | 1891 | 1942 | 1993 | 2044 | 2095 | 2146 | 2197 | 2248 | 2299 | 2350 |
| 6 | 6 | | 1582 | 1633 | 1684 | 1735 | 1786 | 1837 | 1888 | 1939 | 1990 | 2041 | 2092 | 2143 | 2194 | 2245 | 2296 | 2347 |
| 7 | 7 | | 1579 | 1630 | 1681 | 1732 | 1783 | 1834 | 1885 | 1936 | 1987 | 2038 | 2089 | 2140 | 2191 | 2242 | 2293 | 2344 |
| 8 | 8 | | 1576 | 1627 | 1678 | 1729 | 1780 | 1831 | 1882 | 1933 | 1984 | 2035 | 2086 | 2137 | 2188 | 2239 | 2290 | 2341 |
| 9 | 9 | | 1573 | 1624 | 1675 | 1726 | 1777 | 1828 | 1879 | 1930 | 1981 | 2032 | 2083 | 2134 | 2185 | 2236 | 2287 | 2338 |
| 10 | 10 | 131 | 1570 | 1621 | 1672 | 1723 | 1774 | 1825 | 1876 | 1927 | 1978 | 2029 | 2080 | 2131 | 2182 | 2233 | 2284 | 2335 |
| 11 | 11 | | 1567 | 1618 | 1669 | 1720 | 1771 | 1822 | 1873 | 1924 | 1975 | 2026 | 2077 | 2128 | 2179 | 2230 | 2281 | 2332 |
| 12 | 12 | | 1564 | 1615 | 1666 | 1717 | 1768 | 1819 | 1870 | 1921 | 1972 | 2023 | 2074 | 2125 | 2176 | 2227 | 2278 | 2329 |
| 13 | 13 | | 1561 | 1612 | 1663 | 1714 | 1765 | 1816 | 1867 | 1918 | 1969 | 2020 | 2071 | 2122 | 2173 | 2224 | 2275 | 2326 |
| 14 | 14 | | 1558 | 1609 | 1660 | 1711 | 1762 | 1813 | 1864 | 1915 | 1966 | 2017 | 2068 | 2119 | 2170 | 2221 | 2272 | 2323 |
| 15 | 15 | 131 (132) | 1555 | 1606 | 1657 | 1708 | 1759 | 1810 | 1861 | 1912 | 1963 | 2014 | 2065 | 2116 | 2167 | 2218 | 2269 | 2320 |
| 16 | 16 | | 4627 | 4976 | 5325 | 5675 | 6024 | 6374 | 6723 | 7073 | 7423 | 7773 | 8122 | 8472 | 8822 | 9172 | 9522 | 9872 | 0223 |
| 17 | 17 | | 4624 | 4973 | 5322 | 5672 | 6021 | 6371 | 6720 | 7070 | 7420 | 7770 | 8119 | 8469 | 8819 | 9169 | 9519 | 9869 | 0220 |
| 18 | 18 | | 5043 | 5393 | 5742 | 0091 | 0440 | 0790 | 7139 | 7489 | 7838 | 8188 | 8537 | 8887 | 9237 | 9586 | 9936 | 0286 | 0636 |
| 19 | 19 | | 5252 | 5601 | 5950 | 6300 | 6649 | 6998 | 7347 | 7696 | 8046 | 8395 | 8745 | 9094 | 9444 | 9794 | 0143 | 0493 | 0843 |
| 20 | 20 | 131 (132) | 5461 | 5809 | 6158 | 6507 | 6857 | 7206 | 7555 | 7904 | 8253 | 8603 | 8952 | 9302 | 9651 | 0001 | 0350 | 0700 | 1050 |
| 21 | 21 | | 5669 | 6018 | 6367 | 6716 | 7065 | 7414 | 7763 | 8112 | 8461 | 8811 | 9160 | 9509 | 9859 | 0208 | 0558 | 0907 | 1257 |
| 22 | 22 | | 5878 | 6226 | 6575 | 6924 | 7273 | 7622 | 7971 | 8320 | 8669 | 9018 | 9367 | 9717 | 0066 | 0415 | 0765 | 1114 | 1464 |
| 23 | 23 | | 6087 | 6435 | 6784 | 7133 | 7482 | 7831 | 8179 | 8528 | 8877 | 9226 | 9575 | 9924 | 0273 | 0623 | 0972 | 1321 | 1671 |
| 24 | 24 | | 6295 | 6644 | 6993 | 7341 | 7690 | 8039 | 8387 | 8736 | 9085 | 9434 | 9783 | 0132 | 0481 | 0830 | 1179 | 1528 | 1877 |
| 25 | 25 | 131 (132) | 6503 | 6852 | 7201 | 7550 | 7898 | 8247 | 8596 | 8944 | 9293 | 9642 | 9990 | 0339 | 0688 | 1037 | 1386 | 1735 | 2084 |
| 26 | 26 | | 6712 | 7060 | 7409 | 7758 | 8107 | 8455 | 8804 | 9153 | 9501 | 9850 | 0199 | 0547 | 0896 | 1245 | 1594 | 1943 | 2292 |
| 27 | 27 | | 6920 | 7269 | 7617 | 7966 | 8315 | 8663 | 9012 | 9360 | 9709 | 0057 | 0406 | 0755 | 1104 | 1453 | 1802 | 2151 | 2500 |
| 28 | 28 | | 7128 | 7477 | 7826 | 8174 | 8523 | 8872 | 9220 | 9569 | 9917 | 0266 | 0614 | 0963 | 1312 | 1661 | 2010 | 2358 | 2707 |
| 29 | 29 | | 7337 | 7685 | 8034 | 8383 | 8731 | 9080 | 9428 | 9777 | 0125 | 0474 | 0822 | 1171 | 1520 | 1868 | 2217 | 2566 | 2914 |
| 30 | 30 | 131 (132) | 7545 | 7894 | 8242 | 8591 | 8940 | 9288 | 9637 | 9985 | 0334 | 0682 | 1031 | 1379 | 1727 | 2076 | 2424 | 2773 | 3122 |
| 31 | 31 | | 7753 | 8102 | 8451 | 8799 | 9148 | 9496 | 9845 | 0193 | 0542 | 0890 | 1239 | 1587 | 1935 | 2284 | 2632 | 2981 | 3329 |
| 32 | 32 | | 7962 | 8310 | 8659 | 9007 | 9356 | 9704 | 0053 | 0401 | 0751 | 1099 | 1447 | 1795 | 2143 | 2492 | 2840 | 3188 | 3537 |
| 33 | 33 | | 8170 | 8519 | 8867 | 9216 | 9564 | 9912 | 0261 | 0609 | 0958 | 1306 | 1654 | 2003 | 2351 | 2699 | 3047 | 3396 | 3744 |
| 34 | 34 | | 8378 | 8727 | 9075 | 9424 | 9772 | 0121 | 0469 | 0817 | 1166 | 1514 | 1862 | 2211 | 2559 | 2907 | 3256 | 3604 | 3952 |
| 35 | 35 | 131 (132) | 8586 | 8935 | 9283 | 9632 | 9980 | 0329 | 0677 | 1026 | 1374 | 1722 | 2070 | 2419 | 2767 | 3116 | 3464 | 3812 | 4161 |
| 36 | 36 | | 8795 | 9143 | 9492 | 9840 | 0189 | 0537 | 0886 | 1234 | 1582 | 1931 | 2279 | 2627 | 2976 | 3324 | 3672 | 4021 | 4369 |
| 37 | 37 | | 9003 | 9352 | 9700 | 0049 | 0397 | 0745 | 1094 | 1442 | 1791 | 2139 | 2487 | 2836 | 3184 | 3532 | 3881 | 4229 | 4577 |
| 38 | 38 | | 9212 | 9560 | 9909 | 0257 | 0606 | 0954 | 1302 | 1651 | 1999 | 2347 | 2696 | 3044 | 3392 | 3741 | 4089 | 4437 | 4786 |
| 39 | 39 | | 9420 | 9769 | 0117 | 0466 | 0814 | 1162 | 1511 | 1859 | 2207 | 2556 | 2904 | 3252 | 3601 | 3949 | 4297 | 4646 | 4994 |
| 40 | 40 | 131 (132) | 9629 | 9977 | 0326 | 0674 | 1022 | 1371 | 1719 | 2067 | 2416 | 2764 | 3112 | 3461 | 3809 | 4157 | 4506 | 4854 | 5202 |
| 41 | 41 | | 9837 | 0186 | 0534 | 0882 | 1231 | 1579 | 1927 | 2276 | 2624 | 2972 | 3321 | 3669 | 4017 | 4366 | 4714 | 5062 | 5411 |
| 42 | 42 | 132 | 0046 | 0394 | 0743 | 1091 | 1439 | 1788 | 2136 | 2484 | 2833 | 3181 | 3529 | 3878 | 4226 | 4574 | 4923 | 5271 | 5619 |
| 43 | 43 | | 0254 | 0603 | 0951 | 1300 | 1648 | 1996 | 2345 | 2693 | 3041 | 3390 | 3738 | 4086 | 4435 | 4783 | 5131 | 5480 | 5828 |
| 44 | 44 | | 0463 | 0811 | 1160 | 1508 | 1856 | 2205 | 2553 | 2901 | 3250 | 3598 | 3946 | 4295 | 4643 | 4991 | 5340 | 5688 | 6036 |
| 45 | 45 | 132 | 0671 | 1020 | 1368 | 1717 | 2065 | 2413 | 2762 | 3110 | 3458 | 3807 | 4155 | 4503 | 4852 | 5200 | 5548 | 5897 | 6245 |
| 46 | 46 | | 0880 | 1228 | 1577 | 1925 | 2273 | 2622 | 2970 | 3318 | 3667 | 4015 | 4363 | 4712 | 5060 | 5408 | 5757 | 6105 | 6453 |
| 47 | 47 | | 1088 | 1437 | 1785 | 2134 | 2482 | 2830 | 3179 | 3527 | 3875 | 4224 | 4572 | 4920 | 5269 | 5617 | 5965 | 6314 | 6662 |
| 48 | 48 | | 1297 | 1645 | 1994 | 2342 | 2690 | 3039 | 3387 | 3735 | 4084 | 4432 | 4780 | 5129 | 5477 | 5825 | 6174 | 6522 | 6870 |
| 49 | 49 | | 1505 | 1854 | 2202 | 2551 | 2899 | 3247 | 3596 | 3944 | 4292 | 4641 | 4989 | 5337 | 5686 | 6034 | 6382 | 6731 | 7079 |
| 50 | 50 | 132 | 1714 | 2062 | 2411 | 2759 | 3107 | 3456 | 3804 | 4152 | 4501 | 4849 | 5197 | 5546 | 5894 | 6242 | 6591 | 6939 | 7287 |
| 51 | 51 | | 1922 | 2271 | 2619 | 2968 | 3316 | 3664 | 4013 | 4361 | 4709 | 5058 | 5406 | 5754 | 6103 | 6451 | 6799 | 7148 | 7496 |
| 52 | 52 | | 2131 | 2479 | 2828 | 3176 | 3524 | 3873 | 4221 | 4569 | 4918 | 5266 | 5614 | 5963 | 6311 | 6659 | 7008 | 7356 | 7704 |
| 53 | 53 | | 2339 | 2688 | 3036 | 3385 | 3733 | 4081 | 4430 | 4778 | 5126 | 5475 | 5823 | 6171 | 6520 | 6868 | 7216 | 7565 | 7913 |
| 54 | 54 | | 2548 | 2896 | 3245 | 3593 | 3941 | 4290 | 4638 | 4986 | 5335 | 5683 | 6031 | 6380 | 6728 | 7076 | 7425 | 7773 | 8121 |
| 55 | 55 | 132 | 2756 | 3105 | 3453 | 3802 | 4150 | 4498 | 4847 | 5195 | 5543 | 5892 | 6240 | 6588 | 6937 | 7285 | 7633 | 7982 | 8330 |
| 56 | 56 | | 2965 | 3313 | 3662 | 4010 | 4358 | 4707 | 5055 | 5403 | 5752 | 6100 | 6448 | 6797 | 7145 | 7493 | 7842 | 8190 | 8538 |
| 57 | 57 | | 3173 | 3522 | 3870 | 4219 | 4567 | 4915 | 5264 | 5612 | 5960 | 6309 | 6657 | 7005 | 7354 | 7702 | 8050 | 8399 | 8747 |
| 58 | 58 | | 3382 | 3730 | 4079 | 4427 | 4775 | 5124 | 5472 | 5820 | 6169 | 6517 | 6865 | 7214 | 7562 | 7910 | 8259 | 8607 | 8955 |
| 59 | 59 | | 3590 | 3939 | 4287 | 4636 | 4984 | 5332 | 5681 | 6029 | 6377 | 6726 | 7074 | 7422 | 7771 | 8119 | 8467 | 8816 | 9164 |
| 60 | 60 | 132 | 3799 | 4147 | 4496 | 4844 | 5192 | 5541 | 5889 | 6237 | 6586 | 6934 | 7282 | 7631 | 7979 | 8327 | 8676 | 9024 | 9372 |

Sums for finding the Corrected Distances.

| Prop. for Seconds of Auxil. Argum. additive | 45° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 430 5842 |
| 1 | 1 | 5851 |
| 2 | 2 | 5860 |
| 3 | 3 | 5869 |
| 4 | 4 | 5878 |
| 5 | 5 | 430 5887 |
| 6 | 6 | 5896 |
| 7 | 7 | 5905 |
| 8 | 8 | 5914 |
| 9 | 9 | 5923 |
| 10 | 10 | 430 5932 |
| 11 | 11 | 5941 |
| 12 | 12 | 5950 |
| 13 | 13 | 5959 |
| 14 | 14 | 5968 |
| 15 | 15 | 430 5977 |
| 16 | 16 | 5986 |
| 17 | 17 | 5995 |
| 18 | 18 | 6004 |
| 19 | 19 | 6013 |
| 20 | 20 | 430 6022 |
| 21 | 21 | 6031 |
| 22 | 22 | 6040 |
| 23 | 23 | 431 6050 |
| 24 | 24 | 6059 |
| 25 | 25 | 431 6068 |
| 26 | 26 | 6077 |
| 27 | 27 | 6086 |
| 28 | 28 | 6095 |
| 29 | 29 | 6104 |
| 30 | 30 | 431 6113 |
| 31 | 31 | 6122 |
| 32 | 32 | 6131 |
| 33 | 33 | 6140 |
| 34 | 34 | 6149 |
| 35 | 35 | 431 6158 |
| 36 | 36 | 6167 |
| 37 | 37 | 6176 |
| 38 | 38 | 6185 |
| 39 | 39 | 6194 |
| 40 | 40 | 431 6203 |
| 41 | 41 | 6212 |
| 42 | 42 | 6221 |
| 43 | 43 | 6230 |
| 44 | 44 | 6239 |
| 45 | 45 | 431 6248 |
| 46 | 46 | 6257 |
| 47 | 47 | 6266 |
| 48 | 48 | 6275 |
| 49 | 49 | 6284 |
| 50 | 50 | 431 6293 |
| 51 | 51 | 6302 |
| 52 | 52 | 6311 |
| 53 | 53 | 6320 |
| 54 | 54 | 6329 |
| 55 | 55 | 431 6338 |
| 56 | 56 | 7181 |
| 57 | 57 | 7190 |
| 58 | 58 | 7199 |
| 59 | 59 | 7208 |

Numbers II. for Corrected Sums of Altitudes.

| Parts for Seconds of Auxil. Argum. additive | ′ | 47° Numbers |
|---|---|---|
| 211 | 0 | 169 4449 |
| 227 | 1 | 4249 |
| 244 | 2 | 4030 |
| 260 | 3 | 3821 |
| 197 | 4 | 3611 |
| 163 | 5 | 169 3402 |
| 180 | 6 | 3192 |
| 196 | 7 | 2983 |
| 183 | 8 | 2773 |
| 170 | 9 | 2563 |
| 176 | 10 | 169 2353 |
| 174 | 11 | 2143 |
| 172 | 12 | 1933 |
| 165 | 13 | 1723 |
| 162 | 14 | 1513 |
| 158 | 15 | 169 1303 |
| 155 | 16 | 1093 |
| 151 | 17 | 0882 |
| 148 | 18 | 0672 |
| 144 | 19 | 0462 |
| 141 | 20 | 169 0252 |
| 137 | 21 | 0042 |
| 134 | 22 | 168 9832 |
| 130 | 23 | 9622 |
| 127 | 24 | 9412 |
| 123 | 25 | 169 9202 |
| 120 | 26 | 8992 |
| 116 | 27 | 8782 |
| 112 | 28 | 8572 |
| 109 | 29 | 8362 |
| 105 | 30 | 168 8152 |
| 102 | 31 | 7942 |
| 98 | 32 | 7732 |
| 95 | 33 | 7522 |
| 91 | 34 | 7312 |
| 88 | 35 | 168 7102 |
| 84 | 36 | 6892 |
| 81 | 37 | 6682 |
| 77 | 38 | 6472 |
| 74 | 39 | 6262 |
| 70 | 40 | 168 6052 |
| 67 | 41 | 5842 |
| 63 | 42 | 5632 |
| 60 | 43 | 5422 |
| 56 | 44 | 5212 |
| 53 | 45 | 168 5002 |
| 49 | 46 | 4792 |
| 46 | 47 | 4582 |
| 42 | 48 | 4372 |
| 39 | 49 | 4162 |
| 35 | 50 | 168 3952 |
| 32 | 51 | 3742 |
| 28 | 52 | 3532 |
| 25 | 53 | 3322 |
| 21 | 54 | 3112 |
| 18 | 55 | 168 2902 |
| 14 | 56 | 2692 |
| 11 | 57 | 2482 |
| 7 | 58 | 2272 |
| 3 | 59 | 2062 |

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| Parts for Seconds of A.D. 47° | Auxiliary Argument. ′ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 131 (132) | 8002 | 8345 | 8688 | 9033 | 9376 | 9720 | 0064 | 0408 | 0752 | 1096 | 1441 | 1785 | 2129 | 2473 | 2818 | 3162 |
| 11 | 1 | | 8214 | 8558 | 8901 | 9245 | 9589 | 9933 | 0276 | 0620 | 0964 | 1308 | 1652 | 1996 | 2341 | 2685 | 3029 | 3373 |
| 17 | 2 | | 8427 | 8771 | 9114 | 9458 | 9801 | 0145 | 0489 | 0832 | 1176 | 1520 | 1864 | 2208 | 2552 | 2896 | 3240 | 3585 |
| 23 | 3 | | 8640 | 8983 | 9327 | 9670 | 0014 | 0357 | 0701 | 1044 | 1388 | 1732 | 2076 | 2420 | 2764 | 3108 | 3452 | 3796 |
| 28 | 4 | | 8853 | 9196 | 9539 | 9883 | 0226 | 0570 | 0913 | 1257 | 1600 | 1944 | 2288 | 2632 | 2975 | 3319 | 3663 | 4007 |
| 34 | 5 | 131 (132) | 9066 | 9409 | 9752 | 0095 | 0439 | 0782 | 1126 | 1469 | 1812 | 2156 | 2500 | 2843 | 3187 | 3531 | 3875 | 4219 |
| 40 | 6 | | 9279 | 9622 | 9965 | 0308 | 0651 | 0995 | 1338 | 1681 | 2025 | 2368 | 2712 | 3055 | 3399 | 3743 | 4086 | 4430 |
| 46 | 7 | | 9492 | 9835 | 0178 | 0521 | 0864 | 1207 | 1550 | 1894 | 2237 | 2580 | 2924 | 3267 | 3611 | 3954 | 4298 | 4642 |
| 51 | 8 | | 9705 | 0048 | 0391 | 0734 | 1077 | 1420 | 1763 | 2106 | 2449 | 2792 | 3136 | 3479 | 3823 | 4166 | 4510 | 4853 |
| 57 | 9 | | 9918 | 0261 | 0604 | 0947 | 1290 | 1633 | 1976 | 2319 | 2662 | 3005 | 3348 | 3691 | 4035 | 4378 | 4721 | 5065 |
| 63 | 10 | 132 | 0132 | 0475 | 0817 | 1160 | 1503 | 1845 | 2188 | 2531 | 2874 | 3217 | 3560 | 3903 | 4247 | 4590 | 4933 | 5276 |
| 68 | 11 | | 0345 | 0688 | 1030 | 1373 | 1715 | 2058 | 2401 | 2744 | 3087 | 3429 | 3772 | 4115 | 4459 | 4802 | 5145 | 5488 |
| 74 | 12 | | 0559 | 0901 | 1243 | 1586 | 1928 | 2271 | 2614 | 2956 | 3299 | 3642 | 3985 | 4328 | 4671 | 5014 | 5357 | 5700 |
| 80 | 13 | | 0772 | 1114 | 1457 | 1799 | 2141 | 2484 | 2826 | 3169 | 3512 | 3854 | 4197 | 4540 | 4885 | 5226 | 5569 | 5912 |
| 85 | 14 | | 0986 | 1328 | 1670 | 2012 | 2355 | 2697 | 3039 | 3382 | 3724 | 4067 | 4410 | 4752 | 5095 | 5438 | 5781 | 6124 |
| 91 | 15 | 132 | 1199 | 1541 | 1883 | 2225 | 2568 | 2910 | 3252 | 3595 | 3937 | 4280 | 4622 | 4965 | 5307 | 5650 | 5993 | 6336 |
| 97 | 16 | | 1413 | 1755 | 2097 | 2438 | 2781 | 3123 | 3465 | 3808 | 4150 | 4492 | 4835 | 5177 | 5520 | 5862 | 6205 | 6548 |
| 101 | 17 | | 1626 | 1968 | 2310 | 2652 | 2994 | 3336 | 3678 | 4020 | 4363 | 4705 | 5047 | 5390 | 5732 | 6075 | 6417 | 6760 |
| 108 | 18 | | 1840 | 2182 | 2524 | 2866 | 3207 | 3549 | 3891 | 4233 | 4576 | 4918 | 5260 | 5602 | 5948 | 6287 | 6630 | 6972 |
| 114 | 19 | | 2054 | 2396 | 2737 | 3079 | 3421 | 3763 | 4105 | 4446 | 4788 | 5131 | 5473 | 5815 | 6157 | 6499 | 6842 | 7184 |
| 119 | 20 | 132 | 2268 | 2609 | 2951 | 3293 | 3634 | 3976 | 4318 | 4660 | 5001 | 5343 | 5685 | 6028 | 6370 | 6712 | 7054 | 7396 |
| 125 | 21 | | 2482 | 2823 | 3165 | 3506 | 3848 | 4189 | 4531 | 4873 | 5215 | 5556 | 5898 | 6240 | 6582 | 6924 | 7267 | 7609 |
| 131 | 22 | | 2696 | 3037 | 3378 | 3720 | 4061 | 4403 | 4744 | 5086 | 5428 | 5769 | 6111 | 6453 | 6795 | 7137 | 7479 | 7821 |
| 136 | 23 | | 2910 | 3251 | 3592 | 3934 | 4275 | 4617 | 4958 | 5299 | 5641 | 5983 | 6324 | 6666 | 7008 | 7350 | 7691 | 8033 |
| 142 | 24 | | 3124 | 3465 | 3806 | 4147 | 4488 | 4830 | 5171 | 5513 | 5854 | 6196 | 6537 | 6879 | 7220 | 7562 | 7904 | 8246 |
| 148 | 25 | 132 | 3338 | 3679 | 4020 | 4361 | 4702 | 5043 | 5384 | 5726 | 6067 | 6409 | 6750 | 7092 | 7433 | 7775 | 8117 | 8458 |
| 154 | 26 | | 3552 | 3893 | 4234 | 4575 | 4916 | 5257 | 5598 | 5939 | 6271 | 6622 | 6963 | 7305 | 7646 | 7988 | 8329 | 8671 |
| 159 | 27 | | 3767 | 4107 | 4448 | 4789 | 5130 | 5471 | 5812 | 6153 | 6494 | 6835 | 7176 | 7518 | 7859 | 8201 | 8542 | 8884 |
| 165 | 28 | | 3981 | 4322 | 4662 | 5003 | 5344 | 5685 | 6026 | 6367 | 6708 | 7049 | 7390 | 7731 | 8072 | 8414 | 8755 | 9096 |
| 170 | 29 | | 4195 | 4536 | 4876 | 5217 | 5558 | 5898 | 6239 | 6580 | 6921 | 7262 | 7603 | 7944 | 8285 | 8627 | 8968 | 9309 |
| 175 | 30 | 132 | 4410 | 4750 | 5091 | 5431 | 5772 | 6112 | 6453 | 6793 | 7135 | 7476 | 7816 | 8157 | 8499 | 8840 | 9181 | 9522 |
| 180 | 31 | 132 (133) | 4624 | 4965 | 5305 | 5645 | 5986 | 6326 | 6667 | 7007 | 7348 | 7688 | 8029 | 8371 | 8712 | 9053 | 9394 | 9735 |
| 185 | 32 | | 4838 | 5179 | 5519 | 5860 | 6200 | 6540 | 6881 | 7221 | 7562 | 7903 | 8243 | 8584 | 8925 | 9266 | 9607 | 9948 |
| 191 | 33 | | 5052 | 5393 | 5734 | 6074 | 6414 | 6754 | 7095 | 7435 | 7777 | 8117 | 8457 | 8797 | 9138 | 9479 | 9820 | 0161 |
| 196 | 34 | | 5267 | 5608 | 5948 | 6288 | 6628 | 6968 | 7309 | 7649 | 7990 | 8330 | 8671 | 9011 | 9352 | 9692 | 0033 | 0374 |
| 201 | 35 | 133 | 5481 | 5823 | 6163 | 6503 | 6843 | 7183 | 7523 | 7863 | 8203 | 8544 | 8884 | 9224 | 9565 | 9906 | 0247 | 0587 |
| 206 | 36 | | 5695 | 6037 | 6377 | 6717 | 7057 | 7397 | 7737 | 8077 | 8417 | 8757 | 9098 | 9438 | 9778 | 0119 | 0459 | 0800 |
| 211 | 37 | | 5912 | 6252 | 6592 | 6932 | 7271 | 7611 | 7951 | 8291 | 8631 | 8971 | 9311 | 9652 | 9992 | 0332 | 0673 | 1013 |
| 216 | 38 | | 6126 | 6467 | 6806 | 7146 | 7486 | 7826 | 8165 | 8505 | 8845 | 9185 | 9525 | 9865 | 0206 | 0546 | 0886 | 1226 |
| 222 | 39 | | 6342 | 6682 | 7021 | 7361 | 7700 | 8040 | 8380 | 8719 | 9059 | 9399 | 9739 | 0079 | 0419 | 0759 | 1100 | 1440 |
| 227 | 40 | 133 | 6557 | 6897 | 7236 | 7577 | 7916 | 8256 | 8596 | 8936 | 9277 | 9617 | 9957 | 0297 | 0637 | 0978 | 1318 | 1658 |
| 232 | 41 | | 6771 | 7111 | 7451 | 7790 | 8130 | 8470 | 8810 | 9150 | 9490 | 9830 | 0170 | 0510 | 0850 | 1190 | 1527 | 1867 |
| 236 | 42 | | 6986 | 7327 | 7666 | 8005 | 8344 | 8684 | 9023 | 9362 | 9702 | 0041 | 0381 | 0721 | 1061 | 1400 | 1740 | 2080 |
| 242 | 43 | | 7201 | 7541 | 7881 | 8220 | 8559 | 8898 | 9238 | 9577 | 9917 | 0257 | 0596 | 0935 | 1274 | 1614 | 1954 | 2294 |
| 247 | 44 | | 7418 | 7757 | 8096 | 8435 | 8774 | 9113 | 9452 | 9791 | 0131 | 0470 | 0809 | 1149 | 1488 | 1828 | 2168 | 2507 |
| 252 | 45 | 133 | 7633 | 7972 | 8311 | 8650 | 8989 | 9328 | 9667 | 0006 | 0345 | 0684 | 1024 | 1363 | 1703 | 2042 | 2381 | 2721 |
| 257 | 46 | | 7848 | 8187 | 8526 | 8865 | 9204 | 9543 | 9881 | 0220 | 0559 | 0898 | 1237 | 1577 | 1916 | 2255 | 2595 | 2935 |
| 262 | 47 | | 8063 | 8402 | 8741 | 9080 | 9418 | 9757 | 0096 | 0435 | 0774 | 1113 | 1452 | 1791 | 2130 | 2470 | 2809 | 3148 |
| 267 | 48 | | 8278 | 8617 | 8956 | 9294 | 9633 | 9972 | 0311 | 0650 | 0989 | 1328 | 1667 | 2006 | 2345 | 2684 | 3024 | 3363 |
| 272 | 49 | | 8493 | 8832 | 9171 | 9509 | 9848 | 0187 | 0526 | 0865 | 1204 | 1542 | 1881 | 2220 | 2559 | 2898 | 3237 | 3576 |
| 277 | 50 | 133 | 8708 | 9047 | 9386 | 9725 | 0063 | 0402 | 0741 | 1080 | 1419 | 1757 | 2096 | 2435 | 2774 | 3113 | 3451 | 3790 |
| 282 | 51 | | 8923 | 9262 | 9601 | 9940 | 0278 | 0617 | 0956 | 1295 | 1634 | 1973 | 2312 | 2651 | 2990 | 3328 | 3667 | 4006 |
| 287 | 52 | | 9138 | 9477 | 9816 | 0155 | 0494 | 0833 | 1171 | 1510 | 1849 | 2188 | 2527 | 2866 | 3205 | 3544 | 3883 | 4222 |
| 292 | 53 | | 9353 | 9692 | 0031 | 0370 | 0709 | 1048 | 1387 | 1726 | 2065 | 2404 | 2743 | 3082 | 3421 | 3760 | 4099 | 4438 |
| 297 | 54 | | 9568 | 9907 | 0246 | 0585 | 0924 | 1263 | 1602 | 1941 | 2280 | 2619 | 2958 | 3297 | 3636 | 3975 | 4314 | 4653 |
| 302 | 55 | 133 | 9783 | 0122 | 0461 | 0800 | 1139 | 1478 | 1817 | 2156 | 2495 | 2834 | 3173 | 3512 | 3851 | 4190 | 4529 | 4868 |
| 308 | 56 | | 9998 | 0337 | 0676 | 1015 | 1354 | 1693 | 2032 | 2371 | 2710 | 3049 | 3388 | 3727 | 4066 | 4405 | 4744 | 5083 |
| 313 | 57 | | 0213 | 0552 | 0891 | 1230 | 1569 | 1908 | 2247 | 2586 | 2925 | 3264 | 3603 | 3942 | 4281 | 4620 | 4959 | 5298 |
| 318 | 58 | | 0428 | 0767 | 1106 | 1445 | 1784 | 2123 | 2462 | 2801 | 3140 | 3479 | 3818 | 4157 | 4496 | 4835 | 5174 | 5513 |
| 324 | 59 | 133 | 0643 | 0982 | 1321 | 1660 | 1999 | 2338 | 2677 | 3016 | 3355 | 3694 | 4033 | 4372 | 4711 | 5050 | 5389 | 5728 |
| 330 | 60 | | 0858 | 1197 | 1536 | 1875 | 2214 | 2553 | 2892 | 3231 | 3570 | 3909 | 4248 | 4587 | 4926 | 5265 | 5604 | 5943 |
| 335 | 61 | | 1073 | 1412 | 1751 | 2090 | 2429 | 2768 | 3107 | 3446 | 3785 | 4124 | 4463 | 4802 | 5141 | 5480 | 5819 | 6158 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

Auxiliary Arguments.

| Parts for Seconds of Auxil. Argum. additive | C. A. A & A. D. 47° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 132 | 3851 | 4196 | 4541 | 4886 | 5230 | 5575 | 5920 | 6265 | 6610 | 6955 | 7300 | 7645 | 7991 | 8336 | 8681 | 9027 | 9372 |
| 1 | 1 | | 4217 | 4562 | 4907 | 5252 | 5597 | 5942 | 6287 | 6632 | 6977 | 7322 | 7667 | 8012 | 8357 | 8702 | 9047 | 9392 | 9737 |
| 2 | 2 | | 4583 | 4928 | 5273 | 5618 | 5963 | 6308 | 6653 | 6998 | 7343 | 7688 | 8033 | 8378 | 8723 | 9068 | 9413 | 9758 | |
| 3 | 3 | 132 (133) | 4948 | 5293 | 5638 | 5983 | 6328 | 6673 | 7018 | 7363 | 7708 | 8053 | 8398 | 8743 | 9088 | 9433 | 9778 | | |
| 4 | 4 | | 5314 | 5659 | 6004 | 6349 | 6694 | 7039 | 7384 | 7729 | 8074 | 8419 | 8764 | 9109 | 9454 | 9799 | | | |
| 5 | 5 | 132 (133) | 5679 | 6024 | 6369 | 6714 | 7059 | 7404 | 7749 | 8094 | 8439 | 8784 | 9129 | 9474 | 9819 | | | | |
| 6 | 6 | | 6045 | 6390 | 6735 | 7080 | 7425 | 7770 | 8115 | 8460 | 8805 | 9150 | 9495 | 9840 | | | | | |
| 7 | 7 | | 6410 | 6755 | 7100 | 7445 | 7790 | 8135 | 8480 | 8825 | 9170 | 9515 | 9860 | | | | | | |
| 8 | 8 | | 6775 | 7120 | 7465 | 7810 | 8155 | 8500 | 8845 | 9190 | 9535 | 9880 | | | | | | | |
| 9 | 9 | | 7140 | 7485 | 7830 | 8175 | 8520 | 8865 | 9210 | 9555 | 9900 | | | | | | | | |
| 10 | 10 | 132 (133) | 7503 | 7850 | 8195 | 8540 | 8885 | 9230 | 9575 | 9920 | | | | | | | | | |
| 11 | 11 | | 7868 | 8213 | 8558 | 8903 | 9248 | 9593 | 9938 | | | | | | | | | | |
| 12 | 12 | | 8233 | 8578 | 8923 | 9268 | 9613 | 9958 | | | | | | | | | | | |
| 13 | 13 | | 8598 | 8943 | 9288 | 9633 | 9978 | | | | | | | | | | | | |
| 14 | 14 | | 8963 | 9308 | 9653 | 9998 | | | | | | | | | | | | | |
| 15 | 15 | 132 (133) | 9328 | 9673 | 9018 | | | | | | | | | | | | | | |
| 16 | 16 | | 9693 | 9038 | 9383 | | | | | | | | | | | | | | |
| 17 | 17 | | 0058 | 0403 | 0748 | 1093 | 1438 | 1783 | 2128 | 2473 | 2818 | 3163 | 3508 | 3853 | 4198 | 4543 | 4888 | 5233 | 5578 |
| 18 | 18 | | 0423 | 0768 | 1113 | 1458 | 1803 | 2148 | 2493 | 2838 | 3183 | 3528 | 3873 | 4218 | 4563 | 4908 | 5253 | 5598 | 5943 |
| 19 | 19 | | 0788 | 1133 | 1478 | 1823 | 2168 | 2513 | 2858 | 3203 | 3548 | 3893 | 4238 | 4583 | 4928 | 5273 | 5618 | 5963 | 6308 |
| 20 | 20 | 132 (133) | 1153 | 1498 | 1843 | 2188 | 2533 | 2878 | 3223 | 3568 | 3913 | 4258 | 4603 | 4948 | 5293 | 5638 | 5983 | 6328 | 6673 |
| 21 | 21 | | 1518 | 1863 | 2208 | 2553 | 2898 | 3243 | 3588 | 3933 | 4278 | 4623 | 4968 | 5313 | 5658 | 6003 | 6348 | 6693 | 7038 |
| 22 | 22 | | 1883 | 2228 | 2573 | 2918 | 3263 | 3608 | 3953 | 4298 | 4643 | 4988 | 5333 | 5678 | 6023 | 6368 | 6713 | 7058 | 7403 |
| 23 | 23 | | 8718 | 9060 | 9402 | 9744 | 0086 | 0429 | 0771 | 1113 | 1456 | 1799 | 2141 | 2484 | 2827 | 3170 | 3513 | 3856 | 4199 |
| 24 | 24 | | 8083 | 9272 | 9614 | 9956 | 0298 | 0641 | 0983 | 1324 | 1668 | 2012 | 2355 | 2698 | 3041 | 3384 | 3727 | 4070 | 4413 |
| 25 | 25 | 132 (133) | 9142 | 9484 | 9826 | 0168 | 0511 | 0853 | 1194 | 1536 | 1879 | 2221 | 2564 | 2906 | 3248 | 3591 | 3934 | 4277 | 4620 |
| 26 | 26 | | 9355 | 9697 | 0038 | 0380 | 0722 | 1064 | 1406 | 1748 | 2091 | 2433 | 2775 | 3117 | 3460 | 3802 | 4145 | 4488 | 4830 |
| 27 | 27 | | 9567 | 9909 | 0250 | 0592 | 0934 | 1276 | 1618 | 1960 | 2302 | 2644 | 2986 | 3329 | 3671 | 4013 | 4356 | 4698 | 5041 |
| 28 | 28 | | 9779 | 0121 | 0463 | 0804 | 1146 | 1488 | 1830 | 2172 | 2514 | 2856 | 3198 | 3540 | 3882 | 4225 | 4567 | 4909 | 5252 |
| 29 | 29 | | 9992 | 0333 | 0675 | 1017 | 1358 | 1700 | 2042 | 2384 | 2725 | 3067 | 3409 | 3751 | 4093 | 4436 | 4778 | 5120 | 5463 |
| 30 | 30 | 133 | 0204 | 0546 | 0887 | 1229 | 1570 | 1912 | 2254 | 2595 | 2937 | 3279 | 3621 | 3963 | 4305 | 4647 | 4989 | 5331 | 5673 |
| 31 | 31 | | 0417 | 0758 | 1100 | 1441 | 1783 | 2124 | 2466 | 2807 | 3149 | 3491 | 3832 | 4174 | 4516 | 4858 | 5200 | 5542 | 5884 |
| 32 | 32 | | 0630 | 0971 | 1312 | 1654 | 1995 | 2337 | 2678 | 3019 | 3361 | 3702 | 4044 | 4386 | 4728 | 5069 | 5411 | 5753 | 6096 |
| 33 | 33 | | 0843 | 1184 | 1525 | 1867 | 2208 | 2549 | 2891 | 3232 | 3573 | 3914 | 4256 | 4597 | 4939 | 5281 | 5623 | 5964 | 6306 |
| 34 | 34 | | 1055 | 1396 | 1737 | 2078 | 2419 | 2761 | 3102 | 3443 | 3785 | 4126 | 4467 | 4809 | 5151 | 5492 | 5834 | 6176 | 6517 |
| 35 | 35 | 133 | 1268 | 1609 | 1950 | 2291 | 2632 | 2973 | 3314 | 3655 | 3997 | 4338 | 4679 | 5021 | 5362 | 5704 | 6045 | 6387 | 6728 |
| 36 | 36 | | 1481 | 1822 | 2163 | 2504 | 2845 | 3185 | 3526 | 3867 | 4208 | 4549 | 4891 | 5232 | 5574 | 5915 | 6257 | 6598 | 6940 |
| 37 | 37 | | 1694 | 2035 | 2376 | 2717 | 3057 | 3398 | 3739 | 4080 | 4421 | 4762 | 5103 | 5444 | 5785 | 6127 | 6468 | 6810 | 7151 |
| 38 | 38 | | 1907 | 2248 | 2588 | 2929 | 3270 | 3611 | 3951 | 4292 | 4633 | 4974 | 5315 | 5656 | 5997 | 6338 | 6680 | 7021 | 7362 |
| 39 | 39 | | 2120 | 2461 | 2801 | 3142 | 3483 | 3823 | 4164 | 4505 | 4845 | 5186 | 5527 | 5868 | 6209 | 6550 | 6891 | 7232 | 7574 |
| 40 | 40 | 133 | 2332 | 2674 | 3014 | 3355 | 3696 | 4036 | 4377 | 4717 | 5058 | 5398 | 5739 | 6080 | 6421 | 6762 | 7103 | 7444 | 7785 |
| 41 | 41 | | 2547 | 2887 | 3227 | 3568 | 3908 | 4248 | 4589 | 4929 | 5270 | 5611 | 5951 | 6292 | 6633 | 6974 | 7315 | 7656 | 7997 |
| 42 | 42 | | 2760 | 3100 | 3440 | 3781 | 4121 | 4461 | 4802 | 5142 | 5482 | 5823 | 6163 | 6504 | 6845 | 7185 | 7526 | 7867 | 8208 |
| 43 | 43 | | 2973 | 3313 | 3653 | 3993 | 4334 | 4674 | 5014 | 5354 | 5695 | 6035 | 6376 | 6716 | 7057 | 7397 | 7738 | 8079 | 8420 |
| 44 | 44 | | 3187 | 3527 | 3867 | 4207 | 4547 | 4887 | 5227 | 5567 | 5907 | 6247 | 6588 | 6928 | 7268 | 7609 | 7950 | 8291 | 8632 |
| 45 | 45 | 133 | 3400 | 3740 | 4080 | 4420 | 4760 | 5100 | 5440 | 5780 | 6120 | 6460 | 6800 | 7141 | 7481 | 7821 | 8162 | 8502 | 8843 |
| 46 | 46 | | 3614 | 3953 | 4293 | 4633 | 4973 | 5313 | 5652 | 5992 | 6333 | 6673 | 7013 | 7353 | 7693 | 8033 | 8374 | 8714 | 9055 |
| 47 | 47 | | 3827 | 4167 | 4507 | 4847 | 5186 | 5526 | 5865 | 6205 | 6545 | 6885 | 7225 | 7565 | 7905 | 8245 | 8586 | 8926 | 9267 |
| 48 | 48 | | 4041 | 4380 | 4720 | 5060 | 5399 | 5739 | 6078 | 6418 | 6758 | 7098 | 7438 | 7778 | 8118 | 8458 | 8798 | 9138 | 9479 |
| 49 | 49 | | 4255 | 4594 | 4934 | 5273 | 5613 | 5952 | 6291 | 6631 | 6971 | 7311 | 7650 | 7990 | 8330 | 8670 | 9010 | 9350 | 9691 |
| 50 | 50 | 133 | 4469 | 4808 | 5147 | 5487 | 5826 | 6165 | 6504 | 6844 | 7184 | 7523 | 7863 | 8203 | 8543 | 8883 | 9223 | 9563 | 9903 |
| 51 | 51 | 133 (134) | 4682 | 5021 | 5360 | 5700 | 6039 | 6378 | 6718 | 7057 | 7396 | 7736 | 8076 | 8415 | 8755 | 9095 | 9435 | 9774 | 0114 |
| 52 | 52 | | 4896 | 5235 | 5574 | 5913 | 6252 | 6591 | 6931 | 7270 | 7609 | 7949 | 8289 | 8628 | 8968 | 9308 | 9648 | 9987 | 0327 |
| 53 | 53 | | 5110 | 5449 | 5788 | 6127 | 6466 | 6805 | 7144 | 7483 | 7823 | 8162 | 8502 | 8841 | 9181 | 9521 | 9860 | 0200 | 0539 |
| 54 | 54 | | 5324 | 5663 | 6002 | 6341 | 6680 | 7019 | 7358 | 7697 | 8036 | 8375 | 8714 | 9053 | 9393 | 9732 | 0072 | 0411 | 0751 |
| 55 | 55 | 133 (134) | 5538 | 5877 | 6216 | 6555 | 6894 | 7233 | 7572 | 7911 | 8249 | 8588 | 8927 | 9266 | 9605 | 9945 | 0284 | 0624 | 0963 |
| 56 | 56 | | 5752 | 6090 | 6429 | 6768 | 7106 | 7445 | 7784 | 8123 | 8462 | 8801 | 9140 | 9479 | 9818 | 0157 | 0497 | 0836 | 1175 |
| 57 | 57 | | 5966 | 6304 | 6643 | 6982 | 7320 | 7659 | 7998 | 8336 | 8675 | 9014 | 9353 | 9692 | 0031 | 0370 | 0709 | 1048 | 1387 |
| 58 | 58 | | 6180 | 6518 | 6857 | 7195 | 7534 | 7873 | 8211 | 8550 | 8888 | 9227 | 9566 | 9905 | 0244 | 0583 | 0922 | 1261 | 1600 |
| 59 | 59 | | 6394 | 6733 | 7071 | 7409 | 7748 | 8086 | 8425 | 8763 | 9102 | 9440 | 9779 | 0118 | 0457 | 0796 | 1135 | 1474 | 1813 |

| Parts for Sec. of addit. | C. D. 47° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 431 8[illegible] |
| 1 | 1 | 5211 |
| 2 | 2 | 5604 |
| 3 | 3 | 5997 |
| 4 | 4 | 6390 |
| 5 | 5 | 6783 |
| 6 | 6 | 7176 |
| 7 | 7 | 7569 |
| 8 | 8 | 7962 |
| 9 | 9 | 8355 |
| 10 | 10 | 8748 |
| 11 | 11 | 9141 |
| 12 | 12 | 9534 |
| 13 | 13 | 9927 |
| 14 | 14 | [illegible] |
| 15 | 15 | 432 0320 |
| 16 | 16 | 0713 |
| 17 | 17 | 1106 |
| 18 | 18 | 1499 |
| 19 | 19 | 1892 |
| 20 | 20 | 2285 |
| 21 | 21 | 2678 |
| 22 | 22 | 3071 |
| 23 | 23 | 3464 |
| 24 | 24 | 3857 |
| 25 | 25 | 4250 |
| 26 | 26 | 4643 |
| 27 | 27 | 5036 |
| 28 | 28 | 5429 |
| 29 | 29 | 5822 |
| 30 | 30 | 6215 |
| 31 | 31 | 6608 |
| 32 | 32 | 7001 |
| 33 | 33 | 7394 |
| 34 | 34 | 7787 |
| 35 | 35 | 8180 |
| 36 | 36 | 8573 |
| 37 | 37 | 8966 |
| 38 | 38 | 9359 |
| 39 | 39 | 9752 |
| 40 | 40 | 433 0145 |
| 41 | 41 | 0538 |
| 42 | 42 | 0931 |
| 43 | 43 | 1324 |
| 44 | 44 | 1717 |
| 45 | 45 | 2110 |
| 46 | 46 | 2503 |
| 47 | 47 | 2896 |
| 48 | 48 | 3289 |
| 49 | 49 | 3682 |
| 50 | 50 | 4075 |
| 51 | 51 | 4468 |
| 52 | 52 | 4861 |
| 53 | 53 | 5254 |
| 54 | 54 | 5647 |
| 55 | 55 | 6040 |
| 56 | 56 | 6433 |
| 57 | 57 | 6826 |
| 58 | 58 | 7219 |
| 59 | 59 | 7612 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C.S.A addit. | C.S.A. 48° | Numbers |
|---|---|---|
| | ′ | |
| 214 | 0 | 1788 1780 |
| 211 | 1 | 1573 |
| 207 | 2 | 1360 |
| 204 | 3 | 1147 |
| 200 | 4 | 0934 |
| 197 | 5 | 1688 0721 |
| 193 | 6 | 0508 |
| 190 | 7 | 0295 |
| 186 | 8 | 0081 |
| 183 | 9 | 1687 9868 |
| 179 | 10 | 1687 9655 |
| 175 | 11 | 9441 |
| 172 | 12 | 9228 |
| 168 | 13 | 9014 |
| 164 | 14 | 8801 |
| 161 | 15 | 1687 8587 |
| 157 | 16 | 8373 |
| 154 | 17 | 8160 |
| 150 | 18 | 7946 |
| 147 | 19 | 7733 |
| 143 | 20 | 1687 7519 |
| 139 | 21 | 7306 |
| 136 | 22 | 7092 |
| 132 | 23 | 6879 |
| 129 | 24 | 6666 |
| 125 | 25 | 1687 6452 |
| 122 | 26 | 6239 |
| 118 | 27 | 6025 |
| 114 | 28 | 5812 |
| 111 | 29 | 5598 |
| 107 | 30 | 1687 5385 |
| 104 | 31 | 5171 |
| 100 | 32 | 4958 |
| 97 | 33 | 4744 |
| 93 | 34 | 4531 |
| 89 | 35 | 1687 4317 |
| 86 | 36 | 4104 |
| 82 | 37 | 3890 |
| 79 | 38 | 3677 |
| 75 | 39 | 3463 |
| 71 | 40 | 1687 3250 |
| 68 | 41 | 3036 |
| 64 | 42 | 2823 |
| 61 | 43 | 2609 |
| 57 | 44 | 2396 |
| 53 | 45 | 1687 2182 |
| 50 | 46 | 1969 |
| 46 | 47 | 1755 |
| 43 | 48 | 1542 |
| 39 | 49 | 1328 |
| 36 | 50 | 1687 1115 |
| 32 | 51 | 0901 |
| 29 | 52 | 0642 |
| 25 | 53 | 0427 |
| 21 | 54 | 0211 |
| 18 | 55 | 1686 9998 |
| 14 | 56 | 9777 |
| 11 | 57 | 9563 |
| 7 | 58 | 9347 |
| 4 | 59 | 9131 |

| Parts for Seconds of Auxil. Argum. additive | S.A.A & A.D. 48° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 133 | | | | | | | | | | | | | | | | |
| 6 | 1 | | 1086 | 1423 | 1760 | 2097 | 2434 | 2771 | 3109 | 3446 | 3784 | 4121 | 4459 | 4796 | | | | |
| 11 | 2 | | 1302 | 1639 | 1976 | 2313 | 2650 | 2987 | 3324 | 3662 | 3999 | 4336 | 4674 | 5011 | | | | |
| 17 | 3 | | 1518 | 1855 | 2192 | 2529 | 2866 | 3203 | 3540 | 3877 | 4214 | 4552 | 4889 | 5226 | | | | |
| 22 | 4 | | 1734 | 2071 | 2408 | 2745 | 3082 | 3419 | 3756 | 4093 | 4430 | 4767 | 5104 | 5442 | | | | |
| 28 | 5 | 133 | 1951 | 2287 | 2624 | 2961 | 3298 | 3635 | 3971 | 4308 | 4645 | 4982 | 5320 | 5657 | | | | |
| 33 | 6 | | 2167 | 2504 | 2840 | 3177 | 3514 | 3851 | 4187 | 4524 | 4861 | 5198 | 5535 | 5872 | 6209 | | | |
| | 7 | | | | | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | | | | | |
| | 9 | | | | | | | | | | | | | | | | | |
| | 10 | 133 | | | | | | | | | | | | | | | | |
| 61 | 11 | | 3251 | 3587 | 3923 | 4259 | 4595 | 4931 | 5267 | 5604 | 5940 | 6276 | 6613 | 6949 | 7286 | 7622 | 7959 | 8296 | 8633 |
| 67 | 12 | | 3467 | 3803 | 4139 | 4475 | 4811 | 5147 | 5483 | 5820 | 6156 | 6492 | 6828 | 7165 | 7501 | 7838 | 8174 | 8511 | 8848 |
| | 13 | | | | | | | | | | | | | | | | | |
| | 14 | | | | | | | | | | | | | | | | | |
| 84 | 15 | 133 | | | | | | | | | | | | | | | | |
| 89 | 16 | | | | | | | | | | | | | | | | | |
| 95 | 17 | | | | | | | | | | | | | | | | | |
| 100 | 18 | 133 (134) | 4770 | 5105 | 5440 | 5775 | 6111 | 6446 | 6782 | 7117 | 7453 | 7788 | 8124 | 8460 | 8796 | 9131 | 9467 | 9803 | 0139 |
| | 19 | | | | | | | | | | | | | | | | | |
| 111 | 20 | 133 (134) | | | | | | | | | | | | | | | | |
| 117 | 21 | | | | | | | | | | | | | | | | | |
| 123 | 22 | | 5639 | 5974 | 6308 | 6643 | 6978 | 7313 | 7648 | 7983 | 8318 | 8654 | 8989 | 9324 | 9660 | 9995 | 0330 | 0666 | 1002 |
| | 23 | | | | | | | | | | | | | | | | | |
| 134 | 24 | | | | | | | | | | | | | | | | | |
| 134 | 25 | 133 (134) | | | | | | | | | | | | | | | | |
| 145 | 26 | | 6509 | 6843 | 7178 | 7512 | 7847 | 8181 | 8516 | 8850 | 9185 | 9520 | 9855 | 0189 | 0524 | 0859 | 1194 | 1529 | 1865 |
| 151 | 27 | | 6727 | 7061 | 7395 | 7729 | 8064 | 8398 | 8733 | 9067 | 9402 | 9736 | 0071 | 0406 | 0741 | 1076 | 1411 | 1746 | 2081 |
| 156 | 28 | | 6944 | 7278 | 7613 | 7947 | 8281 | 8615 | 8950 | 9284 | 9619 | 9953 | 0288 | 0622 | 0957 | 1292 | 1627 | 1962 | 2297 |
| 162 | 29 | | | | | | | | | | | | | | | | | |
| 167 | 30 | 133 (134) | | | | | | | | | | | | | | | | |
| 173 | 31 | | | | | | | | | | | | | | | | | |
| 178 | 32 | | | | | | | | | | | | | | | | | |
| 184 | 33 | | 8034 | 8367 | 8701 | 9035 | 9368 | 9702 | 0036 | 0370 | 0704 | 1038 | 1372 | 1706 | 2040 | 2374 | 2708 | 3043 | 3377 |
| | 34 | | | | | | | | | | | | | | | | | |
| 195 | 35 | 133 (134) | | | | | | | | | | | | | | | | |
| | 36 | | | | | | | | | | | | | | | | | |
| | 37 | | | | | | | | | | | | | | | | | |
| 212 | 38 | | | | | | | | | | | | | | | | | |
| 217 | 39 | | | | | | | | | | | | | | | | | |
| 223 | 40 | 133 (134) | | | | | | | | | | | | | | | | |
| | 41 | | | | | | | | | | | | | | | | | |
| | 42 | | | | | | | | | | | | | | | | | |
| | 43 | 134 | | | | | | | | | | | | | | | | |
| 245 | 44 | | 0435 | 0768 | 1100 | 1433 | 1765 | 2098 | 2430 | 2763 | 3096 | 3429 | 3761 | 4094 | | | | |
| 251 | 45 | | | | | | | | | | | | | | | | | |
| 256 | 46 | | | | | | | | | | | | | | | | | |
| 262 | 47 | | | | | | | | | | | | | | | | | |
| 268 | 48 | | | | | | | | | | | | | | | | | |
| 273 | 49 | | | | | | | | | | | | | | | | | |
| 279 | 50 | 134 | | | | | | | | | | | | | | | | |
| 284 | 51 | | | | | | | | | | | | | | | | | |
| 290 | 52 | | 2186 | 2518 | 2849 | 3181 | 3513 | 3844 | 4176 | 4508 | 4840 | 5171 | | | | | | |
| 295 | 53 | | 2406 | 2737 | 3068 | 3400 | 3731 | 4063 | 4394 | 4726 | | | | | | | | |
| 301 | 54 | | 2625 | 2956 | 3287 | 3619 | 3950 | 4281 | 4613 | 4945 | 5276 | | | | | | | |
| 307 | 55 | 134 | | | | | | | | | | | | | | | | |
| 312 | 56 | | | | | | | | | | | | | | | | | |
| 318 | 57 | | 3283 | 3613 | 3944 | 4276 | 4607 | 4938 | 5269 | 5600 | 5931 | 6263 | 6594 | 6926 | 7257 | 7589 | | |
| 323 | 58 | | | | | | | | | | | | | | | | | |
| 329 | 59 | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. additive | S.A.A. & A. D. 48° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 133 (134)6609 | 6947 | 7285 | 7623 | 7962 | 8300 | 8638 | 8977 | 9315 | 9654 | 9992 | 0331 | 0670 | 1009 | 1347 | 1686 | 2025 |
| 6 | 1 | 6823 | 7161 | 7499 | 7837 | 8175 | 8514 | 8852 | 9190 | 9529 | 9867 | 0206 | 0544 | 0883 | 1222 | 1560 | 1899 | 2238 |
| 11 | 2 | 7037 | 7375 | 7713 | 8051 | 8389 | 8727 | 9066 | 9404 | 9742 | 0081 | 0419 | 0757 | 1096 | 1435 | 1773 | 2112 | 2451 |
| 17 | 3 | 7251 | 7589 | 7928 | 8265 | 8603 | 8941 | 9279 | 9618 | 9956 | 0294 | 0632 | 0971 | 1309 | 1648 | 1986 | 2325 | 2663 |
| 22 | 4 | 7466 | 7804 | 8142 | 8480 | 8817 | 9155 | 9493 | 9831 | 0169 | 0508 | 0846 | 1184 | 1522 | 1861 | 2199 | 2537 | 2876 |
| 28 | 5 | 133 (134)7681 | 8019 | 8356 | 8694 | 9032 | 9370 | 9707 | 0045 | 0383 | 0721 | 1059 | 1397 | 1736 | 2074 | 2412 | 2750 | 3089 |
| 34 | 6 | 7896 | 8233 | 8571 | 8908 | 9246 | 9584 | 9921 | 0259 | 0597 | 0935 | 1273 | 1611 | 1949 | 2287 | 2625 | 2963 | 3302 |
| 39 | 7 | 8110 | 8447 | 8785 | 9123 | 9460 | 9798 | 0135 | 0473 | 0811 | 1148 | 1486 | 1824 | 2162 | 2500 | 2838 | 3176 | 3515 |
| 45 | 8 | 8325 | 8662 | 9000 | 9337 | 9674 | 0012 | 0349 | 0687 | 1025 | 1362 | 1700 | 2038 | 2376 | 2714 | 3052 | 3390 | 3728 |
| 50 | 9 | 8540 | 8877 | 9214 | 9551 | 9889 | 0226 | 0563 | 0901 | 1239 | 1576 | 1914 | 2251 | 2589 | 2927 | 3265 | 3603 | 3941 |
| 56 | 10 | 133 (134)8755 | 9092 | 9429 | 9766 | 0103 | 0440 | 0778 | 1115 | 1452 | 1790 | 2127 | 2465 | 2803 | 3140 | 3478 | 3816 | 4154 |
| 61 | 11 | 8970 | 9307 | 9644 | 9981 | 0318 | 0655 | 0992 | 1329 | 1666 | 2004 | 2341 | 2679 | 3016 | 3354 | 3691 | 4029 | 4367 |
| 67 | 12 | 9185 | 9521 | 9858 | 0195 | 0532 | 0869 | 1206 | 1543 | 1881 | 2218 | 2555 | 2893 | 3230 | 3567 | 3905 | 4242 | 4580 |
| 73 | 13 | 9400 | 9736 | 0073 | 0410 | 0747 | 1084 | 1421 | 1758 | 2095 | 2432 | 2769 | 3106 | 3444 | 3781 | 4118 | 4456 | 4793 |
| 78 | 14 | 9615 | 9951 | 0288 | 0625 | 0961 | 1298 | 1635 | 1972 | 2309 | 2646 | 2983 | 3320 | 3657 | 3995 | 4332 | 4669 | 5007 |
| 84 | 15 | 133 (134)9830 | 0166 | 0503 | 0839 | 1176 | 1513 | 1849 | 2186 | 2523 | 2860 | 3197 | 3534 | 3871 | 4208 | 4546 | 4883 | 5220 |
| 89 | 16 | 134 0045 | 0381 | 0718 | 1054 | 1391 | 1727 | 2064 | 2401 | 2737 | 3074 | 3411 | 3748 | 4085 | 4422 | 4759 | 5096 | 5434 |
| 95 | 17 | 0260 | 0596 | 0933 | 1269 | 1606 | 1942 | 2279 | 2615 | 2952 | 3289 | 3625 | 3962 | 4299 | 4636 | 4973 | 5310 | 5647 |
| 101 | 18 | 0476 | 0812 | 1148 | 1484 | 1820 | 2157 | 2493 | 2830 | 3166 | 3503 | 3840 | 4176 | 4513 | 4850 | 5187 | 5524 | 5861 |
| 106 | 19 | 0691 | 1027 | 1363 | 1699 | 2035 | 2372 | 2708 | 3044 | 3381 | 3717 | 4054 | 4390 | 4727 | 5064 | 5400 | 5737 | 6074 |
| 112 | 20 | 134 0906 | 1242 | 1578 | 1914 | 2250 | 2586 | 2923 | 3259 | 3595 | 3932 | 4268 | 4605 | 4941 | 5278 | 5614 | 5951 | 6288 |
| 117 | 21 | 1122 | 1458 | 1793 | 2129 | 2465 | 2801 | 3137 | 3474 | 3810 | 4146 | 4482 | 4819 | 5155 | 5492 | 5828 | 6165 | 6501 |
| 123 | 22 | 1337 | 1673 | 2009 | 2345 | 2680 | 3016 | 3352 | 3688 | 4024 | 4361 | 4697 | 5033 | 5369 | 5706 | 6042 | 6379 | 6715 |
| 128 | 23 | 1553 | 1888 | 2224 | 2560 | 2896 | 3231 | 3567 | 3903 | 4239 | 4575 | 4911 | 5247 | 5584 | 5920 | 6256 | 6593 | 6929 |
| 134 | 24 | 1768 | 2104 | 2439 | 2775 | 3111 | 3446 | 3782 | 4118 | 4454 | 4790 | 5126 | 5462 | 5798 | 6134 | 6470 | 6807 | 7143 |
| 140 | 25 | 13 1984 | 2320 | 2655 | 2990 | 3326 | 3662 | 3997 | 4333 | 4669 | 5005 | 5340 | 5676 | 6012 | 6348 | 6685 | 7021 | 7357 |
| 145 | 26 | 2200 | 2535 | 2871 | 3206 | 3541 | 3877 | 4212 | 4548 | 4884 | 5219 | 5555 | 5891 | 6227 | 6563 | 6899 | 7235 | 7571 |
| 151 | 27 | 2416 | 2751 | 3086 | 3421 | 3757 | 4092 | 4427 | 4763 | 5099 | 5434 | 5770 | 6105 | 6441 | 6777 | 7113 | 7449 | 7785 |
| 156 | 28 | 2632 | 2967 | 3302 | 3637 | 3972 | 4308 | 4643 | 4979 | 5314 | 5650 | 5985 | 6321 | 6656 | 6992 | 7327 | 7663 | 7999 |
| 162 | 29 | 2847 | 3182 | 3517 | 3852 | 4188 | 4523 | 4858 | 5193 | 5529 | 5864 | 6199 | 6535 | 6870 | 7205 | 7541 | 7877 | 8213 |
| 168 | 30 | 134 3063 | 3398 | 3733 | 4068 | 4403 | 4738 | 5073 | 5408 | 5744 | 6079 | 6414 | 6749 | 7085 | 7420 | 7755 | 8091 | 8427 |
| 173 | 31 | 3278 | 3614 | 3949 | 4284 | 4619 | 4954 | 5289 | 5624 | 5959 | 6294 | 6629 | 6964 | 7300 | 7635 | 7970 | 8305 | 8641 |
| 179 | 32 | 3494 | 3830 | 4165 | 4500 | 4834 | 5169 | 5504 | 5839 | 6174 | 6509 | 6844 | 7179 | 7514 | 7850 | 8185 | 8520 | 8856 |
| 184 | 33 | 3710 | 4045 | 4381 | 4715 | 5050 | 5385 | 5719 | 6054 | 6389 | 6724 | 7059 | 7394 | 7729 | 8064 | 8400 | 8735 | 9070 |
| 190 | 34 | 3925 | 4261 | 4597 | 4931 | 5266 | 5600 | 5935 | 6270 | 6604 | 6939 | 7274 | 7609 | 7944 | 8279 | 8614 | 8949 | 9285 |
| 195 | 35 | 134 4141 | 4477 | 4813 | 5147 | 5482 | 5816 | 6151 | 6485 | 6820 | 7155 | 7490 | 7824 | 8159 | 8494 | 8829 | 9164 | 9499 |
| 201 | 36 | 4357 | 4693 | 5029 | 5363 | 5697 | 6032 | 6366 | 6701 | 7035 | 7370 | 7704 | 8039 | 8374 | 8709 | 9044 | 9379 | 9714 |
| 207 | 37 | 4573 | 4910 | 5245 | 5580 | 5914 | 6248 | 6583 | 6917 | 7251 | 7585 | 7920 | 8254 | 8589 | 8924 | 9259 | 9593 | 9928 |
| 212 | 38 | 134 (135)4789 | 5127 | 5462 | 5797 | 6131 | 6465 | 6799 | 7134 | 7468 | 7802 | 8136 | 8471 | 8805 | 9140 | 9474 | 9809 | 0143 |
| 218 | 39 | 5006 | 5343 | 5679 | 6014 | 6348 | 6682 | 7016 | 7350 | 7685 | 8019 | 8353 | 8687 | 9022 | 9356 | 9691 | 0025 | 0359 |
| 223 | 40 | 134 (135)5226 | 5560 | 5894 | 6228 | 6561 | 6895 | 7229 | 7563 | 7897 | 8231 | 8565 | 8900 | 9234 | 9568 | 9902 | 0236 | 0570 |
| 229 | 41 | 5443 | 5776 | 6110 | 6444 | 6778 | 7111 | 7445 | 7779 | 8113 | 8447 | 8781 | 9116 | 9450 | 9784 | 0118 | 0453 | 0787 |
| 235 | 42 | 5659 | 5993 | 6326 | 6660 | 6994 | 7327 | 7661 | 7995 | 8329 | 8663 | 8997 | 9331 | 9665 | 9999 | 0333 | 0668 | 1002 |
| 240 | 43 | 5876 | 6210 | 6543 | 6876 | 7210 | 7544 | 7877 | 8211 | 8545 | 8879 | 9213 | 9546 | 9880 | 0214 | 0549 | 0883 | 1217 |
| 246 | 44 | 6093 | 6427 | 6760 | 7093 | 7426 | 7760 | 8093 | 8427 | 8761 | 9094 | 9428 | 9762 | 0096 | 0430 | 0764 | 1098 | 1432 |
| 251 | 45 | 134 (135)6310 | 6644 | 6977 | 7310 | 7643 | 7976 | 8309 | 8643 | 8977 | 9311 | 9644 | 9977 | 0311 | 0645 | 0979 | 1313 | 1647 |
| 257 | 46 | 6527 | 6861 | 7194 | 7527 | 7860 | 8193 | 8526 | 8860 | 9193 | 9527 | 9860 | 0193 | 0527 | 0860 | 1194 | 1528 | 1862 |
| 262 | 47 | 6743 | 7076 | 7409 | 7742 | 8075 | 8409 | 8742 | 9075 | 9408 | 9742 | 0075 | 0409 | 0742 | 1076 | 1410 | 1743 | 2077 |
| 268 | 48 | 6960 | 7293 | 7626 | 7959 | 8292 | 8625 | 8958 | 9291 | 9625 | 9958 | 0291 | 0625 | 0958 | 1292 | 1625 | 1959 | 2292 |
| 274 | 49 | 7177 | 7511 | 7843 | 8176 | 8509 | 8841 | 9174 | 9508 | 9841 | 0174 | 0507 | 0840 | 1174 | 1507 | 1841 | 2174 | 2508 |
| 279 | 50 | 134 (135)7394 | 7727 | 8060 | 8392 | 8725 | 9058 | 9391 | 9724 | 0057 | 0390 | 0723 | 1056 | 1389 | 1723 | 2056 | 2389 | 2723 |
| 285 | 51 | 7612 | 7944 | 8277 | 8609 | 8942 | 9275 | 9607 | 9940 | 0273 | 0606 | 0939 | 1272 | 1605 | 1938 | 2272 | 2605 | 2938 |
| 290 | 52 | 7829 | 8161 | 8494 | 8826 | 9159 | 9491 | 9824 | 0157 | 0489 | 0822 | 1155 | 1488 | 1821 | 2154 | 2487 | 2820 | 3154 |
| 296 | 53 | 8047 | 8378 | 8711 | 9043 | 9375 | 9708 | 0041 | 0373 | 0706 | 1038 | 1371 | 1704 | 2037 | 2370 | 2703 | 3036 | 3369 |
| 301 | 54 | 8264 | 8595 | 8928 | 9260 | 9592 | 9925 | 0257 | 0590 | 0922 | 1255 | 1587 | 1920 | 2253 | 2585 | 2918 | 3251 | 3585 |
| 307 | 55 | 134 (135)8481 | 8813 | 9145 | 9477 | 9809 | 0141 | 0474 | 0806 | 1139 | 1471 | 1804 | 2136 | 2469 | 2802 | 3135 | 3467 | 3800 |
| 313 | 56 | 8698 | 9030 | 9362 | 9694 | 0026 | 0358 | 0691 | 1023 | 1355 | 1688 | 2020 | 2352 | 2685 | 3017 | 3350 | 3683 | 4016 |
| 318 | 57 | 8915 | 9247 | 9579 | 9911 | 0243 | 0575 | 0907 | 1240 | 1572 | 1904 | 2236 | 2569 | 2901 | 3234 | 3566 | 3899 | 4232 |
| 324 | 58 | 9133 | 9465 | 9796 | 0128 | 0460 | 0792 | 1124 | 1456 | 1788 | 2121 | 2453 | 2785 | 3117 | 3450 | 3782 | 4115 | 4447 |
| 330 | 59 | 9350 | 9682 | 0014 | 0346 | 0677 | 1009 | 1341 | 1673 | 2005 | 2337 | 2669 | 3001 | 3334 | 3666 | 3998 | 4331 | 4663 |

| Parts for Seconds of Auxil. Argum. additive | S.A.A. & A. D. 48° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 433 0866 |
| 4 | 1 | 1198 |
| 7 | 2 | 1532 |
| 11 | 3 | 1865 |
| 14 | 4 | 2198 |
| 18 | 5 | 433 1531 |
| 22 | 6 | 2197 |
| 25 | 7 | 2864 |
| 29 | 8 | 3197 |
| 33 | 9 | 3531 |
| 36 | 10 | 433 3864 |
| 40 | 11 | 4198 |
| 43 | 12 | 4531 |
| 47 | 13 | 4864 |
| 51 | 14 | 5197 |
| 54 | 15 | 433 5530 |
| 58 | 16 | 5863 |
| 62 | 17 | 6196 |
| 65 | 18 | 6529 |
| 69 | 19 | 6862 |
| 73 | 20 | 433 7195 |
| 76 | 21 | 7528 |
| 80 | 22 | 7860 |
| 84 | 23 | 8193 |
| 87 | 24 | 8526 |
| 91 | 25 | 433 8859 |
| 94 | 26 | 9192 |
| 98 | 27 | 9525 |
| 102 | 28 | 9858 |
| 105 | 29 | 0191 |
| 109 | 30 | 433 0524 |
| 113 | 31 | 0857 |
| 116 | 32 | 1190 |
| 120 | 33 | 1523 |
| 123 | 34 | 1856 |
| 127 | 35 | 433 2189 |
| 131 | 36 | 2522 |
| 134 | 37 | 2855 |
| 138 | 38 | 3188 |
| 142 | 39 | 3521 |
| 145 | 40 | 433 3854 |
| 149 | 41 | 4187 |
| 153 | 42 | 4520 |
| 156 | 43 | 434 4853 |
| 160 | 44 | 5186 |
| 163 | 45 | 434 5519 |
| 167 | 46 | 5852 |
| 171 | 47 | 6185 |
| 174 | 48 | 6518 |
| 178 | 49 | 6851 |
| 182 | 50 | 434 7184 |
| 185 | 51 | 7517 |
| 189 | 52 | 7850 |
| 193 | 53 | 8183 |
| 196 | 54 | 8516 |
| 200 | 55 | 434 8849 |
| 203 | 56 | 9182 |
| 207 | 57 | 9515 |
| 211 | 58 | 9848 |
| 214 | 59 | 0181 |

Numbers I. for Sums of Apparent Altitudes and Auxiliary Arguments,
and Numbers III. for Apparent Distances

Number II. for Corrected Sums of Altitudes.

Auxiliary Arguments.

| d | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | 6350 | 6680 | 7018 | | | | | | | | | | | | | |
| 12 | | 6379 | 6909 | 7238 | | | | | | | | | | | | | |
| 13 | | 6800 | 7129 | 7458 | 77 | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | |
| 20 | | | | 8671 | 8999 | 932 | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | |
| 25 | | | | 9774 | | | | | | | | | | | | | |
| 26 | | 9668 | 9995 | | | | | | | | | | | | | | |
| 27 | | 9889 | | | | | | | | | | | | | | | |
| 28 | 135 | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | |
| 30 | 135 | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | | |
| 39 | | 2545 | 2871 | 3197 | 3524 | 3850 | 4177 | 4503 | 4830 | 5156 | 5483 | 5810 | 6136 | 6463 | 6789 | 7117 | 7444 | 7771 |
| 40 | | | | | | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | | | |
| 55 | | | | | | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | | | |

C. T. XI. - Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. | A. A. & A. D. 49° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 134 (135) 9568 | 9900 | 0231 | 0563 | 0895 | 1226 | 1558 | 1890 | 2222 | 2554 | 2886 | 3218 | 3550 | 3882 | 4214 | 4547 | 4879 |
| 6 | 1 | 9786 | 0117 | 0449 | 0780 | 1112 | 1443 | 1775 | 2107 | 2439 | 2770 | 3102 | 3434 | 3766 | 4098 | 4430 | 4763 | 5095 |
| 12 | 2 | 135 | | | | | | | | | | | | | | | | |
| 17 | 3 | | | | | | | | | | | | | | | | | |
| 23 | 4 | | | | | | | | | | | | | | | | | |
| 27 | 5 | 135 | | | | | | | | | | | | | | | | |
| 31 | 6 | | | | | | | | | | | | | | | | | |
| 37 | 7 | | | | | | | | | | | | | | | | | |
| 43 | 8 | | | | | | | | | | | | | | | | | |
| 48 | 9 | | | | | | | | | | | | | | | | | |
| 54 | 10 | 135 | | | | | | | | | | | | | | | | |
| 58 | 11 | | | | | | | | | | | | | | | | | |
| 66 | 12 | | 2184 | 2514 | 2844 | 3175 | 3505 | 3835 | 4166 | 4496 | 4827 | 5158 | 5488 | 5819 | 6150 | 6481 | 6811 | 7142 | 7473 |
| 71 | 13 | | 2402 | 2732 | 3062 | 3393 | 3723 | 4053 | 4384 | 4714 | 5044 | 5375 | 5705 | 6036 | 6367 | 6697 | 7028 | 7358 | 7690 |
| 77 | 14 | | | | | | | | | | | | | | | | | | |
| 82 | 15 | 135 | 2839 | 3169 | 3499 | 3829 | 4159 | 4489 | 4819 | 5149 | 5479 | 5810 | 6140 | 6470 | 6801 | 7131 | 7462 | 7793 | 8123 |
| 88 | 16 | | 3058 | 3387 | 3717 | 4047 | 4377 | 4707 | 5037 | 5367 | 5697 | 6027 | 6357 | 6688 | 7018 | 7348 | 7679 | 8009 | 8340 |
| 94 | 17 | | | | | | | | | | | | | | | | | | |
| 99 | 18 | | | | | | | | | | | | | | | | | | |
| 105 | 19 | | | | | | | | | | | | | | | | | | |
| 110 | 20 | 135 | 3932 | 4262 | 4591 | 4920 | 5250 | 5579 | 5909 | 6238 | 6568 | 6898 | 7228 | 7557 | 7887 | 8217 | 8547 | 8877 | 9207 |
| 115 | 21 | | | | | | | | | | | | | | | | | | |
| 121 | 22 | | 4370 | 4699 | 5028 | 5357 | 5686 | 6016 | 6345 | 6674 | 7004 | 7333 | 7663 | 7992 | 8322 | 8652 | 8982 | 9312 | 9641 |
| 126 | 23 | | 4589 | 4918 | 5247 | 5576 | 5905 | 6234 | 6563 | 6893 | 7222 | 7551 | 7881 | 8210 | 8540 | 8869 | 9199 | 9529 | 9858 |
| 132 | 24 | 135 (136) | 4808 | 5137 | 5465 | 5794 | 6123 | 6452 | 6782 | 7111 | 7440 | 7769 | 8099 | 8428 | 8757 | 9087 | 9416 | 9746 | 0076 |
| 137 | 25 | 135 (136) | 5027 | 5355 | 5684 | 6013 | 6342 | 6671 | 7000 | 7329 | 7658 | 7987 | 8316 | 8646 | 8975 | 9304 | 9634 | 9963 | 0293 |
| 143 | 26 | | | | | | | | | | | | | | | | | | |
| 148 | 27 | | 5465 | 5793 | 6122 | 6450 | 6779 | 7108 | 7437 | 7766 | 8094 | 8423 | 8752 | 9081 | 9410 | 9740 | 0069 | 0398 | 0727 |
| 154 | 28 | | 5684 | 6012 | 6341 | 6669 | 6998 | 7326 | 7655 | 7984 | 8313 | 8642 | 8970 | 9299 | 9628 | 9957 | 0286 | 0616 | 0945 |
| 159 | 29 | | 5903 | 6231 | 6560 | 6888 | 7217 | 7545 | 7874 | 8202 | 8531 | 8860 | 9188 | 9517 | 9846 | 0175 | 0504 | 0833 | 1162 |
| 165 | 30 | 138 (139) | | | | | | | | | | | | | | | | | |
| 170 | 31 | | 6342 | 6670 | 6998 | 7326 | 7654 | 7983 | 8311 | 8639 | 8968 | 9296 | 9625 | 9953 | 0282 | 0611 | 0940 | 1268 | 1597 |
| 176 | 32 | | | | | | | | | | | | | | | | | | |
| 181 | 33 | | | | | | | | | | | | | | | | | | |
| 187 | 34 | | | | | | | | | | | | | | | | | | |
| 192 | 35 | 138 (139) | | | | | | | | | | | | | | | | | |
| 197 | 36 | | 7430 | 7767 | 8094 | 8422 | 8750 | 9077 | 9405 | 9733 | 0061 | 0389 | 0717 | 1045 | 1373 | 1701 | 2029 | 235 | |
| 203 | 37 | | | | | | | | | | | | | | | | | | |
| 208 | 38 | | | | | | | | | | | | | | | | | | |
| 214 | 39 | | 8098 | 8426 | 8753 | 9080 | 9407 | 9735 | 0062 | 0390 | 0717 | 1045 | 1372 | 1700 | 2028 | 2356 | 2683 | 3011 | 3339 |
| 219 | 40 | 135 (136) | | | | | | | | | | | | | | | | | |
| 225 | 41 | | | | | | | | | | | | | | | | | | |
| 230 | 42 | | 8758 | 9085 | 9412 | 9739 | 0066 | 0393 | 0720 | 1047 | 1374 | 1701 | 2029 | 2356 | 2683 | 3011 | 3338 | 3666 | 3994 |
| 236 | 43 | | 8978 | 9305 | 9631 | 9958 | 0285 | 0612 | 0939 | 1266 | 1593 | 1920 | 2247 | 2575 | 2902 | | | | |
| 241 | 44 | | 9198 | 9525 | 9851 | 0178 | 0505 | 0832 | 1158 | 1485 | 1812 | 2139 | 2466 | 2793 | 3121 | | | | |
| 247 | 45 | 138 (139) | | | | | | | | | | | | | | | | | |
| 252 | 46 | | | | | | | | | | | | | | | | | | |
| 258 | 47 | | | | | | | | | | | | | | | | | | |
| 263 | 48 | 136 | | | | | | | | | | | | | | | | | |
| 269 | 49 | | | | | | | | | | | | | | | | | | |
| 274 | 50 | 136 | | | | | | | | | | | | | | | | | |
| 280 | 51 | | | | | | | | | | | | | | | | | | |
| 285 | 52 | | | | | | | | | | | | | | | | | | |
| 291 | 53 | | 1181 | 1506 | 1832 | 2158 | 2483 | 2809 | 3135 | 3461 | 3787 | 4113 | 4439 | 4765 | 5091 | 5418 | 5744 | 6070 | 6397 |
| 296 | 54 | | | | | | | | | | | | | | | | | | |
| 302 | 55 | 136 | | | | | | | | | | | | | | | | | |
| 307 | 56 | | 1843 | 2168 | 2493 | 2818 | 3144 | 3469 | 3795 | 4120 | 44 | | | | | | | | |
| 313 | 57 | | 2063 | 2388 | 2714 | 3039 | 3364 | 3690 | 4015 | 4340 | 46 | | | | | | | | |
| 318 | 58 | | 2284 | 2609 | 2934 | 3259 | 3585 | 3910 | 4235 | 4560 | 48 | | | | | | | | |
| 324 | 59 | | | | | | | | | | | | | | | | | | |
| 329 | 60 | | | | | | | | | | | | | | | | | | |

| Parts for Sec. of C. D. | C. D. 49° | Sums |
|---|---|---|
| 0 | 0 | 434 3 |
| 4 | 1 | 416 |
| 7 | 2 | 438 |
| 11 | 3 | 4 |
| 15 | 4 | 4 |
| 18 | 5 | 434 3 |
| 22 | 6 | 5 |
| 26 | 7 | 7 |
| 29 | 8 | |
| 33 | 9 | |
| 37 | 10 | |
| 44 | 12 | |
| 48 | 13 | |
| 51 | 14 | |
| 55 | 15 | 434 7 |
| 59 | 16 | 7 |
| 62 | 17 | 7 |
| 66 | 18 | 7 |
| 70 | 19 | 7 |
| 74 | 20 | 434 |
| 77 | 21 | |
| 81 | 22 | |
| 85 | 23 | |
| 88 | 24 | |
| 92 | 25 | 434 |
| 96 | 26 | |
| 99 | 27 | |
| 103 | 28 | 435 |
| 107 | 29 | |
| 111 | 30 | |
| 114 | 31 | |
| 118 | 32 | |
| 122 | 33 | |
| 125 | 34 | |
| 129 | 35 | |
| 133 | 36 | |
| 137 | 37 | |
| 140 | 38 | |
| 144 | 39 | |
| 147 | 40 | |
| 151 | 41 | |
| 155 | 42 | |
| 158 | 43 | |
| 162 | 44 | |
| 166 | 45 | |
| 169 | 46 | |
| 173 | 47 | |
| 177 | 48 | |
| 180 | 49 | |
| 184 | 50 | |
| 188 | 51 | |
| 191 | 52 | |
| 195 | 53 | 5 |
| 199 | 54 | |
| 202 | 55 | |
| 206 | 56 | |
| 210 | 57 | |
| 213 | 58 | |
| 217 | 59 | |
| 221 | 60 | |

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances - - - - -
} and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. or C.S.A. anal. | C.S.A. 50° | | Numbers |
|---|---|---|---|
| 221 | 0 | 165 | 5839 |
| 217 | 1 | | 5920 |
| 214 | 2 | | 5400 |
| 210 | 3 | | 5180 |
| 206 | 4 | | 4961 |
| 203 | 5 | 165 | 4741 |
| 199 | 6 | | 4521 |
| 195 | 7 | | 4301 |
| 191 | 8 | | 4081 |
| 188 | 9 | | 3861 |
| 184 | 10 | 165 | 3641 |
| 180 | 11 | | 3421 |
| 177 | 12 | | 3200 |
| 173 | 13 | | 2980 |
| 169 | 14 | | 2760 |
| 166 | 15 | 165 | 2539 |
| 162 | 16 | | 2319 |
| 158 | 17 | | 2098 |
| 155 | 18 | | 1878 |
| 151 | 19 | | 1657 |
| 147 | 20 | 165 | 1437 |
| 144 | 21 | | 1216 |
| 140 | 22 | | 0995 |
| 136 | 23 | | 0774 |
| 133 | 24 | | 0553 |
| 129 | 25 | 165 | 0332 |
| 125 | 26 | | 0111 |
| 122 | 27 | 164 | 9890 |
| 118 | 28 | | 9669 |
| 114 | 29 | | 9448 |
| 110 | 30 | 164 | 9227 |
| 107 | 31 | | 9006 |
| 103 | 32 | | 8784 |
| 99 | 33 | | 8563 |
| 96 | 34 | | 8341 |
| 92 | 35 | 164 | 8120 |
| 88 | 36 | | 7898 |
| 85 | 37 | | 7677 |
| 81 | 38 | | 7455 |
| 77 | 39 | | 7233 |
| 74 | 40 | 164 | 7012 |
| 70 | 41 | | 6790 |
| 66 | 42 | | 6568 |
| 63 | 43 | | 6346 |
| 59 | 44 | | 6124 |
| 55 | 45 | 164 | 5902 |
| 51 | 46 | | 5680 |
| 48 | 47 | | 5458 |
| 44 | 48 | | 5236 |
| 40 | 49 | | 5013 |
| 37 | 50 | 164 | 4791 |
| 33 | 51 | | 4569 |
| 29 | 52 | | 4346 |
| 26 | 53 | | 4124 |
| 22 | 54 | | 3901 |
| 18 | 55 | 164 | 3678 |
| 15 | 56 | | 3456 |
| 11 | 57 | | 3233 |
| 7 | 58 | | 3011 |
| 4 | 59 | | 2788 |

| Parts for Seconds of Anxil. Argum. | N.A.A. & A.D. 50° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 135 (136) 7212 | 7536 | 7860 | 8184 | 8508 | 8832 | 9156 | 9481 | 9805 | 0129 | 0453 | 0778 | 1103 | 1427 | 1752 | 2076 | 2401 |
| 5 | 1 | | 7435 | 7759 | 8083 | 8407 | 8731 | 9055 | 9379 | 9703 | 0027 | 0351 | 0675 | 1000 | 1324 | 1648 | 1973 | 2298 | 2622 |
| 11 | 2 | | 7658 | 7982 | 8305 | 8629 | 8953 | 9277 | 9601 | 9925 | 0249 | 0573 | 0897 | 1221 | 1546 | 1870 | 2194 | 2519 | 2843 |
| 16 | 3 | | 7881 | 8205 | 8528 | 8852 | 9176 | 9499 | 9823 | 0147 | 0471 | 0795 | 1119 | 1443 | 1767 | 2091 | 2416 | 2740 | 3064 |
| 21 | 4 | | 8104 | 8428 | 8751 | 9075 | 9398 | 9722 | 0045 | 0369 | 0693 | 1017 | 1341 | 1665 | 1989 | 2313 | 2637 | 2961 | 3286 |
| 27 | 5 | 135 (136) | 8327 | 8651 | 8974 | 9297 | 9621 | 9944 | 0268 | 0592 | 0915 | 1239 | 1563 | 1887 | 2211 | 2535 | 2859 | 3183 | 3507 |
| 32 | 6 | | 8550 | 8874 | 9197 | 9520 | 9843 | 0167 | 0490 | 0814 | 1137 | 1461 | 1785 | 2109 | 2432 | 2756 | 3080 | 3404 | 3728 |
| 38 | 7 | | 8774 | 9097 | 9420 | 9743 | 0066 | 0390 | 0713 | 1036 | 1360 | 1683 | 2007 | 2331 | 2654 | 2978 | 3302 | 3626 | 3950 |
| 43 | 8 | | 8997 | 9320 | 9643 | 9966 | 0289 | 0612 | 0935 | 1259 | 1582 | 1906 | 2229 | 2553 | 2876 | 3200 | 3523 | 3847 | 4171 |
| 48 | 9 | | 9220 | 9543 | 9866 | 0189 | 0512 | 0835 | 1158 | 1481 | 1805 | 2128 | 2451 | 2775 | 3098 | 3422 | 3745 | 4069 | 4393 |
| 54 | 10 | 135 (136) | 9443 | 9766 | 0089 | 0412 | 0735 | 1058 | 1381 | 1704 | 2027 | 2350 | 2673 | 2997 | 3320 | 3644 | 3967 | 4290 | 4614 |
| 59 | 11 | | 9667 | 9989 | 0312 | 0635 | 0958 | 1281 | 1603 | 1927 | 2250 | 2573 | 2896 | 3219 | 3542 | 3866 | 4189 | 4512 | 4836 |
| 64 | 12 | | 9890 | 0213 | 0535 | 0858 | 1181 | 1503 | 1826 | 2149 | 2472 | 2795 | 3118 | 3441 | 3764 | 4088 | 4411 | 4734 | 5057 |
| 70 | 13 | 136 | 0114 | 0436 | 0759 | 1081 | 1404 | 1726 | 2049 | 2372 | 2695 | 3018 | 3340 | 3663 | 3986 | 4310 | 4633 | 4956 | 5279 |
| 75 | 14 | | 0337 | 0660 | 0982 | 1304 | 1627 | 1949 | 2272 | 2595 | 2917 | 3240 | 3563 | 3886 | 4209 | 4532 | 4855 | 5178 | 5501 |
| 80 | 15 | 136 | 0561 | 0883 | 1205 | 1528 | 1850 | 2172 | 2495 | 2817 | 3140 | 3463 | 3785 | 4108 | 4431 | 4754 | 5077 | 5400 | 5723 |
| 86 | 16 | | 0785 | 1107 | 1429 | 1751 | 2073 | 2396 | 2718 | 3041 | 3363 | 3685 | 4008 | 4330 | 4653 | 4976 | 5298 | 5622 | 5944 |
| 91 | 17 | | 1008 | 1330 | 1652 | 1974 | 2297 | 2619 | 2941 | 3263 | 3586 | 3908 | 4230 | 4553 | 4876 | 5198 | 5521 | 5844 | 6166 |
| 96 | 18 | | 1232 | 1554 | 1876 | 2198 | 2520 | 2842 | 3164 | 3486 | 3809 | 4131 | 4453 | 4776 | 5098 | 5420 | 5743 | 6066 | 6388 |
| 101 | 19 | | 1456 | 1778 | 2100 | 2421 | 2743 | 3065 | 3387 | 3709 | 4031 | 4354 | 4676 | 4998 | 5320 | 5643 | 5965 | 6288 | 6610 |
| 107 | 20 | 136 | 1680 | 2002 | 2323 | 2645 | 2967 | 3288 | 3610 | 3932 | 4254 | 4577 | 4899 | 5221 | 5543 | 5865 | 6188 | 6510 | 6833 |
| 112 | 21 | | 1904 | 2225 | 2547 | 2868 | 3190 | 3512 | 3834 | 4156 | 4477 | 4799 | 5121 | 5444 | 5766 | 6088 | 6410 | 6732 | 7055 |
| 118 | 22 | | 2128 | 2449 | 2771 | 3092 | 3414 | 3735 | 4057 | 4379 | 4701 | 5022 | 5344 | 5666 | 5988 | 6310 | 6632 | 6955 | 7277 |
| 123 | 23 | | 2352 | 2673 | 2995 | 3316 | 3637 | 3959 | 4280 | 4602 | 4924 | 5245 | 5567 | 5889 | 6211 | 6533 | 6855 | 7177 | 7499 |
| 128 | 24 | | 2576 | 2897 | 3218 | 3539 | 3861 | 4182 | 4504 | 4825 | 5147 | 5468 | 5790 | 6112 | 6434 | 6756 | 7077 | 7399 | 7721 |
| 134 | 25 | 136 | 2800 | 3121 | 3442 | 3764 | 4085 | 4406 | 4727 | 5049 | 5370 | 5691 | 6013 | 6335 | 6656 | 6978 | 7300 | 7622 | 7944 |
| 139 | 26 | | 3024 | 3345 | 3666 | 3987 | 4309 | 4630 | 4951 | 5273 | 5593 | 5915 | 6236 | 6558 | 6879 | 7201 | 7523 | 7844 | 8166 |
| 145 | 27 | | 3248 | 3569 | 3890 | 4211 | 4533 | 4853 | 5174 | 5496 | 5817 | 6138 | 6459 | 6781 | 7102 | 7424 | 7745 | 8067 | 8388 |
| 150 | 28 | | 3472 | 3793 | 4114 | 4435 | 4756 | 5077 | 5398 | 5719 | 6040 | 6361 | 6683 | 7004 | 7325 | 7647 | 7968 | 8289 | 8611 |
| 155 | 29 | | 3696 | 4017 | 4338 | 4659 | 4980 | 5301 | 5622 | 5943 | 6264 | 6585 | 6906 | 7227 | 7548 | 7869 | 8191 | 8512 | 8834 |
| 161 | 30 | 136 | 3920 | 4242 | 4563 | 4885 | 5204 | 5525 | 5846 | 6167 | 6487 | 6808 | 7129 | 7450 | 7771 | 8092 | 8414 | 8735 | 9056 |
| 166 | 31 | | 4144 | 4467 | 4787 | 5108 | 5428 | 5749 | 6069 | 6389 | 6711 | 7032 | 7353 | 7673 | 7994 | 8315 | 8637 | 8958 | 9279 |
| 171 | 32 | | 4371 | 4691 | 5011 | 5332 | 5653 | 5973 | 6293 | 6614 | 6935 | 7255 | 7576 | 7897 | 8217 | 8539 | 8860 | 9181 | 9502 |
| 177 | 33 | | 4595 | 4915 | 5235 | 5556 | 5876 | 6197 | 6517 | 6838 | 7158 | 7479 | 7799 | 8120 | 8441 | 8762 | 9083 | 9403 | 9724 |
| 182 | 34 | | 4820 | 5140 | 5460 | 5780 | 6101 | 6421 | 6741 | 7061 | 7382 | 7702 | 8023 | 8343 | 8664 | 8985 | 9306 | 9626 | 9947 |
| 187 | 35 | 136 (137) | 5045 | 5365 | 5685 | 6005 | 6325 | 6645 | 6965 | 7285 | 7605 | 7926 | 8246 | 8567 | 8887 | 9208 | 9529 | 9849 | 170 |
| 193 | 36 | | 5269 | 5589 | 5909 | 6229 | 6549 | 6869 | 7189 | 7509 | 7830 | 8150 | 8470 | 8791 | 9111 | 9431 | 9752 | 0072 | 0393 |
| 198 | 37 | | 5494 | 5814 | 6134 | 6454 | 6773 | 7093 | 7413 | 7733 | 8053 | 8374 | 8694 | 9014 | 9334 | 9655 | 9975 | 0296 | 0616 |
| 203 | 38 | | 5719 | 6039 | 6358 | 6678 | 6998 | 7318 | 7637 | 7957 | 8277 | 8597 | 8917 | 9238 | 9558 | 9878 | 0198 | 0519 | 0839 |
| 209 | 39 | | 5943 | 6263 | 6583 | 6902 | 7222 | 7542 | 7862 | 8181 | 8501 | 8821 | 9141 | 9461 | 9781 | 0101 | 0421 | 0742 | 1062 |
| 214 | 40 | 136 (137) | 6168 | 6488 | 6807 | 7127 | 7447 | 7767 | 8086 | 8406 | 8726 | 9046 | 9365 | 9685 | 0005 | 0325 | 0645 | 0965 | 1285 |
| 219 | 41 | | 6392 | 6712 | 7031 | 7352 | 7671 | 7991 | 8311 | 8630 | 8950 | 9270 | 9589 | 9909 | 0229 | 0549 | 0868 | 1188 | 1508 |
| 225 | 42 | | 6616 | 6936 | 7257 | 7577 | 7896 | 8215 | 8535 | 8854 | 9174 | 9493 | 9813 | 0133 | 0452 | 0772 | 1092 | 1411 | 1731 |
| 230 | 43 | | 6841 | 7161 | 7481 | 7801 | 8121 | 8440 | 8760 | 9079 | 9398 | 9717 | 0037 | 0356 | 0676 | 0995 | 1314 | 1634 | 1953 |
| 235 | 44 | | 7065 | 7385 | 7705 | 8025 | 8345 | 8665 | 8984 | 9303 | 9622 | 9942 | 0261 | 0580 | 0899 | 1219 | 1538 | 1857 | 2177 |
| 241 | 45 | 136 (137) | 7289 | 7609 | 7929 | 8249 | 8569 | 8888 | 9208 | 9527 | 9847 | 0166 | 0485 | 0804 | 1124 | 1443 | 1763 | 2082 | 2401 |
| 246 | 46 | | 7513 | 7833 | 8153 | 8473 | 8792 | 9112 | 9431 | 9751 | 0070 | 0389 | 0708 | 1028 | 1348 | 1667 | 1986 | 2306 | 2625 |
| 252 | 47 | | 7738 | 8057 | 8377 | 8696 | 9016 | 9335 | 9655 | 9974 | 0293 | 0613 | 0932 | 1252 | 1571 | 1891 | 2210 | 2529 | 2849 |
| 257 | 48 | | 7962 | 8281 | 8600 | 8920 | 9239 | 9559 | 9878 | 0197 | 0517 | 0836 | 1156 | 1475 | 1795 | 2114 | 2434 | 2753 | 3072 |
| 262 | 49 | | 8186 | 8505 | 8824 | 9143 | 9463 | 9782 | 0101 | 0421 | 0740 | 1060 | 1379 | 1699 | 2018 | 2338 | 2657 | 2977 | 3296 |
| 268 | 50 | 137 | 8410 | 8729 | 9048 | 9367 | 9686 | 0006 | 0325 | 0644 | 0964 | 1283 | 1603 | 1922 | 2242 | 2561 | 2881 | 3200 | 3520 |
| 273 | 51 | | 8634 | 8953 | 9272 | 9591 | 9910 | 0229 | 0548 | 0868 | 1187 | 1507 | 1826 | 2146 | 2465 | 2785 | 3104 | 3424 | 3743 |
| 278 | 52 | | 8858 | 9177 | 9496 | 9815 | 0133 | 0453 | 0772 | 1091 | 1411 | 1730 | 2050 | 2369 | 2689 | 3008 | 3328 | 3647 | 3967 |
| 284 | 53 | | 9082 | 9401 | 9720 | 0039 | 0357 | 0676 | 0996 | 1315 | 1634 | 1954 | 2273 | 2593 | 2912 | 3232 | 3551 | 3871 | 4190 |
| 289 | 54 | | 9306 | 9625 | 9944 | 0262 | 0581 | 0900 | 1219 | 1539 | 1858 | 2177 | 2497 | 2816 | 3136 | 3455 | 3775 | 4094 | 4414 |
| 295 | 55 | 137 (138) | 9530 | 9849 | 0168 | 0486 | 0805 | 1124 | 1443 | 1762 | 2081 | 2401 | 2720 | 3039 | 3359 | 3678 | 3998 | 4317 | 4637 |
| 300 | 56 | | 9776 | 0093 | 0411 | 0729 | 1046 | 1364 | 1682 | 2000 | 2318 | 2636 | 2954 | 3272 | 3590 | 3908 | 4226 | 4545 | 4863 |
| 305 | 57 | 137 | 0000 | 0317 | 0634 | 0952 | 1270 | 1587 | 1905 | 2223 | 2542 | 2860 | 3178 | 3496 | 3814 | 4132 | 4451 | 4769 | 5087 |
| 310 | 58 | | 0228 | 0545 | 0862 | 1180 | 1497 | 1815 | 2132 | 2450 | 2768 | 3085 | 3403 | 3721 | 4039 | 4357 | 4675 | 4993 | 5311 |
| 316 | 59 | | 0456 | 0773 | 1090 | 1408 | 1725 | 2043 | 2360 | 2678 | 2996 | 3314 | 3632 | 3950 | 4268 | 4586 | 4904 | 5222 | 5535 |

Auxiliary Arguments.

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Secs. of Auxil. Argum. | A.A. & A.D. 50° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 136 2726 | 3051 | 3375 | 3700 | 4025 | 4350 | 4675 | 5000 | 5326 | 5651 | 5976 | 6302 | 6627 | 6952 | 7278 | 7604 | 7929 |
| 5 | 1 | | 2947 | 3271 | 3596 | 3921 | 4246 | 4571 | 4896 | 5221 | 5546 | 5871 | 6196 | 6521 | 6847 | 7172 | 7497 | 7823 |
| 11 | 2 | | 3168 | 3492 | 3817 | 4142 | 4466 | 4791 | 5116 | 5441 | 5766 | 6091 | 6416 | 6741 | 7066 | 7391 | 7717 | 8042 |
| 16 | 3 | | 3389 | 3713 | 4038 | 4362 | 4687 | 5012 | 5336 | 5661 | 5986 | 6311 | 6636 | 6961 | 7286 | 7611 | 7936 | 8261 |
| 22 | 4 | | 3610 | 3934 | 4259 | 4583 | 4908 | 5232 | 5557 | 5882 | 6206 | 6531 | 6856 | 7181 | 7506 | 7831 | 8156 | 8481 |
| 27 | 5 | 136 | 3831 | 4155 | 4480 | 4804 | 5128 | 5453 | 5777 | 6102 | 6427 | 6751 | 7076 | 7401 | 7725 | 8050 | 8375 | 8700 |
| 32 | 6 | | 4052 | 4376 | 4701 | 5025 | 5349 | 5673 | 5998 | 6322 | 6647 | 6971 | 7296 | 7621 | 7945 | 8270 | 8595 | 8920 |
| 38 | 7 | | 4273 | 4598 | 4922 | 5246 | 5570 | 5894 | 6218 | 6543 | 6867 | 7192 | 7516 | 7841 | 8165 | 8490 | 8815 | 9139 |
| 43 | 8 | | 4495 | 4819 | 5143 | 5466 | 5791 | 6115 | 6439 | 6763 | 7088 | 7412 | 7736 | 8061 | 8385 | 8710 | 9034 | 9359 |
| 49 | 9 | | 4716 | 5040 | 5364 | 5688 | 6012 | 6336 | 6660 | 6984 | 7308 | 7632 | 7957 | 8281 | 8605 | 8930 | 9254 | 9579 |
| 54 | 10 | 136 (137) | 4938 | 5261 | 5585 | 5909 | 6233 | 6557 | 6881 | 7205 | 7529 | 7853 | 8177 | 8501 | 8825 | 9150 | 9474 | 9798 |
| 59 | 11 | | 5159 | 5483 | 5807 | 6130 | 6454 | 6777 | 7101 | 7425 | 7749 | 8073 | 8397 | 8721 | 9045 | 9370 | 9694 | 0018 |
| 64 | 12 | | 5381 | 5704 | 6028 | 6351 | 6675 | 6998 | 7322 | 7646 | 7970 | 8294 | 8618 | 8942 | 9266 | 9590 | 9914 | 0237 |
| 70 | 13 | | 5602 | 5926 | 6249 | 6572 | 6896 | 7219 | 7543 | 7867 | 8191 | 8514 | 8838 | 9162 | 9486 | 9810 | 0134 | 0458 |
| 75 | 14 | | 5824 | 6147 | 6470 | 6794 | 7117 | 7441 | 7764 | 8088 | 8411 | 8735 | 9059 | 9382 | 9706 | 0030 | 0354 | 0677 |
| 81 | 15 | 136 (137) | 6046 | 6369 | 6692 | 7015 | 7338 | 7662 | 7985 | 8309 | 8632 | 8956 | 9279 | 9603 | 9927 | 0250 | 0574 | 0898 |
| 86 | 16 | | 6267 | 6590 | 6913 | 7237 | 7560 | 7883 | 8206 | 8530 | 8853 | 9176 | 9500 | 9823 | 0147 | 0471 | 0794 | 1118 |
| 91 | 17 | | 6488 | 6812 | 7135 | 7458 | 7781 | 8104 | 8427 | 8751 | 9074 | 9397 | 9721 | 0044 | 0367 | 0691 | 1015 | 1338 |
| 97 | 18 | | 6711 | 7034 | 7357 | 7680 | 8003 | 8326 | 8649 | 8972 | 9296 | 9619 | 9941 | 0264 | 0588 | 0911 | 1235 | 1558 |
| 102 | 19 | | 6933 | 7256 | 7579 | 7901 | 8224 | 8547 | 8870 | 9193 | 9516 | 9839 | 0162 | 0485 | 0808 | 1132 | 1455 | 1778 |
| 107 | 20 | 136 (137) | 7155 | 7478 | 7800 | 8123 | 8445 | 8768 | 9091 | 9414 | 9737 | 0060 | 0383 | 0706 | 1029 | 1351 | 1674 | 1997 |
| 113 | 21 | | 7377 | 7699 | 8022 | 8344 | 8667 | 8990 | 9312 | 9635 | 9958 | 0281 | 0604 | 0927 | 1250 | 1573 | 1896 | 2219 |
| 118 | 22 | | 7599 | 7921 | 8244 | 8566 | 8889 | 9211 | 9534 | 9856 | 0179 | 0502 | 0825 | 1148 | 1470 | 1793 | 2116 | 2439 |
| 123 | 23 | | 7821 | 8143 | 8466 | 8788 | 9110 | 9433 | 9755 | 0078 | 0400 | 0723 | 1046 | 1368 | 1691 | 2014 | 2337 | 2660 |
| 129 | 24 | | 8043 | 8365 | 8688 | 9010 | 9332 | 9654 | 9977 | 0299 | 0622 | 0944 | 1267 | 1589 | 1912 | 2235 | 2558 | 2881 |
| 134 | 25 | 136 (137) | 8266 | 8588 | 8910 | 9232 | 9554 | 9876 | 0198 | 0521 | 0843 | 1165 | 1488 | 1810 | 2133 | 2455 | 2778 | 3101 |
| 140 | 26 | | 8488 | 8810 | 9132 | 9454 | 9776 | 0098 | 0420 | 0742 | 1064 | 1387 | 1709 | 2031 | 2354 | 2676 | 2998 | 3322 |
| 145 | 27 | | 8710 | 9032 | 9354 | 9676 | 9998 | 0320 | 0642 | 0964 | 1286 | 1608 | 1930 | 2252 | 2575 | 2897 | 3220 | 3542 |
| 150 | 28 | | 8933 | 9254 | 9576 | 9898 | 0220 | 0541 | 0863 | 1185 | 1507 | 1829 | 2151 | 2474 | 2796 | 3118 | 3441 | 3763 |
| 156 | 29 | | 9155 | 9477 | 9798 | 0120 | 0442 | 0763 | 1085 | 1407 | 1729 | 2051 | 2373 | 2695 | 3017 | 3339 | 3661 | 3984 |
| 161 | 30 | 136 (137) | 9378 | 9699 | 0021 | 0342 | 0664 | 0985 | 1307 | 1629 | 1950 | 2272 | 2594 | 2916 | 3238 | 3560 | 3882 | 4205 |
| 166 | 31 | | 9600 | 9921 | 0243 | 0564 | 0886 | 1207 | 1529 | 1850 | 2172 | 2494 | 2816 | 3137 | 3459 | 3781 | 4103 | 4425 |
| 172 | 32 | | 9823 | 0144 | 0465 | 0786 | 1108 | 1429 | 1751 | 2072 | 2394 | 2715 | 3037 | 3359 | 3681 | 4003 | 4325 | 4648 |
| 177 | 33 | 137 | 0045 | 0366 | 0688 | 1009 | 1330 | 1651 | 1973 | 2294 | 2616 | 2937 | 3259 | 3580 | 3902 | 4224 | 4545 | 4867 |
| 183 | 34 | | 0268 | 0589 | 0910 | 1231 | 1552 | 1873 | 2195 | 2516 | 2837 | 3159 | 3480 | 3802 | 4123 | 4445 | 4767 | 5088 |
| 188 | 35 | 137 | 0491 | 0812 | 1133 | 1454 | 1775 | 2096 | 2417 | 2738 | 3059 | 3380 | 3702 | 4023 | 4345 | 4667 | 4988 | 5310 |
| 193 | 36 | | 0714 | 1034 | 1355 | 1676 | 1997 | 2318 | 2639 | 2960 | 3281 | 3602 | 3923 | 4245 | 4566 | 4887 | 5209 | 5530 |
| 199 | 37 | | 0937 | 1257 | 1578 | 1899 | 2219 | 2540 | 2861 | 3182 | 3503 | 3824 | 4145 | 4466 | 4788 | 5109 | 5430 | 5751 |
| 204 | 38 | | 1160 | 1480 | 1801 | 2121 | 2442 | 2763 | 3083 | 3404 | 3725 | 4046 | 4367 | 4688 | 5009 | 5330 | 5651 | 5973 |
| 209 | 39 | | 1383 | 1703 | 2023 | 2344 | 2664 | 2985 | 3306 | 3626 | 3947 | 4268 | 4589 | 4911 | 5231 | 5552 | 5873 | 6194 |
| 215 | 40 | 137 | 1606 | 1926 | 2246 | 2567 | 2887 | 3208 | 3528 | 3849 | 4170 | 4490 | 4811 | 5132 | 5452 | 5773 | 6094 | 6415 |
| 220 | 41 | | 1829 | 2149 | 2469 | 2789 | 3110 | 3430 | 3750 | 4071 | 4391 | 4712 | 5033 | 5353 | 5674 | 5995 | 6316 | 6637 |
| 225 | 42 | | 2052 | 2372 | 2692 | 3012 | 3332 | 3653 | 3973 | 4293 | 4614 | 4934 | 5255 | 5575 | 5896 | 6217 | 6537 | 6858 |
| 231 | 43 | | 2275 | 2595 | 2915 | 3235 | 3555 | 3875 | 4195 | 4516 | 4836 | 5156 | 5477 | 5797 | 6118 | 6438 | 6759 | 7080 |
| 236 | 44 | | 2498 | 2818 | 3138 | 3458 | 3778 | 4098 | 4418 | 4738 | 5058 | 5378 | 5699 | 6019 | 6340 | 6660 | 6981 | 7302 |
| 242 | 45 | 137 | 2721 | 3041 | 3361 | 3681 | 4001 | 4321 | 4641 | 4961 | 5281 | 5601 | 5921 | 6241 | 6562 | 6882 | 7202 | 7523 |
| 247 | 46 | | 2943 | 3263 | 3584 | 3904 | 4224 | 4544 | 4863 | 5183 | 5503 | 5823 | 6143 | 6463 | 6784 | 7104 | 7424 | 7744 |
| 252 | 47 | | 3166 | 3486 | 3807 | 4127 | 4447 | 4767 | 5086 | 5406 | 5726 | 6046 | 6366 | 6686 | 7006 | 7326 | 7646 | 7966 |
| 258 | 48 | | 3389 | 3711 | 4031 | 4350 | 4670 | 4990 | 5309 | 5629 | 5949 | 6268 | 6588 | 6908 | 7228 | 7548 | 7868 | 8188 |
| 263 | 49 | | 3611 | 3933 | 4254 | 4574 | 4894 | 5213 | 5533 | 5852 | 6172 | 6491 | 6810 | 7130 | 7450 | 7770 | 8090 | 8410 |
| 269 | 50 | 137 | 3834 | 4156 | 4477 | 4797 | 5116 | 5435 | 5755 | 6074 | 6393 | 6713 | 7033 | 7352 | 7672 | 7992 | 8312 | 8632 |
| 274 | 51 | | 4057 | 4378 | 4699 | 5020 | 5339 | 5658 | 5977 | 6296 | 6615 | 6934 | 7255 | 7575 | 7894 | 8214 | 8534 | 8854 |
| 279 | 52 | | 4280 | 4605 | 4924 | 5243 | 5562 | 5881 | 6200 | 6520 | 6839 | 7158 | 7478 | 7797 | 8117 | 8436 | 8756 | 9076 |
| 285 | 53 | | 4502 | 4829 | 5148 | 5466 | 5785 | 6104 | 6423 | 6743 | 7062 | 7381 | 7700 | 8020 | 8338 | 8658 | 8978 | 9298 |
| 290 | 54 | | 4725 | 5052 | 5371 | 5690 | 6008 | 6327 | 6646 | 6965 | 7285 | 7604 | 7923 | 8242 | 8561 | 8881 | 9200 | 9520 |
| 295 | 55 | 137 (138) | 4948 | 5276 | 5594 | 5913 | 6232 | 6551 | 6870 | 7188 | 7508 | 7827 | 8146 | 8465 | 8784 | 9104 | 9423 | 9742 |
| 301 | 56 | | 5171 | 5500 | 5818 | 6137 | 6455 | 6774 | 7093 | 7411 | 7731 | 8050 | 8368 | 8687 | 9007 | 9326 | 9645 | 9965 |
| 306 | 57 | | 5394 | 5724 | 6042 | 6361 | 6679 | 6998 | 7316 | 7635 | 7954 | 8273 | 8591 | 8910 | 9229 | 9548 | 9867 | 0187 |
| 311 | 58 | | 5617 | 5947 | 6266 | 6584 | 6903 | 7221 | 7539 | 7858 | 8177 | 8495 | 8814 | 9133 | 9452 | 9770 | 0090 | 0409 |
| 317 | 59 | | 5839 | 6171 | 6490 | 6808 | 7127 | 7445 | 7763 | 8082 | 8400 | 8718 | 9037 | 9356 | 9674 | 9993 | 0312 | 0631 |

Sums for finding the Corrected Distances.

| Parts for Secs. of C. D. | C. D. 50° | Sums |
|---|---|---|
| 0 | 0 | 435 7212 |
| 4 | 1 | 7488 |
| 7 | 2 | 7658 |
| 11 | 3 | 7881 |
| 15 | 4 | 8104 |
| 19 | 5 | 8327 |
| 22 | 6 | 8550 |
| 26 | 7 | 8774 |
| 30 | 8 | 8997 |
| 34 | 9 | 9220 |
| 37 | 10 | 435 9443 |
| 41 | 11 | 9667 |
| 45 | 12 | 9890 |
| 49 | 13 | 436 0114 |
| 52 | 14 | 0337 |
| 56 | 15 | 0561 |
| 60 | 16 | 0785 |
| 64 | 17 | 1008 |
| 67 | 18 | 1232 |
| 71 | 19 | 1456 |
| 75 | 20 | 436 1680 |
| 79 | 21 | 1904 |
| 82 | 22 | 2128 |
| 86 | 23 | 2352 |
| 90 | 24 | 2576 |
| 94 | 25 | 436 2800 |
| 97 | 26 | 3024 |
| 101 | 27 | 3248 |
| 105 | 28 | 3473 |
| 109 | 29 | 3697 |
| 112 | 30 | 436 3922 |
| 116 | 31 | 4146 |
| 120 | 32 | 4371 |
| 123 | 33 | 4595 |
| 127 | 34 | 4820 |
| 131 | 35 | 436 5045 |
| 135 | 36 | 5269 |
| 138 | 37 | 5494 |
| 142 | 38 | 5719 |
| 146 | 39 | 5944 |
| 150 | 40 | 436 6169 |
| 153 | 41 | 6394 |
| 157 | 42 | 6619 |
| 161 | 43 | 6844 |
| 165 | 44 | 7069 |
| 168 | 45 | 436 7295 |
| 172 | 46 | 7520 |
| 176 | 47 | 7745 |
| 180 | 48 | 7971 |
| 183 | 49 | 8196 |
| 187 | 50 | 436 8422 |
| 191 | 51 | 8647 |
| 195 | 52 | 8873 |
| 198 | 53 | 9099 |
| 202 | 54 | 9324 |
| 206 | 55 | 436 9550 |
| 210 | 56 | 9776 |
| 213 | 57 | 437 0002 |
| 217 | 58 | 0228 |
| 221 | 59 | 0454 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| Page | ′ | Numbers |
|---|---|---|
| 224 | 0 | 164 2565 |
| 225 | 1 | 2564 |
| 226 | 2 | 2116 |
| 227 | 3 | 1867 |
| 228 | 4 | 1618 |
| 229 | 5 | 164 1486 |
| 230 | 6 | 1237 |
| 165 | 7 | 1008 |
| 166 | 8 | 0759 |
| 167 | 9 | 0557 |
| 167 | 10 | 164 0333 |
| 168 | 11 | 0110 |
| 168 | 12 | 163 9887 |
| 169 | 13 | 9663 |
| 170 | 14 | 9436 |
| 170 | 15 | 163 9215 |
| 171 | 16 | 8992 |
| 172 | 17 | 8768 |
| 157 | 18 | 8544 |
| 158 | 19 | 8320 |
| 159 | 20 | 163 8096 |
| 146 | 21 | 7872 |
| 147 | 22 | 7648 |
| 148 | 23 | 7424 |
| 149 | 24 | 7200 |
| 131 | 25 | 163 6976 |
| 132 | 26 | 6751 |
| 133 | 27 | 6527 |
| 120 | 28 | 6303 |
| 121 | 29 | 6079 |
| 107 | 30 | 163 5854 |
| 108 | 31 | 5630 |
| 109 | 32 | 5406 |
| 110 | 33 | 5182 |
| 97 | 34 | 4958 |
| 98 | 35 | 163 4734 |
| 86 | 36 | 4510 |
| 87 | 37 | 4286 |
| 88 | 38 | 4062 |
| 76 | 39 | 3838 |
| 77 | 40 | 163 3614 |
| 78 | 41 | 3389 |
| 67 | 42 | 3165 |
| 68 | 43 | 2941 |
| 69 | 44 | 2717 |
| 59 | 45 | 163 2493 |
| 60 | 46 | 2269 |
| 61 | 47 | 2045 |
| 52 | 48 | 1821 |
| 53 | 49 | 1597 |
| 54 | 50 | 163 1373 |
| 55 | 51 | 1149 |
| 56 | 52 | 0925 |
| 57 | 53 | 0701 |
| 58 | 54 | 0477 |
| 59 | 55 | 163 0253 |
| 60 | 56 | 0029 |
| 61 | 57 | 162 9805 |
| 62 | 58 | 9581 |
| 63 | 59 | 9357 |
| 64 | 60 | 162 9133 |

| Page | ′ & A.D. | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 51 | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 137 | 0658 | 0997 | 1314 | 1631 | 1948 | 2266 | 2583 | [illegible] | [illegible] | [illegible] | 3535 | 3853 | 4171 | 4488 | 4805 | 5124 | 5442 |
| 1 | | 0906 | 1223 | 1540 | 1857 | 2174 | 2491 | 2808 | 3126 | 3443 | 3760 | 4078 | 4395 | 4713 | 5031 | 5348 | [illegible] | [illegible] |
| 2 | | 1132 | 1449 | 1766 | 2083 | 2400 | 2717 | 3034 | 3351 | 3668 | 3986 | 4303 | 4620 | 4938 | 5255 | 5573 | [illegible] | [illegible] |
| 3 | | 1358 | 1675 | 1992 | 2308 | 2625 | 2942 | 3259 | 3576 | 3894 | 4211 | 4528 | 4845 | 5163 | 5480 | 5797 | [illegible] | [illegible] |
| 4 | | 1584 | 1901 | 2218 | 2534 | 2851 | 3168 | 3485 | 3802 | 4119 | 4436 | 4753 | 5070 | 5387 | 5705 | [illegible] | [illegible] | [illegible] |
| 5 | 137 | 1811 | 2127 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | | 2037 | 2353 | 2670 | 2986 | 3303 | 3620 | 3936 | 4253 | 4570 | 4887 | 5203 | 5520 | 5837 | 6154 | 6472 | 6789 | [illegible] |
| 7 | | 2263 | 2580 | 2896 | 3212 | 3529 | 3845 | 4162 | 4479 | 4795 | 5112 | 5429 | 5745 | 6062 | 6379 | 6696 | 7013 | [illegible] |
| 8 | | 2490 | 2806 | 3122 | 3439 | 3755 | 4071 | 4388 | 4704 | 5021 | 5337 | 5654 | 5971 | 6287 | 6604 | 6921 | 7238 | [illegible] |
| 9 | | 2716 | 3032 | 3349 | 3665 | 3981 | 4297 | 4613 | 4930 | 5246 | 5563 | 5879 | 6196 | 6513 | 6829 | 7146 | [illegible] | [illegible] |
| 10 | 137 | 2943 | 3259 | 3575 | 3891 | 4207 | 4523 | 4839 | 5156 | 5472 | 5788 | 6105 | 6421 | 6738 | 7054 | 7371 | 7688 | [illegible] |
| 11 | | 3170 | 3485 | 3801 | 4117 | 4433 | 4749 | 5065 | 5381 | 5698 | 6014 | 6330 | 6647 | 6963 | 7280 | 7596 | [illegible] | [illegible] |
| 12 | | 3396 | 3712 | 4028 | 4343 | 4659 | 4975 | 5291 | 5607 | 5923 | 6240 | 6556 | 6872 | 7188 | 7505 | [illegible] | [illegible] | [illegible] |
| 13 | | 3623 | 3938 | 4254 | 4570 | 4886 | 5201 | 5517 | 5833 | 6149 | 6465 | 6781 | 7098 | 7414 | 7730 | [illegible] | [illegible] | [illegible] |
| 14 | | 3850 | 4165 | 4481 | 4796 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 137 | 4076 | 4392 | 4707 | 5023 | 5338 | 5654 | 5970 | 6285 | 6601 | 6917 | 7233 | 7549 | 7865 | 8181 | 8497 | 8813 | 9129 |
| 16 | | 4303 | 4619 | 4934 | 5249 | 5565 | 5880 | 6196 | 6511 | 6827 | 7143 | 7458 | 7774 | 8090 | 8406 | 8722 | 9038 | 9354 |
| 17 | | 4530 | 4845 | 5161 | 5476 | 5791 | 6107 | 6422 | 6738 | 7053 | 7369 | 7685 | 8000 | 8316 | 8631 | 8947 | 9263 | 9579 |
| 18 | | 4757 | 5072 | 5387 | 5703 | 6018 | 6333 | 6648 | 6964 | 7279 | 7595 | 7910 | 8226 | 8541 | 8857 | 9173 | 9488 | 9804 |
| 19 | 137 (138) | 4984 | 5299 | 5614 | 5929 | 6244 | 6560 | 6875 | 7190 | 7506 | 7821 | 8136 | 8451 | 8767 | 9083 | 9398 | 9714 | 0030 |
| 20 | 137 (138) | 5211 | 5526 | 5841 | 6156 | 6471 | 6786 | 7101 | 7416 | 7731 | [illegible] | 8362 | 8677 | 8993 | 9308 | 9624 | 9939 | 0255 |
| 21 | | 5439 | 5753 | 6068 | 6383 | 6698 | 7013 | 7328 | 7643 | 7958 | [illegible] | 8588 | 8903 | 9218 | 9534 | 9849 | 0165 | 0480 |
| 22 | | 5666 | 5980 | 6295 | 6610 | 6924 | 7239 | 7554 | 7869 | 8184 | 8499 | 8814 | 9129 | 9444 | 9760 | 0075 | 0390 | 0705 |
| 23 | | 5893 | 6208 | 6522 | 6837 | 7151 | 7466 | 7781 | 8095 | 8410 | 8725 | 9040 | 9355 | 9670 | 9985 | 0300 | 0616 | 0931 |
| 24 | | 6122 | 6435 | 6749 | 7064 | 7378 | 7693 | 8007 | 8322 | 8637 | 8951 | 9266 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 137 (138) | 6348 | 6662 | 6976 | 7291 | 7605 | 7919 | 8234 | 8549 | 8863 | 9178 | 9493 | 9807 | 0122 | 0437 | [illegible] | 1067 | 1382 |
| 26 | | 6575 | 6889 | 7203 | 7518 | 7832 | 8146 | 8461 | 8775 | 9090 | 9404 | 9719 | 0033 | 0348 | 0663 | [illegible] | 1293 | 1608 |
| 27 | | 6803 | 7117 | 7431 | 7745 | 8059 | 8373 | 8687 | 9002 | 9316 | 9631 | 9945 | 0260 | 0574 | 0889 | [illegible] | [illegible] | [illegible] |
| 28 | | [illegible] | [illegible] | [illegible] | 7972 | 8286 | 8600 | 8914 | 9229 | 9543 | 9857 | 0171 | 0486 | 0800 | 1115 | 1430 | 1744 | 2059 |
| 29 | | [illegible] | [illegible] | 7885 | 8199 | 8513 | 8827 | 9141 | 9455 | 9769 | 0084 | 0398 | 0712 | 1027 | 1341 | 1655 | 1970 | 2285 |
| 30 | 137 (138) | [illegible] | 7799 | 8113 | 8426 | 8740 | 9054 | 9368 | 9682 | 9996 | 0310 | [illegible] | [illegible] | 1253 | 1567 | 1881 | 2196 | 2510 |
| 31 | | 7713 | [illegible] | 8340 | 8654 | 8968 | 9281 | 9595 | 9909 | 0223 | [illegible] | [illegible] | 1165 | 1479 | 1793 | [illegible] | [illegible] | [illegible] |
| 32 | | 7941 | 8254 | 8568 | 8881 | 9195 | 9508 | 9822 | 0136 | 0450 | [illegible] | [illegible] | 1391 | 1705 | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | | 8168 | 8482 | 8795 | 9109 | 9422 | 9736 | 0049 | 0363 | 0677 | [illegible] | [illegible] | 1618 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 34 | | 8396 | 8710 | 9023 | 9336 | 9649 | 9963 | 0276 | 0590 | 0904 | 1217 | 1531 | 1845 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | 137 (138) | 8624 | 8937 | 9250 | 9564 | 9877 | 0190 | 0504 | 0817 | 1130 | 1444 | 1758 | [illegible] | [illegible] | 2699 | 3013 | [illegible] | [illegible] |
| 36 | | 8852 | 9165 | 9478 | 9791 | 0104 | 0418 | 0731 | 1044 | 1357 | 1671 | 1984 | 2298 | 2611 | 2925 | [illegible] | [illegible] | [illegible] |
| 37 | | 9080 | 9393 | 9706 | 0019 | 0332 | 0645 | 0958 | 1271 | 1585 | 1898 | 2211 | 2525 | 2838 | 3151 | 3465 | 3779 | 4092 |
| 38 | | 9308 | 9621 | 9934 | 0247 | 0560 | 0872 | 1185 | 1499 | 1812 | 2125 | 2438 | 2751 | 3065 | 3378 | 3691 | 4005 | 4319 |
| 39 | | 9536 | 9849 | 0162 | 0474 | 0787 | 1100 | 1413 | 1726 | 2039 | 2352 | 2665 | 2978 | 3291 | 3605 | 3918 | 4231 | 4545 |
| 40 | 137 (138) | 9764 | 0077 | 0390 | 0702 | 1015 | 1328 | 1640 | 1953 | 2266 | 2579 | 2892 | 3205 | [illegible] | 3831 | 4145 | 4458 | 4771 |
| 41 | | 9993 | 0305 | 0618 | 0930 | 1243 | 1555 | 1868 | 2181 | 2493 | 2806 | 3119 | 3432 | 3745 | 4058 | 4371 | 4684 | 4997 |
| 42 | 138 | 0221 | 0533 | 0846 | 1158 | 1470 | 1783 | 2095 | 2408 | 2721 | 3033 | 3346 | 3659 | 3972 | 4285 | 4598 | 4911 | 5224 |
| 43 | | 0449 | 0761 | 1074 | 1386 | 1698 | [illegible] | 2323 | 2636 | 2948 | 3261 | 3573 | 3886 | 4199 | 4512 | 4824 | 5137 | 5450 |
| 44 | | 0678 | 0990 | 1302 | 1614 | 1926 | [illegible] | [illegible] | [illegible] | 3176 | 3488 | [illegible] | 4113 | 4426 | 4738 | 5051 | 5364 | 5677 |
| 45 | 138 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 46 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 47 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 49 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 50 | 138 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | | [illegible] | [illegible] | [illegible] | [illegible] | 4510 | 4830 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | 138 | [illegible] | [illegible] | [illegible] | 4126 | 4437 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 58 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 60 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Seconds of Arc additive | A.M. & A.D. 51° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | | 137 (138) | 7199 | 7516 | 7834 | 8151 | 8469 | 8786 | 9104 | 9422 | 9740 | 0058 | 0375 | 0693 | 1011 | 13 | | |
| 5 | | | 7423 | 7740 | 8058 | 8375 | | | | | | | | | | | | |
| 32 | 6 | | | | | | | | | | | | | | | | | |
| 37 | 7 | | 7648 | 7965 | 8282 | 8599 | 8917 | 9234 | 9552 | 9869 | 0187 | 0504 | 0822 | 1140 | 1458 | 1775 | 20 | |
| 42 | 8 | | 7872 | 8189 | 8506 | 8824 | 9141 | 9458 | 9775 | 0093 | 0410 | 0728 | 1045 | 1363 | 1681 | 1998 | 231 | |
| 47 | 9 | | 8097 | 8414 | 8731 | 9048 | 9365 | 9682 | 9999 | 0317 | 0634 | 0951 | 1269 | 1586 | 1904 | 2221 | 25 | |
| 53 | 10 | 137 (138) | 8321 | 8638 | 8955 | 9272 | 9589 | 9906 | 0223 | 0540 | 0858 | 1175 | 1492 | 1810 | 2127 | 2445 | 27 | |
| 58 | 11 | | 8546 | 8863 | 9180 | 9496 | 9813 | 0130 | 0447 | 0764 | 1081 | 1399 | 1716 | 2033 | 2350 | 2668 | 29 | |
| 63 | 12 | | 8771 | 9087 | 9404 | 9721 | | | | | | | | | | | | |
| 68 | 13 | | 8995 | 9312 | 9629 | 9945 | | | | | | | | | | | | |
| 74 | 14 | | 9220 | 9537 | 9853 | 0170 | | | | 1436 | 1753 | 2070 | 2387 | 2704 | 3021 | 3338 | 3655 | 3973 |
| 79 | 15 | 137 (138) | 9445 | 9762 | 0078 | 0394 | 0711 | 1027 | 1344 | 1660 | 1977 | 2294 | 2610 | 2927 | 3244 | 3561 | 3878 | 4195 |
| 84 | 16 | | 9670 | 9986 | 0303 | 0619 | 0935 | 1252 | 1568 | 1884 | 2201 | 2518 | 2834 | 3151 | 3468 | 3784 | 4101 | 4418 |
| 89 | 17 | | 9895 | 0211 | 0527 | 0844 | 1160 | 1476 | 1793 | 2109 | 2425 | 2742 | 3058 | 3375 | 3691 | 4008 | 43 | |
| 95 | 18 | 138 | 0120 | 0437 | 0752 | 1068 | 1384 | 1701 | 2017 | 2333 | 2649 | 2966 | 3282 | 3598 | 3915 | 4231 | 4548 | 4865 |
| 100 | 19 | | 0345 | 0661 | 0977 | 1293 | 1609 | 1925 | 2241 | 2557 | 2873 | 3190 | 3506 | 3822 | 4139 | 4455 | 47 | |
| 105 | 20 | 138 | 0570 | 0886 | 1202 | 1518 | 1834 | 2150 | 2466 | 2781 | 3098 | 3414 | 3730 | 4046 | 4362 | 4678 | 49 | |
| 110 | 21 | | 0795 | 1111 | 1427 | 1743 | | | | | | | | | | | | |
| 116 | 22 | | 1021 | 1336 | 1652 | 1968 | 2283 | 2599 | 2915 | 3230 | 3546 | 3862 | 4178 | 4494 | 481 | | | |
| 121 | 23 | | 1246 | 1562 | 1877 | 2192 | 2508 | 2824 | 3139 | 3455 | 3771 | 4086 | 4402 | 4718 | 5 | | | |
| 126 | 24 | | 1472 | 1787 | 2102 | 2417 | 2733 | 3048 | 3364 | 3679 | 3995 | 4311 | 4627 | 4942 | 5258 | 5574 | 5890 | 0206 |
| 131 | 25 | 138 | 1697 | 2012 | 2327 | 2643 | 2958 | 3273 | 3589 | 3904 | 4220 | 4535 | 4851 | 5166 | 5482 | 5798 | 6114 | 6429 |
| 137 | 26 | | 1 | | | | | | | | | | | | | | | |
| 142 | 27 | | 214 | | | | | | | | | | | | | | | |
| 147 | 28 | | 2374 | | | | | | | | | | | | | | | |
| 152 | 29 | | 2599 | | | | | | | | | | | | | | | |
| 158 | 30 | 138 | | | | | | | | | | | | | | | | |
| 163 | 31 | | | | | | | | | | | | | | | | | |
| 168 | 32 | | | | | | | | | | | | | | | | | |
| 173 | 33 | | | | | | | | | | | | | | | | | |
| 179 | 34 | | | | | | | | | | | | | | | | | |
| 184 | 35 | 138 | | | | | | | | | | | | | | | | |
| 189 | 36 | | | | | | | | | | | | | | | | | |
| 194 | 37 | | | | | | | | | | | | | | | | | |
| 200 | 38 | | | | | | | | | | | | | | | | | |
| 205 | 39 | | | | | | | | | | | | | | | | | |
| 210 | 40 | 138 (139) | | | | | | | | | | | | | | | | |
| 215 | 41 | | | | | | | | | | | | | | | | | |
| 221 | 42 | | | | | | | | | | | | | | | | | |
| 226 | 43 | | | | | | | | | | | | | | | | | |
| 231 | 44 | | | | | | | | | | | | | | | | | |
| 236 | 45 | 139 (139) | | | | | | | | | | | | | | | | |
| 242 | 46 | | | | | | | | | | | | | | | | | |
| 247 | 47 | | | | | | | | | | | | | | | | | |
| 252 | 48 | | | | | | | | | | | | | | | | | |
| 257 | 49 | | | | | | | | | | | | | | | | | |
| 263 | 50 | 138 (139) | | | | | | | | | | | | | | | | |
| 268 | 51 | | | | | | | | | | | | | | | | | |
| 273 | 52 | | | | | | | | | | | | | | | | | |
| 278 | 53 | | | | | | | | | | | | | | | | | |
| 284 | 54 | | | | | | | | | | | | | | | | | |
| 289 | 55 | 139 (139) | | | | | | | | | | | | | | | | |
| 294 | 56 | | 8781 | 9022 | 9334 | 9645 | 9957 | 0269 | 0581 | 0893 | 1205 | 1517 | 1829 | 2141 | 245 | | | |
| 299 | 57 | | 8938 | 9249 | 9561 | 9872 | 0184 | 0495 | 0807 | 1119 | 1431 | 1743 | 2054 | 2366 | 2678 | | | |
| 305 | 58 | | 9165 | 9476 | 9788 | 0099 | 0411 | 0722 | 1034 | 1345 | 1657 | 1969 | 2280 | 2592 | 2904 | 321 | | |
| 310 | 59 | | 9392 | 9703 | 0015 | 0326 | 0637 | 0949 | 1260 | 1572 | 1883 | 2195 | 2506 | 2818 | 3130 | 34 | | |

Sums for finding the Corrected Distances.

| Parts for Sec. of C. D. additive | C. D. 51° | Sums |
|---|---|---|
| 0 | 0 | 437 |
| 4 | 1 | |
| 8 | 2 | 1132 |
| 11 | 3 | 1358 |
| 15 | 4 | 1584 |
| 19 | 5 | 1811 |
| 23 | 6 | 2037 |
| 27 | 7 | 2263 |
| 30 | 8 | 2490 |
| 34 | 9 | 2716 |
| 38 | 10 | 943 |
| 42 | 11 | 3169 |
| 45 | 12 | 3396 |
| 49 | 13 | 3622 |
| 53 | 14 | 3848 |
| 57 | 15 | 4075 |
| 61 | 16 | 43 |
| 64 | 17 | 4 |
| 68 | 18 | 47 |
| 72 | 19 | 4 |
| 76 | 20 | 5211 |
| 80 | 21 | 5438 |
| 83 | 22 | 5 |
| 87 | 23 | 5 |
| 91 | 24 | 61 |
| 95 | 25 | 6 |
| 98 | 26 | 6 |
| 102 | 27 | 6 |
| 106 | 28 | 7 |
| 110 | 29 | 7 |
| 114 | 30 | 437 |
| 117 | 31 | 7 |
| 121 | 32 | 7 |
| 125 | 33 | 8 |
| 129 | 34 | 8 |
| 133 | 35 | 437 |
| 136 | 36 | 8 |
| 140 | 37 | 9 |
| 144 | 38 | 9 |
| 148 | 39 | 9 |
| 152 | 40 | 437 |
| 155 | 41 | |
| 159 | 42 | 437 |
| 163 | 43 | |
| 167 | 44 | |
| 171 | 45 | 437 |
| 174 | 46 | |
| 178 | 47 | |
| 182 | 48 | |
| 186 | 49 | |
| 190 | 50 | 437 |
| 193 | 51 | |
| 197 | 52 | |
| 201 | 53 | |
| 205 | 54 | |
| 209 | 55 | 437 |
| 212 | 56 | |
| 216 | 57 | |
| 220 | 58 | |
| 224 | 59 | |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of | C. S A. 52° | Numbers |
|---|---|---|
| 227 | 0 | 162 9094 |
| | 1 | |
| | 2 | 8642 |
| | 3 | 8416 |
| | 4 | 81 |
| | 5 | 162 7953 |
| | 6 | 7787 |
| | 7 | 7510 |
| | 8 | 7284 |
| | 9 | 7057 |
| | 10 | 162 6830 |
| | 11 | 6604 |
| | 12 | 6377 |
| | 13 | 6150 |
| | 14 | 5923 |
| | 15 | 162 5697 |
| | 16 | 5470 |
| 163 | 17 | 5243 |
| | 18 | 5016 |
| | 19 | 4789 |
| | 20 | 162 4561 |
| | 21 | 4334 |
| | 22 | 4107 |
| | 23 | 3880 |
| | 24 | 3653 |
| | 25 | 162 3425 |
| | 26 | 3197 |
| | 27 | 2971 |
| 121 | 28 | 2742 |
| | 29 | 2515 |
| | 30 | 162 2287 |
| 110 | 31 | 2059 |
| | 32 | 1831 |
| | 33 | 1604 |
| | 34 | 1377 |
| | 35 | 162 1148 |
| | 36 | |
| | 37 | |
| | 38 | |
| | 39 | |
| | 40 | 162 |
| | 41 | 161 977 |
| 68 | 42 | 9551 |
| 64 | 43 | 9322 |
| | 44 | |
| | 45 | 161 |
| 53 | 46 | 8637 |
| | 47 | |
| 45 | 48 | 8180 |
| | 49 | |
| | 50 | 161 |
| 34 | 51 | |
| 30 | 52 | 7265 |
| | 53 | |
| | 54 | |
| | 55 | 161 |
| | 56 | |
| | 57 | |
| | 58 | |
| | 59 | |

| Parts for Seconds of Auxil. Areum. | A A & A. D. 52° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0′ | 138 4338 | 4649 | 4959 | 5269 | 5580 | 5890 | 6201 | 6511 | 6822 | 7132 | 7443 | 7754 | 8065 | 8375 | 8686 | 8997 | 9308 |
| 5 | 1 | 4568 | 4878 | 5188 | 5499 | 5808 | 6119 | 6429 | 6739 | 7050 | 7361 | 7671 | 7982 | 8292 | 8603 | 8914 | 9225 | 9536 |
| 10 | 2 | 4797 | 5107 | 5417 | 5727 | 6037 | 6348 | 6658 | 6968 | 7278 | 7589 | 7899 | 8210 | 8520 | 8831 | 9142 | 9452 | 9763 |
| 15 | 3 | 5026 | 5336 | 5646 | 5956 | 6266 | 6576 | 6886 | 7197 | 7507 | 7817 | 8127 | 8438 | 8748 | 9059 | 9369 | 9680 | 9991 |
| 21 | 4 | 138 (139) 5256 | 5566 | 5875 | 6185 | 6495 | 6805 | 7115 | 7425 | 7735 | 8045 | 8356 | 8665 | 8976 | 9287 | 9597 | 9908 | 0218 |
| 26 | 5 | 138 (139) 5485 | 5795 | 6105 | 6414 | 6724 | 7034 | 7344 | 7654 | 7964 | 8274 | 8584 | 8894 | 9204 | 9515 | 9825 | 0135 | 0446 |
| 31 | 6 | 5715 | 6024 | 6334 | 6644 | 6953 | 7263 | 7573 | 7883 | 8192 | 8502 | 8812 | 9122 | 9432 | 9743 | 0053 | 0363 | 0673 |
| 36 | 7 | 5944 | 6254 | 6563 | 6873 | 7182 | 7492 | 7802 | 8111 | 8421 | 8731 | 9041 | 9351 | 9661 | 9971 | 0281 | 0591 | 0901 |
| 41 | 8 | 6174 | 6483 | 6793 | 7102 | 7411 | 7721 | 8031 | 8340 | 8650 | 8960 | 9270 | 9580 | 9890 | 0200 | 0510 | 0819 | 1129 |
| 46 | 9 | 6404 | 6713 | 7022 | 7331 | 7641 | 7950 | 8260 | 8569 | 8878 | 9188 | 9498 | 9807 | 0117 | 0427 | 0737 | 1047 | 1357 |
| 51 | 10 | 138 (139) 6633 | 6942 | 7251 | 7561 | 7870 | 8179 | 8488 | 8798 | 9107 | 9417 | 9726 | 0036 | 0345 | 0655 | 0965 | 1275 | 1584 |
| 56 | 11 | 6863 | 7172 | 7481 | 7790 | 8099 | 8408 | 8718 | 9027 | 9336 | 9645 | 9955 | 0264 | 0574 | 0883 | 1193 | 1503 | 1812 |
| 61 | 12 | 7093 | 7402 | 7711 | 8020 | 8328 | 8638 | 8947 | 9256 | 9565 | 9874 | 0183 | 0493 | 0802 | 1112 | 1421 | 1731 | 2040 |
| 67 | 13 | 7323 | 7632 | 7942 | 8249 | 8558 | 8867 | 9176 | 9485 | 9794 | 0103 | 0412 | 0721 | 1031 | 1340 | 1649 | 1959 | 2268 |
| 72 | 14 | 7553 | 7861 | 8171 | 8479 | 8787 | 9096 | 9405 | 9714 | 0023 | 0332 | 0641 | 0950 | 1259 | 1568 | 1878 | 2187 | 2496 |
| 77 | 15 | 138 (139) 7783 | 8091 | 8400 | 8708 | 9017 | 9326 | 9634 | 9943 | 0252 | 0561 | 0870 | 1179 | 1488 | 1797 | 2106 | 2415 | 2725 |
| 82 | 16 | 8013 | 8321 | 8630 | 8938 | 9247 | 9555 | 9864 | 0172 | 0481 | 0790 | 1099 | 1408 | 1717 | 2026 | 2334 | 2644 | 2953 |
| 87 | 17 | 8243 | 8551 | 8859 | 9168 | 9476 | 9785 | 0093 | 0402 | 0710 | 1019 | 1328 | 1636 | 1945 | 2254 | 2563 | 2872 | 3181 |
| 92 | 18 | 8473 | 8781 | 9089 | 9397 | 9706 | 0014 | 0323 | 0631 | 0939 | 1248 | 1557 | 1865 | 2174 | 2483 | 2792 | 3100 | 3409 |
| 97 | 19 | 8703 | 9011 | 9318 | 9627 | 9935 | 0244 | 0552 | 0860 | 1169 | 1477 | 1786 | 2094 | 2403 | 2711 | 3020 | 3329 | 3638 |
| 102 | 20 | 138 (139) 8933 | 9241 | 9549 | 9857 | 0165 | 0473 | 0782 | 1090 | 1398 | 1706 | 2015 | 2323 | 2632 | 2940 | 3249 | 3557 | 3866 |
| 108 | 21 | 9164 | 9471 | 9779 | 0087 | 0395 | 0703 | 1011 | 1319 | 1627 | 1936 | 2244 | 2552 | 2860 | 3169 | 3477 | 3786 | 4094 |
| 113 | 22 | 9394 | 9702 | 0009 | 0317 | 0625 | 0933 | 1241 | 1549 | 1857 | 2165 | 2473 | 2781 | 3089 | 3398 | 3706 | 4014 | 4323 |
| 118 | 23 | 9624 | 9932 | 0240 | 0547 | 0855 | 1163 | 1472 | 1778 | 2086 | 2394 | 2702 | 3010 | 3318 | 3627 | 3935 | 4243 | 4551 |
| 123 | 24 | 9854 | 0162 | 0470 | 0777 | 1085 | 1393 | 1702 | 2008 | 2316 | 2624 | 2932 | 3240 | 3547 | 3856 | 4164 | 4472 | 4780 |
| 128 | 25 | 139 0085 | 0393 | 0700 | 1007 | 1315 | 1624 | 1932 | 2238 | 2545 | 2853 | 3161 | 3469 | 3777 | 4085 | 4393 | 4701 | 5009 |
| 133 | 26 | 0316 | 0623 | 0930 | 1238 | 1545 | 1852 | 2160 | 2467 | 2775 | 3083 | 3390 | 3698 | 4006 | 4314 | 4621 | 4929 | 5237 |
| 138 | 27 | 0546 | 0854 | 1161 | 1468 | 1775 | 2082 | 2390 | 2697 | 3005 | 3312 | 3620 | 3927 | 4235 | 4543 | 4850 | 5158 | 5466 |
| 143 | 28 | 0777 | 1084 | 1391 | 1698 | 2005 | 2312 | 2620 | 2927 | 3234 | 3542 | 3849 | 4157 | 4464 | 4772 | 5079 | 5387 | 5695 |
| 148 | 29 | 1008 | 1315 | 1622 | 1929 | 2235 | 2543 | 2850 | 3157 | 3464 | 3771 | 4079 | 4386 | 4693 | 5001 | 5308 | 5616 | 5924 |
| 154 | 30 | 139 1238 | 1545 | 1852 | 2159 | 2466 | 2773 | 3080 | 3387 | 3694 | 4001 | 4308 | 4616 | 4923 | 5230 | 5538 | 5845 | 6153 |
| 159 | 31 | 1469 | 1776 | 2083 | 2389 | 2696 | 3003 | 3310 | 3617 | 3924 | 4231 | 4538 | 4845 | 5152 | 5459 | 5767 | 6074 | 6381 |
| 164 | 32 | 1700 | 2007 | 2313 | 2620 | 2926 | 3233 | 3540 | 3847 | 4154 | 4461 | 4768 | 5075 | 5382 | 5689 | 5997 | 6303 | 6611 |
| 169 | 33 | 1931 | 2238 | 2544 | 2850 | 3157 | 3464 | 3770 | 4077 | 4384 | 4690 | 4997 | 5304 | 5611 | 5918 | 6225 | 6532 | 6839 |
| 174 | 34 | 2161 | 2468 | 2775 | 3081 | 3387 | 3694 | 4000 | 4307 | 4614 | 4920 | 5227 | 5534 | 5841 | 6148 | 6455 | 6762 | 7069 |
| 179 | 35 | 139 2391 | 2698 | 3005 | 3312 | 3618 | 3924 | 4231 | 4537 | 4844 | 5151 | 5457 | 5764 | 6070 | 6377 | 6684 | 6991 | 7298 |
| 184 | 36 | 2624 | 2931 | 3237 | 3544 | 3851 | 4158 | 4464 | 4771 | 5078 | 5384 | 5691 | 5997 | 6304 | 6611 | 6918 | 7225 | 7532 |
| 189 | 37 | 2854 | 3161 | 3467 | 3774 | 4080 | 4387 | 4694 | 5000 | 5307 | 5614 | 5920 | 6227 | 6534 | 6840 | 7147 | 7454 | 7760 |
| 194 | 38 | 3084 | 3391 | 3698 | 4004 | 4311 | 4618 | 4924 | 5231 | 5538 | 5844 | 6151 | 6457 | 6764 | 7071 | 7377 | 7684 | 7990 |
| 200 | 39 | 3315 | 3621 | 3928 | 4234 | 4541 | 4847 | 5154 | 5460 | 5767 | 6074 | 6380 | 6687 | 6994 | 7300 | 7607 | 7914 | 8220 |
| 205 | 40 | 139 3545 | 3852 | 4158 | 4465 | 4771 | 5078 | 5384 | 5691 | 5997 | 6304 | 6611 | 6917 | 7224 | 7531 | 7837 | 8144 | 8451 |
| 210 | 41 | 3775 | 4082 | 4388 | 4695 | 5001 | 5308 | 5614 | 5921 | 6227 | 6534 | 6841 | 7147 | 7454 | 7760 | 8067 | 8374 | 8680 |
| 215 | 42 | 4012 | 4317 | 4622 | 4928 | 5233 | 5539 | 5844 | 6150 | 6456 | 6761 | 7067 | 7373 | 7679 | 7985 | 8291 | 8597 | 8903 |
| 220 | 43 | 4243 | 4548 | 4854 | 5159 | 5464 | 5770 | 6075 | 6381 | 6686 | 6992 | 7298 | 7603 | 7909 | 8215 | 8521 | 8827 | 9133 |
| 225 | 44 | 4473 | 4778 | 5083 | 5388 | 5693 | 5998 | 6303 | 6608 | 6913 | 7218 | 7523 | 7828 | 8133 | 8438 | 8743 | 9048 | 9353 |
| 230 | 45 | 139 4703 | 5011 | 5318 | 5624 | 5930 | 6236 | 6542 | 6848 | 7154 | 7460 | 7766 | 8072 | 8378 | 8684 | 8990 | 9296 | 9602 |
| 235 | 46 | 4938 | 5242 | 5547 | 5852 | 6157 | 6462 | 6768 | 7073 | 7378 | 7683 | 7989 | 8294 | 8599 | 8905 | 9210 | 9516 | 9822 |
| 241 | 47 | 139 (140) 5174 | 5474 | 5777 | 6080 | 6384 | 6688 | 6992 | 7296 | 7600 | 7904 | 8208 | 8512 | 8816 | 9120 | 9424 | 9728 | 0032 |
| 246 | 48 | 5401 | 5705 | 6010 | 6315 | 6620 | 6925 | 7230 | 7534 | 7839 | 8144 | 8450 | 8755 | 9060 | 9365 | 9670 | 9976 | 0281 |
| 251 | 49 | 5631 | 5937 | 6244 | 6550 | 6856 | 7161 | 7467 | 7773 | 8079 | 8385 | 8691 | 8997 | 9303 | 9609 | 9915 | 0221 | 0527 |
| 256 | 50 | 139 (140) 5861 | 6169 | 6476 | 6783 | 7090 | 7397 | 7704 | 8011 | 8318 | 8625 | 8932 | 9239 | 9546 | 9853 | 0160 | 0467 | 0774 |
| 261 | 51 | 6092 | 6401 | 6709 | 7017 | 7325 | 7633 | 7941 | 8249 | 8557 | 8865 | 9173 | 9481 | 9789 | 0097 | 0405 | 0713 | 1021 |
| 266 | 52 | 6328 | 6632 | 6937 | 7241 | 7545 | 7849 | 8154 | 8458 | 8763 | 9067 | 9372 | 9677 | 9981 | 0286 | 0591 | 0895 | 1200 |
| 271 | 53 | 6558 | 6862 | 7166 | 7471 | 7775 | 8080 | 8384 | 8689 | 8993 | 9298 | 9602 | 9907 | 0211 | 0516 | 0821 | 1125 | 1430 |
| 276 | 54 | 6789 | 7093 | 7397 | 7702 | 8006 | 8311 | 8615 | 8920 | 9224 | 9529 | 9833 | 0138 | 0442 | 0747 | 1052 | 1356 | 1661 |
| 281 | 55 | 139 (140) 7019 | 7323 | 7628 | 7932 | 8237 | 8541 | 8846 | 9150 | 9455 | 9759 | 0064 | 0368 | 0673 | 0977 | 1282 | 1587 | 1891 |
| 287 | 56 | 7250 | 7554 | 7859 | 8163 | 8468 | 8772 | 9077 | 9381 | 9686 | 9990 | 0295 | 0599 | 0904 | 1208 | 1513 | 1817 | 2122 |
| 292 | 57 | 7480 | 7785 | 8089 | 8394 | 8698 | 9003 | 9307 | 9612 | 9916 | 0221 | 0525 | 0830 | 1134 | 1439 | 1743 | 2048 | 2352 |
| 297 | 58 | 7711 | 8015 | 8320 | 8624 | 8929 | 9233 | 9538 | 9842 | 0147 | 0451 | 0756 | 1060 | 1365 | 1669 | 1974 | 2278 | 2583 |
| 302 | 59 | 7941 | 8246 | 8550 | 8855 | 9159 | 9464 | 9768 | 0073 | 0377 | 0682 | 0986 | 1291 | 1595 | 1900 | 2204 | 2509 | 2813 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

| Parts for Seconds of Alt. A | Sums A & D 5- | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 138 (139) | 9619 | 9930 | 0241 | 0553 | 0864 | 1175 | 1487 | 1798 | 2109 | 2421 | 2732 | 3044 | 3356 | 3667 | 3979 | 4291 | 4603 |
| 5 | 1 | | 9843 | | | | | | | | | | | | | | | | |
| 10 | 2 | 139 | 0027 | | | | | | | | | | | | | | | | |
| 15 | 3 | | 0361 | | | | | | | | | | | | | | | | |
| 21 | 4 | | 0696 | | | | | | | | | | | | | | | | |
| 26 | 5 | 139 | 0930 | | | | | | | | | | | | | | | | |
| 31 | 6 | | 0964 | | | | | | | | | | | | | | | | |
| 36 | 7 | | 1098 | | | | | | | | | | | | | | | | |
| 41 | 8 | | 1432 | | | | | | | | | | | | | | | | |
| 46 | 9 | | 1767 | | | | | | | | | | | | | | | | |
| 51 | 10 | 139 | 1901 | | | | | | | | | | | | | | | | |
| 57 | 11 | | 2135 | | | | | | | | | | | | | | | | |
| 62 | 12 | | 2370 | | | | | | | | | | | | | | | | |
| 67 | 13 | | 2504 | | | | | | | | | | | | | | | | |
| 72 | 14 | | 2838 | | | | | | | | | | | | | | | | |
| 77 | 15 | 139 | 3073 | | | | | | | | | | | | | | | | |
| 82 | 16 | | 3307 | | | | | | | | | | | | | | | | |
| 87 | 17 | | 3441 | | | | | | | | | | | | | | | | |
| 92 | 18 | | 3776 | | | | | | | | | | | | | | | | |
| 98 | 19 | | 3910 | | | | | | | | | | | | | | | | |
| 103 | 20 | 139 | 4145 | | | | | | | | | | | | | | | | |
| 108 | 21 | | 4479 | | | | | | | | | | | | | | | | |
| 113 | 22 | | 4613 | | | | | | | | | | | | | | | | |
| 118 | 23 | | 4848 | | | | | | | | | | | | | | | | |
| 123 | 24 | 139 (140) | 5082 | | | | | | | | | | | | | | | | |
| 128 | 25 | 139 (140) | 5317 | | | | | | | | | | | | | | | | |
| 134 | 26 | | 5551 | | | | | | | | | | | | | | | | |
| 139 | 27 | | 5785 | | | | | | | | | | | | | | | | |
| 144 | 28 | | 6020 | | | | | | | | | | | | | | | | |
| 149 | 29 | | 6254 | | | | | | | | | | | | | | | | |
| 154 | 30 | 139 (140) | 6489 | | | | | | | | | | | | | | | | |
| 159 | 31 | | 6623 | | | | | | | | | | | | | | | | |
| 164 | 32 | | 6958 | | | | | | | | | | | | | | | | |
| 169 | 33 | | 7147 | 7454 | 7761 | 8069 | 8376 | 8684 | 8991 | 9299 | 9606 | 9914 | 0222 | 0529 | 0837 | 1145 | 1453 | 1761 | 2069 |
| 175 | 34 | | 7376 | | | | | | | | | | | | | | | | |
| 180 | 35 | 139 (140) | 7610 | | | | | | | | | | | | | | | | |
| 185 | 36 | | 7844 | | | | | | | | | | | | | | | | |
| 190 | 37 | | 8079 | | | | | | | | | | | | | | | | |
| 195 | 38 | | 8313 | | | | | | | | | | | | | | | | |
| 200 | 39 | | 8548 | | | | | | | | | | | | | | | | |
| 205 | 40 | 139 (140) | 8782 | | | | | | | | | | | | | | | | |
| 210 | 41 | | 9016 | | | | | | | | | | | | | | | | |
| 215 | 42 | | 9251 | | | | | | | | | | | | | | | | |
| 220 | 43 | | 9485 | | | | | | | | | | | | | | | | |
| 225 | 44 | | 9720 | | | | | | | | | | | | | | | | |
| 230 | 45 | 139 (140) | 9954 | | | | | | | | | | | | | | | | |
| 235 | 46 | 140 | 0188 | | | | | | | | | | | | | | | | |
| 241 | 47 | | 0423 | | | | | | | | | | | | | | | | |
| 246 | 48 | | 0657 | | | | | | | | | | | | | | | | |
| 251 | 49 | | 0892 | | | | | | | | | | | | | | | | |
| 257 | 50 | 140 | 1040 | 1352 | 1657 | 1962 | 2268 | 2573 | 2879 | 3184 | 3490 | 3796 | 4101 | 4408 | 4713 | 5019 | 5325 | 5631 | 5937 |
| 262 | 51 | | 1260 | | | | | | | | | | | | | | | | |
| 267 | 52 | | 1494 | | | | | | | | | | | | | | | | |
| 272 | 53 | | 1729 | | | | | | | | | | | | | | | | |
| 277 | 54 | | 1963 | | | | | | | | | | | | | | | | |
| 282 | 55 | 140 | 2198 | | | | | | | | | | | | | | | | |
| 287 | 56 | | 2432 | | | | | | | | | | | | | | | | |
| 293 | 57 | | 2667 | | | | | | | | | | | | | | | | |
| 298 | 58 | | 2901 | | | | | | | | | | | | | | | | |
| 303 | 59 | | 3136 | | | | | | | | | | | | | | | | |

| Parts for Sec. of C. D. | C.D. 52° | Sums |
|---|---|---|
| | | |
| 0 | 0 | 48 41 |
| 1 | 1 | 41 |
| 2 | 2 | 49 |
| 3 | 3 | |
| 4 | 4 | |
| 5 | 5 | |
| 6 | 6 | 47 |
| 7 | 7 | |
| 8 | 8 | |
| 9 | 9 | |
| 10 | 10 | 48 |
| 11 | 11 | |
| 12 | 12 | |
| 13 | 13 | |
| 14 | 14 | |
| 15 | 15 | 47 |
| 16 | 16 | |
| 17 | 17 | |
| 18 | 18 | |
| 19 | 19 | |
| 20 | 20 | |
| 21 | 21 | |
| 22 | 22 | |
| 23 | 23 | |
| 24 | 24 | |
| 25 | 25 | |
| 26 | 26 | |
| 27 | 27 | |
| 28 | 28 | |
| 29 | 29 | |
| 30 | 30 | |
| 31 | 31 | |
| 32 | 32 | |
| 33 | 33 | 1931 |
| 34 | 34 | |
| 35 | 35 | |
| 36 | 36 | |
| 37 | 37 | |
| 38 | 38 | |
| 39 | 39 | |
| 40 | 40 | |
| 41 | 41 | |
| 42 | 42 | |
| 43 | 43 | |
| 44 | 44 | |
| 45 | 45 | |
| 46 | 46 | |
| 47 | 47 | |
| 48 | 48 | |
| 49 | 49 | |
| 50 | 50 | |
| 51 | 51 | |
| 52 | 52 | |
| 53 | 53 | |
| 54 | 54 | |
| 55 | 55 | |
| 56 | 56 | |
| 57 | 57 | |
| 58 | 58 | |
| 59 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts for Sec. of S.S.A. additive | S.S.A. 53° | Numbers |
|---|---|---|
| | ′ | |
| 25 | 0 | 161 5434 |
| 227 | 1 | 5203 |
| 22 | 2 | 4974 |
| 21 | 3 | 4744 |
| 215 | 4 | 4515 |
| 211 | 5 | 161 4285 |
| 2 | 6 | 4056 |
| 2 | 7 | 3826 |
| 2 | 8 | 3597 |
| 1 | 9 | 3367 |
| 19 | 10 | 161 3138 |
| 1 | 11 | 2909 |
| 1 | 12 | 2679 |
| 1 | 13 | 2450 |
| 17 | 14 | 2221 |
| 17 | 15 | 161 1987 |
| 1 | 16 | 1757 |
| 1 | 17 | 1527 |
| 16 | 18 | 1297 |
| 1 | 19 | 1067 |
| 154 | 20 | 161 0837 |
| 1 | 21 | 0608 |
| 14 | 22 | 0379 |
| 143 | 23 | 0149 |
| 13 | 24 | 160 9915 |
| 13 | 25 | 160 9684 |
| 13 | 26 | 9454 |
| 13 | 27 | 9225 |
| 13 | 28 | 8995 |
| 12 | 29 | 8765 |
| 12 | 30 | 160 8531 |
| 12 | 31 | 8301 |
| 12 | 32 | 8071 |
| 12 | 33 | 7838 |
| 12 | 34 | 7607 |
| 9 | 35 | 160 7376 |
| 9 | 36 | 7145 |
| 8 | 37 | 6914 |
| 8 | 38 | 6683 |
| 8 | 39 | 6454 |
| 77 | 40 | 160 6223 |
| 7 | 41 | 5992 |
| 6 | 42 | 5761 |
| 6 | 43 | 5530 |
| 6 | 44 | 5299 |
| 59 | 45 | 160 5068 |
| 5 | 46 | 4837 |
| 5 | 47 | 4599 |
| 4 | 48 | 4376 |
| 4 | 49 | 4145 |
| 39 | 50 | 160 3914 |
| 35 | 51 | 3672 |
| 3 | 52 | 3440 |
| 3 | 53 | 3208 |
| 2 | 54 | 2977 |
| 1 | 55 | 160 2744 |
| 1 | 56 | 2513 |
| 1 | 57 | 2282 |
| 8 | 58 | 2051 |
| 4 | 59 | 1819 |

| Parts for Seconds of Auxil. Argum. additive | A.S. & A.D. 53° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 139 (140) 8185 | 8488 | 8791 | 9095 | 9398 | 9702 | 0005 | 0309 | 0612 | 0916 | 1220 | 1523 | 1827 | 2131 | 2435 | 2738 | 3042 |
| 5 | 1 | 8417 | 8720 | 9024 | 9327 | 9631 | 9933 | 0237 | 0540 | 0844 | 1147 | 1451 | 1754 | 2058 | 2362 | 2665 | 2969 | 3273 |
| 10 | 2 | 8650 | 8953 | 9256 | 9560 | 9863 | 0166 | 0470 | 0773 | 1077 | 1380 | 1684 | 1987 | 2291 | 2595 | 2898 | 3202 | 3505 |
| 15 | 3 | 8882 | 9185 | 9489 | 9792 | 0096 | 0399 | 0703 | 1006 | 1310 | 1613 | 1917 | 2220 | 2524 | 2828 | 3131 | 3435 | 3738 |
| 20 | 4 | 9113 | 9417 | 9720 | 0024 | 0327 | 0631 | 0934 | 1238 | 1541 | 1845 | 2148 | 2452 | 2755 | 3059 | 3362 | 3666 | 3970 |
| 25 | 5 | 9345 | 9648 | 9952 | 0255 | 0559 | 0862 | 1166 | 1469 | 1773 | 2076 | 2380 | 2683 | 2987 | 3290 | 3594 | 3897 | 4201 |
| 30 | 6 | 9576 | 9880 | 0183 | 0487 | 0790 | 1094 | 1397 | 1701 | 2004 | 2308 | 2611 | 2915 | 3218 | 3522 | 3825 | 4129 | 4432 |
| 35 | 7 | 9808 | 0111 | 0415 | 0718 | 1022 | 1325 | 1629 | 1932 | 2236 | 2539 | 2843 | 3146 | 3450 | 3753 | 4057 | 4360 | 4664 |
| 40 | 8 | 140 0039 | 0343 | 0646 | 0950 | 1253 | 1557 | 1860 | 2164 | 2467 | 2771 | 3074 | 3378 | 3681 | 3985 | 4288 | 4592 | 4895 |
| 45 | 9 | 0271 | 0574 | 0878 | 1181 | 1485 | 1788 | 2092 | 2395 | 2699 | 3002 | 3306 | 3609 | 3913 | 4216 | 4520 | 4823 | 5127 |
| 50 | 10 | 0502 | 0806 | 1109 | 1413 | 1716 | 2020 | 2323 | 2627 | 2930 | 3234 | 3537 | 3841 | 4144 | 4448 | 4751 | 5055 | 5358 |
| 55 | 11 | 0734 | 1037 | 1341 | 1644 | 1948 | 2251 | 2555 | 2858 | 3161 | 3465 | 3768 | 4072 | 4375 | 4679 | 4982 | 5286 | 5589 |
| 60 | 12 | 0965 | 1269 | 1572 | 1876 | 2179 | 2483 | 2786 | 3090 | 3393 | 3697 | 4000 | 4304 | 4607 | 4911 | 5214 | 5518 | 5821 |
| 65 | 13 | 1197 | 1500 | 1804 | 2107 | 2411 | 2714 | 3018 | 3321 | 3625 | 3928 | 4232 | 4535 | 4839 | 5142 | 5446 | 5749 | 6053 |
| 70 | 14 | 1428 | 1732 | 2035 | 2339 | 2642 | 2946 | 3249 | 3553 | 3856 | 4160 | 4463 | 4767 | 5070 | 5374 | 5677 | 5981 | 6284 |
| 75 | 15 | 140 1659 | 1963 | 2266 | 2570 | 2873 | 3177 | 3480 | 3784 | 4087 | 4391 | 4694 | 4998 | 5301 | 5605 | 5908 | 6212 | 6515 |
| 80 | 16 | 1891 | 2194 | 2498 | 2801 | 3105 | 3408 | 3712 | 4015 | 4319 | 4622 | 4926 | 5229 | 5533 | 5836 | 6140 | 6443 | 6747 |
| 85 | 17 | 2122 | 2426 | 2729 | 3033 | 3336 | 3640 | 3943 | 4247 | 4550 | 4854 | 5157 | 5461 | 5764 | 6068 | 6371 | 6675 | 6978 |
| 90 | 18 | 2353 | 2657 | 2960 | 3264 | 3567 | 3871 | 4174 | 4478 | 4781 | 5085 | 5388 | 5692 | 5995 | 6299 | 6602 | 6906 | 7209 |
| 95 | 19 | 2585 | 2888 | 3192 | 3495 | 3799 | 4102 | 4406 | 4709 | 5013 | 5316 | 5620 | 5923 | 6227 | 6530 | 6834 | 7137 | 7441 |
| 100 | 20 | 140 2816 | 3120 | 3423 | 3727 | 4030 | 4334 | 4637 | 4941 | 5244 | 5548 | 5851 | 6155 | 6458 | 6762 | 7065 | 7369 | 7672 |
| 105 | 21 | 3048 | 3351 | 3655 | 3958 | 4262 | 4565 | 4869 | 5172 | 5476 | 5779 | 6083 | 6386 | 6690 | 6993 | 7297 | 7600 | 7904 |
| 110 | 22 | 3279 | 3583 | 3886 | 4190 | 4493 | 4797 | 5100 | 5404 | 5707 | 6011 | 6314 | 6618 | 6921 | 7225 | 7528 | 7832 | 8135 |
| 115 | 23 | 3510 | 3814 | 4117 | 4421 | 4724 | 5028 | 5331 | 5635 | 5938 | 6242 | 6545 | 6849 | 7152 | 7456 | 7759 | 8063 | 8366 |
| 120 | 24 | 3742 | 4045 | 4349 | 4652 | 4956 | 5259 | 5563 | 5866 | 6170 | 6473 | 6777 | 7080 | 7384 | 7687 | 7991 | 8294 | 8598 |
| 125 | 25 | 140 3973 | 4277 | 4580 | 4884 | 5187 | 5491 | 5794 | 6098 | 6401 | 6705 | 7008 | 7312 | 7615 | 7919 | 8222 | 8526 | 8829 |
| 130 | 26 | 4204 | 4508 | 4812 | 5115 | 5419 | 5722 | 6026 | 6329 | 6633 | 6936 | 7240 | 7543 | 7847 | 8150 | 8454 | 8757 | 9061 |
| 135 | 27 | 4436 | 4739 | 5043 | 5346 | 5650 | 5953 | 6257 | 6560 | 6864 | 7167 | 7471 | 7774 | 8078 | 8381 | 8685 | 8988 | 9292 |
| 140 | 28 | 4667 | 4971 | 5274 | 5578 | 5881 | 6185 | 6488 | 6792 | 7095 | 7399 | 7702 | 8006 | 8309 | 8613 | 8916 | 9220 | 9523 |
| 145 | 29 | 4898 | 5202 | 5506 | 5809 | 6113 | 6416 | 6720 | 7023 | 7327 | 7630 | 7934 | 8237 | 8541 | 8844 | 9148 | 9451 | 9755 |
| 150 | 30 | 5130 | 5433 | 5737 | 6040 | 6344 | 6647 | 6951 | 7254 | 7558 | 7861 | 8165 | 8468 | 8772 | 9075 | 9379 | 9682 | 9986 |
| 155 | 31 | 140 5361 | 5665 | 5968 | 6272 | 6575 | 6879 | 7182 | 7486 | 7789 | 8093 | 8396 | 8700 | 9003 | 9307 | 9610 | 9914 | 0217 |
| 160 | 32 | 5593 | 5896 | 6200 | 6503 | 6807 | 7110 | 7414 | 7717 | 8021 | 8324 | 8628 | 8931 | 9235 | 9538 | 9842 | 0145 | 0449 |
| 165 | 33 | 5824 | 6128 | 6431 | 6735 | 7038 | 7342 | 7645 | 7949 | 8252 | 8556 | 8859 | 9163 | 9466 | 9770 | 0073 | 0377 | 0680 |
| 170 | 34 | 6055 | 6359 | 6663 | 6966 | 7270 | 7573 | 7877 | 8180 | 8484 | 8787 | 9091 | 9394 | 9698 | 0001 | 0305 | 0608 | 0912 |
| 175 | 35 | 140 (141) 6347 | 6646 | 6945 | 7245 | 7544 | 7843 | 8142 | 8442 | 8741 | 9041 | 9340 | 9640 | 9940 | 0240 | 0539 | 0839 | 1139 |
| 180 | 36 | 6581 | 6880 | 7179 | 7478 | 7777 | 8077 | 8376 | 8675 | 8975 | 9274 | 9573 | 9873 | 0172 | 0472 | 0772 | 1071 | 1371 |
| 185 | 37 | 6813 | 7114 | 7413 | 7712 | 8011 | 8311 | 8610 | 8909 | 9209 | 9508 | 9807 | 0107 | 0406 | 0706 | 1005 | 1305 | 1604 |
| 190 | 38 | 7044 | 7347 | 7647 | 7946 | 8245 | 8544 | 8844 | 9143 | 9442 | 9742 | 0041 | 0340 | 0640 | 0939 | 1238 | 1538 | 1837 |
| 195 | 39 | 7275 | 7579 | 7880 | 8179 | 8478 | 8778 | 9077 | 9376 | 9676 | 9975 | 0274 | 0573 | 0873 | 1172 | 1471 | 1771 | 2070 |
| 200 | 40 | 140 (141) 7507 | 7812 | 8114 | 8413 | 8712 | 9011 | 9311 | 9610 | 9909 | 0208 | 0507 | 0807 | 1106 | 1405 | 1705 | 2004 | 2303 |
| 205 | 41 | 7738 | 8044 | 8347 | 8646 | 8945 | 9244 | 9544 | 9843 | 0142 | 0441 | 0740 | 1040 | 1339 | 1638 | 1938 | 2237 | 2536 |
| 210 | 42 | 7970 | 8277 | 8580 | 8879 | 9178 | 9478 | 9777 | 0076 | 0375 | 0674 | 0974 | 1273 | 1572 | 1872 | 2171 | 2470 | 2770 |
| 215 | 43 | 8201 | 8509 | 8813 | 9112 | 9411 | 9713 | 0011 | 0309 | 0608 | 0907 | 1207 | 1506 | 1805 | 2105 | 2404 | 2703 | 3003 |
| 220 | 44 | 8456 | 8754 | 9052 | 9350 | 9648 | 9947 | 0245 | 0543 | 0842 | 1140 | 1439 | 1737 | 2036 | 2335 | 2635 | 2934 | 3233 |
| 225 | 45 | 140 (141) 8690 | 8988 | 9286 | 9584 | 9882 | 181 | 0479 | 0777 | 1075 | 1373 | 1672 | 1970 | 2269 | 2568 | 2867 | 3166 | 3466 |
| 230 | 46 | 8925 | 9223 | 9521 | 9819 | 0116 | 0415 | 0713 | 1011 | 1309 | 1607 | 1905 | 2204 | 2502 | 2801 | 3100 | 3399 | 3698 |
| 235 | 47 | 9160 | 9457 | 9755 | 0053 | 0351 | 0649 | 0947 | 1245 | 1543 | 1841 | 2139 | 2437 | 2735 | 3033 | 3332 | 3631 | 3930 |
| 240 | 48 | 9395 | 9692 | 9990 | 0288 | 0586 | 0884 | 1181 | 1479 | 1777 | 2075 | 2373 | 2671 | 2969 | 3267 | 3565 | 3864 | 4163 |
| 245 | 49 | 9630 | 9927 | 0225 | 0523 | 0821 | 1118 | 1416 | 1714 | 2012 | 2310 | 2608 | 2906 | 3204 | 3502 | 3800 | 4098 | 4396 |
| 250 | 50 | 9865 | 0162 | 0460 | 0758 | 1056 | 1353 | 1651 | 1949 | 2247 | 2545 | 2843 | 3141 | 3439 | 3737 | 4035 | 4333 | 4631 |
| 255 | 51 | 141 0099 | 0396 | 0693 | 0991 | 1288 | 1585 | 1883 | 2181 | 2478 | 2776 | 3074 | 3372 | 3670 | 3968 | 4266 | 4564 | 4863 |
| 260 | 52 | 0334 | 0631 | 0928 | 1225 | 1522 | 1820 | 2117 | 2415 | 2713 | 3011 | 3308 | 3606 | 3904 | 4202 | 4500 | 4798 | 5096 |
| 265 | 53 | 0569 | 0866 | 1163 | 1460 | 1757 | 2054 | 2351 | 2649 | 2946 | 3243 | 3541 | 3838 | 4136 | 4434 | 4731 | 5029 | 5327 |
| 270 | 54 | 0804 | 1101 | 1398 | 1695 | 1992 | 2289 | 2586 | 2883 | 3180 | 3477 | 3774 | 4072 | 4369 | 4667 | 4964 | 5262 | 5560 |
| 275 | 55 | 141 1039 | 1335 | 1632 | 1929 | 2226 | 2523 | 2820 | 3117 | 3414 | 3711 | 4009 | 4306 | 4603 | 4900 | 5198 | 5495 | 5793 |
| 280 | 56 | 1274 | 1570 | 1867 | 2164 | 2461 | 2758 | 3055 | 3352 | 3649 | 3946 | 4244 | 4541 | 4838 | 5136 | 5433 | 5731 | 6028 |
| 285 | 57 | 1509 | 1805 | 2102 | 2399 | 2696 | 2993 | 3290 | 3587 | 3884 | 4181 | 4479 | 4776 | 5073 | 5371 | 5668 | 5966 | 6263 |
| 290 | 58 | 1744 | 2041 | 2337 | 2634 | 2931 | 3228 | 3525 | 3822 | 4119 | 4416 | 4714 | 5011 | 5308 | 5606 | 5903 | 6201 | 6498 |
| 295 | 59 | 1979 | 2276 | 2572 | 2869 | 3166 | 3463 | 3760 | 4057 | 4354 | 4651 | 4949 | 5246 | 5543 | 5841 | 6138 | 6436 | 6733 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Days in Year | Sun's Anomaly & A. D. 53 | Auxiliary Arguments. 17′ - | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 140 3347 | 3651 | 3955 | 4259 | 4564 | 4868 | 5172 | 5477 | 5781 | 6086 | 6390 | 6695 | 6999 | 7304 | 7 | | |
| 5 | 1 | | | | | | | | | | | | | | | | | |
| 10 | 2 | 3808 | 4112 | 4415 | 4719 | 5024 | 5328 | 5632 | 5936 | 6240 | 6544 | 6849 | 7153 | 7457 | 7762 | | | |
| 15 | 3 | 4038 | 4342 | 4646 | 4949 | 5254 | 5557 | 5861 | 6165 | 6470 | 6774 | 7078 | 7382 | 7686 | 7991 | | | |
| 20 | 4 | 4269 | 4572 | 4876 | 5180 | 5484 | 5787 | 6091 | 6395 | 6699 | 7003 | 7307 | 7611 | 7915 | 8220 | 8524 | | |
| 25 | 5 | 140 | | | | | | | | | | | | | | | | |
| 30 | 6 | | | | | | | | | | | | | | | | | |
| 35 | 7 | | | | | | | | | | | | | | | | | |
| 40 | 8 | 140 (141) 5191 | 5494 | 5797 | | | | | | | | | | | | | | |
| 45 | 9 | 5422 | 5725 | 6028 | 6331 | 6634 | 6938 | 7241 | 7544 | 7848 | 8151 | 8455 | 8758 | 9062 | 9365 | | | |
| 50 | 10 | 141 (141) | | | | | | | | | | | | | | | | |
| 55 | 11 | 5884 | 6186 | 6489 | 6792 | 7095 | 7398 | 7701 | 8004 | 8307 | 8611 | 8914 | 9217 | 9521 | 9824 | | | |
| 60 | 12 | | | | | | | | | | | | | | | | | |
| 65 | 13 | 6345 | 6648 | 6951 | 7253 | 7556 | 7859 | 8162 | 8464 | 8767 | 9070 | 9373 | 9676 | 9980 | 0283 | | | |
| 70 | 14 | | | | | | | | | | | | | | | | | |
| 75 | 15 | 140 (141) 6807 | 7110 | 7412 | 7715 | 8017 | 8320 | 8622 | 8925 | 9228 | 9530 | 9833 | 0136 | 0439 | 0742 | 1045 | | |
| 80 | 16 | 7038 | 7341 | 7643 | 7945 | 8248 | 8550 | 8853 | 9155 | 9458 | 9760 | 0063 | 0366 | 0668 | 0971 | 1274 | | |
| 85 | 17 | 7270 | 7572 | 7874 | 8176 | 8478 | 8781 | 9083 | 9385 | 9688 | 9990 | 0293 | 0596 | 0898 | 1201 | 1504 | | |
| 90 | 18 | 7501 | 7803 | 8105 | 8407 | 8709 | 9011 | 9313 | 9616 | 9918 | 0220 | 0523 | 0825 | 1128 | 1430 | | | |
| 95 | 19 | | | | | | | | | | | | | | | | | |
| 100 | 20 | 140 (141) 7963 | 8265 | 8567 | 8869 | 9171 | 9473 | 9775 | 0077 | 0379 | 0681 | 0983 | 1285 | 1588 | 1890 | | | |
| 105 | 21 | | | | | | | | | | | | | | | | | |
| 110 | 22 | 8426 | 8728 | 9029 | 9331 | 9633 | 9934 | 0236 | 0538 | 0840 | 1142 | 1443 | 1746 | 2048 | 2350 | 2652 | | |
| 115 | 23 | | | | | | | | | | | | | | | | | |
| 120 | 24 | | | | | | | | | | | | | | | | | |
| 125 | 25 | 140 (141) 9121 | 9422 | 9723 | 0024 | 0326 | 0627 | 0928 | 1230 | 1531 | 1833 | 2134 | 2436 | 2738 | 3040 | | | |
| 130 | 26 | | | | | | | | | | | | | | | | | |
| 135 | 27 | 9584 | 9885 | 0186 | 0487 | 0788 | 1089 | 1390 | 1691 | 1993 | 2294 | 2595 | 2897 | 3198 | 3500 | | | |
| 140 | 28 | | | | | | | | | | | | | | | | | |
| 145 | 29 | 141 0047 | 0348 | 0649 | 0950 | 1250 | 1551 | 1852 | 2153 | 2454 | 2755 | 3056 | 3358 | 3659 | 3960 | 4261 | | |
| 150 | 30 | 141 | | | | | | | | | | | | | | | | |
| 155 | 31 | | | | | | | | | | | | | | | | | |
| 160 | 32 | 0743 | 1043 | 1344 | 1644 | 1945 | 2245 | 2546 | 2846 | 3147 | 3448 | 3748 | 4049 | 4350 | 4651 | 4952 | | |
| 165 | 33 | | | | | | | | | | | | | | | | | |
| 170 | 34 | 1207 | 1507 | 1807 | 2107 | 2408 | 2708 | 3008 | 3309 | 3609 | 3910 | 4210 | 4511 | 4811 | 5112 | 5413 | | |
| 175 | 35 | 141 | 1439 | 1739 | 2039 | 2339 | 2639 | 2939 | 3240 | 3540 | 3840 | 4141 | 4441 | 4741 | 5042 | 5342 | 5643 | |
| 180 | 36 | | | | | | | | | | | | | | | | | |
| 185 | 37 | | | | | | | | | | | | | | | | | |
| 190 | 38 | | | | | | | | | | | | | | | | | |
| 196 | 39 | | 2368 | 2667 | 2967 | 3266 | 3566 | 3866 | 4166 | 4465 | 4765 | 5065 | 5365 | 5665 | 5965 | 6265 | 6565 | |
| 201 | 40 | 141 | 2600 | 2899 | 3199 | 3498 | 3798 | 4097 | 4397 | 4697 | 4996 | 5296 | 5596 | 5896 | 6196 | 6496 | 6796 | |
| 206 | 41 | | 2832 | 3132 | 3431 | 3730 | 4030 | 4329 | 4629 | 4928 | 5228 | 5527 | 5827 | 6127 | 6427 | 6727 | 7026 | |
| 211 | 42 | | 3065 | 3364 | 3663 | 3962 | 4262 | 4561 | 4860 | 5160 | 5459 | 5759 | 6058 | 6358 | 6658 | 6957 | 7257 | 7557 |
| 216 | 43 | | 3297 | 3596 | 3895 | 4194 | 4494 | 4793 | 5092 | 5391 | 5691 | 5990 | 6290 | 6589 | 6889 | 7188 | 7488 | |
| 221 | 44 | | 3530 | 3829 | 4127 | 4426 | 4726 | 5025 | 5324 | 5623 | 5922 | 6222 | 6521 | 6820 | 7120 | 7419 | 7719 | |
| 226 | 45 | 141 | 3762 | 4061 | 4360 | 4659 | 4958 | 5257 | 5556 | 5855 | 6154 | 6453 | 6752 | 7052 | 7351 | 7650 | 7950 | |
| 231 | 46 | | 3995 | 4293 | 4592 | 4891 | 5190 | 5489 | 5788 | 6087 | 6386 | 6685 | 6984 | 7283 | 7582 | 7881 | 8181 | |
| 236 | 47 | | | | | | | | | | | | | | | | | |
| 241 | 48 | | 4460 | 4759 | 5057 | 5356 | 5654 | 5953 | 6252 | 6550 | 6849 | 7148 | 7447 | 7746 | 8045 | 8344 | 8643 | |
| 246 | 49 | | | | | | | | | | | | | | | | | |
| 251 | 50 | 141 | | | | | | | | | | | | | | | | |
| 256 | 51 | | 5159 | 5457 | 5755 | 6053 | 6351 | 6649 | 6948 | 7246 | 7545 | 7843 | 8142 | 8440 | 8739 | 9037 | | |
| 261 | 52 | 141 (142) | 5391 | 5689 | 5987 | 6285 | 6584 | 6882 | 7180 | 7478 | 7776 | 8075 | 8373 | 8672 | 8970 | 9269 | | |
| 266 | 53 | | | | | | | | | | | | | | | | | |
| 271 | 54 | | | | | | | | | | | | | | | | | |
| 276 | 55 | 141 (142) | | | | | | | | | | | | | | | | |
| 281 | 56 | | | | | | | | | | | | | | | | | |
| 286 | 57 | | 6557 | 6854 | 7151 | 7449 | 7746 | 8044 | 8342 | 8639 | 8937 | 9235 | 9533 | 9830 | 0128 | 0426 | 0724 | 1022 |
| 291 | 58 | | 6790 | 7087 | 7384 | 7682 | 7979 | 8277 | 8574 | 8872 | 9169 | 9467 | 9765 | 0062 | 0360 | 0658 | 0956 | |
| 296 | 59 | | 7023 | 7320 | 7617 | 7915 | 8212 | 8509 | 8807 | 9104 | 9401 | 9699 | 9997 | 0294 | 0592 | 0890 | | |

| Days in Year | Sun's Anomaly & A. D. 53 | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | |
| 5 | 1 | |
| 10 | 2 | |
| 15 | 3 | |
| 20 | 4 | |
| 25 | 5 | |
| 30 | 6 | |
| 35 | 7 | |
| 40 | 8 | |
| 45 | 9 | |
| 50 | 10 | |
| 55 | 11 | |
| 60 | 12 | |
| 65 | 13 | |
| 70 | 14 | |
| 75 | 15 | |
| 80 | 16 | |
| 85 | 17 | |
| 90 | 18 | |
| 95 | 19 | |
| 100 | 20 | |
| 105 | 21 | |
| 110 | 22 | |
| 115 | 23 | |
| 120 | 24 | |
| 125 | 25 | |
| 130 | 26 | |
| 135 | 27 | |
| 140 | 28 | |
| 145 | 29 | |
| 150 | 30 | |
| 155 | 31 | |
| 160 | 32 | |
| 165 | 33 | |
| 170 | 34 | |
| 175 | 35 | |
| 180 | 36 | |
| 185 | 37 | |
| 190 | 38 | |
| 196 | 39 | |
| 201 | 40 | |
| 206 | 41 | |
| 211 | 42 | |
| 216 | 43 | |
| 221 | 44 | |
| 226 | 45 | |
| 231 | 46 | |
| 236 | 47 | |
| 241 | 48 | |
| 246 | 49 | |
| 251 | 50 | |
| 256 | 51 | |
| 261 | 52 | |
| 266 | 53 | |
| 271 | 54 | |
| 276 | 55 | |
| 281 | 56 | |
| 286 | 57 | |
| 291 | 58 | |
| 296 | 59 | |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

Parts for Sec. of C.S.A.

| C.S.A. 54° | Numbers |
|---|---|
| 0 | 1583 |
| 1 | 1356 |
| 2 | 1118 |
| 3 | 0885 |
| 4 | 0653 |
| 5 | 0422 |
| 6 | 0190 |
| 7 | 9958 |
| 8 | 9727 |
| 9 | 9495 |
| 10 | 9264 |
| 11 | 9032 |
| 12 | 8801 |
| 13 | 8569 |
| 14 | 8338 |
| 15 | 8106 |
| 16 | 7875 |
| 17 | 7643 |
| 18 | 7412 |
| 19 | 7159 |
| 20 | 6949 |
| 21 | 6717 |
| 22 | 6486 |
| 23 | 6254 |
| 24 | 5991 |
| 25 | 5791 |
| 26 | 5560 |
| 27 | 5328 |
| 28 | 5097 |
| 29 | 4865 |
| 30 | 4634 |
| 31 | 4355 |
| 32 | 4121 |
| 33 | 3907 |
| 34 | 3676 |
| 35 | 3410 |
| 36 | 3185 |
| 37 | 2951 |
| 38 | 2716 |
| 39 | 2482 |
| 40 | 2248 |
| 41 | 2013 |
| 42 | 1779 |
| 43 | 1544 |
| 44 | 1310 |
| 45 | 1075 |
| 46 | 0841 |
| 47 | 0606 |
| 48 | 0371 |
| 49 | 0136 |
| 50 | 9902 |
| 51 | 9667 |
| 52 | 9433 |
| 53 | 9198 |
| 54 | 8964 |
| 55 | 8729 |
| 56 | 8491 |
| 57 | 8260 |
| 58 | 8021 |

Parts in Seconds of Auxil. Argum.

| A. D. 54° | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 141 2815 | 2511 | 2807 | 3103 | 3400 | 3696 | 3992 | 4288 | 4585 | 4881 | 5177 | 5473 | 5770 | | | | |
| 1 | 245 | 574 | 304 | 3335 | 3631 | 3927 | 4224 | 4520 | 4816 | 5112 | 5409 | 5705 | 6001 | 6297 | 6594 | 6890 | 7186 |
| 2 | 2 | 2981 | 3277 | 3573 | 3870 | 4166 | 4462 | 4759 | 5055 | 5351 | 5647 | 5943 | 6240 | 6536 | 6832 | 7128 | 7425 |
| 3 | 2621 | 3217 | 3513 | 3809 | 4106 | 4402 | 4698 | 4995 | 5291 | 5587 | 5883 | 6179 | 6476 | 6772 | 7068 | 7364 | 7661 |
| 4 | 315 | 3452 | 3748 | 4044 | 4341 | 4637 | 4933 | 5230 | 5526 | 5822 | 6118 | 6414 | 6711 | 7007 | 7303 | 7599 | 7896 |
| 5 | 141 3324 | 3620 | 3916 | 4213 | 4509 | 4805 | 5101 | 5398 | 5694 | 5990 | 6286 | 6583 | 6879 | 7175 | 7471 | 7768 | 8064 |
| 6 | 3993 | 4289 | 4585 | 4882 | 5178 | 5474 | 5770 | 6067 | 6363 | 6659 | 6955 | 7252 | 7548 | 7844 | 8140 | 8437 | 8733 |
| 7 | 4661 | 4958 | 5254 | 5550 | 5846 | 6143 | 6439 | 6735 | 7031 | 7328 | 7624 | 7920 | 8216 | 8513 | 8809 | 9105 | 9401 |
| 8 | 5330 | 5626 | 5922 | 6219 | 6515 | 6811 | 7107 | 7404 | 7700 | 7996 | 8292 | 8589 | 8885 | 9181 | 9477 | 9774 | 0070 |
| 9 | 5998 | 6295 | 6591 | 6887 | 7183 | 7480 | 7776 | 8072 | 8368 | 8665 | 8961 | 9257 | 9553 | 9850 | 0146 | 0442 | 0738 |
| 10 | 141 4571 | 4866 | 5160 | 5456 | 5751 | 6046 | 6341 | 6636 | 6932 | 7227 | 7523 | 7818 | 8114 | 8409 | 8705 | 9000 | |
| 11 | 4806 | 5101 | 5396 | 5691 | 5986 | 6281 | 6576 | 6872 | 7167 | 7462 | 7757 | 8053 | 8348 | 8643 | 8939 | 9235 | 95 |
| 12 | 5 | 337 | 5927 | 224 | 6517 | 6812 | 7107 | 7402 | 7698 | 7993 | 8288 | 8583 | 8879 | 9174 | 9469 | 9765 | |
| 13 | 5278 | 5573 | 5868 | 6162 | 6457 | 6752 | 7047 | 7342 | 7637 | 7932 | 8227 | 8522 | 8817 | 9112 | 9408 | 9703 | 9998 |
| 14 | 141 (140) | 5 | 123 | 6 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | |
| 15 | 141 (140) | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 16 | 5 | 5 | 5 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 17 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 18 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 19 | 6695 | 6989 | 7283 | 7577 | 7871 | 8165 | 8459 | 8753 | 9048 | 9342 | 9636 | 9931 | 0225 | 5 | 6 | 6 | 6 |
| 20 | 141 (140) | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 21 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 22 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 23 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 24 | 7877 | 8170 | 8464 | 8757 | 9051 | 9344 | 9638 | 9931 | 0225 | 0519 | 0812 | 1106 | 1400 | 1694 | 1988 | 2282 | 2576 |
| 25 | 141 (140) | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 26 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 27 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 28 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 29 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 30 | 141 (142) | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 31 | 9534 | 9826 | 0119 | 0411 | 0704 | 0997 | 1290 | 1582 | 1875 | 2168 | 2461 | 2754 | 3047 | 3340 | 3633 | 3926 | 4219 |
| 32 | 9771 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 33 | 142 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 34 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 35 | 142 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 36 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 37 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 38 | 1193 | 1485 | 1776 | 2068 | 2360 | 2652 | 2944 | 3236 | 3528 | 3820 | 4112 | 4404 | 4696 | 4988 | 5281 | 5573 | 5865 |
| 39 | 1439 | 1722 | 2013 | 2305 | 2597 | 2889 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 40 | 142 | 1668 | 1959 | 2251 | 2542 | 2834 | 3125 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 41 | 1905 | 2196 | 2488 | 2779 | 3070 | 3362 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 42 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 43 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 44 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 45 | 142 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 46 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 47 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 48 | 3568 | 3858 | 4149 | 4439 | 4730 | 5020 | 5311 | 5602 | 5893 | 6183 | 6474 | 6765 | 7056 | 7347 | 7638 | 7929 | 8221 |
| 49 | 3805 | 4096 | 4386 | 4676 | 4967 | 5257 | 5548 | 5839 | 6129 | 6420 | 6711 | 7002 | 7293 | 7583 | 7874 | 8165 | 8456 |
| 50 | 142 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 51 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 52 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 53 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 54 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 55 | 142 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 56 | 142 (143) 5471 | 5760 | 6050 | 6339 | 6629 | 6919 | 7208 | 7498 | 7788 | 8078 | 8368 | 8658 | 8948 | 9238 | 9528 | 9818 | 0108 |
| 57 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | |
| 58 | 5947 | 6236 | 6526 | 6815 | 7104 | 7394 | 7683 | 7973 | 8262 | 8552 | 8842 | 9131 | 9421 | 9711 | 0001 | 0291 | 0581 |
| 59 | 6185 | 6474 | 6764 | 7053 | 7342 | 7631 | 7921 | 8210 | 8500 | 8789 | 9079 | 9368 | 9658 | 9948 | 0238 | 0527 | 0817 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Auxiliary Arguments.

| Parts for finding the Aux. Arg. | C. & A. D. 54 | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 141 (142) | 7553 | 7850 | 8148 | 8445 | 8743 | 9040 | 9338 | 9636 | 9934 | 0231 | 0529 | 0824 | 1121 | 1417 | 1715 | 2014 |
| 5 | 1 | | 7853 | 8153 | 8451 | 8749 | 9047 | 9345 | 9643 | 9941 | 0239 | 0537 | 0835 | 1133 | 1431 | 1729 | 2027 | 2326 |
| 11 | 2 | | 8153 | 8453 | 8753 | 9052 | 9351 | 9650 | 9948 | 0247 | 0546 | 0845 | 1143 | 1442 | 1741 | 2040 | 2339 | 2638 |
| 15 | 3 | | 8453 | 8754 | 9054 | 9354 | 9655 | 9955 | 0256 | 0556 | 0856 | 1156 | 1456 | 1756 | 2056 | 2356 | 2656 | 2951 |
| 20 | 4 | | 8753 | 9054 | 9356 | 9657 | 9959 | 0260 | 0562 | 0864 | 1166 | 1468 | 1770 | 2072 | 2374 | 2676 | 2978 | 3280 |
| 25 | 5 | 141 (142) | 8423 | 8724 | 9026 | 9328 | 9630 | 9932 | 0234 | 0536 | 0838 | 1140 | 1442 | 1744 | 2046 | 2348 | 2650 | 2952 |
| 29 | 6 | | 8657 | 8958 | 9259 | 9560 | 9861 | 0162 | 0463 | 0764 | 1065 | 1366 | 1667 | 1968 | 2269 | 2570 | 2871 | 3172 |
| 34 | 7 | | 8891 | 9192 | 9493 | 9794 | 0095 | 0396 | 0697 | 0998 | 1299 | 1600 | 1901 | 2202 | 2503 | 2804 | 3105 | 3406 |
| 39 | 8 | | 9124 | 9425 | 9727 | 0028 | 0329 | 0631 | 0932 | 1234 | 1535 | 1837 | 2138 | 2440 | 2741 | 3043 | 3344 | 3646 |
| 44 | 9 | | 9358 | 9659 | 9960 | 0261 | 0563 | 0864 | 1166 | 1468 | 1769 | 2071 | 2373 | 2674 | 2976 | 3278 | 3580 | 3882 |
| 49 | 10 | 141 (142) | 9592 | 9888 | 0184 | 0480 | 0776 | 1072 | 1368 | 1664 | 1960 | 2256 | 2552 | 2849 | 3145 | 3442 | 3738 | 4035 |
| 54 | 11 | | 9826 | 0121 | 0417 | 0713 | 1009 | 1305 | 1601 | 1897 | 2193 | 2489 | 2785 | 3081 | 3377 | 3674 | 3970 | 4267 |
| 59 | 12 | 142 | 0060 | 0355 | 0651 | 0947 | 1242 | 1538 | 1834 | 2130 | 2426 | 2722 | 3018 | 3314 | 3610 | 3906 | 4202 | 4499 |
| 64 | 13 | | 0294 | 0589 | 0885 | 1180 | 1476 | 1771 | 2067 | 2363 | 2659 | 2955 | 3250 | 3546 | 3842 | 4138 | 4435 | 4731 |
| 69 | 14 | | 0528 | 0823 | 1119 | 1414 | 1709 | 2005 | 2300 | 2596 | 2892 | 3187 | 3483 | 3779 | 4075 | 4371 | 4667 | 4963 |
| 74 | 15 | 142 | 0762 | 1057 | 1352 | 1647 | 1943 | 2238 | 2534 | 2829 | 3125 | 3420 | 3716 | 4012 | 4308 | 4603 | 4899 | 5195 |
| 78 | 16 | | 0996 | 1291 | 1586 | 1881 | 2176 | 2472 | 2767 | 3062 | 3358 | 3653 | 3949 | 4245 | 4541 | 4836 | 5132 | 5427 |
| 83 | 17 | | 1230 | 1525 | 1820 | 2115 | 2410 | 2705 | 3001 | 3296 | 3591 | 3886 | 4182 | 4477 | 4773 | 5068 | 5364 | 5660 |
| 88 | 18 | | 1464 | 1759 | 2054 | 2349 | 2644 | 2939 | 3234 | 3529 | 3825 | 4120 | 4415 | 4711 | 5006 | 5301 | 5597 | 5892 |
| 93 | 19 | | 1698 | 1993 | 2288 | 2583 | 2878 | 3172 | 3467 | 3762 | 4058 | 4353 | 4648 | 4943 | 5238 | 5534 | 5829 | 6125 |
| 98 | 20 | 142 | 1933 | 2227 | 2522 | 2817 | 3111 | 3406 | 3701 | 3996 | 4291 | 4587 | 4881 | 5176 | 5471 | 5766 | 6062 | 6357 |
| 103 | 21 | | 2167 | 2461 | 2756 | 3051 | 3345 | 3640 | 3935 | 4229 | 4524 | 4819 | 5114 | 5409 | 5704 | 5999 | 6294 | 6590 |
| 108 | 22 | | 2401 | 2696 | 2990 | 3285 | 3579 | 3874 | 4168 | 4463 | 4758 | 5052 | 5347 | 5642 | 5937 | 6233 | 6527 | 6822 |
| 113 | 23 | | 2634 | 2930 | 3224 | 3519 | 3813 | 4107 | 4402 | 4697 | 4991 | 5286 | 5580 | 5875 | 6170 | 6465 | 6760 | 7055 |
| 118 | 24 | | 2870 | 3164 | 3458 | 3753 | 4047 | 4341 | 4636 | 4930 | 5225 | 5519 | 5814 | 6108 | 6403 | 6698 | 6993 | 7287 |
| 123 | 25 | 142 | 3104 | 3398 | 3693 | 3987 | 4281 | 4575 | 4870 | 5164 | 5458 | 5753 | 6047 | 6342 | 6636 | 6931 | 7225 | 7520 |
| 127 | 26 | | 3338 | 3633 | 3927 | 4221 | 4515 | 4810 | 5104 | 5398 | 5692 | 5987 | 6281 | 6575 | 6869 | 7164 | 7458 | 7753 |
| 132 | 27 | | 3574 | 3868 | 4161 | 4455 | 4749 | 5043 | 5337 | 5631 | 5925 | 6220 | 6514 | 6808 | 7102 | 7397 | 7691 | 7986 |
| 137 | 28 | | 3808 | 4102 | 4396 | 4690 | 4984 | 5277 | 5571 | 5865 | 6159 | 6453 | 6747 | 7041 | 7336 | 7630 | 7924 | 8218 |
| 142 | 29 | | 4043 | 4337 | 4631 | 4924 | 5218 | 5511 | 5805 | 6099 | 6393 | 6687 | 6981 | 7275 | 7569 | 7863 | 8157 | 8451 |
| 147 | 30 | 142 | 4278 | 4571 | 4865 | 5158 | 5452 | 5745 | 6038 | 6333 | 6627 | 6921 | 7214 | 7508 | 7802 | 8096 | 8390 | 8683 |
| 152 | 31 | | 4513 | 4806 | 5099 | 5393 | 5686 | 5980 | 6273 | 6567 | 6861 | 7154 | 7448 | 7742 | 8036 | 8330 | 8624 | 8918 |
| 157 | 32 | | 4748 | 5041 | 5334 | 5627 | 5921 | 6214 | 6507 | 6801 | 7094 | 7388 | 7682 | 7975 | 8269 | 8563 | 8857 | 9151 |
| 162 | 33 | | 4982 | 5276 | 5569 | 5862 | 6155 | 6448 | 6742 | 7035 | 7328 | 7622 | 7915 | 8209 | 8503 | 8797 | 9091 | 9385 |
| 167 | 34 | | 5217 | 5510 | 5803 | 6096 | 6389 | 6683 | 6976 | 7269 | 7563 | 7856 | 8149 | 8443 | 8737 | 9031 | 9325 | 9619 |
| 172 | 35 | 142 (143) | 5451 | 5745 | 6038 | 6331 | 6624 | 6917 | 7210 | 7504 | 7797 | 8090 | 8383 | 8676 | 8970 | 9263 | 9557 | 9851 |
| 176 | 36 | | 5685 | 5978 | 6273 | 6566 | 6859 | 7152 | 7444 | 7737 | 8031 | 8324 | 8617 | 8911 | 9204 | 9497 | 9791 | 0084 |
| 181 | 37 | | 5919 | 6213 | 6507 | 6801 | 7095 | 7388 | 7682 | 7976 | 8270 | 8564 | 8858 | 9151 | 9445 | 9739 | 0033 | 0327 |
| 186 | 38 | | 6154 | 6448 | 6742 | 7036 | 7330 | 7624 | 7919 | 8213 | 8507 | 8801 | 9095 | 9389 | 9683 | 9977 | 0271 | 0565 |
| 191 | 39 | | 6388 | 6683 | 6977 | 7271 | 7565 | 7859 | 8153 | 8447 | 8741 | 9035 | 9329 | 9623 | 9917 | 0211 | 0505 | 0799 |
| 196 | 40 | 142 (143) | 6622 | 6917 | 7212 | 7506 | 7800 | 8094 | 8388 | 8682 | 8976 | 9270 | 9564 | 9858 | 0152 | 0446 | 0740 | 1034 |
| 201 | 41 | | 6857 | 7151 | 7446 | 7740 | 8035 | 8329 | 8623 | 8917 | 9211 | 9505 | 9799 | 0093 | 0387 | 0681 | 0975 | 1269 |
| 206 | 42 | | 7090 | 7385 | 7680 | 7975 | 8269 | 8564 | 8858 | 9152 | 9446 | 9740 | 0034 | 0328 | 0622 | 0916 | 1210 | 1504 |
| 211 | 43 | | 7324 | 7620 | 7915 | 8210 | 8504 | 8799 | 9093 | 9387 | 9681 | 9975 | 0269 | 0563 | 0857 | 1151 | 1445 | 1739 |
| 216 | 44 | | 7557 | 7853 | 8148 | 8443 | 8737 | 9032 | 9326 | 9620 | 9914 | 0208 | 0502 | 0796 | 1090 | 1384 | 1678 | 1972 |
| 221 | 45 | 142 (143) | 7791 | 8087 | 8382 | 8676 | 8971 | 9265 | 9559 | 9853 | 0146 | 0440 | 0732 | 1016 | 1308 | 1600 | 1892 | 2185 |
| 225 | 46 | | 8041 | 8332 | 8624 | 8915 | 9209 | 9503 | 9797 | 0090 | 0374 | 0666 | 0958 | 1250 | 1542 | 1834 | 2126 | 2419 |
| 230 | 47 | | 8276 | 8568 | 8859 | 9151 | 9442 | 9734 | 0025 | 0317 | 0609 | 0901 | 1192 | 1484 | 1776 | 2068 | 2360 | 2652 |
| 235 | 48 | | 8511 | 8803 | 9094 | 9386 | 9677 | 9969 | 0260 | 0552 | 0843 | 1135 | 1427 | 1719 | 2011 | 2303 | 2594 | 2886 |
| 240 | 49 | | 8745 | 9038 | 9330 | 9621 | 9913 | 0204 | 0496 | 0787 | 1079 | 1370 | 1662 | 1954 | 2245 | 2537 | 2829 | 3120 |
| 245 | 50 | 142 (143) | 8980 | 9274 | 9565 | 9857 | 0148 | 0440 | 0732 | 1024 | 1316 | 1608 | 1899 | 2187 | 2479 | 2771 | 3062 | 3354 |
| 250 | 51 | | 9219 | 9511 | 9801 | 0092 | 0383 | 0674 | 0965 | 1256 | 1547 | 1838 | 2129 | 2420 | 2712 | 3003 | 3294 | 3585 |
| 255 | 52 | | 9455 | 9746 | 0037 | 0327 | 0618 | 0909 | 1200 | 1491 | 1783 | 2074 | 2365 | 2656 | 2948 | 3239 | 3530 | 3822 |
| 260 | 53 | | 9691 | 9982 | 0272 | 0563 | 0854 | 1145 | 1436 | 1727 | 2018 | 2309 | 2600 | 2891 | 3183 | 3474 | 3765 | 4057 |
| 265 | 54 | | 9927 | 0217 | 0508 | 0799 | 1089 | 1380 | 1671 | 1962 | 2253 | 2543 | 2834 | 3125 | 3417 | 3708 | 3999 | 4290 |
| 270 | 55 | 143 | 0163 | 0453 | 0744 | 1034 | 1325 | 1615 | 1906 | 2197 | 2488 | 2778 | 3069 | 3360 | 3651 | 3942 | 4233 | 4524 |
| 274 | 56 | | 0399 | 0689 | 0979 | 1270 | 1560 | 1851 | 2141 | 2432 | 2723 | 3013 | 3304 | 3595 | 3886 | 4177 | 4468 | 4759 |
| 279 | 57 | | 0635 | 0925 | 1215 | 1506 | 1796 | 2086 | 2377 | 2667 | 2958 | 3248 | 3539 | 3830 | 4121 | 4412 | 4703 | 4994 |
| 284 | 58 | | 0871 | 1161 | 1451 | 1741 | 2031 | 2322 | 2612 | 2902 | 3193 | 3483 | 3774 | 4065 | 4356 | 4647 | 4938 | 5229 |
| 289 | 59 | | 1107 | 1397 | 1687 | 1977 | 2267 | 2557 | 2847 | 3138 | 3428 | 3718 | 4009 | 4300 | 4591 | 4882 | 5173 | 5464 |

Sums for finding the Corrected Distances.

| Parts for finding the Corr. of C. & A. D. | C. & A. D. 54 | Sums | |
|---|---|---|---|
| | 0′ | 441 | 2215 |
| 4 | 1 | | 2455 |
| 8 | 2 | | 2697 |
| 12 | 3 | | 2939 |
| 16 | 4 | | 3181 |
| 20 | 5 | 441 | 3392 |
| 24 | 6 | | 3633 |
| 28 | 7 | | 3875 |
| 32 | 8 | | 4117 |
| 36 | 9 | | 4358 |
| 39 | 10 | 441 | 4571 |
| 43 | 11 | | 4813 |
| 47 | 12 | | 5054 |
| 51 | 13 | | 5296 |
| 55 | 14 | | 5537 |
| 59 | 15 | 441 | 5779 |
| 63 | 16 | | 6020 |
| 67 | 17 | | 6262 |
| 71 | 18 | | 6503 |
| 75 | 19 | | 6745 |
| 79 | 20 | 441 | 6986 |
| 83 | 21 | | 7228 |
| 87 | 22 | | 7469 |
| 91 | 23 | | 7711 |
| 95 | 24 | | 7952 |
| 99 | 25 | 441 | 8194 |
| 103 | 26 | | 8435 |
| 107 | 27 | | 8677 |
| 111 | 28 | | 8918 |
| 114 | 29 | | 9160 |
| 118 | 30 | 441 | 9401 |
| 122 | 31 | | 9643 |
| 126 | 32 | | 9884 |
| 130 | 33 | 442 | 0126 |
| 134 | 34 | | 0367 |
| 138 | 35 | 442 | 0609 |
| 142 | 36 | | 0850 |
| 146 | 37 | | 1092 |
| 150 | 38 | | 1333 |
| 154 | 39 | | 1575 |
| 158 | 40 | 442 | 1816 |
| 162 | 41 | | 2058 |
| 166 | 42 | | 2299 |
| 170 | 43 | | 2541 |
| 174 | 44 | | 2782 |
| 177 | 45 | 442 | 2993 |
| 181 | 46 | | 3234 |
| 185 | 47 | | 3476 |
| 189 | 48 | | 3717 |
| 193 | 49 | | 3959 |
| 197 | 50 | 442 | 4200 |
| 201 | 51 | | 4442 |
| 205 | 52 | | 4683 |
| 209 | 53 | | 4925 |
| 213 | 54 | | 5166 |
| 217 | 55 | 442 | 5408 |
| 221 | 56 | | 5649 |
| 225 | 57 | | 5891 |
| 229 | 58 | | 6132 |
| 233 | 59 | | 6374 |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Part for Seconds of Argum. additive | Numbers |
|---|---|
| 55 | |
| 0 | 158 7556 |
| 1 | 7314 |
| 2 | 7072 |
| 3 | 6831 |
| 4 | 6589 |
| 5 | 6347 |
| 6 | 6106 |
| 7 | 5864 |
| 8 | 5622 |
| 9 | 5381 |
| 10 | 5139 |
| 11 | 4897 |
| 12 | 4656 |
| 13 | 4414 |
| 14 | 4172 |
| 15 | 3931 |
| 16 | 3689 |
| 17 | 3447 |
| 18 | 3205 |
| 19 | 2964 |
| 20 | 2722 |
| 21 | 2480 |
| 22 | 2239 |
| 23 | 1997 |
| 24 | 1755 |
| 25 | 1514 |
| 26 | 1272 |
| 27 | 1030 |
| 28 | 0788 |
| 29 | 0547 |
| 30 | 0305 |
| 31 | 0063 |
| 32 | 157 9822 |
| 33 | 9580 |
| 34 | 9338 |
| 35 | 9097 |
| 36 | 8855 |
| 37 | 8613 |
| 38 | 8372 |
| 39 | 8130 |
| 40 | 157 7888 |
| 41 | 7646 |
| 42 | 7405 |
| 43 | 7163 |
| 44 | 6921 |
| 45 | 157 6680 |
| 46 | 6438 |
| 47 | 6196 |
| 48 | 5955 |
| 49 | 5713 |
| 50 | 157 5471 |
| 51 | 5230 |
| 52 | 4988 |
| 53 | 4746 |
| 54 | 4505 |
| 55 | 4263 |
| 56 | 4021 |
| 57 | 3780 |
| 58 | 3538 |
| 59 | 3296 |
| 60 | 3055 |

| A.A. & A.D. | Auxiliary Arguments. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 55 | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | Numbers. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 142 (143) | 6424 | 6713 | 7001 | 7289 | 7578 | 7866 | 8155 | 8443 | 8732 | 9020 | 9309 | 9597 | 9885 | 0174 | 0462 | 0750 | 1039 |
| 1 | | 6662 | 6951 | 7240 | 7529 | 7818 | 8107 | 8396 | 8685 | 8974 | 9264 | 9553 | 9842 | 0132 | 0421 | 0711 | 1000 | 1290 |
| 2 | | 6901 | 7190 | 7480 | 7769 | 8059 | 8348 | 8638 | 8928 | 9218 | 9508 | 9798 | 0088 | 0378 | 0668 | 0958 | 1248 | 1538 |
| 3 | | 7140 | 7430 | 7720 | 8010 | 8300 | 8590 | 8881 | 9171 | 9462 | 9752 | 0043 | 0333 | 0624 | 0915 | 1205 | 1496 | 1787 |
| 4 | | 7379 | 7670 | 7961 | 8252 | 8543 | 8834 | 9125 | 9416 | 9708 | 9999 | 0290 | 0582 | 0873 | 1165 | 1456 | 1748 | 2040 |
| 5 | 142 (143) | 7618 | 7910 | 8202 | 8494 | 8787 | 9079 | 9371 | 9664 | 9956 | 0249 | 0542 | 0835 | 1128 | 1421 | 1714 | 2007 | 2300 |
| 6 | | 7858 | 8151 | 8444 | 8737 | 9031 | 9324 | 9618 | 9912 | 0206 | 0500 | 0794 | 1088 | 1382 | 1677 | 1971 | 2266 | 2560 |
| 7 | | 8098 | 8392 | 8686 | 8981 | 9275 | 9570 | 9865 | 0160 | 0455 | 0751 | 1046 | 1341 | 1637 | 1933 | 2229 | 2525 | 2821 |
| 8 | | 8338 | 8633 | 8929 | 9225 | 9521 | 9817 | 0113 | 0410 | 0707 | 1003 | 1300 | 1598 | 1895 | 2193 | 2491 | 2789 | 3087 |
| 9 | | 8579 | 8875 | 9172 | 9469 | 9767 | 0065 | 0363 | 0661 | 0959 | 1257 | 1556 | 1855 | 2154 | 2453 | 2753 | 3053 | 3353 |
| 10 | | 8820 | 9118 | 9416 | 9714 | 0013 | 0312 | 0611 | 0911 | 1211 | 1511 | 1812 | 2113 | 2414 | 2716 | 3018 | 3320 | 3623 |
| 11 | | 9062 | 9361 | 9660 | 9960 | 0260 | 0560 | 0861 | 1162 | 1463 | 1765 | 2068 | 2371 | 2674 | 2978 | 3282 | 3587 | 3892 |
| 12 | 142 (143) | 9305 | 9605 | 9906 | 0207 | 0508 | 0810 | 1113 | 1416 | 1720 | 2024 | 2329 | 2634 | 2940 | 3246 | 3553 | 3860 | 4168 |
| 13 | | 9548 | 9850 | 0153 | 0456 | 0759 | 1063 | 1367 | 1672 | 1977 | 2283 | 2590 | 2897 | 3205 | 3514 | 3824 | 4134 | 4445 |
| 14 | | 9792 | 0096 | 0401 | 0706 | 1012 | 1318 | 1625 | 1932 | 2240 | 2549 | 2858 | 3168 | 3479 | 3790 | 4102 | 4415 | 4729 |
| 15 | | 0037 | 0343 | 0650 | 0957 | 1265 | 1574 | 1883 | 2193 | 2504 | 2815 | 3127 | 3440 | 3754 | 4068 | 4383 | 4699 | 5015 |
| 16 | | 0282 | 0590 | 0898 | 1208 | 1518 | 1829 | 2141 | 2454 | 2768 | 3082 | 3397 | 3713 | 4029 | 4347 | 4665 | 4984 | 5304 |
| 17 | | 0528 | 0837 | 1147 | 1459 | 1771 | 2084 | 2398 | 2713 | 3029 | 3346 | 3664 | 3983 | 4303 | 4624 | 4946 | 5269 | 5593 |
| 18 | | 0774 | 1085 | 1397 | 1710 | 2024 | 2339 | 2655 | 2972 | 3290 | 3609 | 3929 | 4250 | 4572 | 4895 | 5219 | 5544 | 5870 |
| 19 | | 1021 | 1333 | 1647 | 1962 | 2278 | 2595 | 2913 | 3232 | 3552 | 3873 | 4195 | 4518 | 4842 | 5167 | 5493 | 5820 | 6148 |
| 20 | | 1268 | 1583 | 1898 | 2215 | 2533 | 2852 | 3172 | 3493 | 3815 | 4138 | 4462 | 4787 | 5113 | 5440 | 5768 | 6097 | 6427 |
| 21 | | 1516 | 1833 | 2151 | 2470 | 2790 | 3111 | 3433 | 3756 | 4080 | 4405 | 4731 | 5058 | 5386 | 5715 | 6045 | 6376 | 6708 |
| 22 | | 1765 | 2084 | 2404 | 2726 | 3048 | 3372 | 3696 | 4022 | 4348 | 4676 | 5005 | 5335 | 5666 | 5998 | 6331 | 6665 | 7000 |
| 23 | | 2014 | 2336 | 2659 | 2983 | 3308 | 3634 | 3961 | 4289 | 4618 | 4948 | 5279 | 5612 | 5945 | 6280 | 6616 | 6953 | 7292 |
| 24 | | 2264 | 2588 | 2914 | 3241 | 3569 | 3898 | 4228 | 4559 | 4891 | 5224 | 5559 | 5894 | 6230 | 6568 | 6907 | 7247 | 7588 |
| 25 | 143 | 2514 | 2841 | 3169 | 3499 | 3830 | 4162 | 4496 | 4830 | 5166 | 5503 | 5841 | 6180 | 6521 | 6862 | 7205 | 7549 | 7894 |
| 26 | | 2765 | 3094 | 3425 | 3757 | 4091 | 4426 | 4762 | 5100 | 5439 | 5779 | 6121 | 6464 | 6808 | 7154 | 7501 | 7850 | 8200 |
| 27 | | 3016 | 3348 | 3681 | 4016 | 4352 | 4690 | 5029 | 5370 | 5712 | 6056 | 6401 | 6747 | 7095 | 7445 | 7796 | 8148 | 8502 |
| 28 | | 3268 | 3602 | 3938 | 4276 | 4615 | 4955 | 5297 | 5641 | 5986 | 6333 | 6681 | 7031 | 7383 | 7736 | 8091 | 8447 | 8805 |
| 29 | | 3520 | 3857 | 4196 | 4536 | 4878 | 5222 | 5567 | 5914 | 6262 | 6612 | 6964 | 7317 | 7672 | 8029 | 8387 | 8747 | 9109 |
| 30 | | 3773 | 4113 | 4454 | 4797 | 5142 | 5489 | 5838 | 6188 | 6540 | 6894 | 7249 | 7606 | 7965 | 8325 | 8687 | 9051 | 9416 |
| 31 | | 4027 | 4369 | 4713 | 5059 | 5407 | 5757 | 6109 | 6463 | 6819 | 7176 | 7535 | 7896 | 8259 | 8623 | 8989 | 9357 | 9726 |
| 32 | 143 | 4281 | 4626 | 4973 | 5322 | 5673 | 6026 | 6381 | 6738 | 7097 | 7458 | 7821 | 8186 | 8553 | 8922 | 9293 | 9665 | 0039 |
| 33 | | 4536 | 4884 | 5234 | 5586 | 5940 | 6296 | 6654 | 7014 | 7376 | 7740 | 8107 | 8476 | 8847 | 9220 | 9595 | 9973 | 0352 |
| 34 | | 4792 | 5142 | 5495 | 5850 | 6208 | 6567 | 6929 | 7292 | 7658 | 8026 | 8396 | 8768 | 9142 | 9519 | 9897 | 0278 | 0661 |
| 35 | | 5048 | 5401 | 5756 | 6114 | 6474 | 6837 | 7202 | 7570 | 7940 | 8312 | 8686 | 9063 | 9442 | 9823 | 0207 | 0593 | 0981 |
| 36 | | 5305 | 5660 | 6018 | 6378 | 6741 | 7107 | 7476 | 7847 | 8221 | 8598 | 8977 | 9359 | 9743 | 0130 | 0520 | 0912 | 1307 |
| 37 | | 5562 | 5920 | 6280 | 6643 | 7009 | 7378 | 7750 | 8125 | 8503 | 8883 | 9267 | 9654 | 0044 | 0437 | 0833 | 1232 | 1634 |
| 38 | | 5820 | 6180 | 6544 | 6910 | 7279 | 7651 | 8026 | 8404 | 8785 | 9170 | 9558 | 9949 | 0344 | 0743 | 1145 | 1551 | 1960 |
| 39 | | 6078 | 6442 | 6809 | 7179 | 7551 | 7926 | 8304 | 8685 | 9070 | 9458 | 9850 | 0245 | 0645 | 1049 | 1457 | 1869 | 2285 |
| 40 | 143 (144) | 6337 | 6705 | 7076 | 7449 | 7825 | 8204 | 8586 | 8972 | 9361 | 9754 | 0151 | 0552 | 0957 | 1366 | 1780 | 2198 | 2620 |
| 41 | | 6597 | 6969 | 7343 | 7721 | 8101 | 8485 | 8873 | 9263 | 9658 | 0056 | 0458 | 0864 | 1274 | 1689 | 2108 | 2531 | 2959 |
| 42 | | 6857 | 7233 | 7612 | 7993 | 8378 | 8767 | 9159 | 9556 | 9956 | 0360 | 0769 | 1182 | 1600 | 2023 | 2450 | 2883 | 3321 |
| 43 | | 7118 | 7499 | 7882 | 8268 | 8657 | 9051 | 9448 | 9850 | 0256 | 0666 | 1081 | 1501 | 1926 | 2357 | 2793 | 3235 | 3683 |
| 44 | | 7380 | 7765 | 8154 | 8545 | 8941 | 9341 | 9746 | 0155 | 0569 | 0988 | 1413 | 1843 | 2279 | 2721 | 3169 | 3623 | 4084 |
| 45 | | 7642 | 8032 | 8426 | 8824 | 9227 | 9634 | 0046 | 0463 | 0885 | 1312 | 1746 | 2186 | 2633 | 3087 | 3548 | 4016 | 4492 |
| 46 | | 7905 | 8300 | 8699 | 9104 | 9513 | 9928 | 0348 | 0773 | 1204 | 1642 | 2087 | 2540 | 2999 | 3467 | 3944 | 4430 | 4926 |
| 47 | | 8169 | 8569 | 8974 | 9385 | 9801 | 0223 | 0652 | 1086 | 1527 | 1975 | 2431 | 2896 | 3370 | 3854 | 4349 | 4856 | 5376 |
| 48 | | 8433 | 8840 | 9252 | 9670 | 0093 | 0521 | 0959 | 1402 | 1854 | 2314 | 2784 | 3265 | 3757 | 4263 | 4782 | 5316 | 5866 |
| 49 | | 8698 | 9112 | 9532 | 9958 | 0389 | 0824 | 1270 | 1724 | 2187 | 2660 | 3144 | 3641 | 4152 | 4679 | 5224 | 5787 | 6370 |
| 50 | 144 | 8964 | 9386 | 9815 | 0250 | 0691 | 1133 | 1587 | 2052 | 2527 | 3014 | 3516 | 4032 | 4566 | 5119 | 5692 | 6289 | 6913 |
| 51 | | 9231 | 9662 | 0102 | 0548 | 1000 | 1449 | 1911 | 2387 | 2876 | 3381 | 3902 | 4443 | 5005 | 5590 | 6203 | 6847 | 7527 |
| 52 | | 9499 | 9940 | 0392 | 0850 | 1316 | 1773 | 2244 | 2731 | 3236 | 3760 | 4305 | 4876 | 5477 | 6113 | 6790 | 7514 | 8295 |
| 53 | | 9768 | 0220 | 0685 | 1157 | 1639 | 2107 | 2588 | 3087 | 3608 | 4153 | 4728 | 5338 | 5989 | 6690 | 7452 | 8289 | 9220 |
| 54 | | 0038 | 0503 | 0982 | 1469 | 1971 | 2452 | 2945 | 3457 | 3995 | 4564 | 5170 | 5820 | 6529 | 7317 | 8210 | 9249 | 0500 |
| 55 | | 0309 | 0788 | 1283 | 1796 | 2317 | 2810 | 3317 | 3844 | 4402 | 5000 | 5644 | 6355 | 7169 | 8113 | 9277 | 0779 | 2500 |
| 56 | | 0581 | 1075 | 1589 | 2128 | 2679 | 3183 | 3705 | 4251 | 4832 | 5464 | 6174 | 7000 | 8000 | 9333 | 0779 | 2500 | 5000 |
| 57 | | 0854 | 1365 | 1902 | 2468 | 3059 | 3574 | 4113 | 4680 | 5292 | 5999 | 6889 | 8000 | 9333 | 0779 | 2500 | 5000 | 8000 |
| 58 | | 1128 | 1659 | 2224 | 2819 | 3459 | 3986 | 4544 | 5137 | 5799 | 6667 | 8000 | 9333 | 0779 | 2500 | 5000 | 8000 | 1111 |
| 59 | | 1403 | 1958 | 2554 | 3183 | 3875 | 4421 | 5000 | 5625 | 6333 | 8000 | 9333 | 0779 | 2500 | 5000 | 8000 | 1111 | 5000 |
| 60 | | 1679 | 2263 | 2894 | 3562 | 4308 | 4875 | 5478 | 6143 | 8000 | 9333 | 0779 | 2500 | 5000 | 8000 | 1111 | 5000 | 0000 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Sec. | Deg. & A. D. | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N |
| | 0 | 143 | 1345 | 1033 | 1008 | 0213 | 2508 | 2701 | 2896 | 3091 | 3286 | 3480 | 3674 | 3869 | 4063 | 4257 | 4451 | 4645 |
| | 1 | | 1530 | 1809 | 2159 | 2449 | 2739 | 3029 | 3319 | 3609 | 3899 | 4189 | 4479 | 4769 | 5059 | 5349 | 5639 | 5929 |
| 1 | 2 | | 1816 | 2105 | 2395 | 2685 | 2974 | 3264 | 3554 | 3844 | 4134 | 4424 | 4714 | 5004 | 5294 | 5584 | 5875 | 6165 | 6455 |
| | 3 | | | | | | | | | | | | | | | | | | |
| | 4 | | | | | | | | | | | | | | | | | | |
| | 5 | 143 | | | | | | | | | | | | | | | | | |
| | 6 | | | | | | | | | | | | | | | | | | |
| | 7 | | | | | | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | | | | | | |
| | 9 | | 3471 | 3760 | 4049 | 4338 | 4627 | 4916 | 5205 | 5494 | 5783 | 6072 | 6361 | 6650 | 6939 | 7229 | 7518 | 7808 | 8097 |
| | 10 | 143 | | | | | | | | | | | | | | | | | |
| | 11 | | | | | | | | | | | | | | | | | | |
| | 12 | | | | | | | | | | | | | | | | | | |
| | 13 | | | | | | | | | | | | | | | | | | |
| | 14 | | | | | | | | | | | | | | | | | | |
| | 15 | 143 | | | | | | | | | | | | | | | | | |
| | 16 | | | | | | | | | | | | | | | | | | |
| | 17 | | | | | | | | | | | | | | | | | | |
| | 18 | 143 (144) | 5603 | 5891 | 6179 | 6466 | 6754 | 7042 | 7330 | 7618 | 7906 | 8194 | 8482 | 8770 | 9058 | 9347 | 9635 | 9923 | 0212 |
| | 19 | | | | | | | | | | | | | | | | | | |
| | 20 | 143 (144) | | | | | | | | | | | | | | | | | |
| | 21 | | | | | | | | | | | | | | | | | | |
| | 22 | | | | | | | | | | | | | | | | | | |
| | 23 | | | | | | | | | | | | | | | | | | |
| | 24 | | 7027 | 7314 | | | | | | | | | | | | | | | |
| | 25 | 143 (144) | 7264 | 7551 | 7838 | 8125 | 8412 | 8699 | 8986 | 9273 | 9560 | 9847 | 0135 | 0422 | 0709 | 0996 | 1284 | 1571 | 1859 |
| | 26 | | | | | | | | | | | | | | | | | | |
| | 27 | | | | | | | | | | | | | | | | | | |
| | 28 | | | | | | | | | | | | | | | | | | |
| | 29 | | | | | | | | | | | | | | | | | | |
| | 30 | 143 (144) | | | | | | | | | | | | | | | | | |
| | 31 | | | | | | | | | | | | | | | | | | |
| | 32 | | | | | | | | | | | | | | | | | | |
| | 33 | | | | | | | | | | | | | | | | | | |
| | 34 | | | | | | | | | | | | | | | | | | |
| | 35 | 143 (144) | | | | | | | | | | | | | | | | | |
| | 36 | | | | | | | | | | | | | | | | | | |
| | 37 | 144 | | | | | | | | | | | | | | | | | |
| | 38 | | | | | | | | | | | | | | | | | | |
| | 39 | | | | | | | | | | | | | | | | | | |
| | 40 | 144 | | | | | | | | | | | | | | | | | |
| | 41 | | 1069 | 1354 | 1639 | 1924 | 2209 | 2494 | 2779 | 3064 | 3350 | 3635 | 3920 | 4205 | 4491 | 4776 | 5062 | 5347 | 5633 |
| | 42 | | | | | | | | | | | | | | | | | | |
| | 43 | | | | | | | | | | | | | | | | | | |
| | 44 | | | | | | | | | | | | | | | | | | |
| | 45 | 144 | | | | | | | | | | | | | | | | | |
| | 46 | | | | | | | | | | | | | | | | | | |
| | 47 | | | | | | | | | | | | | | | | | | |
| | 48 | | | | | | | | | | | | | | | | | | |
| | 49 | | | | | | | | | | | | | | | | | | |
| | 50 | 144 | | | | | | | | | | | | | | | | | |
| | 51 | | | | | | | | | | | | | | | | | | |
| | 52 | | | | | | | | | | | | | | | | | | |
| | 53 | | | | | | | | | | | | | | | | | | |
| | 54 | | | | | | | | | | | | | | | | | | |
| | 55 | 144 | | | | | | | | | | | | | | | | | |
| | 56 | | 4647 | 4931 | 5214 | 5497 | 5780 | 6063 | 6346 | 6630 | 6913 | 7197 | 7480 | 7764 | 8047 | 8331 | 8614 | 8898 | 9182 |
| | 57 | | | | | | | | | | | | | | | | | | |
| | 58 | | | | | | | | | | | | | | | | | | |
| | 59 | | | | | | | | | | | | | | | | | | |

Sums for finding the Corrected Distances.

| Parts for Sec. | C. D. 55° Sums |
|---|---|
| 0 | |
| 4 | |
| 8 | |
| 12 | |
| 16 | |
| 20 | |
| 24 | |
| 28 | |
| 32 | |
| 36 | |
| 40 | |
| 44 | |
| 48 | |
| 52 | |
| 56 | |
| 60 | |
| 64 | |
| 68 | |
| 72 | |
| 76 | |
| 80 | |
| 84 | |
| 88 | |
| 92 | |
| 96 | |
| 100 | 25 443 239 |
| 104 | |
| 108 | |
| 112 | |
| 116 | |
| 120 | |
| 124 | |
| 128 | |
| 132 | |
| 136 | |
| 140 | |
| 144 | |
| 148 | |
| 152 | |
| 156 | |
| 160 | |
| 164 | 41 |
| 168 | |
| 172 | |
| 176 | |
| 180 | |
| 184 | |
| 188 | |
| 192 | |
| 196 | |
| 200 | |
| 204 | |
| 208 | |
| 212 | |
| 216 | |
| 220 | |
| 224 | 56 |
| 228 | |
| 232 | |
| 236 | |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Secs. of C.S.A. additive | C.S.A. 56 | Numbers |
|---|---|---|
| 230 | 0 | 157 3336 |
| 235 | 1 | 3100 |
| 231 | 2 | 2861 |
| 228 | 3 | 2623 |
| 224 | 4 | 2384 |
| 220 | 5 | 157 2140 |
| 216 | 6 | 1907 |
| 212 | 7 | 1669 |
| 208 | 8 | 1431 |
| 204 | 9 | 1191 |
| 200 | 10 | 157 0952 |
| 196 | 11 | 0714 |
| 192 | 12 | 0475 |
| 188 | 13 | 0236 |
| 184 | 14 | 156 9997 |
| 180 | 15 | 156 9758 |
| 176 | 16 | 9519 |
| 172 | 17 | 9280 |
| 168 | 18 | 9040 |
| 164 | 19 | 8801 |
| 160 | 20 | 156 8562 |
| 156 | 21 | 8322 |
| 152 | 22 | 8083 |
| 148 | 23 | 7844 |
| 144 | 24 | 7604 |
| 140 | 25 | 156 7365 |
| 136 | 26 | 7126 |
| 132 | 27 | 6887 |
| 128 | 28 | 6647 |
| 124 | 29 | 6408 |
| 120 | 30 | 156 6169 |
| 116 | 31 | 5929 |
| 112 | 32 | 5690 |
| 108 | 33 | 5451 |
| 104 | 34 | 5211 |
| 100 | 35 | 156 4972 |
| 96 | 36 | 4732 |
| 92 | 37 | 4493 |
| 88 | 38 | 4254 |
| 84 | 39 | 4015 |
| 80 | 40 | 156 3775 |
| 76 | 41 | 3536 |
| 72 | 42 | 3296 |
| 68 | 43 | 3057 |
| 64 | 44 | 2818 |
| 60 | 45 | 156 2579 |
| 56 | 46 | 2339 |
| 52 | 47 | 2100 |
| 48 | 48 | 1861 |
| 44 | 49 | 1622 |
| 40 | 50 | 156 1382 |
| 36 | 51 | 1143 |
| 32 | 52 | 0904 |
| 28 | 53 | 0639 |
| 24 | 54 | 0308 |
| 20 | 55 | 156 0143 |
| 16 | 56 | 155 9904 |
| 12 | 57 | 9665 |
| 8 | 58 | 9426 |
| 4 | 59 | 9186 |

| Parts for Seconds of Auxil. Argum. additive | C.S.A. & A. D. 56 | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 144 | 0807 | 1037 | 1371 | 1652 | 1934 | 2216 | 2498 | 2780 | 3062 | 3345 | 3627 | 3909 | 4191 | 4474 | 4756 | 5038 | 5321 |
| 5 | | 1048 | 1330 | 1612 | 1893 | 2175 | 2457 | 2739 | 3021 | 3303 | 3585 | 3867 | 4149 | 4431 | 4713 | 4997 | 5278 | 5560 |
| 9 | | 1289 | 1571 | 1853 | 2134 | 2416 | 2698 | 2979 | 3261 | 3543 | 3825 | 4107 | 4388 | 4671 | 4953 | 5235 | 5517 | 5799 |
| 14 | | 1531 | 1811 | 2093 | 2375 | 2657 | 2938 | 3220 | 3502 | 3784 | 4065 | 4347 | 4629 | 4911 | 5193 | 5475 | 5757 | 6039 |
| 19 | | 1772 | 2053 | 2335 | 2616 | 2897 | 3179 | 3461 | 3742 | 4024 | 4305 | 4587 | 4869 | 5151 | 5433 | 5714 | 5996 | 6278 |
| 23 | 144 | 2013 | 2295 | 2576 | 2857 | 3138 | 3420 | 3701 | 3983 | 4264 | 4546 | 4827 | 5109 | 5390 | 5672 | 5954 | 6235 | 6517 |
| 28 | | 2255 | 2536 | 2817 | 3098 | 3379 | 3660 | 3942 | 4223 | 4504 | 4786 | 5067 | 5348 | 5630 | 5912 | 6193 | 6475 | 6757 |
| 32 | | 2497 | 2777 | 3058 | 3339 | 3621 | 3901 | 4182 | 4464 | 4745 | 5026 | 5308 | 5589 | 5870 | 6152 | 6433 | 6715 | 6997 |
| 37 | | 2738 | 3019 | 3300 | 3581 | 3861 | 4142 | 4423 | 4704 | 4985 | 5267 | 5548 | 5829 | 6110 | 6392 | 6673 | 6955 | 7236 |
| 42 | | 2979 | 3260 | 3541 | 3822 | 4103 | 4383 | 4664 | 4945 | 5226 | 5507 | 5788 | 6069 | 6351 | 6632 | 6913 | 7194 | 7476 |
| 46 | 10 | 3221 | 3501 | 3782 | 4063 | 4343 | 4624 | 4905 | 5186 | 5467 | 5748 | 6029 | 6311 | 6591 | 6872 | 7153 | 7434 | 7715 |
| 51 | 11 | 3463 | 3743 | 4023 | 4304 | 4585 | 4865 | 5146 | 5427 | 5707 | 5988 | 6269 | 6550 | 6831 | 7112 | 7393 | 7674 | 7955 |
| 56 | 12 | 3704 | 3985 | 4265 | 4545 | 4826 | 5106 | 5387 | 5667 | 5948 | 6229 | 6509 | 6790 | 7071 | 7352 | 7633 | 7914 | 8195 |
| 60 | 13 | 3945 | 4226 | 4507 | 4787 | 5068 | 5347 | 5628 | 5908 | 6189 | 6469 | 6750 | 7031 | 7311 | 7592 | 7873 | 8154 | 8435 |
| 65 | 14 | 4188 | 4468 | 4748 | 5028 | 5308 | 5588 | 5869 | 6149 | 6430 | 6712 | 6991 | 7271 | 7552 | 7833 | 8113 | 8394 | 8675 |
| 70 | 15 | 4430 | 4711 | 4991 | 5272 | 5553 | 5833 | 6114 | 6395 | 6671 | 6951 | 7231 | 7512 | 7792 | 8073 | 8353 | 8634 | 8914 |
| 74 | 16 | 4672 | 4951 | 5231 | 5511 | 5791 | 6071 | 6351 | 6631 | 6911 | 7192 | 7472 | 7752 | 8033 | 8313 | 8593 | 8874 | 9154 |
| 79 | 17 | 4913 | 5193 | 5473 | 5753 | 6033 | 6312 | 6592 | 6872 | 7152 | 7432 | 7713 | 7993 | 8273 | 8553 | 8834 | 9114 | 9394 |
| 84 | 18 | 5154 | 5435 | 5715 | 5994 | 6274 | 6554 | 6834 | 7113 | 7393 | 7673 | 7953 | 8233 | 8513 | 8794 | 9074 | 9354 | 9634 |
| 88 | 19 | 5396 | 5677 | 5957 | 6238 | 6516 | 6795 | 7075 | 7355 | 7635 | 7914 | 8194 | 8474 | 8754 | 9034 | 9314 | 9594 | 9874 |
| 93 | 20 | 144 (145) | 5640 | 5919 | 6198 | 6478 | 6757 | 7037 | 7317 | 7596 | 7876 | 8155 | 8435 | 8715 | 8995 | 9275 | 9554 | 9834 |
| 97 | 21 | | 5882 | 6161 | 6440 | 6720 | 6999 | 7278 | 7558 | 7837 | 8117 | 8396 | 8676 | 8956 | 9235 | 9515 | 9795 | 0075 |
| 102 | 22 | | 6123 | 6403 | 6682 | 6961 | 7241 | 7520 | 7799 | 8078 | 8357 | 8637 | 8917 | 9196 | 9476 | 9755 | 0035 | 0315 |
| 107 | 23 | | 6365 | 6644 | 6923 | 7203 | 7482 | 7761 | 8040 | 8320 | 8599 | 8878 | 9158 | 9437 | 9717 | 9996 | 0276 | 0555 |
| 111 | 24 | | 6606 | 6885 | 7165 | 7444 | 7723 | 8002 | 8282 | 8561 | 8840 | 9120 | 9399 | 9678 | 9958 | 0237 | 0516 | 0796 |
| 116 | 25 | 144 (145) | 6847 | 7126 | 7405 | 7685 | 7964 | 8243 | 8523 | 8802 | 9081 | 9361 | 9640 | 9919 | 0199 | 0478 | 0757 | 1036 |
| 121 | 26 | | 7089 | 7367 | 7647 | 7926 | 8205 | 8485 | 8764 | 9043 | 9323 | 9602 | 9881 | 0161 | 0439 | 0718 | 0998 | 1277 |
| 125 | 27 | | 7330 | 7608 | 7887 | 8167 | 8446 | 8725 | 9005 | 9284 | 9563 | 9843 | 0122 | 0401 | 0680 | 0959 | 1238 | 1517 |
| 130 | 28 | | 7571 | 7849 | 8128 | 8408 | 8687 | 8966 | 9246 | 9525 | 9804 | 0084 | 0363 | 0642 | 0921 | 1200 | 1479 | 1758 |
| 134 | 29 | | 7812 | 8090 | 8369 | 8649 | 8928 | 9207 | 9487 | 9766 | 0045 | 0325 | 0604 | 0883 | 1162 | 1441 | 1720 | 1999 |
| 139 | 30 | 144 (145) | 8053 | 8331 | 8610 | 8890 | 9169 | 9448 | 9728 | 0007 | 0286 | 0565 | 0844 | 1124 | 1403 | 1682 | 1961 | 2239 |
| 144 | 31 | | 8295 | 8572 | 8851 | 9131 | 9410 | 9689 | 9969 | 0248 | 0527 | 0806 | 1086 | 1365 | 1644 | 1923 | 2202 | 2481 |
| 148 | 32 | | 8536 | 8813 | 9092 | 9372 | 9651 | 9930 | 0209 | 0489 | 0768 | 1047 | 1327 | 1606 | 1885 | 2164 | 2443 | 2722 |
| 153 | 33 | | 8777 | 9054 | 9333 | 9613 | 9892 | 0171 | 0450 | 0730 | 1009 | 1288 | 1568 | 1847 | 2126 | 2405 | 2684 | 2963 |
| 158 | 34 | | 9018 | 9295 | 9574 | 9854 | 0133 | 0412 | 0691 | 0971 | 1250 | 1529 | 1809 | 2088 | 2367 | 2646 | 2925 | 3204 |
| 162 | 35 | 144 (145) | 9259 | 9536 | 9815 | 0095 | 0374 | 0653 | 0933 | 1212 | 1491 | 1771 | 2050 | 2329 | 2608 | 2887 | 3166 | 3444 |
| 167 | 36 | | 9500 | 9777 | 0056 | 0336 | 0615 | 0894 | 1174 | 1453 | 1732 | 2012 | 2291 | 2570 | 2850 | 3129 | 3407 | 3686 |
| 172 | 37 | | 9741 | 0018 | 0297 | 0577 | 0856 | 1135 | 1414 | 1694 | 1973 | 2252 | 2532 | 2811 | 3090 | 3369 | 3648 | 3927 |
| 176 | 38 | 145 | 9982 | 0259 | 0537 | 0817 | 1096 | 1376 | 1655 | 1934 | 2214 | 2493 | 2772 | 3052 | 3331 | 3610 | 3889 | 4168 |
| 181 | 39 | | 0223 | 0500 | 0778 | 1057 | 1337 | 1616 | 1895 | 2175 | 2454 | 2733 | 3013 | 3292 | 3571 | 3850 | 4130 | 4409 |
| 185 | 40 | 145 | 0464 | 0741 | 1019 | 1298 | 1577 | 1857 | 2136 | 2415 | 2695 | 2974 | 3253 | 3533 | 3812 | 4091 | 4370 | 4650 |
| 190 | 41 | | 0704 | 0981 | 1260 | 1539 | 1818 | 2097 | 2377 | 2656 | 2935 | 3215 | 3494 | 3773 | 4053 | 4332 | 4611 | 4890 |
| 195 | 42 | | 0945 | 1222 | 1501 | 1780 | 2059 | 2338 | 2618 | 2897 | 3176 | 3456 | 3735 | 4014 | 4293 | 4573 | 4852 | 5131 |
| 199 | 43 | | 1186 | 1463 | 1741 | 2020 | 2299 | 2579 | 2858 | 3137 | 3417 | 3696 | 3975 | 4254 | 4534 | 4813 | 5092 | 5372 |
| 204 | 44 | | 1427 | 1704 | 1982 | 2261 | 2540 | 2819 | 3099 | 3378 | 3657 | 3937 | 4216 | 4495 | 4774 | 5054 | 5333 | 5612 |
| 209 | 45 | 145 | 1668 | 1945 | 2223 | 2502 | 2781 | 3060 | 3339 | 3619 | 3898 | 4177 | 4456 | 4736 | 5015 | 5294 | 5573 | 5853 |
| 213 | 46 | | 1908 | 2186 | 2464 | 2742 | 3021 | 3300 | 3580 | 3859 | 4138 | 4417 | 4697 | 4976 | 5255 | 5534 | 5814 | 6093 |
| 218 | 47 | | 2149 | 2427 | 2705 | 2983 | 3262 | 3541 | 3820 | 4099 | 4378 | 4658 | 4937 | 5216 | 5495 | 5775 | 6054 | 6333 |
| 223 | 48 | | 2390 | 2667 | 2945 | 3224 | 3502 | 3781 | 4060 | 4340 | 4619 | 4898 | 5177 | 5457 | 5736 | 6015 | 6294 | 6574 |
| 227 | 49 | | 2630 | 2908 | 3186 | 3464 | 3743 | 4022 | 4301 | 4580 | 4859 | 5139 | 5418 | 5697 | 5976 | 6256 | 6535 | 6814 |
| 232 | 50 | 145 | 2871 | 3148 | 3426 | 3705 | 3983 | 4262 | 4541 | 4820 | 5100 | 5379 | 5658 | 5937 | 6217 | 6496 | 6775 | 7054 |
| 237 | 51 | | 3111 | 3389 | 3667 | 3945 | 4224 | 4503 | 4781 | 5060 | 5340 | 5619 | 5898 | 6177 | 6457 | 6736 | 7015 | 7294 |
| 241 | 52 | | 3352 | 3629 | 3907 | 4186 | 4464 | 4743 | 5022 | 5301 | 5580 | 5860 | 6139 | 6418 | 6697 | 6977 | 7256 | 7535 |
| 246 | 53 | | 3654 | 3930 | 4205 | 4480 | 4756 | 5031 | 5307 | 5582 | 5858 | 6134 | 6409 | 6685 | | | | |
| 251 | 54 | | 3898 | 4173 | 4448 | 4724 | 4999 | 5274 | 5550 | 5825 | 6101 | 637 | | | | | | |
| 255 | 55 | 145 | 4141 | 4417 | 4693 | 4968 | 5244 | 5520 | 5795 | 6071 | 6347 | 6622 | | | | | | |
| 260 | 56 | | 4383 | 4659 | 4935 | 5211 | 5487 | 5763 | 6039 | 6315 | 6591 | 6867 | | | | | | |
| 265 | 57 | | 4625 | 4902 | 5179 | 5456 | 5732 | 6008 | 6284 | 6560 | 6836 | 7112 | | | | | | |
| 269 | 58 | | 4867 | 5144 | 5422 | 5699 | 5976 | 6252 | 6528 | 6804 | 7080 | 7356 | | | | | | |
| 274 | 59 | | 5110 | 5387 | 5665 | 5942 | 6219 | 6496 | 6772 | 7048 | 7324 | 7600 | | | | | | |

C. T. XI. - Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances- - - - - }

Sums for finding the Corrected Distance.

Auxiliary Arguments.

| Auxil. Argum. additive | 56° | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 56 | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | | |
| | 0 | 144 (145)5604 | 5886 | 6169 | 6451 | 6734 | 7017 | 7300 | 7582 | 7865 | 8148 | 8431 | 8714 | 8 | | | | | | |
| | 1 | | | | | | | | | | | | | | | | | | 1 | |
| 9 | 2 | 6082 | 6364 | 6646 | 6929 | 7211 | 7494 | 7776 | 8059 | 8342 | 8624 | 8907 | 9190 | | | | | | | |
| 14 | 3 | 6321 | 6603 | 6885 | 7168 | 7450 | 7732 | 8015 | 8297 | 8580 | 8862 | 9145 | 9428 | | | | | | | |
| 19 | 4 | 6560 | 6842 | 7124 | 7407 | 7689 | 7971 | 8253 | 8536 | 8818 | 9101 | 9383 | 9666 | | | | | | | |
| | 5 | 144 (145) 6799 | | | | | | | | | | | | | | | | | | |
| | 6 | 7039 | 7321 | 7603 | 7884 | 8166 | 8448 | 8731 | 9013 | 9295 | 9577 | 9859 | 0142 | | | | | | | |
| | 7 | 7278 | 7560 | 7842 | 8124 | 8405 | 8687 | 8969 | 9251 | 9533 | 9815 | 0097 | 0380 | | | | | | | |
| | 8 | 7518 | 7799 | 8081 | 8363 | 8644 | 8926 | 9208 | 9490 | 9772 | 0054 | 0336 | 0618 | | | | | | | |
| 4 | 9 | 7757 | 8039 | 8320 | 8602 | 8883 | 9165 | 9447 | 9728 | 0010 | 0292 | 0574 | 0856 | 113 | | | | | | |
| | 10 | | | | | | | | | | | | | | | | | | | |
| | 11 | | | | | | | | | | | | | | | | | | | |
| 5 | 12 | 8476 | 8757 | 9038 | 9319 | 9601 | 9882 | 0163 | 0443 | 0724 | 1005 | 1285 | 1571 | 1852 | 2134 | 2415 | 2697 | | | |
| 61 | 13 | 8716 | 8997 | 9278 | 9559 | 9840 | 0121 | 0402 | 0683 | 0965 | 1246 | 1527 | 1809 | 2090 | 2372 | 2654 | 2935 | | | |
| | 14 | | | | | | | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | | | | | | | | |
| | 16 | | | | | | | | | | | | | | | | | | | |
| | 17 | | | | | | | | | | | | | | | | | | | |
| | 18 | | | | | | | | | | | | | | | | | | | |
| | 19 | | | | | | | | | | | | | | | | | | | |
| | 20 | 145 | | | | | | | | | | | | | | | | | | |
| | 21 | 146 | 0635 | 0915 | 1195 | 1475 | 1755 | 2035 | 2315 | 2596 | 2876 | 3156 | 3437 | 3717 | 3998 | 4278 | 4559 | 4840 | 5120 | 8 |
| | 22 | | | | | | | | | | | | | | | | | | | |
| | 23 | | 1115 | 1395 | 1674 | 1954 | 2234 | 2514 | 2794 | 3074 | 3354 | 3634 | 3915 | 4195 | | | | | | |
| 112 | 24 | | 1355 | 1635 | 1914 | 2194 | 2474 | 2754 | 3034 | 3313 | 3593 | 3873 | 4154 | 443 | | | | | | |
| | 25 | 145 | | | | | | 2993 | 3273 | 3553 | 3833 | 4113 | 4393 | 467 | | | | | | |
| | 26 | | | | | | | | | | | | | | | | | | | |
| 126 | 27 | | 2076 | 2355 | 2634 | 2914 | 3193 | 3473 | 3752 | 4032 | 4311 | 4591 | 4871 | 5150 | 5430 | | | | | |
| | 28 | | | | | | | | | | | | | | | | | | | |
| 135 | 29 | | 2557 | 2836 | 3115 | 3394 | 3673 | 3952 | 4231 | 4511 | 4790 | 5070 | 5349 | 5628 | 5908 | 6188 | 6467 | 6747 | 7 | |
| | 30 | 146 | | | | | | | | | | | | | | | | | | |
| | 31 | | | | | | | | | | | | | | | | | | | |
| | 32 | | | | | | | | | | | | | | | | | | | |
| | 33 | | 3519 | 3797 | 4076 | 4355 | 4633 | 4912 | 5191 | 5469 | 5748 | 6027 | 6306 | 6585 | 6864 | 7143 | 7422 | 7702 | 7981 | 133 |
| | 34 | | | | | | | | | | | | | | | | | | | |
| | 35 | 146 | | | | | | | | | | | | | | | | | | |
| | 36 | | | | | | | | | | | | | | | | | | | |
| | 37 | | 4482 | 4760 | | | | | | | | | | | | | | | | |
| 177 | 38 | | 4722 | 5000 | 5278 | 5556 | 5834 | 6113 | 6391 | 6669 | 6947 | | | | | | | | | |
| 181 | 39 | | 4963 | 5241 | 5519 | 5797 | 6075 | 6353 | 6631 | 6909 | 7187 | 7465 | 7743 | 8022 | 03 | | | | | |
| | 40 | | | | | | | | | | | | | | | | | | | |
| | 41 | | 5445 | 5723 | 6000 | 6278 | 6556 | 6834 | 7111 | 7389 | 7667 | 7945 | 8223 | 8501 | 8779 | 9057 | 9335 | 9613 | | |
| | 42 | 146 (147) | | | | | | | | | | | | | | | | | | |
| 200 | 43 | | 5927 | 6205 | 6482 | 6759 | 7037 | 7314 | 7592 | 7869 | 8147 | 8425 | 8702 | 8980 | 9258 | 9536 | 9814 | 0092 | | |
| 205 | 44 | | 6169 | 6446 | 6723 | 7000 | 7277 | 7555 | 7832 | 8110 | 8387 | 8665 | 8942 | 9220 | 9498 | 9775 | | | | |
| | 45 | 145 (146) 6410 | 6687 | 6964 | 7241 | 7518 | 7795 | 8073 | 8350 | 8627 | 8905 | 9182 | 9460 | 9737 | 0015 | 0293 | | | | |
| | 46 | | | | | | | | | | | | | | | | | | | |
| | 47 | | | | | | | | | | | | | | | | | | | |
| 223 | 48 | | 7133 | 7410 | 7687 | 7964 | 8240 | 8517 | 8794 | 9071 | 9348 | 9625 | 9902 | 0179 | 0457 | 0734 | 1011 | 1289 | 1566 | |
| 228 | 49 | | 7375 | 7651 | 7928 | 8205 | 8481 | | | | | | | | | | | | | |
| | 50 | 145 (146) 7616 | 7893 | 8169 | 8446 | 8722 | 8999 | 9275 | 9552 | 9829 | 0106 | 0383 | 0660 | 0936 | | | | | | |
| | 51 | | | | | | | | | | | | | | | | | | | |
| 242 | 52 | | 8099 | 8375 | 8651 | 8928 | 9204 | 9480 | 9757 | 0033 | 0310 | 0586 | 0863 | 1140 | 1417 | | | | | |
| | 53 | | | | | | | | | | | | | | | | | | | |
| 251 | 54 | | 8582 | 8858 | 9134 | 9410 | 9686 | | | | | | | | | | | | | |
| | 55 | 145 (146) | | | | | | | | | | | | | | | | | | |
| | 56 | | | | | | | | | | | | | | | | | | | |
| | 57 | | | | | | | | | | | | | | | | | | | |
| | 58 | | | | | | | | | | | | | | | | | | | |
| | 59 | | | | | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | | | | | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. | C. S. A. 57° | Numbers |
|---|---|---|
| C. S. A. 57° | | |
| 0 | 0 | 188 |
| 1 | 1 | 871 |
| 2 | 2 | 854 |
| 3 | 3 | 8837 |
| 4 | 4 | 7819 |
| 5 | 5 | 7801 |
| 6 | 6 | 7783 |
| 7 | 7 | 7765 |
| 8 | 8 | 7747 |
| 9 | 9 | 7729 |
| 10 | 10 | 183 7711 |
| 11 | 11 | 7693 |
| 12 | 12 | 7675 |
| 13 | 13 | 4444 |
| 14 | 14 | 4426 |
| 15 | 15 | 4408 |
| 16 | 16 | 183 4390 |
| 17 | 17 | 4372 |
| 18 | 18 | 4354 |
| 19 | 19 | 4336 |
| 20 | 20 | 183 4318 |
| 21 | 21 | 4300 |
| 22 | 22 | 4282 |
| 23 | 23 | 4264 |
| 24 | 24 | 4246 |
| 25 | 25 | 183 4228 |
| 26 | 26 | 4210 |
| 27 | 27 | 4192 |
| 28 | 28 | 4174 |
| 29 | 29 | 4156 |
| 30 | 30 | 183 4138 |
| 31 | 31 | 4120 |
| 32 | 32 | 4102 |
| 33 | 33 | 4084 |
| 34 | 34 | 4066 |
| 35 | 35 | 183 4048 |
| 36 | 36 | 4030 |
| 37 | 37 | 4012 |
| 38 | 38 | 3994 |
| 39 | 39 | 3976 |
| 40 | 40 | 183 3958 |
| 41 | 41 | 3940 |
| 42 | 42 | 3922 |
| 43 | 43 | 3904 |
| 44 | 44 | 3886 |
| 45 | 45 | 183 3868 |
| 46 | 46 | 3850 |
| 47 | 47 | 3832 |
| 48 | 48 | 3814 |
| 49 | 49 | 3796 |
| 50 | 50 | 183 3778 |
| 51 | 51 | 3760 |
| 52 | 52 | 3742 |
| 53 | 53 | 3724 |
| 54 | 54 | 3706 |
| 55 | 55 | 183 3688 |
| 56 | 56 | 3670 |
| 57 | 57 | 3652 |
| 58 | 58 | 3634 |
| 59 | 59 | 3616 |
| 60 | 60 | 183 3598 |

| Parts for Seconds of Apparent Argum. additions | S. A. A. & A. D. 57° | c | Auxiliary Arguments. 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 148 | 5361 | 0165 | 0969 | 1773 | 2577 | 3381 | 4185 | 4989 | 5793 | 6597 | 7401 | 8205 | 9009 | 9813 | 0617 | 1421 |
| 1 | 1 | | 1225 | 2029 | 2833 | 3637 | 4441 | 5245 | 6049 | 6853 | 7657 | 8461 | 9265 | 0069 | 0873 | 1677 | 2481 | 3285 |
| 2 | 2 | 148 (1401 | 0089 | 0893 | 1697 | 2501 | 3305 | 4109 | 4913 | 5717 | 6521 | 7325 | 8129 | 8933 | 9737 | 0541 | 1345 | 2149 |
| 3 | 3 | | 2953 | 3757 | 4561 | 5365 | 6169 | 6973 | 7777 | 8581 | 9385 | 0189 | 0993 | 1797 | 2601 | 3405 | 4209 | 5013 |
| 4 | 4 | | 3817 | 4621 | 5425 | 6229 | 7033 | 7837 | 8641 | 9445 | 0249 | 1053 | 1857 | 2661 | 3465 | 4269 | 5073 | 5877 |
| 5 | 5 | 148 (1401 | 4681 | 5485 | 6289 | 7093 | 7897 | 8701 | 9505 | 0309 | 1113 | 1917 | 2721 | 3525 | 4329 | 5133 | 5937 | 6741 |
| 6 | 6 | | 5545 | 6349 | 7153 | 7957 | 8761 | 9565 | 0369 | 1173 | 1977 | 2781 | 3585 | 4389 | 5193 | 5997 | 6801 | 7605 |
| 7 | 7 | | 6409 | 7213 | 8017 | 8821 | 9625 | 0429 | 1233 | 2037 | 2841 | 3645 | 4449 | 5253 | 6057 | 6861 | 7665 | 8469 |
| 8 | 8 | | 7273 | 8077 | 8881 | 9685 | 0489 | 1293 | 2097 | 2901 | 3705 | 4509 | 5313 | 6117 | 6921 | 7725 | 8529 | 9333 |
| 9 | 9 | | 8137 | 8941 | 9745 | 0549 | 1353 | 2157 | 2961 | 3765 | 4569 | 5373 | 6177 | 6981 | 7785 | 8589 | 9393 | 0197 |
| 10 | 10 | 148 (146 | 9001 | 9805 | 0609 | 1413 | 2217 | 3021 | 3825 | 4629 | 5433 | 6237 | 7041 | 7845 | 8649 | 9453 | 0257 | 1061 |
| 11 | 11 | | 9865 | 0669 | 1473 | 2277 | 3081 | 3885 | 4689 | 5493 | 6297 | 7101 | 7905 | 8709 | 9513 | 0317 | 1121 | 1925 |
| 12 | 12 | | 0729 | 1533 | 2337 | 3141 | 3945 | 4749 | 5553 | 6357 | 7161 | 7965 | 8769 | 9573 | 0377 | 1181 | 1985 | 2789 |
| 13 | 13 | | 1593 | 2397 | 3201 | 4005 | 4809 | 5613 | 6417 | 7221 | 8025 | 8829 | 9633 | 0437 | 1241 | 2045 | 2849 | 3653 |
| 14 | 14 | | 2457 | 3261 | 4065 | 4869 | 5673 | 6477 | 7281 | 8085 | 8889 | 9693 | 0497 | 1301 | 2105 | 2909 | 3713 | 4517 |
| 15 | 15 | 148 (147 | 3321 | 4125 | 4929 | 5733 | 6537 | 7341 | 8145 | 8949 | 9753 | 0557 | 1361 | 2165 | 2969 | 3773 | 4577 | 5381 |
| 16 | 16 | | 4185 | 4989 | 5793 | 6597 | 7401 | 8205 | 9009 | 9813 | 0617 | 1421 | 2225 | 3029 | 3833 | 4637 | 5441 | 6245 |
| 17 | 17 | | 5049 | 5853 | 6657 | 7461 | 8265 | 9069 | 9873 | 0677 | 1481 | 2285 | 3089 | 3893 | 4697 | 5501 | 6305 | 7109 |
| 18 | 18 | | 5913 | 6717 | 7521 | 8325 | 9129 | 9933 | 0737 | 1541 | 2345 | 3149 | 3953 | 4757 | 5561 | 6365 | 7169 | 7973 |
| 19 | 19 | 148 | 6777 | 7581 | 8385 | 9189 | 9993 | 0797 | 1601 | 2405 | 3209 | 4013 | 4817 | 5621 | 6425 | 7229 | 8033 | 8837 |
| 20 | 20 | 149 | 7641 | 8445 | 9249 | 0053 | 0857 | 1661 | 2465 | 3269 | 4073 | 4877 | 5681 | 6485 | 7289 | 8093 | 8897 | 9701 |
| 21 | 21 | | 8505 | 9309 | 0113 | 0917 | 1721 | 2525 | 3329 | 4133 | 4937 | 5741 | 6545 | 7349 | 8153 | 8957 | 9761 | 0565 |
| 22 | 22 | | 9369 | 0173 | 0977 | 1781 | 2585 | 3389 | 4193 | 4997 | 5801 | 6605 | 7409 | 8213 | 9017 | 9821 | 0625 | 1429 |
| 23 | 23 | | 0233 | 1037 | 1841 | 2645 | 3449 | 4253 | 5057 | 5861 | 6665 | 7469 | 8273 | 9077 | 9881 | 0685 | 1489 | 2293 |
| 24 | 24 | | 1097 | 1901 | 2705 | 3509 | 4313 | 5117 | 5921 | 6725 | 7529 | 8333 | 9137 | 9941 | 0745 | 1549 | 2353 | 3157 |
| 25 | 25 | 149 | 1961 | 2765 | 3569 | 4373 | 5177 | 5981 | 6785 | 7589 | 8393 | 9197 | 0001 | 0805 | 1609 | 2413 | 3217 | 4021 |
| 26 | 26 | | 2825 | 3629 | 4433 | 5237 | 6041 | 6845 | 7649 | 8453 | 9257 | 0061 | 0865 | 1669 | 2473 | 3277 | 4081 | 4885 |
| 27 | 27 | | 3689 | 4493 | 5297 | 6101 | 6905 | 7709 | 8513 | 9317 | 0121 | 0925 | 1729 | 2533 | 3337 | 4141 | 4945 | 5749 |
| 28 | 28 | | 4553 | 5357 | 6161 | 6965 | 7769 | 8573 | 9377 | 0181 | 0985 | 1789 | 2593 | 3397 | 4201 | 5005 | 5809 | 6613 |
| 29 | 29 | | 5417 | 6221 | 7025 | 7829 | 8633 | 9437 | 0241 | 1045 | 1849 | 2653 | 3457 | 4261 | 5065 | 5869 | 6673 | 7477 |
| 30 | 30 | 149 | 6281 | 7085 | 7889 | 8693 | 9497 | 0301 | 1105 | 1909 | 2713 | 3517 | 4321 | 5125 | 5929 | 6733 | 7537 | 8341 |
| 31 | 31 | | 7145 | 7949 | 8753 | 9557 | 0361 | 1165 | 1969 | 2773 | 3577 | 4381 | 5185 | 5989 | 6793 | 7597 | 8401 | 9205 |
| 32 | 32 | | 8009 | 8813 | 9617 | 0421 | 1225 | 2029 | 2833 | 3637 | 4441 | 5245 | 6049 | 6853 | 7657 | 8461 | 9265 | 0069 |
| 33 | 33 | | 8873 | 9677 | 0481 | 1285 | 2089 | 2893 | 3697 | 4501 | 5305 | 6109 | 6913 | 7717 | 8521 | 9325 | 0129 | 0933 |
| 34 | 34 | | 9737 | 0541 | 1345 | 2149 | 2953 | 3757 | 4561 | 5365 | 6169 | 6973 | 7777 | 8581 | 9385 | 0189 | 0993 | 1797 |
| 35 | 35 | 149 | 0601 | 1405 | 2209 | 3013 | 3817 | 4621 | 5425 | 6229 | 7033 | 7837 | 8641 | 9445 | 0249 | 1053 | 1857 | 2661 |
| 36 | 36 | | 1465 | 2269 | 3073 | 3877 | 4681 | 5485 | 6289 | 7093 | 7897 | 8701 | 9505 | 0309 | 1113 | 1917 | 2721 | 3525 |
| 37 | 37 | | 2329 | 3133 | 3937 | 4741 | 5545 | 6349 | 7153 | 7957 | 8761 | 9565 | 0369 | 1173 | 1977 | 2781 | 3585 | 4389 |
| 38 | 38 | | 3193 | 3997 | 4801 | 5605 | 6409 | 7213 | 8017 | 8821 | 9625 | 0429 | 1233 | 2037 | 2841 | 3645 | 4449 | 5253 |
| 39 | 39 | | 4057 | 4861 | 5665 | 6469 | 7273 | 8077 | 8881 | 9685 | 0489 | 1293 | 2097 | 2901 | 3705 | 4509 | 5313 | 6117 |
| 40 | 40 | 149 | 4921 | 5725 | 6529 | 7333 | 8137 | 8941 | 9745 | 0549 | 1353 | 2157 | 2961 | 3765 | 4569 | 5373 | 6177 | 6981 |
| 41 | 41 | | 5785 | 6589 | 7393 | 8197 | 9001 | 9805 | 0609 | 1413 | 2217 | 3021 | 3825 | 4629 | 5433 | 6237 | 7041 | 7845 |
| 42 | 42 | | 6649 | 7453 | 8257 | 9061 | 9865 | 0669 | 1473 | 2277 | 3081 | 3885 | 4689 | 5493 | 6297 | 7101 | 7905 | 8709 |
| 43 | 43 | 149 (147 | 7513 | 8317 | 9121 | 9925 | 0729 | 1533 | 2337 | 3141 | 3945 | 4749 | 5553 | 6357 | 7161 | 7965 | 8769 | 9573 |
| 44 | 44 | | 8377 | 9181 | 9985 | 0789 | 1593 | 2397 | 3201 | 4005 | 4809 | 5613 | 6417 | 7221 | 8025 | 8829 | 9633 | 0437 |
| 45 | 45 | | 9241 | 0045 | 0849 | 1653 | 2457 | 3261 | 4065 | 4869 | 5673 | 6477 | 7281 | 8085 | 8889 | 9693 | 0497 | 1301 |
| 46 | 46 | | 0105 | 0909 | 1713 | 2517 | 3321 | 4125 | 4929 | 5733 | 6537 | 7341 | 8145 | 8949 | 9753 | 0557 | 1361 | 2165 |
| 47 | 47 | | 0969 | 1773 | 2577 | 3381 | 4185 | 4989 | 5793 | 6597 | 7401 | 8205 | 9009 | 9813 | 0617 | 1421 | 2225 | 3029 |
| 48 | 48 | | 1833 | 2637 | 3441 | 4245 | 5049 | 5853 | 6657 | 7461 | 8265 | 9069 | 9873 | 0677 | 1481 | 2285 | 3089 | 3893 |
| 49 | 49 | | 2697 | 3501 | 4305 | 5109 | 5913 | 6717 | 7521 | 8325 | 9129 | 9933 | 0737 | 1541 | 2345 | 3149 | 3953 | 4757 |
| 50 | 50 | 149 | 3561 | 4365 | 5169 | 5973 | 6777 | 7581 | 8385 | 9189 | 9993 | 0797 | 1601 | 2405 | 3209 | 4013 | 4817 | 5621 |
| 51 | 51 | | 4425 | 5229 | 6033 | 6837 | 7641 | 8445 | 9249 | 0053 | 0857 | 1661 | 2465 | 3269 | 4073 | 4877 | 5681 | 6485 |
| 52 | 52 | | 5289 | 6093 | 6897 | 7701 | 8505 | 9309 | 0113 | 0917 | 1721 | 2525 | 3329 | 4133 | 4937 | 5741 | 6545 | 7349 |
| 53 | 53 | | 6153 | 6957 | 7761 | 8565 | 9369 | 0173 | 0977 | 1781 | 2585 | 3389 | 4193 | 4997 | 5801 | 6605 | 7409 | 8213 |
| 54 | 54 | | 7017 | 7821 | 8625 | 9429 | 0233 | 1037 | 1841 | 2645 | 3449 | 4253 | 5057 | 5861 | 6665 | 7469 | 8273 | 9077 |
| 55 | 55 | 149 | 7881 | 8685 | 9489 | 0293 | 1097 | 1901 | 2705 | 3509 | 4313 | 5117 | 5921 | 6725 | 7529 | 8333 | 9137 | 9941 |
| 56 | 56 | | 8745 | 9549 | 0353 | 1157 | 1961 | 2765 | 3569 | 4373 | 5177 | 5981 | 6785 | 7589 | 8393 | 9197 | 0001 | 0805 |
| 57 | 57 | | 9609 | 0413 | 1217 | 2021 | 2825 | 3629 | 4433 | 5237 | 6041 | 6845 | 7649 | 8453 | 9257 | 0061 | 0865 | 1669 |
| 58 | 58 | | 0473 | 1277 | 2081 | 2885 | 3689 | 4493 | 5297 | 6101 | 6905 | 7709 | 8513 | 9317 | 0121 | 0925 | 1729 | 2533 |
| 59 | 59 | | 1337 | 2141 | 2945 | 3749 | 4553 | 5357 | 6161 | 6965 | 7769 | 8573 | 9377 | 0181 | 0985 | 1789 | 2593 | 3397 |
| 60 | 60 | | 2201 | 3005 | 3809 | 4613 | 5417 | 6221 | 7025 | 7829 | 8633 | 9437 | 0241 | 1045 | 1849 | 2653 | 3457 | 4261 |
| 0 | 0 | | 9834 | 0101 | 0368 | 0636 | 0903 | 1170 | 1438 | 1705 | 1972 | 2240 | 2507 | 2775 | 3043 | 3310 | 3578 | 3845 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Part of Sec. in Add. | Sec. in A.D. | Auxiliary Arguments. | | | | | | | | | | | | | | | | | | Part of Sec. in Sub. | Sec. in | Sums | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Add. | 57 | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ | | Sub. | 57 | | |
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | ′ | | ′ | | |
| 0 | 0 | 146 0032 | 0308 | 0583 | 0858 | 1134 | 1409 | 1684 | 1960 | 2235 | 2511 | 2787 | 3062 | 3338 | 3614 | 3890 | 4165 | 4441 | | 0 | 0 | 445 | 5361 |
| 5 | 1 | | 0274 | 0549 | 0825 | 1100 | 1375 | 1650 | 1926 | 2201 | 2476 | 2752 | 3027 | 3303 | 3578 | 3854 | 4130 | 4405 | 4681 | 4 | 1 | | 5636 |
| 9 | 2 | | 0516 | 0791 | 1066 | 1341 | 1617 | 1892 | 2167 | 2442 | 2717 | 2993 | 3268 | 3543 | 3819 | 4094 | 4370 | 4646 | 4921 | 8 | 2 | | 5911 |
| 14 | 3 | | 0758 | 1033 | 1308 | 1583 | 1858 | 2133 | 2408 | 2683 | 2958 | 3234 | 3509 | 3784 | 4059 | 4335 | 4610 | 4886 | 5161 | 12 | 3 | | 6186 |
| 18 | 4 | | 1000 | 1275 | 1550 | 1825 | 2100 | 2374 | 2649 | 2924 | 3199 | 3474 | 3750 | 4025 | 4300 | 4575 | 4850 | 5126 | 5401 | 16 | 4 | | 6462 |
| 23 | 5 | 146 | 1242 | 1517 | 1792 | 2068 | 2343 | 2618 | 2893 | 3166 | 3442 | 3715 | 3992 | 4265 | 4541 | 4816 | 5091 | 5366 | 5641 | 20 | 5 | 445 | 6581 |
| 27 | 6 | | 1484 | 1759 | 2033 | 2308 | 2583 | 2857 | 3132 | 3407 | 3682 | 3956 | 4231 | 4506 | 4781 | 5056 | 5331 | 5606 | 5881 | 25 | 6 | | 6857 |
| 32 | 7 | | 1727 | 2001 | 2275 | 2550 | 2824 | 3099 | 3373 | 3648 | 3923 | 4197 | 4472 | 4747 | 5022 | 5297 | 5572 | 5847 | 6122 | 29 | 7 | | 7276 |
| 36 | 8 | | 1969 | 2243 | 2517 | 2792 | 3066 | 3340 | 3615 | 3889 | 4164 | 4439 | 4713 | 4988 | 5263 | 5537 | 5812 | 6087 | 6362 | 33 | 8 | | 7314 |
| 41 | 9 | | 2211 | 2485 | 2759 | 3034 | 3308 | 3582 | 3856 | 4131 | 4405 | 4680 | 4954 | 5229 | 5503 | 5777 | 6053 | 6327 | 6602 | 37 | 9 | | 7588 |
| 45 | 10 | 146 | 2453 | 2727 | 3001 | 3275 | 3550 | 3824 | 4098 | 4372 | 4646 | 4921 | 5195 | 5470 | 5744 | 6019 | 6293 | 6568 | 6843 | 41 | 10 | 445 | 7862 |
| 50 | 11 | | 2696 | 2970 | 3244 | 3517 | 3791 | 4065 | 4340 | 4614 | 4888 | 5162 | 5436 | 5711 | 5985 | 6259 | 6534 | 6808 | 7083 | 46 | 11 | | 8137 |
| 54 | 12 | | 2938 | 3212 | 3486 | 3760 | 4033 | 4307 | 4581 | 4855 | 5129 | 5403 | 5677 | 5952 | 6226 | 6500 | 6775 | 7049 | 7323 | 49 | 12 | | 8411 |
| 59 | 13 | | 3181 | 3454 | 3728 | 4002 | 4275 | 4549 | 4823 | 5097 | 5371 | 5645 | 5919 | 6193 | 6467 | 6741 | 7015 | 7289 | 7564 | 53 | 13 | | 8685 |
| 64 | 14 | | 3423 | 3697 | 3971 | 4244 | 4517 | 4791 | 5065 | 5338 | 5612 | 5886 | 6160 | 6434 | 6708 | 6982 | 7256 | 7530 | 7804 | 57 | 14 | | 8959 |
| 68 | 15 | 146 | 3666 | 3939 | 4212 | 4486 | 4759 | 5033 | 5306 | 5580 | 5854 | 6127 | 6401 | 6675 | 6949 | 7223 | 7497 | 7771 | 8045 | 61 | 15 | 445 | 9233 |
| 73 | 16 | | 3908 | 4182 | 4455 | 4728 | 5001 | 5275 | 5548 | 5822 | 6095 | 6369 | 6643 | 6916 | 7190 | 7463 | 7737 | 8011 | 8285 | 65 | 16 | | 9507 |
| 77 | 17 | | 4151 | 4424 | 4697 | 4971 | 5243 | 5517 | 5790 | 6064 | 6337 | 6610 | 6884 | 7157 | 7431 | 7705 | 7978 | 8252 | 8526 | 70 | 17 | | 9781 |
| 82 | 18 | | 4393 | 4667 | 4939 | 5213 | 5486 | 5760 | 6032 | 6305 | 6579 | 6852 | 7125 | 7399 | 7672 | 7946 | 8219 | 8493 | 8767 | 74 | 18 | | 0055 |
| 86 | 19 | | 4636 | 4909 | 5182 | 5455 | 5728 | 6001 | 6274 | 6547 | 6821 | 7094 | 7367 | 7640 | 7913 | 8187 | 8460 | 8734 | 9007 | 78 | 19 | 446 | 0329 |
| 91 | 20 | 146 | 4879 | 5152 | 5424 | 5697 | 5970 | 6243 | 6516 | 6789 | 7062 | 7335 | 7608 | 7882 | 8155 | 8428 | 8701 | 8975 | 9248 | 82 | 20 | 446 | 0604 |
| 95 | 21 | | 5122 | 5394 | 5667 | 5940 | 6212 | 6485 | 6758 | 7031 | 7304 | 7577 | 7850 | 8123 | 8396 | 8669 | 8942 | 9216 | 9489 | 86 | 21 | | 0878 |
| 100 | 22 | | 5365 | 5637 | 5910 | 6182 | 6455 | 6728 | 7000 | 7273 | 7546 | 7819 | 8091 | 8364 | 8637 | 8911 | 9184 | 9457 | 9730 | 90 | 22 | | 1152 |
| 104 | 23 | | 5607 | 5880 | 6153 | 6425 | 6697 | 6970 | 7243 | 7515 | 7788 | 8060 | 8333 | 8606 | 8879 | 9152 | 9425 | 9698 | 9971 | 94 | 23 | | 1426 |
| 109 | 24 | 146 (147) | 5850 | 6123 | 6395 | 6667 | 6940 | 7212 | 7485 | 7757 | 8030 | 8302 | 8575 | 8848 | 9120 | 9393 | 9666 | 9938 | 0211 | 98 | 24 | | 1700 |
| 113 | 25 | 146 (147) | 6093 | 6366 | 6638 | 6910 | 7182 | 7454 | 7727 | 7999 | 8272 | 8544 | 8817 | 9089 | 9362 | 9634 | 9907 | 0180 | 0453 | 102 | 25 | 446 | 1974 |
| 118 | 26 | | 6336 | 6608 | 6882 | 7152 | 7425 | 7697 | 7970 | 8241 | 8514 | 8787 | 9059 | 9331 | 9605 | 9877 | 0149 | 0422 | 0695 | 106 | 26 | | 2248 |
| 122 | 27 | | 6580 | 6851 | 7123 | 7395 | 7667 | 7939 | 8211 | 8484 | 8756 | 9029 | 9301 | 9573 | 9845 | 0117 | 0390 | 0662 | 0935 | 110 | 27 | | 2522 |
| 127 | 28 | | 6823 | 7094 | 7366 | 7638 | 7910 | 8182 | 8454 | 8726 | 8998 | 9270 | 9542 | 9814 | 0087 | 0359 | 0631 | 0904 | 1177 | 115 | 28 | | 2796 |
| 132 | 29 | | 7066 | 7337 | 7609 | 7881 | 8153 | 8424 | 8696 | 8968 | 9240 | 9512 | 9784 | 0056 | 0328 | 0600 | 0873 | 1145 | 1417 | 119 | 29 | | 3070 |
| 136 | 30 | 146 (147) | 7309 | 7580 | 7852 | 8124 | 8395 | 8667 | 8939 | 9211 | 9482 | 9754 | 0026 | 0297 | 0569 | 0841 | 1113 | 1385 | 1657 | 123 | 30 | 446 | 3344 |
| 141 | 31 | | 7552 | 7824 | 8095 | 8366 | 8638 | 8910 | 9181 | 9453 | 9724 | 9996 | 0268 | 0539 | 0811 | 1084 | 1355 | 1628 | 1900 | 127 | 31 | | 3618 |
| 145 | 32 | | 7795 | 8067 | 8338 | 8609 | 8881 | 9152 | 9424 | 9695 | 9967 | 0238 | 0510 | 0781 | 1054 | 1325 | 1597 | 1869 | 2141 | 131 | 32 | | 3892 |
| 150 | 33 | | 8039 | 8310 | 8581 | 8852 | 9124 | 9395 | 9667 | 9938 | 0209 | 0481 | 0752 | 1024 | 1295 | 1567 | 1839 | 2111 | 2383 | 135 | 33 | | 4166 |
| 154 | 34 | | 8282 | 8553 | 8824 | 9095 | 9367 | 9638 | 9910 | 0181 | 0452 | 0723 | 0994 | 1266 | 1537 | 1809 | 2080 | 2352 | 2624 | 139 | 34 | | 4440 |
| 159 | 35 | 146 (147) | 8526 | 8797 | 9067 | 9338 | 9609 | 9881 | 0152 | 0423 | 0694 | 0965 | 1237 | 1508 | 1779 | 2051 | 2322 | 2594 | 2865 | 143 | 35 | 446 | 4714 |
| 163 | 36 | | 8769 | 9040 | 9311 | 9582 | 9852 | 0123 | 0394 | 0665 | 0936 | 1208 | 1479 | 1750 | 2021 | 2292 | 2564 | 2835 | 3107 | 147 | 36 | | 4988 |
| 168 | 37 | | 9013 | 9283 | 9554 | 9825 | 0095 | 0366 | 0637 | 0908 | 1179 | 1451 | 1722 | 1993 | 2263 | 2534 | 2806 | 3077 | 3348 | 151 | 37 | | 5262 |
| 172 | 38 | | 9256 | 9527 | 9797 | 0068 | 0338 | 0609 | 0880 | 1151 | 1422 | 1693 | 1965 | 2236 | 2505 | 2776 | 3047 | 3319 | 3590 | 155 | 38 | | 5536 |
| 177 | 39 | | 9500 | 9770 | 0041 | 0311 | 0582 | 0853 | 1123 | 1394 | 1665 | 1935 | 2206 | 2476 | 2747 | 3018 | 3288 | 3559 | 3831 | 160 | 39 | | 5810 |
| 181 | 40 | 146 (147) | 9744 | 0014 | 0284 | 0554 | 0825 | 1096 | 1366 | 1636 | 1907 | 2177 | 2448 | 2719 | 2989 | 3260 | 3531 | 3802 | 4073 | 164 | 40 | 446 | 6084 |
| 186 | 41 | | 9987 | 0257 | 0528 | 0798 | 1068 | 1338 | 1609 | 1879 | 2150 | 2420 | 2691 | 2961 | 3232 | 3502 | 3773 | 4044 | 4315 | 168 | 41 | | 6358 |
| 190 | 42 | 147 | 0231 | 0501 | 0771 | 1041 | 1311 | 1581 | 1852 | 2122 | 2392 | 2663 | 2933 | 3204 | 3474 | 3745 | 4015 | 4286 | 4557 | 172 | 42 | | 6632 |
| 195 | 43 | | 0475 | 0745 | 1015 | 1285 | 1555 | 1825 | 2095 | 2365 | 2635 | 2905 | 3176 | 3446 | 3716 | 3987 | 4257 | 4528 | 4798 | 176 | 43 | | 6906 |
| | 44 | | 0718 | 0988 | 1258 | 1528 | 1798 | 2068 | 2338 | 2608 | 2878 | 3148 | 3418 | 3688 | 3958 | 4228 | 4499 | 4769 | 5040 | 180 | 44 | | 7180 |
| | 45 | 147 | 0962 | 1232 | 1502 | 1772 | 2041 | 2311 | 2581 | 2851 | 3121 | 3391 | 3661 | 3931 | 4201 | 4471 | 4741 | 5011 | 5281 | 184 | 45 | 446 | 7454 |
| | 46 | | 1206 | 1476 | 1745 | 2015 | 2285 | 2555 | 2825 | 3095 | 3365 | 3634 | 3904 | 4174 | 4444 | 4714 | 4984 | 5254 | 5524 | 188 | 46 | | 7728 |
| | 47 | | 1450 | 1720 | 1989 | 2259 | 2528 | 2798 | 3068 | 3337 | 3607 | 3877 | 4147 | 4416 | 4686 | 4956 | 5225 | 5495 | 5767 | 192 | 47 | | 8002 |
| | 48 | | 1694 | 1964 | 2233 | 2502 | 2772 | 3041 | 3311 | 3580 | 3850 | 4119 | 4389 | 4658 | 4928 | 5197 | 5467 | 5738 | 6008 | 196 | 48 | | 8276 |
| | 49 | | 1938 | 2208 | 2477 | 2746 | 3015 | 3285 | 3554 | 3823 | 4093 | 4362 | 4632 | 4901 | 5171 | 5441 | 5710 | 5980 | 6252 | 200 | 49 | | 8550 |
| | 50 | 147 | 2183 | 2452 | 2721 | 2990 | 3259 | 3528 | 3797 | 4067 | 4336 | 4605 | 4875 | 5144 | 5414 | 5683 | 5953 | 6222 | 6492 | 205 | 50 | 446 | 8824 |
| | 51 | | 2427 | 2696 | 2965 | 3233 | 3502 | 3771 | 4041 | 4310 | 4579 | 4848 | 5118 | 5387 | 5656 | 5926 | 6195 | 6465 | 6734 | 209 | 51 | | 9098 |
| 236 | 52 | | 2671 | 2940 | 3208 | 3477 | 3746 | 4015 | 4284 | 4553 | 4822 | 5091 | 5361 | 5630 | 5899 | 6168 | 6438 | 6707 | 6977 | 213 | 52 | | 9372 |
| | 53 | | 2915 | 3184 | 3452 | 3721 | 3990 | 4259 | 4528 | 4797 | 5065 | 5334 | 5604 | 5873 | 6142 | 6411 | 6681 | 6950 | 7221 | 217 | 53 | | 9646 |
| | 54 | | 3159 | 3428 | 3696 | 3965 | 4234 | 4503 | 4771 | 5040 | 5309 | 5578 | 5847 | 6117 | 6385 | 6654 | 6923 | 7193 | 7461 | 221 | 54 | | 9920 |
| | 55 | 147 | 3403 | 3672 | 3940 | 4209 | 4478 | 4747 | 5015 | 5283 | 5552 | 5821 | 6090 | 6359 | 6628 | 6897 | 7166 | 7434 | 7703 | 225 | 55 | 446 | 0194 |
| | 56 | | 3647 | 3916 | 4184 | 4453 | 4721 | 4990 | 5258 | 5527 | 5795 | 6064 | 6333 | 6602 | 6870 | 7139 | 7408 | 7677 | 7946 | 229 | 56 | | 0468 |
| | 57 | | 3891 | 4160 | 4428 | 4697 | 4965 | 5234 | 5502 | 5770 | 6039 | 6307 | 6576 | 6845 | 7113 | 7382 | 7651 | 7919 | 8188 | 233 | 57 | | 0742 |
| | 58 | | 4135 | 4404 | 4672 | 4941 | 5209 | 5477 | 5746 | 6014 | 6282 | 6551 | 6819 | 7088 | 7356 | 7625 | 7893 | 8162 | 8431 | 237 | 58 | | 1016 |
| | 59 | | 4379 | 4648 | 4916 | 5185 | 5453 | 5721 | 5989 | 6257 | 6525 | 6794 | 7062 | 7331 | 7599 | 7868 | 8136 | 8405 | 8673 | 241 | 59 | | 1290 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| 58′ | Numbers |
|---|---|
| 0 | 154 |
| 1 | 4151 |
| 2 | 3880 |
| 3 | 3609 |
| 4 | 3419 |
| 5 | 3154 |
| 6 | 2883 |
| 7 | 2612 |
| 8 | 2341 |
| 9 | 2070 |
| 10 | 154 |
| 11 | 1883 |
| 12 | 1612 |
| 13 | 1341 |
| 14 | 1070 |
| 15 | 154 |
| 16 | 0883 |
| 17 | 0612 |
| 18 | 0341 |
| 19 | 0070 |
| 20 | 153 |
| 21 | 9883 |
| 22 | 9612 |
| 23 | 9341 |
| 24 | 9070 |
| 25 | 153 |
| 26 | 8883 |
| 27 | 8612 |
| 28 | 8341 |
| 29 | 8070 |
| 30 | 153 |
| 31 | 7883 |
| 32 | 7612 |
| 33 | 7341 |
| 34 | 7070 |
| 35 | 153 |
| 36 | 6883 |
| 37 | 6612 |
| 38 | 6341 |
| 39 | 6070 |
| 40 | 153 |
| 41 | 4352 |

| Seconds of Auxil. Argum. | A. D. 58′ | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | | 147 | | | | | | | | | | | | | | | | |
| 4 | 1 | 0327 | 0594 | 0861 | 1128 | 1395 | 1662 | 1929 | 2197 | 2464 | 2731 | 2998 | 3266 | 3533 | | | | |
| 9 | 2 | | | | | | | | | | | | | | | | | |
| 13 | 3 | | | | | | | | | | | | | | | | | |
| 18 | 4 | 1068 | 1334 | 1601 | 1868 | 2134 | 2401 | 2668 | 2934 | 3201 | 3468 | 3735 | 4002 | 42 | | | | |
| 22 | 5 | 147 | | | | | | | | | | | | | | | | |
| 27 | 6 | | | | | | | | | | | | | | | | | |
| 31 | 7 | | | | | | | | | | | | | | | | | |
| 36 | 8 | | | | | | | | | | | | | | | | | |
| 40 | 9 | | | | | | | | | | | | | | | | | |
| 44 | 10 | 147 | 2550 | 2816 | 3081 | 3347 | 3613 | 3879 | 4145 | 4411 | 4677 | 4943 | 5210 | 5476 | | | | |
| 49 | 11 | | | | | | | | | | | | | | | | | |
| 53 | 12 | | 3044 | 3310 | 3575 | 3841 | 4107 | 4372 | 4638 | 4904 | 5170 | 5435 | 5701 | 5967 | | | | |
| 57 | 13 | | 3291 | 3557 | 3822 | 4088 | 4353 | 4619 | 4884 | 5150 | 5416 | 5682 | 5947 | 6213 | | | | |
| 62 | 14 | | | | | | | 4865 | 5131 | 5397 | 5662 | 5928 | 6193 | 6459 | | | | |
| 66 | 15 | 147 | | | | | | | | | | | | | | | | |
| 71 | 16 | | | | | | | | | | | | 6686 | 6951 | 7217 | 7482 | 77 | |
| 75 | 17 | | | | | | | | | | | | | | | | | |
| 79 | 18 | | | | | | | | | | | | 7151 | 7418 | | | | |
| 84 | 19 | | | | | | | | | | | | | | | | | |
| 88 | 20 | | | | | | 5346 | 6611 | 6876 | 7141 | 7406 | 7671 | 7936 | 8201 | 8466 | 8731 | 89 | |
| 93 | 21 | | | | | | 6593 | 6858 | 7123 | 7387 | 7652 | 7917 | 8182 | 8447 | 8712 | 8977 | 924 | |
| 97 | 22 | | | | | | 6840 | 7105 | 7369 | 7634 | 7899 | 8163 | 8428 | 8693 | 8958 | 9223 | 94 | |
| 102 | 23 | | 5766 | 6030 | | | | | 7610 | 7881 | 814 | | | | | | | |
| 106 | 24 | 147 (148) | 6014 | 6278 | 65 | | | | | 7863 | 8128 | 8392 | 8656 | 8921 | 9185 | | | |
| 110 | 25 | 147 (148) | 6262 | 6526 | | | | | 46 | 8110 | 8374 | 863 | | | | | | |
| 115 | 26 | | | 677 | | | | | 9 | 8093 | 8357 | 8621 | 888 | | | | | |
| 119 | 27 | | | | | | | | 6 | 8340 | 8604 | 8868 | 9132 | 9396 | 9660 | 9924 | 0188 | |
| 123 | 28 | | | | | | | | 3 | 8587 | 8851 | 9115 | 9379 | 9643 | 9907 | 0171 | 0435 | |
| 128 | 29 | | | | | | | | | 8 | 9362 | 9626 | 9889 | 0153 | 0417 | 0681 | | |
| 132 | 30 | 147 (148) | 7501 | 7765 | 8028 | 8291 | 8555 | 8818 | 9082 | 9345 | 9609 | 9872 | 0136 | 0400 | 0664 | 0927 | 1191 | 1455 | 1719 |
| 136 | 31 | | 7749 | 8013 | 8276 | 8539 | 8802 | 9066 | 9329 | 9592 | 9856 | 0119 | 0383 | 0646 | 0910 | 1174 | 1438 | 1701 | 1965 |
| 141 | 32 | | 7998 | 8261 | 8524 | | | | | | | | | 93 | 1157 | 1420 | 1684 | 1947 | 2211 |
| 145 | 33 | | | | | | | | | | | | | 1 | 1405 | 1667 | 1930 | 2194 | 2457 |
| 149 | 34 | | 8494 | 8757 | 9019 | 92 | | | | | | | | 1307 | 1050 | 1913 | 2177 | 2440 | 2703 |
| 154 | 35 | | | | | | | | | | | | | | | | | | |
| 158 | 36 | | | | | | | | | | | | | | | | | | |
| 162 | 37 | | | | | | | | | | | | | | | | | | |
| 167 | 38 | | | | | | | | | | | | | | | | | | |
| 171 | 39 | | 9997 | | | | | | | | | | | | | | | | |
| 176 | 40 | 147 (148) | 9984 | 0246 | 0508 | 07 | | | | | | | | | | | | | |
| 180 | 41 | 148 | 0232 | 0494 | 0756 | 10 | | | | | | | | | | | | | |
| 184 | 42 | | 0481 | 0743 | 1 | | | | | | | | | | | | | | |
| 188 | 43 | | 0729 | 0991 | 1253 | | | | | | | | | | | | | | |
| 193 | 44 | | | | | | | | | | | | | | | | | | |
| 197 | 45 | | | | | | | | | | | | | | | | | | |
| 201 | 46 | | | | | | | | | | | | | | | | | | |
| 206 | 47 | | | | | | | | | | | | | | | | | | |
| 210 | 48 | | | | | | | | | | | | | | | | | | |
| 214 | 49 | | | | | | | | | | | | | | | | | | |
| 219 | 50 | | | | | | | | | | | | | | | | | | |
| 223 | 51 | | | | | | | | | | | | | | | | | | |
| 227 | 52 | | | | | | | | | | | | | | | | | | |
| 232 | 53 | | | | | | | | | | | | | | | | | | |
| 236 | 54 | | | | | | | | | | | | | | | | | | |
| 240 | 55 | | | | | | | | | | | | | | | | | | |
| 245 | 56 | | | | | | | | | | | | | | | | | | |
| 249 | 57 | | | | | | | | | | | | | | | | | | |
| 253 | 58 | | | | | | | | | | | | | | | | | | |
| 258 | 59 | | | | | | | | | | | | | | | | | | |
| 262 | 60 | | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Part of Sum of App. Alt. Argum. | A.M. & A.D. 58° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 147 | 4926 | 5094 | 5162 | 5430 | 5607 | 5665 | 6233 | 6501 | 6769 | 7038 | 7306 | 7574 | 7842 | 8111 | 8379 | 8647 |
| 4 | 1 | | 4871 | 5137 | 5405 | 5674 | 5941 | 6209 | 6477 | 6745 | 7013 | 7281 | 7549 | 7817 | 8085 | 8353 | 8622 | 8890 |
| 8 | 2 | | 5115 | 5383 | 5650 | 5918 | 6186 | 6453 | 6721 | 6989 | 7257 | 7525 | 7792 | 8060 | 8328 | 8596 | 8864 | 9132 |
| 12 | 3 | | 5360 | 5627 | 5895 | 6162 | 6430 | 6697 | 6965 | 7233 | 7500 | 7768 | 8036 | 8304 | 8572 | 8840 | 9108 | 9375 |
| 16 | 4 | | 5605 | 5872 | 6140 | 6407 | 6674 | 6941 | 7209 | 7476 | 7744 | 8012 | 8279 | 8547 | 8815 | 9083 | 9351 | 9618 |
| 20 | 5 | 147 (148) | 5849 | 6117 | 6384 | 6651 | 6918 | 7186 | 7453 | 7721 | 7988 | 8256 | 8523 | 8791 | 9059 | 9326 | 9594 | 9861 |
| 24 | 6 | | 6094 | 6361 | 6628 | 6895 | 7163 | 7430 | 7697 | 7964 | 8232 | 8499 | 8767 | 9034 | 9301 | 9569 | 9837 | 0104 |
| 28 | 7 | | 6339 | 6606 | 6873 | 7140 | 7407 | 7674 | 7941 | 8208 | 8475 | 8743 | 9010 | 9277 | 9545 | 9812 | 0080 | 0347 |
| 32 | 8 | | 6584 | 6851 | 7118 | 7384 | 7651 | 7918 | 8185 | 8452 | 8719 | 8987 | 9254 | 9521 | 9788 | 0056 | 0323 | 0590 |
| 36 | 9 | | 6828 | 7096 | 7362 | 7629 | 7896 | 8163 | 8430 | 8697 | 8964 | 9230 | 9497 | 9764 | 0032 | 0299 | 0566 | 0833 |
| 40 | 10 | 147 (148) | 7074 | 7341 | 7608 | 7874 | 8141 | 8407 | 8674 | 8941 | 9207 | 9474 | 9741 | 0008 | 0275 | 0542 | 0809 | 1076 |
| 44 | 11 | | 7319 | 7585 | 7852 | 8118 | 8385 | 8651 | 8918 | 9185 | 9451 | 9718 | 9985 | 0252 | 0518 | 0785 | 1053 | 1320 |
| 48 | 12 | | 7564 | 7831 | 8097 | 8363 | 8630 | 8896 | 9163 | 9429 | 9696 | 9963 | 0229 | 0496 | 0762 | 1029 | 1296 | 1563 |
| 52 | 13 | | 7809 | 8075 | 8342 | 8608 | 8874 | 9141 | 9407 | 9674 | 9941 | 0207 | 0473 | 0740 | 1006 | 1273 | 1539 | 1806 |
| 56 | 14 | | 8053 | 8320 | 8586 | 8853 | 9119 | 9385 | 9652 | 9918 | 0185 | 0451 | 0717 | 0983 | 1250 | 1516 | 1783 | 2049 |
| 60 | 15 | 147 (148) | 8298 | 8564 | 8831 | 9097 | 9363 | 9629 | 9896 | 0162 | 0428 | 0694 | 0961 | 1227 | 1493 | 1760 | 2026 | 2293 |
| 64 | 16 | | 8543 | 8809 | 9076 | 9342 | 9608 | 9874 | 0141 | 0407 | 0672 | 0938 | 1205 | 1471 | 1737 | 2003 | 2270 | 2536 |
| 68 | 17 | | 8787 | 9054 | 9320 | 9587 | 9853 | 0119 | 0385 | 0651 | 0917 | 1183 | 1449 | 1715 | 1981 | 2247 | 2513 | 2780 |
| 72 | 18 | | 9032 | 9298 | 9565 | 9831 | 0097 | 0363 | 0629 | 0896 | 1161 | 1427 | 1693 | 1959 | 2225 | 2491 | 2757 | 3023 |
| 76 | 19 | | 9276 | 9543 | 9809 | 0075 | 0341 | 0607 | 0874 | 1140 | 1405 | 1671 | 1937 | 2203 | 2469 | 2735 | 3001 | 3266 |
| 80 | 20 | 147 (148) | 9520 | 9787 | 0053 | 0319 | 0585 | 0853 | 1119 | 1384 | 1650 | 1915 | 2181 | 2447 | 2713 | 2978 | 3244 | 3510 |
| 84 | 21 | | 9764 | 0031 | 0297 | 0563 | 0829 | 1096 | 1362 | 1628 | 1894 | 2160 | 2425 | 2691 | 2957 | 3223 | 3488 | 3754 |
| 88 | 22 | 148 | 0009 | 0275 | 0541 | 0807 | 1073 | 1339 | 1605 | 1873 | 2139 | 2404 | 2670 | 2935 | 3201 | 3466 | 3732 | 3997 |
| 92 | 23 | | 0253 | 0519 | 0785 | 1051 | 1317 | 1583 | 1849 | 2115 | 2383 | 2649 | 2914 | 3179 | 3445 | 3710 | 3975 | 4241 |
| 96 | 24 | | 0497 | 0763 | 1029 | 1295 | 1561 | 1827 | 2093 | 2359 | 2628 | 2893 | 3158 | 3423 | 3689 | 3954 | 4219 | 4485 |
| 100 | 25 | 148 | 0741 | 1007 | 1273 | 1539 | 1805 | 2071 | 2337 | 2603 | 2872 | 3137 | 3402 | 3667 | 3933 | 4198 | 4463 | 4728 |
| 104 | 26 | | 0985 | 1251 | 1517 | 1783 | 2049 | 2315 | 2581 | 2847 | 3116 | 3381 | 3646 | 3911 | 4177 | 4442 | 4707 | 4972 |
| 108 | 27 | | 1229 | 1495 | 1761 | 2027 | 2293 | 2559 | 2825 | 3091 | 3360 | 3625 | 3890 | 4155 | 4421 | 4686 | 4951 | 5216 |
| 112 | 28 | | 1473 | 1739 | 2005 | 2271 | 2537 | 2803 | 3069 | 3335 | 3604 | 3869 | 4134 | 4399 | 4665 | 4930 | 5195 | 5460 |
| 116 | 29 | | 1717 | 1983 | 2249 | 2515 | 2781 | 3047 | 3313 | 3579 | 3848 | 4113 | 4378 | 4643 | 4909 | 5174 | 5439 | 5704 |
| 120 | 30 | 148 | 1962 | 2227 | 2493 | 2759 | 3025 | 3291 | 3557 | 3823 | 4092 | 4357 | 4622 | 4887 | 5153 | 5418 | 5683 | 5948 |
| 124 | 31 | | 2206 | 2471 | 2737 | 3003 | 3269 | 3535 | 3801 | 4067 | 4336 | 4601 | 4866 | 5131 | 5397 | 5662 | 5927 | 6192 |
| 128 | 32 | | 2450 | 2715 | 2981 | 3247 | 3513 | 3779 | 4045 | 4311 | 4580 | 4845 | 5110 | 5375 | 5641 | 5906 | 6171 | 6437 |
| 132 | 33 | | 2694 | 2959 | 3225 | 3491 | 3757 | 4023 | 4289 | 4555 | 4824 | 5089 | 5354 | 5619 | 5885 | 6150 | 6415 | 6681 |
| 136 | 34 | | 2938 | 3203 | 3469 | 3735 | 4001 | 4267 | 4533 | 4799 | 5068 | 5333 | 5598 | 5863 | 6129 | 6394 | 6659 | 6924 |
| 140 | 35 | 148 | 3182 | 3447 | 3713 | 3979 | 4245 | 4511 | 4777 | 5043 | 5312 | 5577 | 5842 | 6107 | 6373 | 6638 | 6903 | 7168 |
| 144 | 36 | | 3426 | 3691 | 3957 | 4223 | 4489 | 4755 | 5021 | 5287 | 5556 | 5821 | 6086 | 6351 | 6617 | 6882 | 7147 | 7412 |
| 148 | 37 | | 3670 | 3935 | 4201 | 4467 | 4733 | 4999 | 5265 | 5531 | 5800 | 6065 | 6330 | 6595 | 6861 | 7126 | 7391 | 7657 |
| 152 | 38 | | 3914 | 4179 | 4445 | 4711 | 4977 | 5243 | 5509 | 5775 | 6044 | 6309 | 6574 | 6839 | 7105 | 7370 | 7635 | 7901 |
| 156 | 39 | | 4158 | 4423 | 4689 | 4955 | 5221 | 5487 | 5753 | 6019 | 6288 | 6553 | 6818 | 7083 | 7349 | 7614 | 7879 | 8145 |
| 160 | 40 | 149 | 4402 | 4667 | 4933 | 5199 | 5465 | 5731 | 5997 | 6263 | 6532 | 6797 | 7062 | 7327 | 7593 | 7858 | 8123 | 8388 |
| 164 | 41 | | 4646 | 4911 | 5177 | 5443 | 5709 | 5975 | 6241 | 6507 | 6776 | 7041 | 7306 | 7571 | 7837 | 8102 | 8367 | 8633 |
| 168 | 42 | | 4890 | 5155 | 5421 | 5687 | 5953 | 6219 | 6485 | 6751 | 7020 | 7285 | 7550 | 7815 | 8081 | 8346 | 8611 | 8877 |
| 172 | 43 | | 5134 | 5399 | 5665 | 5931 | 6197 | 6463 | 6729 | 6995 | 7264 | 7529 | 7794 | 8059 | 8325 | 8590 | 8855 | 9121 |
| 176 | 44 | | 5378 | 5643 | 5909 | 6175 | 6441 | 6707 | 6973 | 7239 | 7508 | 7773 | 8038 | 8303 | 8569 | 8834 | 9099 | 9365 |
| 180 | 45 | 149 | 5622 | 5887 | 6153 | 6419 | 6685 | 6951 | 7217 | 7483 | 7752 | 8017 | 8282 | 8547 | 8813 | 9078 | 9343 | 9609 |
| 184 | 46 | | 5866 | 6131 | 6397 | 6663 | 6929 | 7195 | 7461 | 7727 | 7996 | 8261 | 8526 | 8791 | 9057 | 9322 | 9587 | 9853 |
| 188 | 47 | | 6110 | 6375 | 6641 | 6907 | 7173 | 7439 | 7705 | 7971 | 8240 | 8505 | 8770 | 9035 | 9301 | 9566 | 9831 | 0097 |
| 192 | 48 | | 6354 | 6619 | 6885 | 7151 | 7417 | 7683 | 7949 | 8215 | 8484 | 8749 | 9014 | 9279 | 9545 | 9810 | 0075 | 0341 |
| 196 | 49 | | 6598 | 6863 | 7129 | 7395 | 7661 | 7927 | 8193 | 8459 | 8728 | 8993 | 9258 | 9523 | 9789 | 0054 | 0319 | 0585 |
| 200 | 50 | 149 (148) | 6842 | 7107 | 7373 | 7639 | 7905 | 8171 | 8437 | 8703 | 8972 | 9237 | 9502 | 9767 | 0033 | 0298 | 0563 | 0829 |
| 204 | 51 | | 7086 | 7351 | 7617 | 7883 | 8149 | 8415 | 8681 | 8947 | 9216 | 9481 | 9746 | 0011 | 0277 | 0542 | 0807 | 1073 |
| 208 | 52 | | 7330 | 7595 | 7861 | 8127 | 8393 | 8659 | 8925 | 9191 | 9460 | 9725 | 9990 | 0255 | 0521 | 0786 | 1051 | 1317 |
| 212 | 53 | | 7574 | 7839 | 8105 | 8371 | 8637 | 8903 | 9169 | 9435 | 9704 | 9969 | 0234 | 0499 | 0765 | 1030 | 1295 | 1561 |
| 216 | 54 | | 7818 | 8083 | 8349 | 8615 | 8881 | 9147 | 9413 | 9679 | 9948 | 0213 | 0478 | 0743 | 1009 | 1274 | 1539 | 1805 |
| 220 | 55 | 149 (148) | 8062 | 8327 | 8593 | 8859 | 9125 | 9391 | 9657 | 9923 | 0192 | 0457 | 0722 | 0987 | 1253 | 1518 | 1783 | 2049 |
| 224 | 56 | | 8306 | 8571 | 8837 | 9103 | 9369 | 9635 | 9901 | 0167 | 0436 | 0701 | 0966 | 1231 | 1497 | 1762 | 2027 | 2293 |
| 228 | 57 | | 8550 | 8815 | 9081 | 9347 | 9613 | 9879 | 0145 | 0411 | 0680 | 0945 | 1210 | 1475 | 1741 | 2006 | 2271 | 2537 |
| 232 | 58 | | 8794 | 9059 | 9325 | 9591 | 9857 | 0123 | 0389 | 0655 | 0924 | 1189 | 1454 | 1719 | 1985 | 2250 | 2515 | 2781 |
| 236 | 59 | | 9038 | 9303 | 9569 | 9835 | 0101 | 0367 | 0633 | 0899 | 1168 | 1433 | 1698 | 1963 | 2229 | 2494 | 2759 | 3025 |
| 240 | 60 | 149 (148) | 9282 | 9547 | 9813 | 0079 | 0345 | 0611 | 0877 | 1143 | 1412 | 1677 | 1942 | 2207 | 2473 | 2738 | 3003 | 3269 |

| Part of Sum of C. D. Argum. | C. D. 58° | Sums |
|---|---|---|
| 0 | 0 | 447 |
| 4 | 1 | |
| 8 | 2 | |
| 12 | 3 | |
| 16 | 4 | |
| 20 | 5 | 447 |
| 24 | 6 | |
| 28 | 7 | |
| 32 | 8 | |
| 36 | 9 | |
| 40 | 10 | 447 |
| 44 | 11 | |
| 48 | 12 | |
| 52 | 13 | |
| 56 | 14 | |
| 60 | 15 | 447 |
| 64 | 16 | |
| 68 | 17 | |
| 72 | 18 | |
| 76 | 19 | |
| 80 | 20 | 447 |
| 84 | 21 | |
| 88 | 22 | |
| 92 | 23 | |
| 96 | 24 | |
| 100 | 25 | 447 |
| 104 | 26 | |
| 108 | 27 | |
| 112 | 28 | |
| 116 | 29 | |
| 120 | 30 | 447 |
| 124 | 31 | |
| 128 | 32 | |
| 132 | 33 | |
| 136 | 34 | |
| 140 | 35 | 447 |
| 144 | 36 | |
| 148 | 37 | |
| 152 | 38 | |
| 156 | 39 | |
| 160 | 40 | |
| 164 | 41 | |
| 168 | 42 | |
| 172 | 43 | |
| 176 | 44 | |
| 180 | 45 | |
| 184 | 46 | |
| 188 | 47 | |
| 192 | 48 | |
| 196 | 49 | |
| 200 | 50 | |
| 204 | 51 | |
| 208 | 52 | |
| 212 | 53 | |
| 216 | 54 | |
| 220 | 55 | 446 |
| 224 | 56 | |
| 228 | 57 | |
| 232 | 58 | |
| 236 | 59 | |
| 240 | 60 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Parts for Sec. or C.S.A. | C.S.A. ° ′ | Numbers |
|---|---|---|
| 165 | 20 | 152 4729 |
| 161 | 21 | 4481 |
| 157 | 22 | 4234 |
| 153 | 23 | 3986 |
| 148 | 24 | 3738 |
| 144 | 25 | 152 3490 |
| 140 | 26 | 3242 |
| 136 | 27 | 2995 |
| 132 | 28 | 2747 |
| 128 | 29 | 2499 |
| 124 | 30 | 152 2251 |
| 120 | 31 | 2003 |
| 116 | 32 | 1756 |
| 112 | 33 | 1508 |
| 107 | 34 | 1260 |
| 103 | 35 | 1012 |
| 99 | 36 | 0764 |
| 95 | 37 | 0516 |
| 91 | 38 | 0268 |
| 87 | 39 | 0020 |
| 83 | 40 | 151 9772 |
| 79 | 41 | 9524 |
| 75 | 42 | 9276 |
| 71 | 43 | 9028 |
| 67 | 44 | 8780 |
| 63 | 45 | 8532 |
| 59 | 46 | 8284 |
| 55 | 47 | 8036 |
| 51 | 48 | 7788 |
| 47 | 49 | 7540 |
| 43 | 50 | 7292 |
| 39 | 51 | 7044 |
| 35 | 52 | 6796 |
| 31 | 53 | 6548 |
| 27 | 54 | 6300 |
| 23 | 55 | 151 6052 |
| 19 | 56 | 5804 |
| 15 | 57 | 5557 |
| 11 | 58 | 5309 |
| 7 | 59 | 5061 |
| 3 | 60 | 4813 |

| Parts for Argum. | A.D. ° | Numbers | A. | B. | C. | D. | E. | F. | G. | H. | I. | K. | L. | M. | N. | O. | P. | Q. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 165 | 20 | 148 (149)9957 | 0214 | 0471 | 0729 | 0986 | 1243 | 1500 | 1757 | 2014 | 2271 | 2528 | 2785 | 3042 | 3299 | 3556 | 3813 | 4070 |
| 161 | 21 | 149 0208 | 0464 | 0721 | 0978 | 1235 | 1492 | 1749 | 2006 | 2263 | 2521 | 2778 | 3035 | 3292 | 3549 | 3806 | 4063 | 4320 |
| 157 | 22 | 0458 | 0715 | 0971 | 1228 | 1485 | 1742 | 1999 | 2256 | 2513 | 2770 | 3027 | 3284 | 3541 | 3798 | 4055 | 4312 | 4569 |
| 153 | 23 | 0708 | 0965 | 1221 | 1478 | 1735 | 1992 | 2249 | 2505 | 2762 | 3019 | 3276 | 3533 | 3790 | 4047 | 4304 | 4561 | 4818 |
| 148 | 24 | 0959 | 1215 | 1472 | 1728 | 1985 | 2241 | 2498 | 2755 | 3012 | 3269 | 3526 | 3783 | 4040 | 4297 | 4554 | 4811 | 5068 |
| 144 | 25 | 149 1209 | 1465 | 1722 | 1978 | 2235 | 2491 | 2748 | 3004 | 3261 | 3518 | 3775 | 4032 | 4289 | 4546 | 4803 | 5060 | 5317 |
| 140 | 26 | 1459 | 1716 | 1972 | 2228 | 2485 | 2741 | 2997 | 3254 | 3511 | 3768 | 4025 | 4282 | 4539 | 4796 | 5053 | 5310 | 5567 |
| 136 | 27 | 1710 | 1966 | 2222 | 2478 | 2735 | 2991 | 3247 | 3504 | 3761 | 4018 | 4275 | 4532 | 4789 | 5046 | 5303 | 5560 | 5817 |
| 132 | 28 | 1960 | 2216 | 2472 | 2728 | 2985 | 3241 | 3497 | 3754 | 4011 | 4268 | 4525 | 4782 | 5039 | 5296 | 5553 | 5810 | 6067 |
| 128 | 29 | 2211 | 2467 | 2723 | 2979 | 3235 | 3491 | 3747 | 4004 | 4261 | 4518 | 4775 | 5032 | 5289 | 5546 | 5803 | 6060 | 6317 |
| 124 | 30 | 150 2461 | 2717 | 2973 | 3229 | 3485 | 3741 | 3997 | 4254 | 4511 | 4768 | 5025 | 5282 | 5539 | 5796 | 6053 | 6310 | 6567 |
| 120 | 31 | 2711 | 2967 | 3223 | 3479 | 3735 | 3991 | 4247 | 4504 | 4761 | 5018 | 5275 | 5532 | 5789 | 6046 | 6303 | 6560 | 6817 |
| 116 | 32 | 2961 | 3217 | 3473 | 3729 | 3985 | 4241 | 4497 | 4754 | 5011 | 5268 | 5525 | 5782 | 6039 | 6296 | 6553 | 6810 | 7067 |
| 112 | 33 | 3211 | 3467 | 3723 | 3979 | 4235 | 4491 | 4747 | 5004 | 5261 | 5518 | 5775 | 6032 | 6289 | 6546 | 6803 | 7060 | 7317 |
| 107 | 34 | 3461 | 3717 | 3973 | 4229 | 4485 | 4741 | 4997 | 5254 | 5511 | 5768 | 6025 | 6282 | 6539 | 6796 | 7053 | 7310 | 7567 |
| 103 | 35 | 3711 | 3967 | 4223 | 4479 | 4735 | 4991 | 5247 | 5504 | 5761 | 6018 | 6275 | 6532 | 6789 | 7046 | 7303 | 7560 | 7817 |
| 99 | 36 | 3961 | 4217 | 4473 | 4729 | 4985 | 5241 | 5497 | 5754 | 6011 | 6268 | 6525 | 6782 | 7039 | 7296 | 7553 | 7810 | 8067 |
| 95 | 37 | 4211 | 4467 | 4723 | 4979 | 5235 | 5491 | 5747 | 6004 | 6261 | 6518 | 6775 | 7032 | 7289 | 7546 | 7803 | 8060 | 8317 |
| 91 | 38 | 4461 | 4717 | 4973 | 5229 | 5485 | 5741 | 5997 | 6254 | 6511 | 6768 | 7025 | 7282 | 7539 | 7796 | 8053 | 8310 | 8567 |
| 87 | 39 | 4711 | 4967 | 5223 | 5479 | 5735 | 5991 | 6247 | 6504 | 6761 | 7018 | 7275 | 7532 | 7789 | 8046 | 8303 | 8560 | 8817 |
| 83 | 40 | 151 4961 | 5217 | 5473 | 5729 | 5985 | 6241 | 6497 | 6754 | 7011 | 7268 | 7525 | 7782 | 8039 | 8296 | 8553 | 8810 | 9067 |
| 79 | 41 | 5211 | 5467 | 5723 | 5979 | 6235 | 6491 | 6747 | 7004 | 7261 | 7518 | 7775 | 8032 | 8289 | 8546 | 8803 | 9060 | 9317 |
| 75 | 42 | 5461 | 5717 | 5973 | 6229 | 6485 | 6741 | 6997 | 7254 | 7511 | 7768 | 8025 | 8282 | 8539 | 8796 | 9053 | 9310 | 9567 |
| 71 | 43 | 5711 | 5967 | 6223 | 6479 | 6735 | 6991 | 7247 | 7504 | 7761 | 8018 | 8275 | 8532 | 8789 | 9046 | 9303 | 9560 | 9817 |
| 67 | 44 | 5961 | 6217 | 6473 | 6729 | 6985 | 7241 | 7497 | 7754 | 8011 | 8268 | 8525 | 8782 | 9039 | 9296 | 9553 | 9810 | 0067 |
| 63 | 45 | 6211 | 6467 | 6723 | 6979 | 7235 | 7491 | 7747 | 8004 | 8261 | 8518 | 8775 | 9032 | 9289 | 9546 | 9803 | 0060 | 0317 |
| 59 | 46 | 6461 | 6717 | 6973 | 7229 | 7485 | 7741 | 7997 | 8254 | 8511 | 8768 | 9025 | 9282 | 9539 | 9796 | 0053 | 0310 | 0567 |
| 55 | 47 | 6711 | 6967 | 7223 | 7479 | 7735 | 7991 | 8247 | 8504 | 8761 | 9018 | 9275 | 9532 | 9789 | 0046 | 0303 | 0560 | 0817 |
| 51 | 48 | 6982 | 7234 | 7487 | 7741 | 7994 | 8248 | 8501 | 8755 | 9009 | 9263 | 9517 | 9770 | 0024 | 0278 | 0532 | 0786 | 1040 |
| 45 | 49 | 7231 | 7485 | 7738 | 7992 | 8245 | 8498 | 8752 | 9006 | 9259 | 9513 | 9767 | 0020 | 0274 | 0528 | 0782 | 1036 | 1290 |
| 41 | 50 | 149 (150)7483 | 7736 | 7989 | 8243 | 8496 | 8749 | 9003 | 9256 | 9510 | 9763 | 0017 | 0271 | 0524 | 0778 | 1032 | 1285 | 1539 |
| 37 | 51 | 7734 | 7987 | 8241 | 8494 | 8747 | 9000 | 9254 | 9507 | 9760 | 0014 | 0267 | 0521 | 0774 | 1028 | 1281 | 1535 | 1789 |
| 33 | 52 | 7986 | 8239 | 8492 | 8745 | 8998 | 9251 | 9504 | 9758 | 0011 | 0264 | 0517 | 0771 | 1024 | 1278 | 1531 | 1785 | 2038 |
| 29 | 53 | 8238 | 8490 | 8743 | 8996 | 9249 | 9502 | 9755 | 0008 | 0261 | 0514 | 0768 | 1021 | 1274 | 1528 | 1781 | 2034 | 2288 |
| 25 | 54 | 8489 | 8741 | 8995 | 9248 | 9500 | 9753 | 0006 | 0258 | 0512 | 0765 | 1018 | 1271 | 1524 | 1777 | 2030 | 2284 | 2537 |
| 21 | 55 | 151 8741 | 8993 | 9246 | 9499 | 9751 | 0004 | 0257 | 0510 | 0763 | 1016 | 1269 | 1521 | 1774 | 2028 | 2281 | 2534 | 2787 |
| 17 | 56 | 8993 | 9245 | 9498 | 9750 | 0003 | 0255 | 0508 | 0761 | 1013 | 1266 | 1519 | 1772 | 2025 | 2278 | 2531 | 2784 | 3037 |
| 13 | 57 | 9242 | 9497 | 9749 | 0001 | 0254 | 0506 | 0759 | 1011 | 1264 | 1517 | 1770 | 2022 | 2275 | 2528 | 2781 | 3034 | 3286 |
| 9 | 58 | 9496 | 9748 | 0001 | 0253 | 0505 | 0758 | 1010 | 1262 | 1515 | 1767 | 2020 | 2273 | 2525 | 2778 | 3031 | 3284 | 3536 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Part for Second of Aux. Arg. additive | S. A. & A. D. 59 | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | D. 9′ | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | ′ | ′ |
| | 0 | 148 (149) 938 | 964 | 990 | 16 | 0421 | 0681 | 94 | 1202 | 1463 | 1723 | 1984 | 22 | 2505 | 27 | 3027 | 3288 | 3 | 9 |
| | 1 | 962 | 988 | 0147 | 17 | 0668 | 0928 | 18 | 1449 | 1709 | 1969 | 2230 | 24 | 2751 | 30 | 3272 | 3533 | 3 | 4 |
| | 2 | 987 | 0138 | 0394 | 54 | 0914 | 1175 | 43 | 1695 | 1956 | 2216 | 2476 | 27 | 2997 | 32 | 3518 | 3779 | 4 | 9 |
| | 3 | 149 012 | 038 | 0641 | 01 | 1161 | 1421 | 68 | 1941 | 2202 | 2462 | 2722 | 29 | 3243 | 35 | 3763 | 4024 | 4 | 5 |
| | 4 | 036 | 062 | 0888 | 48 | 1408 | 1668 | 92 | 2188 | 2448 | 2708 | 2968 | 33 | 3489 | 37 | 4009 | 4269 | 4 | 0 |
| 21 | 5 | 149 061 | 087 | 1135 | 95 | 1655 | 1915 | 17 | 2434 | 2694 | 2954 | 3215 | 37 | 3734 | 39 | 4255 | 4515 | 4 | 5 |
| 22 | 6 | 086 | 112 | 1382 | 42 | 1902 | 2161 | 42 | 2681 | 2941 | 3201 | 3460 | 37 | 3980 | 42 | 4500 | 4760 | 5 | 1 |
| 23 | 7 | 111 | 137 | 1630 | 89 | 2149 | 2408 | 66 | 2928 | 3187 | 3447 | 3707 | 39 | 4226 | 44 | 4746 | 5006 | 5 | 6 |
| 24 | 8 | 135 | 161 | 1877 | 36 | 2396 | 2655 | 91 | 3174 | 3434 | 3693 | 3953 | 41 | 4472 | 47 | 4992 | 5253 | 5 | 2 |
| 25 | 9 | 160 | 186 | 2124 | 84 | 2643 | 2902 | 16 | 3421 | 3680 | 3940 | 4199 | 45 | 4718 | 49 | 5238 | 5499 | 5 | 7 |
| 26 | 10 | 149 185 | 211 | 2371 | 31 | 2890 | 3149 | 40 | 3668 | 3927 | 4187 | 4446 | 47 | 4964 | 52 | 5484 | 5745 | 6 | 3 |
| 27 | 11 | 210 | 236 | 2619 | 78 | 3137 | 3396 | 65 | 3914 | 4174 | 4433 | 4692 | 49 | 5211 | 54 | 5729 | 5988 | 6 | 8 |
| 28 | 12 | 234 | 260 | 2866 | 25 | 3384 | 3643 | 90 | 4161 | 4420 | 4679 | 4938 | 51 | 5457 | 57 | 5975 | 6234 | 6 | 4 |
| 29 | 13 | 259 | 285 | 3113 | 73 | 3631 | 3890 | 14 | 4408 | 4667 | 4926 | 5185 | 54 | 5703 | 59 | 6221 | 6480 | 6740 | |
| 30 | 14 | 284 | 310 | 3360 | 20 | 3879 | 4137 | 39 | 4655 | 4914 | 5173 | 5431 | 56 | 5949 | 62 | 6467 | 6726 | 6985 | |
| 31 | 15 | 149 309 | 335 | 3607 | 68 | 4126 | 4385 | 64 | 4902 | 5161 | 5420 | 5678 | 59 | 6196 | 64 | 6713 | 6972 | 7231 | |
| 32 | 16 | 334 | 359 | 3854 | 15 | 4373 | 4632 | 89 | 5149 | 5408 | 5667 | 5925 | 61 | 6442 | 67 | 6959 | 7218 | 7477 | |
| 33 | 17 | 358 | 384 | 4101 | 63 | 4621 | 4879 | 13 | 5396 | 5655 | 5914 | 6171 | 64 | 6688 | 69 | 7206 | 7465 | 7723 | |
| 34 | 18 | 383 | 409 | 4348 | 10 | 4868 | 5126 | 38 | 5643 | 5902 | 6161 | 6418 | 66 | 6935 | 71 | 7452 | 7711 | 7969 | |
| 35 | 19 | 408 | 434 | 4595 | 58 | 5116 | 5374 | 63 | 5890 | 6149 | 6407 | 6665 | 69 | 7181 | 74 | 7698 | 7957 | 8215 | |
| 36 | 20 | 149 433 | 459 | 4842 | 05 | 5363 | 5621 | 87 | 6137 | 6395 | 6653 | 6911 | 71 | 7428 | 76 | 7944 | 8202 | 8461 | |
| 37 | 21 | 458 | 483 | 5089 | 53 | 5611 | 5869 | 12 | 6384 | 6642 | 6900 | 7158 | 74 | 7674 | 79 | 8191 | 8449 | 8707 | |
| 38 | 22 | 482 | 508 | 5336 | 01 | 5859 | 6116 | 37 | 6632 | 6889 | 7147 | 7405 | 76 | 7921 | 81 | 8437 | 8695 | 8953 | |
| 39 | 23 | 507 | 533 | 5583 | 49 | 6106 | 6364 | 62 | 6879 | 7136 | 7394 | 7652 | 79 | 8168 | 84 | 8683 | 8941 | 9199 | |
| 40 | 24 | 532 | 558 | 5830 | 97 | 6354 | 6611 | 86 | 7126 | 7383 | 7641 | 7899 | 81 | 8414 | 86 | 8930 | 9188 | 9445 | |
| 41 | 25 | 149 557 | 583 | 6078 | 44 | 6602 | 6859 | 111 | 7374 | 7631 | 7888 | 8146 | 84 | 8661 | 89 | 9176 | 9433 | 9692 | |
| 42 | 26 | 582 | 607 | 6325 | 92 | 6849 | 7107 | 36 | 7621 | 7878 | 8136 | 8393 | 86 | 8908 | 91 | 9423 | 9680 | 9938 | |
| 43 | 27 | 149 (150) 607 | 632 | 6573 | 40 | 7097 | 7354 | 61 | 7868 | 8126 | 8383 | 8640 | 89 | 9155 | 94 | 9669 | 9927 | 0184 | |
| 44 | 28 | 631 | 657 | 6821 | 88 | 7345 | 7602 | 85 | 8116 | 8373 | 8630 | 8887 | 91 | 9401 | 96 | 9916 | 0173 | 0431 | |
| 45 | 29 | 656 | 682 | 7068 | 36 | 7593 | 7850 | 10 | 8363 | 8620 | 8877 | 9134 | 93 | 9648 | 99 | 0163 | 0420 | 0677 | |
| 46 | 30 | 149 (150) 681 | 707 | 7328 | 84 | 7841 | 8098 | 35 | 8611 | 8868 | 9125 | 9382 | 96 | 9895 | 01 | 0409 | 0666 | 0923 | |
| 47 | 31 | 706 | 732 | 7576 | 33 | 8089 | 8345 | 60 | 8859 | 9116 | 9372 | 9629 | 98 | 0142 | 03 | 0656 | 0911 | 1170 | |
| 48 | 32 | 731 | 756 | 7824 | 81 | 8337 | 8593 | 85 | 9106 | 9363 | 9619 | 9876 | 01 | 0389 | 06 | 0903 | 1160 | 1416 | |
| 49 | 33 | 756 | 7817 | 8072 | 29 | 8585 | 8841 | 09 | 9354 | 9610 | 9867 | 0123 | 03 | 0636 | 08 | 1150 | 1407 | 1663 | |
| 50 | 34 | 780 | 8065 | 8321 | 77 | 8833 | 9089 | 34 | 9602 | 9858 | 0115 | 0371 | 06 | 0884 | 11 | 1397 | 1654 | 1910 | |
| 51 | 35 | 149 (150) 805 | 8314 | 8570 | 26 | 9081 | 9338 | 59 | 9850 | 0106 | 0362 | 0618 | 08 | 1131 | 13 | 1643 | 1900 | 2156 | |
| 52 | 36 | 830 | 8562 | 8818 | 74 | 9330 | 9586 | 84 | 0097 | 0353 | 0610 | 0866 | 11 | 1378 | 16 | 1890 | 2147 | 2403 | |
| 53 | 37 | 855 | 8811 | 9067 | 22 | 9578 | 9834 | 09 | 0345 | 0601 | 0857 | 1113 | 13 | 1625 | 18 | 2137 | 2393 | 2650 | |
| 54 | 38 | 880 | 9060 | 9315 | 71 | 9826 | 0082 | 33 | 0593 | 0848 | 1104 | 1361 | 16 | 1872 | 21 | 2384 | 2640 | 2896 | |
| 55 | 39 | 905 | 9308 | 9564 | 19 | 0075 | 0330 | 58 | 0841 | 1097 | 1353 | 1608 | 18 | 2120 | 23 | 2631 | 2887 | 3143 | |
| 56 | 40 | 149 (150) 930 | 9557 | 9812 | 68 | 0323 | 0578 | 83 | 1089 | 1344 | 1600 | 1856 | 21 | 2367 | 26 | 2878 | 3134 | 3390 | |
| 57 | 41 | 955 | 9806 | 0061 | 16 | 0571 | 0827 | 08 | 1337 | 1592 | 1848 | 2103 | 23 | 2614 | 28 | 3126 | 3381 | 3637 | |
| 58 | 42 | 980 | 0055 | 0310 | 65 | 0820 | 1075 | 33 | 1585 | 1840 | 2096 | 2351 | 26 | 2862 | 31 | 3373 | 3629 | 3884 | |
| 59 | 43 | 150 004 | 0304 | 0558 | 13 | 1068 | 1323 | 57 | 1833 | 2088 | 2344 | 2599 | 28 | 3109 | 33 | 3620 | 3876 | 4131 | |
| 60 | 44 | 029 | 0553 | 0807 | 62 | 1317 | 1572 | 82 | 2082 | 2337 | 2593 | 2847 | 31 | 3357 | 36 | 3867 | 4122 | 4378 | |
| 61 | 45 | 150 054 | 0802 | 1056 | 11 | 1565 | 1820 | 07 | 2330 | 2585 | 2840 | 3094 | 34 | 3605 | 38 | 4115 | 4370 | 4625 | |
| 62 | 46 | 079 | 1051 | 1305 | 60 | 1814 | 2069 | 32 | 2578 | 2833 | 3088 | 3342 | 36 | 3852 | 41 | 4362 | 4617 | 4872 | |
| 63 | 47 | 104 | 1300 | 1554 | 08 | 2063 | 2317 | 57 | 2826 | 3081 | 3336 | 3590 | 38 | 4100 | 43 | 4609 | 4864 | 5119 | |
| 64 | 48 | 129 | 1549 | 1803 | 57 | 2312 | 2566 | 82 | 3075 | 3330 | 3584 | 3838 | 40 | 4348 | 46 | 4857 | 5111 | | |
| 65 | 49 | 154 | 1798 | 2052 | 06 | 2560 | 2815 | 06 | 3323 | 3578 | 3832 | 4085 | 43 | 4595 | 48 | 5104 | 5358 | | |
| 66 | 50 | 150 179 | 2047 | 2301 | 55 | 2809 | 3063 | 31 | 3572 | 3826 | 4080 | 4334 | 45 | 4843 | 50 | 5352 | 5606 | | |
| 67 | 51 | 204 | 2296 | 2550 | 04 | 3058 | 3312 | 56 | 3820 | 4075 | 4329 | 4582 | 48 | 5091 | 53 | 5600 | 5854 | | |
| 68 | 52 | 229 | 2546 | 2799 | 53 | 3307 | 3561 | 81 | 4068 | 4323 | 4577 | 4830 | 50 | 5339 | 55 | 5847 | 6101 | | |
| 69 | 53 | 254 | 2795 | 3048 | 02 | 3556 | 3810 | 06 | 4317 | 4572 | 4826 | 5078 | 53 | 5587 | 58 | 6095 | 6349 | | |
| 70 | 54 | 279 | 3044 | 3295 | 51 | 3805 | 4058 | 31 | 4566 | 4820 | 5075 | 5327 | 55 | 5835 | 60 | 6342 | 6596 | | |
| 71 | 55 | 304 | 3294 | 3547 | 00 | 4054 | 4307 | 56 | 4814 | 5072 | 5329 | 5585 | 58 | 6083 | 63 | 6590 | 6844 | | |
| 72 | 56 | 329 | 3543 | 3795 | 00 | 4303 | 4556 | 81 | 5063 | 5321 | 5578 | 5832 | 60 | 6331 | 65 | 6838 | 7091 | | |
| 73 | 57 | 354 | 3793 | 4046 | | 4552 | 4805 | 06 | 5314 | 5570 | 5827 | 6079 | 63 | 6579 | 68 | 7086 | 7339 | | |
| 74 | 58 | 378 | 4042 | 4295 | | 4801 | 5054 | | 5562 | 5819 | 6076 | 6326 | 65 | 6827 | 70 | 7334 | 7587 | | |
| 75 | 59 | 403 | 4292 | 4544 | | 5052 | 5303 | 06 | 5809 | 6067 | 6326 | 6576 | 68 | 7075 | 73 | 7582 | 7837 | | |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of | C. S. A. 60° | Numbers |
|---|---|---|
| 250 | 0 | 151 4789 |
| 246 | 1 | 4539 |
| 242 | 2 | 4290 |
| 238 | 3 | 4040 |
| 234 | 4 | 3791 |
| 230 | 5 | 151 3541 |
| 226 | 6 | 3292 |
| 222 | 7 | 3042 |
| 217 | 8 | 2793 |
| 213 | 9 | 2543 |
| 209 | 10 | 151 2293 |
| 205 | 11 | 2043 |
| 201 | 12 | 1793 |
| 197 | 13 | 1543 |
| 193 | 14 | 1293 |
| 189 | 15 | 151 1043 |
| 185 | 16 | 0793 |
| 181 | 17 | 0543 |
| 177 | 18 | 0293 |
| 173 | 19 | 0043 |
| 169 | 20 | 150 7793 |
| 165 | 21 | 7542 |
| 161 | 22 | 7292 |
| 157 | 23 | 7041 |
| 153 | 24 | 6791 |
| 149 | 25 | 150 6541 |
| 145 | 26 | 6290 |
| 141 | 27 | 6040 |
| 137 | 28 | 5790 |
| 133 | 29 | 5539 |
| 129 | 30 | 150 5289 |
| 125 | 31 | 5037 |
| 121 | 32 | 4786 |
| 117 | 33 | 4535 |
| 113 | 34 | 4283 |
| 109 | 35 | 150 4032 |
| 105 | 36 | 3780 |
| 101 | 37 | 3528 |
| 97 | 38 | 3276 |
| 93 | 39 | 3024 |
| 89 | 40 | 150 2772 |
| 85 | 41 | 2520 |
| 81 | 42 | 2268 |
| 77 | 43 | 2016 |
| 73 | 44 | 1764 |
| 69 | 45 | 150 1512 |
| 65 | 46 | 1260 |
| 61 | 47 | 1008 |
| 57 | 48 | 0756 |
| 53 | 49 | 0504 |
| 49 | 50 | 150 0252 |
| 45 | 51 | 0000 |
| 41 | 52 | 149 7748 |
| 37 | 53 | 7496 |
| 33 | 54 | 7244 |
| 29 | 55 | 6992 |
| 25 | 56 | 6740 |
| 21 | 57 | 6488 |
| 17 | 58 | 6236 |
| 13 | 59 | 5984 |
| 9 | 60 | 149 5732 |

| Parts for Seconds of Auxil. | AA & A. D. 60° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 150 0000 | 0252 | 0504 | 0756 | 1008 | 1260 | 1512 | 1764 | 2017 | 2269 | 2521 | 2774 | 3026 | 3278 | 3531 | 3783 | 4036 |
| 4 | 1 | 0252 | 0504 | 0756 | 1007 | 1259 | 1511 | 1763 | 2015 | 2268 | 2520 | 2772 | 3024 | 3276 | 3529 | 3781 | 4033 | 4286 |
| 8 | 2 | 0504 | 0755 | 1007 | 1259 | 1511 | 1763 | 2015 | 2267 | 2519 | 2771 | 3023 | 3275 | 3528 | 3779 | 4031 | 4284 | 4536 |
| 12 | 3 | 0756 | 1007 | 1259 | 1511 | 1762 | 2014 | 2266 | 2518 | 2770 | 3021 | 3273 | 3525 | 3777 | 4029 | 4281 | 4534 | 4786 |
| 17 | 4 | 1008 | 1259 | 1511 | 1762 | 2014 | 2265 | 2517 | 2769 | 3021 | 3272 | 3524 | 3776 | 4028 | 4280 | 4532 | 4784 | 5036 |
| 21 | 5 | 150 1260 | 1511 | 1763 | 2014 | 2265 | 2517 | 2768 | 3020 | 3272 | 3523 | 3775 | 4027 | 4279 | 4530 | 4782 | 5034 | 5286 |
| 25 | 6 | 1512 | 1763 | 2015 | 2266 | 2517 | 2768 | 3020 | 3271 | 3523 | 3774 | 4026 | 4278 | 4529 | 4781 | 5033 | 5284 | 5536 |
| 29 | 7 | 1764 | 2015 | 2267 | 2518 | 2769 | 3020 | 3271 | 3523 | 3774 | 4025 | 4277 | 4529 | 4780 | 5031 | 5283 | 5535 | 5787 |
| 33 | 8 | 2017 | 2268 | 2519 | 2769 | 3021 | 3272 | 3523 | 3774 | 4025 | 4276 | 4528 | 4779 | 5030 | 5282 | 5533 | 5785 | 6037 |
| 37 | 9 | 2269 | 2520 | 2771 | 3022 | 3273 | 3524 | 3774 | 4025 | 4276 | 4528 | 4779 | 5030 | 5281 | 5533 | 5784 | 6035 | 6287 |
| 41 | 10 | 150 2521 | 2772 | 3023 | 3273 | 3524 | 3775 | 4027 | 4277 | 4528 | 4779 | 5030 | 5281 | 5532 | 5783 | 6034 | 6286 | 6537 |
| 46 | 11 | 2774 | 3024 | 3275 | 3525 | 3776 | 4027 | 4278 | 4528 | 4779 | 5030 | 5281 | 5532 | 5783 | 6034 | 6285 | 6536 | 6787 |
| 50 | 12 | 3026 | 3276 | 3527 | 3777 | 4028 | 4279 | 4529 | 4780 | 5030 | 5281 | 5532 | 5783 | 6034 | 6285 | 6535 | 6786 | 7038 |
| 54 | 13 | 3278 | 3529 | 3779 | 4029 | 4280 | 4530 | 4781 | 5031 | 5282 | 5533 | 5783 | 6034 | 6285 | 6535 | 6786 | 7037 | 7289 |
| 58 | 14 | 3531 | 3781 | 4031 | 4282 | 4532 | 4782 | 5032 | 5283 | 5533 | 5784 | 6034 | 6285 | 6536 | 6786 | 7037 | 7288 | 7539 |
| 62 | 15 | 150 3783 | 4033 | 4284 | 4534 | 4784 | 5034 | 5284 | 5535 | 5785 | 6035 | 6286 | 6536 | 6787 | 7037 | 7288 | 7538 | 7790 |
| 66 | 16 | 4036 | 4286 | 4536 | 4786 | 5036 | 5286 | 5536 | 5786 | 6036 | 6287 | 6537 | 6787 | 7038 | 7288 | 7539 | 7789 | 8040 |
| 70 | 17 | 4289 | 4538 | 4788 | 5038 | 5288 | 5538 | 5788 | 6038 | 6288 | 6538 | 6788 | 7038 | 7289 | 7539 | 7790 | 8040 | 8291 |
| 75 | 18 | 4541 | 4791 | 5041 | 5290 | 5540 | 5790 | 6040 | 6290 | 6540 | 6790 | 7040 | 7290 | 7540 | 7790 | 8041 | 8291 | 8541 |
| 79 | 19 | 4794 | 5043 | 5293 | 5543 | 5793 | 6042 | 6292 | 6542 | 6793 | 7042 | 7291 | 7541 | 7791 | 8041 | 8291 | 8541 | 8791 |
| 83 | 20 | 150 5045 | 5295 | 5545 | 5795 | 6045 | 6295 | 6544 | 6795 | 7045 | 7294 | 7544 | 7794 | 8044 | 8294 | 8544 | 8794 | 9044 |
| 87 | 21 | 5297 | 5547 | 5797 | 6047 | 6297 | 6547 | 6797 | 7047 | 7297 | 7547 | 7797 | 8047 | 8297 | 8543 | 8793 | 9043 | 9293 |
| 91 | 22 | 5550 | 5799 | 6049 | 6299 | 6549 | 6799 | 7049 | 7299 | 7549 | 7799 | 8049 | 8299 | 8545 | 8794 | 9044 | 9294 | 9543 |
| 95 | 23 | 5802 | 6051 | 6301 | 6551 | 6801 | 7051 | 7301 | 7551 | 7800 | 8050 | 8299 | 8545 | 8794 | 9044 | 9293 | 9543 | 9792 |
| 100 | 24 | 150 (151) 6054 | 6303 | 6553 | 6803 | 7053 | 7303 | 7553 | 7802 | 8052 | 8301 | 8551 | 8795 | 9045 | 9294 | 9543 | 9792 | 0042 |
| 104 | 25 | 151 (150) 6306 | 6555 | 6805 | 7055 | 7305 | 7555 | 7804 | 8053 | 8302 | 8551 | 8800 | 9049 | 9297 | 9546 | 9795 | 0045 | 0294 |
| 108 | 26 | 6558 | 6807 | 7057 | 7307 | 7557 | 7806 | 8055 | 8304 | 8553 | 8801 | 9049 | 9297 | 9546 | 9795 | 0045 | 0294 | 0547 |
| 112 | 27 | 6811 | 7059 | 7309 | 7559 | 7808 | 8057 | 8306 | 8555 | 8803 | 9051 | 9299 | 9547 | 9796 | 0045 | 0295 | 0545 | 0797 |
| 116 | 28 | 7063 | 7311 | 7560 | 7810 | 8059 | 8308 | 8557 | 8805 | 9053 | 9301 | 9550 | 9798 | 0047 | 0296 | 0546 | 0797 | 1047 |
| 120 | 29 | 7315 | 7563 | 7812 | 8061 | 8310 | 8559 | 8807 | 9055 | 9303 | 9552 | 9800 | 0049 | 0297 | 0546 | 0797 | 1047 | 1297 |
| 124 | 30 | 150 (151) 7567 | 7815 | 8063 | 8312 | 8561 | 8809 | 9057 | 9305 | 9554 | 9802 | 0051 | 0299 | 0548 | 0797 | 1047 | 1297 | 1547 |
| 128 | 31 | 7830 | 8078 | 8326 | 8574 | 8822 | 9070 | 9318 | 9566 | 9815 | 0063 | 0311 | 0560 | 0808 | 1057 | 1305 | 1554 | 1802 |
| 133 | 32 | 8083 | 8331 | 8579 | 8827 | 9075 | 9323 | 9571 | 9819 | 0067 | 0315 | 0563 | 0812 | 1060 | 1308 | 1557 | 1805 | 2054 |
| 137 | 33 | 8336 | 8584 | 8832 | 9080 | 9328 | 9576 | 9824 | 0071 | 0319 | 0567 | 0815 | 1064 | 1312 | 1560 | 1808 | 2057 | 2305 |
| 141 | 34 | 8589 | 8837 | 9085 | 9333 | 9581 | 9829 | 0076 | 0324 | 0571 | 0819 | 1067 | 1315 | 1564 | 1812 | 2060 | 2308 | 2556 |
| 145 | 35 | 150 (151) 8841 | 9089 | 9337 | 9585 | 9833 | 0081 | 0328 | 0576 | 0824 | 1072 | 1316 | 1567 | 1815 | 2063 | 2311 | 2559 | 2808 |
| 149 | 36 | 9093 | 9341 | 9589 | 9837 | 0085 | 0333 | 0581 | 0829 | 1076 | 1324 | 1572 | 1820 | 2067 | 2315 | 2563 | 2811 | 3060 |
| 153 | 37 | 9345 | 9593 | 9841 | 0089 | 0337 | 0585 | 0833 | 1081 | 1329 | 1576 | 1824 | 2071 | 2319 | 2567 | 2815 | 3062 | 3311 |
| 157 | 38 | 9597 | 9845 | 0093 | 0341 | 0589 | 0837 | 1085 | 1333 | 1581 | 1828 | 2076 | 2323 | 2571 | 2819 | 3067 | 3314 | 3562 |
| 161 | 39 | 9849 | 0097 | 0345 | 0593 | 0841 | 1089 | 1337 | 1585 | 1832 | 2080 | 2327 | 2575 | 2823 | 3071 | 3318 | 3566 | 3813 |
| 165 | 40 | 150 (151) 0101 | 0349 | 0597 | 0845 | 1093 | 1341 | 1589 | 1836 | 2084 | 2331 | 2579 | 2827 | 3075 | 3322 | 3570 | 3817 | 4065 |
| 170 | 41 | 0364 | 0611 | 0857 | 1104 | 1351 | 1598 | 1845 | 2092 | 2339 | 2586 | 2833 | 3080 | 3327 | 3574 | 3822 | 4069 | 4316 |
| 174 | 42 | 0617 | 0864 | 1110 | 1357 | 1604 | 1851 | 2098 | 2345 | 2592 | 2839 | 3086 | 3333 | 3580 | 3827 | 4074 | 4321 | 4569 |
| 178 | 43 | 0871 | 1118 | 1364 | 1611 | 1857 | 2104 | 2351 | 2597 | 2844 | 3091 | 3338 | 3585 | 3831 | 4078 | 4325 | 4571 | 4818 |
| 183 | 44 | 1124 | 1371 | 1617 | 1864 | 2110 | 2357 | 2603 | 2850 | 3097 | 3344 | 3591 | 3837 | 4084 | 4331 | 4577 | 4824 | 5071 |
| 187 | 45 | 1377 | 1624 | 1870 | 2117 | 2363 | 2610 | 2856 | 3103 | 3350 | 3597 | 3843 | 4090 | 4337 | 4583 | 4830 | 5077 | 5324 |
| 191 | 46 | 1633 | 1879 | 2125 | 2371 | 2617 | 2863 | 3110 | 3356 | 3602 | 3849 | 4095 | 4342 | 4588 | 4835 | 5081 | 5328 | 5575 |
| 195 | 47 | 1886 | 2132 | 2378 | 2624 | 2870 | 3116 | 3362 | 3608 | 3855 | 4101 | 4348 | 4594 | 4841 | 5087 | 5334 | 5581 | 5828 |
| 199 | 48 | 2140 | 2386 | 2632 | 2878 | 3123 | 3369 | 3615 | 3861 | 4107 | 4354 | 4600 | 4847 | 5093 | 5340 | 5587 | 5834 | 6081 |
| 203 | 49 | 2394 | 2640 | 2886 | 3131 | 3377 | 3623 | 3869 | 4115 | 4361 | 4607 | 4853 | 5100 | 5346 | 5593 | 5840 | 6087 | 6334 |
| 207 | 50 | 151 2648 | 2894 | 3139 | 3385 | 3631 | 3876 | 4122 | 4368 | 4614 | 4860 | 5106 | 5352 | 5598 | 5844 | 6090 | 6336 | 6582 |
| 211 | 51 | 2902 | 3148 | 3393 | 3639 | 3884 | 4130 | 4376 | 4622 | 4868 | 5114 | 5360 | 5606 | 5851 | 6097 | 6343 | 6589 | 6835 |
| 215 | 52 | 3156 | 3402 | 3647 | 3892 | 4138 | 4384 | 4630 | 4876 | 5122 | 5368 | 5614 | 5859 | 6105 | 6351 | 6597 | 6843 | 7089 |
| 220 | 53 | 3410 | 3656 | 3901 | 4146 | 4391 | 4637 | 4882 | 5128 | 5373 | 5619 | 5865 | 6111 | 6357 | 6603 | 6849 | 7095 | 7342 |
| 224 | 54 | 3665 | 3910 | 4155 | 4400 | 4646 | 4891 | 5137 | 5382 | 5628 | 5874 | 6120 | 6366 | 6612 | 6858 | 7104 | 7350 | 7596 |
| 228 | 55 | 151 3919 | 4164 | 4409 | 4655 | 4900 | 5146 | 5391 | 5637 | 5883 | 6129 | 6375 | 6621 | 6867 | 7113 | 7359 | 7605 | 7851 |
| 232 | 56 | 4173 | 4418 | 4664 | 4909 | 5155 | 5400 | 5646 | 5892 | 6138 | 6384 | 6630 | 6876 | 7122 | 7368 | 7614 | 7860 | 8106 |
| 236 | 57 | 4427 | 4673 | 4918 | 5164 | 5409 | 5655 | 5901 | 6147 | 6393 | 6639 | 6885 | 7131 | 7377 | 7623 | 7869 | 8115 | 8361 |
| 240 | 58 | 4682 | 4927 | 5173 | 5418 | 5664 | 5910 | 6156 | 6402 | 6648 | 6894 | 7140 | 7386 | 7632 | 7878 | 8124 | 8370 | 8616 |
| 244 | 59 | 4936 | 5182 | 5427 | 5673 | 5919 | 6165 | 6411 | 6657 | 6903 | 7149 | 7395 | 7641 | 7887 | 8133 | 8379 | 8625 | 8871 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Addit. Argum. additive | S.A.A. & A.D. | Auxiliary Arguments. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 150 | 4280 | 4541 | 4794 | 5047 | 53[illegible] | 5552 | [illegible] | [illegible] | 6564 | 6817 | 7070 | [illegible] | 7576 | 7830 | [illegible] | [illegible] |
| 4 | 1 | | 4538 | 4791 | 5043 | 5296 | 5549 | 5801 | 6054 | 6307 | 6560 | 6813 | 7066 | 7318 | 7572 | 7825 | 8078 | 8331 | 8584 |
| 8 | 2 | | 4788 | 5041 | 5293 | 5546 | 5799 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 13 | 3 | | 5038 | 5290 | 5543 | 5795 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 17 | 4 | | 5288 | 5540 | 5792 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 21 | 5 | 150 | 5538 | 5790 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 6 | | 5788 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | 7 | 150 (151) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | 8 | | 6288 | 6540 | 6791 | 7043 | 7295 | 7547 | 7798 | 8050 | 8302 | 8554 | 8806 | 9058 | 9310 | 9563 | 9815 | 0067 | 0319 |
| 37 | 9 | | 6538 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | 10 | 150 (151) | 6788 | 7040 | 7291 | 7543 | 7794 | 8046 | 8297 | 8549 | 8800 | 9052 | 9304 | 9556 | 9808 | 0059 | 0311 | 0563 | 0815 |
| 46 | 11 | | 7038 | 7290 | 7541 | 7792 | 8044 | 8295 | 8547 | 8798 | 9050 | 9301 | 9553 | 9805 | 0056 | 0308 | 0560 | 0812 | 1064 |
| 50 | 12 | | 7288 | 7540 | 7791 | 8042 | 8293 | 8545 | 8796 | 9047 | 9299 | 9550 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 13 | | 7539 | 7790 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 58 | 14 | | 7789 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 62 | 15 | 150 (151) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1051 | 1303 | 1554 | 1805 | 2057 | |
| 66 | 16 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1300 | 1551 | 1802 | 2054 | 2305 | |
| 71 | 17 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 75 | 18 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 79 | 19 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 83 | 20 | 150 (151) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 87 | 21 | | 0546 | 0798 | 1048 | 1298 | 1548 | 1798 | 2048 | 2298 | 2548 | 2798 | 3048 | 3298 | 3548 | 3798 | [illegible] | [illegible] | |
| 91 | 22 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 96 | 23 | 151 | 0044 | 0294 | 0544 | 0793 | 1043 | 1293 | 1543 | 1793 | 2043 | 2293 | 2543 | 2793 | 3043 | 3294 | 3544 | 3794 | 4045 |
| 100 | 24 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 104 | 25 | 151 | 0545 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 108 | 26 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 112 | 27 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 116 | 28 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 120 | 29 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 125 | 30 | 151 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 129 | 31 | | 2051 | 2300 | 2549 | 2797 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 133 | 32 | | 2302 | 2551 | 2799 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 137 | 33 | | 2553 | 2802 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 141 | 34 | | 2804 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 145 | 35 | 151 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 149 | 36 | | 3307 | 3555 | 3803 | 4051 | 4299 | 4548 | 4796 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 154 | 37 | | 3558 | 3806 | 4054 | 4302 | 4550 | 4798 | 5046 | 5295 | 5543 | 5791 | 6039 | 6288 | 6536 | 6784 | 7033 | 7281 | 7530 |
| 158 | 38 | | 3809 | 4057 | 4305 | 4553 | 4801 | 5049 | 5297 | 5545 | 5793 | 6041 | 6289 | 6537 | 6786 | 7034 | 7282 | 7531 | [illegible] |
| 162 | 39 | | 4061 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 166 | 40 | 151 | 4312 | 4560 | 4807 | 5055 | 5303 | 5550 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 170 | 41 | | 4564 | 4811 | 5059 | 5306 | 5554 | 5801 | 6049 | 6296 | 6544 | 6792 | 7040 | 7288 | 7535 | 7783 | 8031 | [illegible] | |
| 174 | 42 | | 4815 | 5062 | 5310 | 5557 | 5805 | 6052 | 6299 | 6547 | 6795 | 7042 | 7290 | 7538 | 7785 | 8033 | 8281 | [illegible] | |
| 179 | 43 | | 5067 | 5314 | 5561 | 5808 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 183 | 44 | | 5318 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 187 | 45 | 151 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 191 | 46 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 195 | 47 | 151 (152) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 199 | 48 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 203 | 49 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 208 | 50 | 151 (152) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 212 | 51 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 216 | 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 220 | 53 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 224 | 54 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 229 | 55 | 151 (152) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 233 | 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 237 | 57 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 241 | 58 | | 8844 | 9096 | 9335 | 9586 | 9825 | 0071 | 0316 | 0562 | 0807 | 1053 | 1299 | 1544 | 1790 | 2036 | 2281 | 2527 | 2773 |
| [illegible] | 59 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| P. add. | ′ | (a) | Sums |
|---|---|---|---|
| 0 | 0 | 150 | 0000 |
| 4 | 1 | | 0252 |
| 8 | 2 | | 0504 |
| 13 | 3 | | 0756 |
| 17 | 4 | | 1008 |
| 21 | 5 | 150 | 1260 |
| 25 | 6 | | 1512 |
| 29 | 7 | | 1764 |
| 34 | 8 | | 2017 |
| 38 | 9 | | 2269 |
| 42 | 10 | 150 | 2521 |
| 46 | 11 | | 2774 |
| 51 | 12 | | 3026 |
| 55 | 13 | | 3278 |
| 59 | 14 | | 3531 |
| 63 | 15 | 150 | 3783 |
| 68 | 16 | | 4035 |
| 72 | 17 | | 4288 |
| 76 | 18 | | 4541 |
| 80 | 19 | | 4793 |
| 84 | 20 | 150 | 5047 |
| 88 | 21 | | 5300 |
| 93 | 22 | | 5553 |
| 97 | 23 | | 5806 |
| 101 | 24 | | 6059 |
| 105 | 25 | 151 | 6312 |
| 109 | 26 | | 6565 |
| 113 | 27 | | 6818 |
| 118 | 28 | | 7071 |
| 122 | 29 | | 7325 |
| 126 | 30 | 151 | 7578 |
| 130 | 31 | | 7832 |
| 134 | 32 | | 8085 |
| 138 | 33 | | 8339 |
| 142 | 34 | | 8592 |
| 147 | 35 | 151 | 8846 |
| 151 | 36 | | 9100 |
| 155 | 37 | | 9354 |
| 159 | 38 | | 9608 |
| 163 | 39 | | 9862 |
| 167 | 40 | 151 | 0116 |
| 171 | 41 | | 0370 |
| 175 | 42 | | 0624 |
| 179 | 43 | | 0878 |
| 183 | 44 | | 1132 |
| 188 | 45 | 151 | 1387 |
| 192 | 46 | | 1641 |
| 196 | 47 | 151 (152) | 1896 |
| 200 | 48 | | 2150 |
| 204 | 49 | | 2405 |
| 209 | 50 | 151 (152) | 2659 |
| 213 | 51 | | 2914 |
| 217 | 52 | | 3169 |
| 221 | 53 | | 3424 |
| 225 | 54 | | 3679 |
| 230 | 55 | 151 (152) | 3934 |
| 234 | 56 | | 4189 |
| 238 | 57 | | 4444 |
| 242 | 58 | | 4699 |
| 246 | 59 | | 4955 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances - - - - -
} and Auxiliary Arguments.

| Page | 61 | Numbers |
|---|---|---|
| 204 | 52 | 0590 |
| 210 | 53 | 6335 |
| 216 | 54 | 6081 |
| 220 | 55 | 5827 |
| 224 | 56 | 5573 |
| 228 | 57 | 5318 |
| 232 | 58 | 5064 |
| 236 | 59 | 4810 |

| Page | Auxiliary Arguments. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 204 | 52 | | | | | | | | | | | | | | | | |
| 210 | 53 | | | | | | | 8475 | 8713 | 8950 | 9188 | 9 | | | | | |
| 216 | 54 | | | | | | | 8732 | 8969 | 9206 | 9444 | 9682 | 9919 | 0157 | 0395 | 0632 | 0870 | 1108 | 1346 | 1584 | 1822 | 2060 | 229 |
| 220 | 55 | | | | | | | 8988 | 9225 | 9463 | 9700 | 9938 | 0175 | 0413 | 0650 | 0888 | 1125 | 1363 | 1601 | 1839 | 2077 | 2314 | 2552 | |
| 224 | 56 | | | | | | 152 (153) | 9245 | 9482 | 9719 | 9956 | 0194 | 0431 | 0668 | 0906 | 1143 | 1381 | 1618 | 1856 | 2094 | 2331 | 2569 | 2807 | |
| 228 | 57 | | | | | | | 9501 | 9738 | 9976 | 0213 | 0450 | 0687 | 0924 | 1162 | 1399 | 1636 | 1874 | 2111 | 2349 | 2586 | 2824 | 3062 | 3299 |
| 232 | 58 | | | | | | | 9758 | 9995 | 0232 | 0469 | 0706 | 0943 | 1180 | 1418 | 1655 | 1892 | 2129 | 2367 | 2604 | 2841 | 3079 | 3316 | 3554 |
| 236 | 59 | | | | | | | 0015 | 0252 | 0488 | 0725 | 0962 | 1199 | 1436 | 1673 | 1910 | 2148 | 2385 | 2622 | 2859 | 3096 | 3334 | 3571 | 3809 |
| | | | | | | | | 0272 | 0508 | 0745 | 0982 | 1219 | 1455 | 1692 | 1929 | 2166 | 2403 | 2640 | 2877 | 3114 | 3352 | 3589 | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Correctional Diameters.

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. of C.S.A. addit. | C.S.A. 62° | Numbers |
|---|---|---|
| | ′ | |
| 255 | 0 | 148 4555 |
| 251 | 1 | 4301 |
| 247 | 2 | 4047 |
| 243 | 3 | 3792 |
| 238 | 4 | 3537 |
| 234 | 5 | 148 3282 |
| 230 | 6 | 3026 |
| 226 | 7 | 2771 |
| 221 | 8 | 2515 |
| 217 | 9 | 2259 |
| 213 | 10 | 148 2003 |
| 209 | 11 | 1754 |
| 204 | 12 | 1499 |
| 200 | 13 | 1244 |
| 196 | 14 | 0988 |
| 192 | 15 | 147 0734 |
| 187 | 16 | 0479 |
| 183 | 17 | 0223 |
| 179 | 18 | 147 0968 |
| 175 | 19 | 0713 |
| 171 | 20 | 147 0458 |
| 166 | 21 | 0203 |
| 162 | 22 | 8947 |
| 158 | 23 | 8692 |
| 153 | 24 | 8437 |
| 149 | 25 | 147 8181 |
| 145 | 26 | 7926 |
| 141 | 27 | 7671 |
| 136 | 28 | 7414 |
| 132 | 29 | 7159 |
| [illegible] | 30 | 147 [illegible] |
| [illegible] | 31 | [illegible] |
| [illegible] | 32 | [illegible] |
| [illegible] | 33 | [illegible] |
| [illegible] | 34 | [illegible] |
| [illegible] | 35 | 147 [illegible] |
| [illegible] | 36 | [illegible] |
| [illegible] | 37 | [illegible] |
| [illegible] | 38 | [illegible] |
| [illegible] | 39 | [illegible] |
| [illegible] | 40 | 147 [illegible] |
| [illegible] | 41 | [illegible] |
| [illegible] | 42 | [illegible] |
| [illegible] | 43 | [illegible] |
| [illegible] | 44 | [illegible] |
| [illegible] | 45 | 146 [illegible] |
| [illegible] | 46 | [illegible] |
| [illegible] | 47 | [illegible] |
| [illegible] | 48 | [illegible] |
| [illegible] | 49 | [illegible] |
| [illegible] | 50 | 146 [illegible] |
| [illegible] | 51 | [illegible] |
| [illegible] | 52 | [illegible] |
| [illegible] | 53 | [illegible] |
| [illegible] | 54 | [illegible] |
| [illegible] | 55 | 146 [illegible] |
| [illegible] | 56 | [illegible] |
| [illegible] | 57 | [illegible] |
| [illegible] | 58 | [illegible] |
| [illegible] | 59 | [illegible] |
| [illegible] | 60 | 146 [illegible] |

| Parts for Seconds of A.A. & A. D. additive | A.A. & A. D. 62° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 153 0528 | 0765 | 1001 | 1238 | 1475 | 1711 | 1948 | 2185 | 2422 | 2658 | 2895 | 3132 | 3369 | 3605 | 3842 | 4079 | 4316 |
| 4 | 1 | 0785 | 1022 | 1258 | 1495 | 1731 | 1968 | 2204 | 2441 | 2678 | 2915 | 3151 | 3388 | 3625 | 3862 | 4099 | 4336 | 4573 |
| 8 | 2 | 1042 | 1278 | 1515 | 1751 | 1988 | 2224 | 2460 | 2697 | 2934 | 3170 | 3407 | 3644 | 3880 | 4117 | 4354 | 4591 | 4828 |
| 12 | 3 | 1299 | 1535 | 1771 | 2008 | 2244 | 2480 | 2717 | 2953 | 3190 | 3426 | 3663 | 3899 | 4136 | 4372 | 4609 | 4846 | 5082 |
| 16 | 4 | 1556 | 1792 | 2028 | 2264 | 2500 | 2737 | 2973 | 3209 | 3445 | 3682 | 3918 | 4155 | 4391 | 4628 | 4864 | 5101 | 5337 |
| 19 | 5 | 1813 | 2049 | 2285 | 2521 | 2757 | 2993 | 3229 | 3465 | 3701 | 3938 | 4174 | 4410 | 4647 | 4883 | 5119 | 5356 | 5592 |
| 23 | 6 | 2070 | 2306 | 2542 | 2778 | 3013 | 3249 | 3485 | 3721 | 3957 | 4194 | 4430 | 4666 | 4902 | 5138 | 5375 | 5611 | 5847 |
| 27 | 7 | 2327 | 2563 | 2799 | 3034 | 3270 | 3506 | 3742 | 3978 | 4214 | 4450 | 4686 | 4921 | 5158 | 5394 | 5630 | 5866 | 6102 |
| 31 | 8 | 2584 | 2820 | 3055 | 3291 | 3527 | 3762 | 3998 | 4234 | 4470 | 4706 | 4941 | 5177 | 5413 | 5649 | 5885 | 6121 | 6357 |
| 35 | 9 | 2841 | 3077 | 3312 | 3548 | 3783 | 4019 | 4254 | 4490 | 4726 | 4962 | 5197 | 5433 | 5669 | 5905 | 6141 | 6377 | 6613 |
| 39 | 10 | 153 3098 | 3334 | 3569 | 3805 | 4040 | 4275 | 4511 | 4747 | 4982 | 5218 | 5453 | 5689 | 5924 | 6160 | 6396 | 6632 | 6868 |
| 43 | 11 | 3355 | 3591 | 3826 | 4062 | 4297 | 4532 | 4767 | 5003 | 5238 | 5474 | 5709 | 5945 | 6180 | 6416 | 6651 | 6887 | 7123 |
| 47 | 12 | 3613 | 3848 | 4083 | 4318 | 4554 | 4789 | 5024 | 5259 | 5494 | 5730 | 5965 | 6201 | 6436 | 6671 | 6907 | 7142 | 7378 |
| 51 | 13 | 3871 | 4106 | 4340 | 4575 | 4810 | 5045 | 5280 | 5516 | 5751 | 5986 | 6221 | 6456 | 6692 | 6927 | 7162 | 7398 | 7633 |
| 54 | 14 | 4128 | 4363 | 4597 | 4832 | 5067 | 5302 | 5537 | 5772 | 6007 | 6242 | 6477 | 6712 | 6947 | 7183 | 7418 | 7653 | 7888 |
| 58 | 15 | 153 4385 | 4620 | 4855 | 5089 | 5324 | 5559 | 5794 | 6029 | 6263 | 6498 | 6733 | 6968 | 7203 | 7438 | 7674 | 7909 | 8144 |
| 62 | 16 | 4643 | 4877 | 5111 | 5346 | 5581 | 5816 | 6050 | 6285 | 6520 | 6755 | 6989 | 7224 | 7459 | 7694 | 7929 | 8164 | 8399 |
| 66 | 17 | 4900 | 5134 | 5368 | 5603 | 5838 | 6072 | 6307 | 6542 | 6776 | 7011 | 7246 | 7480 | 7715 | 7950 | 8185 | 8420 | 8655 |
| 70 | 18 | 5158 | 5392 | 5626 | 5860 | 6095 | 6329 | 6564 | 6798 | 7033 | 7267 | 7502 | 7737 | 7971 | 8206 | 8441 | 8675 | 8910 |
| 74 | 19 | 5415 | 5650 | 5884 | 6118 | 6352 | 6586 | 6821 | 7055 | 7289 | 7524 | 7758 | 7993 | 8227 | 8462 | 8696 | 8931 | 9166 |
| 78 | 20 | 153 5673 | 5907 | 6141 | 6375 | 6609 | 6843 | 7077 | 7311 | 7545 | 7780 | 8014 | 8249 | 8483 | 8718 | 8952 | 9187 | 9421 |
| 82 | 21 | 5931 | 6165 | 6399 | 6633 | 6867 | 7101 | 7334 | 7568 | 7802 | 8036 | 8271 | 8505 | 8739 | 8974 | 9208 | 9444 | 9677 |
| 86 | 22 | 6188 | 6422 | 6656 | 6890 | 7123 | 7357 | 7591 | 7825 | 8059 | 8293 | 8527 | 8761 | 8995 | 9229 | 9464 | 9697 | 9933 |
| 90 | 23 | 153 (154) 0446 | 6680 | 6914 | 7148 | 7381 | 7614 | 7848 | 8082 | 8316 | 8550 | 8784 | 9018 | 9252 | 9486 | 9720 | 9954 | 0188 |
| 94 | 24 | 0704 | 7171 | 7405 | 7639 | 7872 | 8105 | 8339 | 8573 | 8807 | 9041 | 9274 | 9508 | 9742 | 9976 | 0211 | 0445 | 0679 |
| 98 | 25 | 153 (154) 0962 | 7196 | 7429 | 7663 | 7896 | 8129 | 8362 | 8596 | 8830 | 9063 | 9297 | 9530 | 9764 | 9998 | 0232 | 0466 | 0700 |
| 102 | 26 | 1220 | 7454 | 7688 | 7921 | 8154 | 8387 | 8621 | 8854 | 9087 | 9321 | 9554 | 9788 | 0021 | 0255 | 0489 | 0723 | 0957 |
| 106 | 27 | 1477 | 7711 | 7944 | 8177 | 8410 | 8643 | 8876 | 9110 | 9343 | 9576 | 9810 | 0043 | 0277 | 0510 | 0744 | 0977 | 1211 |
| 110 | 28 | 1735 | 7968 | 8201 | 8434 | 8667 | 8900 | 9134 | 9367 | 9600 | 9833 | 0066 | 0299 | 0533 | 0766 | 1000 | 1233 | 1467 |
| 113 | 29 | 7993 | 8226 | 8459 | 8692 | 8925 | 9158 | 9391 | 9624 | 9857 | 0090 | 0323 | 0556 | 0789 | 1023 | 1256 | 1489 | 1723 |
| 117 | 30 | 153 (154) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 121 | 31 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 125 | 32 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 129 | 33 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 133 | 34 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 137 | 35 | 153 (154) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 141 | 36 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 145 | 37 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 149 | 38 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 153 | 39 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 157 | 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 161 | 41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 165 | 42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 169 | 43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 173 | 44 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 175 | 45 | 154 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 176 | 46 | 2385 | 2615 | 2846 | 3077 | 3307 | 3538 | 3769 | 4000 | 4230 | 4461 | 4692 | 4923 | 5154 | 5385 | 5616 | 5847 | 6079 |
| 180 | 47 | 2643 | 2874 | 3104 | 3335 | 3565 | 3796 | 4027 | 4257 | 4488 | 4719 | 4949 | 5180 | 5411 | 5642 | 5873 | 6104 | 6335 |
| 184 | 48 | 2900 | 3132 | 3363 | 3593 | 3824 | 4054 | 4285 | 4515 | 4746 | 4976 | 5207 | 5438 | 5668 | 5899 | 6130 | 6361 | 6592 |
| 188 | 49 | 3161 | 3391 | 3621 | 3851 | 4082 | 4312 | 4543 | 4773 | 5003 | 5234 | 5464 | 5695 | 5926 | 6156 | 6387 | 6618 | 6849 |
| 192 | 50 | 154 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 196 | 51 | 3678 | 3908 | 4138 | 4368 | 4598 | 4828 | 5059 | 5289 | 5519 | 5749 | 5979 | 6210 | 6440 | 6670 | 6901 | 7131 | 7362 |
| 200 | 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 204 | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 208 | 54 | 4455 | 4685 | 4914 | 5144 | 5373 | 5603 | 5833 | 6063 | 6292 | 6522 | 6752 | 6982 | 7212 | 7442 | 7672 | 7902 | [illegible] |
| 212 | 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 216 | 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 221 | 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible]

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances

Auxiliary Arguments.

| Parts for Seconds of Auxil. Argum. additive | S.A.A. & A. D. 62° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 153 | 4555 | 4792 | 5029 | 5266 | 5503 | 5740 | 5977 | 6214 | 6451 | 6688 | 6925 | 7162 | 7399 | 7636 | 7873 | 8110 |
| 4 | 1 | | 4810 | 5047 | 5284 | 5521 | 5758 | 5996 | 6233 | 6470 | 6708 | 6945 | 7183 | 7420 | 7658 | 7895 | 8133 | 8370 | 8608 |
| 8 | 2 | | 5065 | 5303 | 5540 | 5778 | 6015 | 6253 | 6491 | 6728 | 6966 | 7204 | 7442 | 7680 | 7918 | 8156 | 8394 | 8632 | 8870 |
| 12 | 3 | | 5319 | 5557 | 5795 | 6033 | 6271 | 6509 | 6747 | 6985 | 7223 | 7461 | 7699 | 7938 | 8176 | 8414 | 8653 | 8891 | 9130 |
| 16 | 4 | | 5574 | 5811 | 6049 | 6288 | 6526 | 6765 | 7003 | 7242 | 7480 | 7719 | 7958 | 8196 | 8435 | 8674 | 8913 | 9152 | 9391 |
| 20 | 5 | 153 | 5828 | 6066 | 6305 | 6544 | 6783 | 7022 | 7261 | 7500 | 7739 | 7978 | 8217 | 8456 | 8695 | 8935 | 9174 | 9413 | 9653 |
| 24 | 6 | | 6084 | 6323 | 6562 | 6802 | 7041 | 7280 | 7520 | 7759 | 7999 | 8238 | 8478 | 8717 | 8957 | 9197 | 9436 | 9676 | 9916 |
| 28 | 7 | | 6338 | 6578 | 6818 | 7058 | 7298 | 7538 | 7778 | 8018 | 8258 | 8498 | 8738 | 8978 | 9219 | 9459 | 9699 | 9940 | 10180 |
| 32 | 8 | 153 (154) | 6593 | 6833 | 7074 | 7314 | 7555 | 7795 | 8036 | 8277 | 8517 | 8758 | 8999 | 9240 | 9481 | 9722 | 9963 | 10204 | 10445 |
| 36 | 9 | | 6847 | 7088 | 7329 | 7570 | 7811 | 8052 | 8293 | 8534 | 8775 | 9016 | 9257 | 9499 | 9740 | 9982 | 10223 | 10465 | 10707 |
| 40 | 10 | 153 (154) | 7101 | 7343 | 7584 | 7826 | 8067 | 8309 | 8551 | 8792 | 9034 | 9276 | 9518 | 9760 | 10002 | 10244 | 10487 | 10729 | 10971 |
| 44 | 11 | | 7356 | 7598 | 7840 | 8082 | 8324 | 8566 | 8808 | 9050 | 9293 | 9535 | 9777 | 10020 | 10263 | 10505 | 10748 | 10991 | 11234 |
| 48 | 12 | | 7610 | 7853 | 8095 | 8338 | 8581 | 8823 | 9066 | 9309 | 9552 | 9795 | 10038 | 10281 | 10524 | 10768 | 11011 | 11255 | 11498 |
| 52 | 13 | | 7865 | 8108 | 8351 | 8594 | 8838 | 9081 | 9324 | 9568 | 9811 | 10055 | 10299 | 10543 | 10787 | 11031 | 11275 | 11519 | 11763 |
| 56 | 14 | | 8119 | 8363 | 8607 | 8851 | 9095 | 9339 | 9583 | 9827 | 10071 | 10315 | 10560 | 10804 | 11049 | 11293 | 11538 | 11782 | 12027 |
| 60 | 15 | 153 (154) | 8374 | 8618 | 8863 | 9107 | 9352 | 9597 | 9841 | 10086 | 10331 | 10576 | 10821 | 11066 | 11311 | 11556 | 11802 | 12047 | 12292 |
| 64 | 16 | | 8628 | 8873 | 9118 | 9363 | 9608 | 9853 | 10098 | 10343 | 10589 | 10834 | 11080 | 11326 | 11572 | 11818 | 12064 | 12310 | 12556 |
| 68 | 17 | | 8883 | 9128 | 9374 | 9619 | 9865 | 10110 | 10356 | 10602 | 10848 | 11094 | 11340 | 11587 | 11833 | 12080 | 12326 | 12573 | 12820 |
| 72 | 18 | | 9137 | 9383 | 9629 | 9875 | 10121 | 10367 | 10614 | 10860 | 11107 | 11353 | 11600 | 11847 | 12094 | 12341 | 12588 | 12835 | 13083 |
| 76 | 19 | | 9392 | 9638 | 9885 | 10131 | 10378 | 10625 | 10871 | 11118 | 11365 | 11613 | 11860 | 12107 | 12355 | 12603 | 12850 | 13098 | 13346 |
| 80 | 20 | 153 (154) | 9646 | 9893 | 10140 | 10387 | 10634 | 10882 | 11129 | 11377 | 11624 | 11872 | 12120 | 12368 | 12616 | 12864 | 13113 | 13361 | 13610 |
| 84 | 21 | | 9901 | 10148 | 10396 | 10644 | 10892 | 11140 | 11388 | 11636 | 11884 | 12132 | 12381 | 12629 | 12878 | 13127 | 13376 | 13625 | 13874 |
| 88 | 22 | 154 | 10157 | 10405 | 10653 | 10902 | 11150 | 11399 | 11648 | 11896 | 12145 | 12394 | 12643 | 12892 | 13141 | 13391 | 13640 | 13890 | 14139 |
| 92 | 23 | | 10412 | 10661 | 10910 | 11159 | 11408 | 11658 | 11907 | 12157 | 12406 | 12656 | 12906 | 13156 | 13406 | 13656 | 13906 | 14156 | 14406 |
| 96 | 24 | | 10668 | 10917 | 11167 | 11417 | 11667 | 11917 | 12167 | 12417 | 12668 | 12918 | 13169 | 13419 | 13670 | 13921 | 14172 | 14423 | 14674 |
| 100 | 25 | 154 | 10923 | 11173 | 11424 | 11674 | 11925 | 12176 | 12427 | 12678 | 12929 | 13180 | 13432 | 13683 | 13935 | 14187 | 14439 | 14691 | 14943 |
| 104 | 26 | | 11178 | 11429 | 11681 | 11932 | 12184 | 12436 | 12688 | 12940 | 13192 | 13444 | 13696 | 13948 | 14201 | 14453 | 14706 | 14959 | 15212 |
| 108 | 27 | | 11434 | 11686 | 11938 | 12190 | 12443 | 12695 | 12948 | 13201 | 13454 | 13707 | 13960 | 14214 | 14467 | 14721 | 14975 | 15229 | 15483 |
| 112 | 28 | | 11690 | 11943 | 12196 | 12449 | 12702 | 12956 | 13209 | 13463 | 13717 | 13971 | 14225 | 14479 | 14734 | 14989 | 15244 | 15499 | 15754 |
| 116 | 29 | | 11946 | 12200 | 12454 | 12708 | 12962 | 13217 | 13471 | 13726 | 13981 | 14236 | 14491 | 14746 | 15002 | 15258 | 15514 | 15770 | 16026 |
| 120 | 30 | 154 | 12203 | 12458 | 12713 | 12968 | 13223 | 13479 | 13735 | 13991 | 14247 | 14503 | 14760 | 15017 | 15274 | 15531 | 15788 | 16046 | 16303 |
| 124 | 31 | | 12460 | 12716 | 12972 | 13228 | 13485 | 13742 | 13999 | 14256 | 14513 | 14771 | 15029 | 15287 | 15545 | 15804 | 16062 | 16321 | 16580 |
| 128 | 32 | | 12717 | 12974 | 13232 | 13490 | 13748 | 14006 | 14265 | 14523 | 14782 | 15041 | 15300 | 15559 | 15819 | 16079 | 16339 | 16599 | 16859 |
| 132 | 33 | | 12975 | 13234 | 13493 | 13753 | 14012 | 14272 | 14532 | 14792 | 15052 | 15313 | 15573 | 15834 | 16095 | 16356 | 16617 | 16878 | 17140 |
| 136 | 34 | | 13234 | 13494 | 13755 | 14015 | 14276 | 14537 | 14798 | 15060 | 15322 | 15584 | 15847 | 16109 | 16372 | 16635 | 16898 | 17161 | 17425 |
| 140 | 35 | 154 | 13493 | 13755 | 14017 | 14279 | 14541 | 14803 | 15065 | 15328 | 15591 | 15855 | 16119 | 16383 | 16647 | 16912 | 17177 | 17442 | 17707 |
| 144 | 36 | | 13753 | 14016 | 14279 | 14543 | 14807 | 15071 | 15335 | 15600 | 15865 | 16130 | 16395 | 16661 | 16927 | 17193 | 17459 | 17725 | 17991 |
| 148 | 37 | | 14013 | 14277 | 14542 | 14807 | 15072 | 15337 | 15603 | 15869 | 16135 | 16402 | 16669 | 16936 | 17203 | 17471 | 17739 | 18007 | 18276 |
| 152 | 38 | | 14274 | 14539 | 14805 | 15071 | 15338 | 15605 | 15872 | 16140 | 16408 | 16676 | 16945 | 17213 | 17482 | 17751 | 18020 | 18290 | 18560 |
| 156 | 39 | | 14535 | 14801 | 15068 | 15335 | 15603 | 15871 | 16140 | 16409 | 16679 | 16949 | 17220 | 17490 | 17761 | 18032 | 18303 | 18574 | 18846 |
| 160 | 40 | 154 | 14797 | 15064 | 15332 | 15600 | 15869 | 16138 | 16408 | 16679 | 16950 | 17222 | 17494 | 17767 | 18040 | 18313 | 18587 | 18861 | 19135 |
| 164 | 41 | | 15059 | 15328 | 15597 | 15867 | 16136 | 16406 | 16677 | 16948 | 17220 | 17493 | 17766 | 18040 | 18314 | 18589 | 18864 | 19140 | 19416 |
| 168 | 42 | | 15322 | 15592 | 15862 | 16133 | 16404 | 16675 | 16947 | 17220 | 17493 | 17767 | 18042 | 18317 | 18593 | 18869 | 19146 | 19423 | 19700 |
| 172 | 43 | | 15586 | 15857 | 16128 | 16400 | 16672 | 16945 | 17218 | 17492 | 17767 | 18043 | 18319 | 18596 | 18873 | 19151 | 19429 | 19708 | 19986 |
| 176 | 44 | 154 | 15851 | 16123 | 16396 | 16669 | 16942 | 17216 | 17490 | 17765 | 18041 | 18317 | 18594 | 18872 | 19150 | 19429 | 19708 | 19988 | 20268 |
| 180 | 45 | | 16117 | 16390 | 16664 | 16938 | 17213 | 17488 | 17764 | 18040 | 18316 | 18593 | 18871 | 19149 | 19428 | 19707 | 19987 | 20268 | 20549 |
| 184 | 46 | 154 (155) | 16384 | 16658 | 16933 | 17208 | 17484 | 17760 | 18037 | 18314 | 18592 | 18870 | 19149 | 19428 | 19708 | 19988 | 20269 | 20551 | 20833 |
| 188 | 47 | | 16652 | 16928 | 17204 | 17480 | 17757 | 18034 | 18312 | 18590 | 18869 | 19148 | 19428 | 19709 | 19990 | 20271 | 20553 | 20836 | 21119 |
| 192 | 48 | | 16922 | 17199 | 17476 | 17754 | 18032 | 18310 | 18589 | 18868 | 19148 | 19428 | 19709 | 19991 | 20273 | 20556 | 20839 | 21123 | 21407 |
| 196 | 49 | | 17193 | 17471 | 17750 | 18029 | 18308 | 18588 | 18868 | 19148 | 19429 | 19710 | 19992 | 20274 | 20557 | 20840 | 21124 | 21408 | 21693 |
| 200 | 50 | 154 (155) | 17465 | 17744 | 18024 | 18304 | 18585 | 18866 | 19147 | 19429 | 19711 | 19993 | 20276 | 20559 | 20843 | 21127 | 21412 | 21697 | 21983 |
| 204 | 51 | | 17738 | 18019 | 18300 | 18582 | 18864 | 19146 | 19428 | 19711 | 19994 | 20277 | 20560 | 20844 | 21128 | 21413 | 21698 | 21984 | 22271 |
| 208 | 52 | | 18013 | 18296 | 18579 | 18862 | 19145 | 19428 | 19712 | 19995 | 20279 | 20563 | 20847 | 21132 | 21417 | 21702 | 21988 | 22274 | 22561 |
| 212 | 53 | | 18289 | 18574 | 18859 | 19144 | 19429 | 19714 | 19999 | 20284 | 20569 | 20854 | 21139 | 21424 | 21709 | 21995 | 22281 | 22568 | 22855 |
| 216 | 54 | | 18567 | 18853 | 19139 | 19426 | 19713 | 20000 | 20287 | 20574 | 20861 | 21148 | 21435 | 21722 | 22009 | 22296 | 22583 | 22870 | 23158 |
| 220 | 55 | 154 (155) | 18847 | 19134 | 19421 | 19708 | 19995 | 20282 | 20569 | 20856 | 21143 | 21430 | 21717 | 22004 | 22291 | 22578 | 22865 | 23152 | 23439 |
| 224 | 56 | | 19128 | 19416 | 19704 | 19992 | 20280 | 20568 | 20856 | 21144 | 21432 | 21720 | 22008 | 22296 | 22584 | 22872 | 23160 | 23448 | 23736 |
| 228 | 57 | | 19411 | 19700 | 19989 | 20278 | 20567 | 20856 | 21145 | 21434 | 21723 | 22012 | 22301 | 22590 | 22879 | 23168 | 23457 | 23746 | 24035 |
| 232 | 58 | | 19695 | 19985 | 20275 | 20565 | 20855 | 21145 | 21435 | 21725 | 22015 | 22305 | 22595 | 22885 | 23175 | 23465 | 23755 | 24045 | 24335 |
| 236 | 59 | | 19981 | 20272 | 20563 | 20854 | 21145 | 21436 | 21727 | 22018 | 22309 | 22600 | 22891 | 23182 | 23473 | 23764 | 24055 | 24346 | 24637 |

| Parts for Sec. of C. D. additive | ″ | Sums |
|---|---|---|
| ′ | | |
| 0 | 0 | 452 6348 |
| 4 | 1 | 452 6581 |
| 8 | 2 | 452 6814 |
| 12 | 3 | 452 7047 |
| 16 | 4 | 452 7281 |
| 20 | 5 | 452 7514 |
| 24 | 6 | 452 7747 |
| 28 | 7 | 452 7980 |
| 32 | 8 | 452 8214 |
| 36 | 9 | 452 8447 |
| 40 | 10 | 452 8680 |
| 44 | 11 | 452 8913 |
| 48 | 12 | 452 9146 |
| 52 | 13 | 452 9379 |
| 56 | 14 | 452 9612 |
| 60 | 15 | 452 9845 |
| 64 | 16 | 453 0078 |
| 68 | 17 | 453 0311 |
| 72 | 18 | 453 0544 |
| 76 | 19 | 453 0777 |
| 80 | 20 | 453 1010 |
| 84 | 21 | 453 1243 |
| 88 | 22 | 453 1476 |
| 92 | 23 | 453 1709 |
| 96 | 24 | 453 1942 |
| 100 | 25 | 453 2175 |
| 104 | 26 | 453 2408 |
| 108 | 27 | 453 2641 |
| 112 | 28 | 453 2874 |
| 116 | 29 | 453 3107 |
| 120 | 30 | 453 3340 |
| 124 | 31 | 453 3573 |
| 128 | 32 | 453 3806 |
| 132 | 33 | 453 4039 |
| 136 | 34 | 453 4272 |
| 140 | 35 | 453 4505 |
| 144 | 36 | 453 4738 |
| 148 | 37 | 453 4971 |
| 152 | 38 | 453 5204 |
| 156 | 39 | 453 5437 |
| 160 | 40 | 453 5670 |
| 164 | 41 | 453 5903 |
| 168 | 42 | 453 6136 |
| 172 | 43 | 453 6369 |
| 176 | 44 | 453 6602 |
| 180 | 45 | 453 6835 |
| 184 | 46 | 453 7068 |
| 188 | 47 | 453 7301 |
| 192 | 48 | 453 7534 |
| 196 | 49 | 453 7767 |
| 200 | 50 | 453 8000 |
| 204 | 51 | 453 8233 |
| 208 | 52 | 453 8466 |
| 212 | 53 | 453 8699 |
| 216 | 54 | 453 8932 |
| 220 | 55 | 453 9165 |
| 224 | 56 | 453 9398 |
| 228 | 57 | 453 9631 |
| 232 | 58 | 453 9864 |
| 236 | 59 | 454 0097 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Parts for Sec. of | C.S.A 63° | Numbers |
|---|---|---|
| | ′ | |
| 0 | 0 | 146 0215 |
| 1 | 1 | 5058 |
| 2 | 2 | 8701 |
| 3 | 3 | 8344 |
| 4 | 4 | 5987 |
| 5 | 5 | 146 7630 |
| 6 | 6 | 7273 |
| 7 | 7 | 7416 |
| 8 | 8 | 7558 |
| 9 | 9 | 6201 |
| 10 | 10 | 146 6844 |
| 11 | 11 | 6486 |
| 12 | 12 | 6129 |
| 13 | 13 | 5772 |
| 14 | 14 | 5615 |
| 15 | 15 | 146 5357 |
| 16 | 16 | 5100 |
| 17 | 17 | 4842 |
| 18 | 18 | 4584 |
| 19 | 19 | 4327 |
| 20 | 20 | 146 4070 |
| 21 | 21 | 3812 |
| 22 | 22 | 3554 |
| 23 | 23 | 3296 |
| 24 | 24 | 3038 |
| 25 | 25 | 146 2781 |
| 26 | 26 | 2523 |
| 27 | 27 | 2265 |
| 28 | 28 | 2007 |
| 29 | 29 | 1749 |
| 30 | 30 | 146 1491 |
| 31 | 31 | 1234 |
| 32 | 32 | 0974 |
| 33 | 33 | 0716 |
| 34 | 34 | 0458 |
| 35 | 35 | 146 0200 |
| 36 | 36 | 145 9942 |
| 37 | 37 | 9683 |
| 38 | 38 | 9425 |
| 39 | 39 | 9167 |
| 40 | 40 | 145 8908 |
| 41 | 41 | 8650 |
| 42 | 42 | 8391 |
| 43 | 43 | 8133 |
| 44 | 44 | 7874 |
| 45 | 45 | 145 7615 |
| 46 | 46 | 7357 |
| 47 | 47 | 7098 |
| 48 | 48 | 6839 |
| 49 | 49 | 6581 |
| 50 | 50 | 145 6322 |
| 51 | 51 | 6063 |
| 52 | 52 | 5804 |
| 53 | 53 | 5545 |
| 54 | 54 | 5286 |
| 55 | 55 | 145 5027 |
| 56 | 56 | 4768 |
| 57 | 57 | 4509 |
| 58 | 58 | 4250 |
| 59 | 59 | 3991 |

| Parts for Seconds of Auxil. | A.A. & A. D. 63° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 154 | 0238 | 0467 | 0696 | 0925 | 1154 | 1383 | 1612 | 1841 | 2070 | 2299 | 2528 | 2757 | 2986 | 3215 | 3445 | 3674 |
| 4 | 1 | | 0497 | 0726 | 0955 | 1183 | 1412 | 1641 | 1870 | 2099 | 2328 | 2557 | 2786 | 3015 | 3244 | 3473 | 3702 | 3931 |
| 8 | 2 | 154 (155) | 0755 | 0985 | 1214 | 1442 | 1671 | 1900 | 2128 | 2357 | 2586 | 2815 | 3043 | 3272 | 3501 | 3730 | 3959 | 4188 |
| 11 | 3 | | 1014 | 1243 | 1472 | 1701 | 1929 | 2158 | 2387 | 2615 | 2844 | 3073 | 3301 | 3530 | 3759 | 3988 | 4217 | 4446 |
| 15 | 4 | | 1272 | 1501 | 1730 | 1959 | 2188 | 2416 | 2645 | 2874 | 3102 | 3331 | 3560 | 3788 | 4017 | 4245 | 4474 | 4703 |
| 1 | 5 | 154 (155) | 1530 | 1759 | 1988 | 2217 | 2446 | 2675 | 2903 | 3132 | 3361 | 3589 | 3818 | 4047 | 4274 | 4503 | 4731 | 4960 |
| 23 | 6 | | 1787 | 2016 | 2246 | 2475 | 2703 | 2932 | 3161 | 3389 | 3618 | 3847 | 4075 | 4303 | 4532 | 4760 | 4989 | 5217 |
| 26 | 7 | | 2045 | 2274 | 2503 | 2732 | 2961 | 3189 | 3418 | 3647 | 3875 | 4104 | 4332 | 4561 | 4789 | 5018 | 5246 | 5475 |
| 30 | 8 | | 2302 | 2531 | 2760 | 2989 | 3218 | 3446 | 3675 | 3904 | 4132 | 4361 | 4589 | 4818 | 5047 | 5275 | 5504 | 5732 |
| 34 | 9 | | 2559 | 2788 | 3017 | 3246 | 3475 | 3703 | 3932 | 4161 | 4389 | 4618 | 4846 | 5075 | 5303 | 5532 | 5760 | 5989 |
| 38 | 10 | 154 (155) | 2815 | 3044 | 3273 | 3502 | 3731 | 3960 | 4188 | 4417 | 4646 | 4874 | 5103 | 5331 | 5560 | 5788 | 6017 | 6245 |
| 41 | 11 | | 3072 | 3301 | 3530 | 3759 | 3988 | 4216 | 4445 | 4674 | 4902 | 5131 | 5359 | 5588 | 5816 | 6045 | 6273 | 6502 |
| 45 | 12 | | 3328 | 3557 | 3786 | 4015 | 4244 | 4473 | 4701 | 4930 | 5159 | 5387 | 5616 | 5844 | 6073 | 6301 | 6530 | 6758 |
| 49 | 13 | | 3585 | 3814 | 4043 | 4272 | 4501 | 4729 | 4958 | 5187 | 5415 | 5644 | 5872 | 6101 | 6329 | 6558 | 6786 | 7015 |
| 53 | 14 | | 3842 | 4071 | 4300 | 4529 | 4758 | 4986 | 5215 | 5444 | 5672 | 5901 | 6129 | 6358 | 6586 | 6815 | 7043 | 7272 |
| 56 | 15 | 154 (155) | 4098 | 4327 | 4556 | 4785 | 5014 | 5243 | 5471 | 5700 | 5929 | 6157 | 6386 | 6614 | 6843 | 7071 | 7300 | 7528 |
| 60 | 16 | 155 | 0161 | 0388 | 0615 | 0841 | 1068 | 1295 | 1522 | 1749 | 1976 | 2203 | 2430 | 2657 | 2884 | 3111 | 3338 | 3565 | 3792 |
| 64 | 17 | | 0421 | 0648 | 0874 | 1101 | 1327 | 1554 | 1781 | 2008 | 2234 | 2461 | 2688 | 2915 | 3142 | 3369 | 3596 | 3823 | 4050 |
| 68 | 18 | | 0681 | 0907 | 1134 | 1360 | 1587 | 1813 | 2040 | 2267 | 2493 | 2720 | 2947 | 3173 | 3400 | 3627 | 3854 | 4081 | 4308 |
| 71 | 19 | | 0941 | 1167 | 1393 | 1620 | 1846 | 2073 | 2299 | 2526 | 2752 | 2979 | 3205 | 3432 | 3659 | 3885 | 4112 | 4339 | 4566 |
| 75 | 20 | 155 | 1201 | 1427 | 1653 | 1879 | 2106 | 2332 | 2558 | 2785 | 3011 | 3237 | 3464 | 3690 | 3917 | 4144 | 4370 | 4597 | 4823 |
| 79 | 21 | | 1461 | 1687 | 1913 | 2139 | 2365 | 2591 | 2817 | 3044 | 3270 | 3496 | 3722 | 3949 | 4175 | 4402 | 4628 | 4855 | 5081 |
| 83 | 22 | | 1721 | 1947 | 2172 | 2398 | 2624 | 2851 | 3077 | 3303 | 3529 | 3755 | 3981 | 4207 | 4433 | 4660 | 4886 | 5113 | 5339 |
| 87 | 23 | | 1981 | 2207 | 2432 | 2658 | 2884 | 3110 | 3336 | 3562 | 3788 | 4014 | 4240 | 4466 | 4692 | 4918 | 5145 | 5371 | 5597 |
| 91 | 24 | | 2241 | 2467 | 2692 | 2918 | 3144 | 3369 | 3595 | 3821 | 4047 | 4273 | 4499 | 4725 | 4951 | 5177 | 5403 | 5629 | 5855 |
| 94 | 25 | 155 | 2501 | 2727 | 2953 | 3178 | 3404 | 3630 | 3854 | 4080 | 4306 | 4532 | 4757 | 4983 | 5209 | 5435 | 5661 | 5887 | 6113 |
| 98 | 26 | | 2761 | 2987 | 3213 | 3437 | 3663 | 3888 | 4114 | 4339 | 4565 | 4791 | 5016 | 5242 | 5468 | 5694 | 5919 | 6145 | 6371 |
| 102 | 27 | | 3021 | 3247 | 3472 | 3697 | 3922 | 4146 | 4373 | 4598 | 4824 | 5050 | 5275 | 5501 | 5726 | 5952 | 6178 | 6404 | 6629 |
| 106 | 28 | | 3281 | 3507 | 3732 | 3957 | 4182 | 4407 | 4633 | 4858 | 5083 | 5309 | 5534 | 5760 | 5985 | 6211 | 6436 | 6662 | 6887 |
| 110 | 29 | | 3542 | 3767 | 3992 | 4217 | 4441 | 4667 | 4892 | 5117 | 5343 | 5568 | 5793 | 6018 | 6244 | 6469 | 6695 | 6920 | 7146 |
| 113 | 30 | 155 | 3802 | 4027 | 4252 | 4477 | 4702 | 4927 | 5151 | 5377 | 5602 | 5827 | 6052 | 6277 | 6503 | 6728 | 6953 | 7178 | 7404 |
| 117 | 31 | | 4062 | 4287 | 4512 | 4737 | 4961 | 5186 | 5411 | 5637 | 5861 | 6086 | 6311 | 6536 | 6761 | 6986 | 7211 | 7437 | 7661 |
| 121 | 32 | | 4323 | 4547 | 4772 | 4997 | 5221 | 5446 | 5671 | 5896 | 6120 | 6345 | 6570 | 6795 | 7020 | 7246 | 7471 | 7695 | 7920 |
| 124 | 33 | | 4583 | 4808 | 5032 | 5257 | 5481 | 5706 | 5930 | 6155 | 6380 | 6604 | 6829 | 7054 | 7279 | 7504 | 7729 | 7954 | 8179 |
| 128 | 34 | | 4844 | 5068 | 5292 | 5517 | 5741 | 5966 | 6190 | 6415 | 6639 | 6864 | 7088 | 7313 | 7538 | 7763 | 7987 | 8212 | 8437 |
| 131 | 35 | 155 | 5104 | 5328 | 5553 | 5777 | 6001 | 6225 | 6450 | 6674 | 6899 | 7123 | 7348 | 7572 | 7797 | 8021 | 8246 | 8471 | 8695 |
| 135 | 36 | | 5365 | 5589 | 5813 | 6037 | 6261 | 6485 | 6710 | 6934 | 7158 | 7382 | 7607 | 7831 | 8056 | 8280 | 8505 | 8729 | 8954 |
| 139 | 37 | | 5625 | 5849 | 6073 | 6297 | 6521 | 6745 | 6969 | 7193 | 7417 | 7641 | 7866 | 8090 | 8315 | 8539 | 8764 | 8988 | 9212 |
| 143 | 38 | | 5886 | 6110 | 6333 | 6557 | 6781 | 7005 | 7229 | 7453 | 7677 | 7901 | 8125 | 8350 | 8574 | 8798 | 9022 | 9247 | 9471 |
| 146 | 39 | | 6147 | 6370 | 6594 | 6818 | 7041 | 7265 | 7489 | 7713 | 7937 | 8161 | 8385 | 8609 | 8833 | 9057 | 9281 | 9505 | 9729 |
| 150 | 40 | 155 | 6407 | 6631 | 6854 | 7078 | 7302 | 7526 | 7749 | 7973 | 8197 | 8421 | 8644 | 8868 | 9092 | 9316 | 9540 | 9764 | 9988 |
| 154 | 41 | 155 (156) | 6668 | 6891 | 7115 | 7339 | 7562 | 7786 | 8009 | 8232 | 8456 | 8680 | 8904 | 9127 | 9351 | 9575 | 9799 | 0023 | 0247 |
| 157 | 42 | | 6929 | 7152 | 7375 | 7599 | 7822 | 8045 | 8269 | 8492 | 8716 | 8939 | 9163 | 9387 | 9610 | 9834 | 0058 | 0281 | 0505 |
| 161 | 43 | | 7189 | 7412 | 7636 | 7859 | 8082 | 8306 | 8529 | 8752 | 8976 | 9199 | 9423 | 9646 | 9870 | 0093 | 0317 | 0541 | 0764 |
| 165 | 44 | | 7450 | 7673 | 7896 | 8119 | 8343 | 8566 | 8789 | 9013 | 9236 | 9459 | 9683 | 9906 | 0129 | 0353 | 0576 | 0799 | 1023 |
| 168 | 45 | 155 | 7711 | 7934 | 8157 | 8380 | 8603 | 8826 | 9049 | 9272 | 9495 | 9718 | 9941 | 0165 | 0388 | 0611 | 0835 | 1058 | 1281 |
| 172 | 46 | | 7971 | 8195 | 8418 | 8641 | 8864 | 9086 | 9309 | 9532 | 9755 | 9978 | 0201 | 0424 | 0647 | 0871 | 1094 | 1317 | 1540 |
| 176 | 47 | | 8233 | 8456 | 8678 | 8901 | 9124 | 9346 | 9569 | 9792 | 0015 | 0238 | 0461 | 0684 | 0907 | 1130 | 1353 | 1576 | 1799 |
| 179 | 48 | | 8494 | 8717 | 8939 | 9162 | 9385 | 9607 | 9830 | 0053 | 0275 | 0498 | 0721 | 0944 | 1167 | 1390 | 1613 | 1835 | 2058 |
| 183 | 49 | | 8755 | 8977 | 9200 | 9422 | 9645 | 9867 | 0090 | 0312 | 0535 | 0757 | 0980 | 1203 | 1426 | 1648 | 1871 | 2094 | 2317 |
| 187 | 50 | 155 (156) | 9016 | 9238 | 9461 | 9683 | 9906 | 0128 | 0351 | 0573 | 0796 | 1018 | 1241 | 1463 | 1686 | 1908 | 2131 | 2353 | 2576 |
| 190 | 51 | | 9277 | 9499 | 9722 | 9944 | 0166 | 0389 | 0611 | 0833 | 1056 | 1278 | 1500 | 1723 | 1945 | 2167 | 2390 | 2612 | 2835 |
| 194 | 52 | | 9538 | 9760 | 9982 | 0204 | 0426 | 0648 | 0871 | 1093 | 1315 | 1537 | 1759 | 1982 | 2204 | 2426 | 2649 | 2871 | 3094 |
| 198 | 53 | | 9800 | 0021 | 0243 | 0465 | 0688 | 0910 | 1131 | 1353 | 1575 | 1797 | 2019 | 2242 | 2464 | 2686 | 2908 | 3131 | 3353 |
| 201 | 54 | 156 | 0061 | 0282 | 0504 | 0726 | 0948 | 1170 | 1392 | 1614 | 1836 | 2058 | 2281 | 2503 | 2725 | 2947 | 3169 | 3391 | 3613 |
| 205 | 55 | 156 | 0322 | 0544 | 0766 | 0988 | 1210 | 1432 | 1654 | 1876 | 2098 | 2320 | 2542 | 2764 | 2986 | 3208 | 3427 | 3649 | 3871 |
| 209 | 56 | | 0584 | 0806 | 1028 | 1250 | 1472 | 1694 | 1916 | 2138 | 2360 | 2582 | 2804 | 3026 | 3248 | 3470 | 3686 | 3908 | 4130 |
| 213 | 57 | | 0846 | 1068 | 1290 | 1512 | 1734 | 1956 | 2178 | 2400 | 2622 | 2844 | 3066 | 3288 | 3510 | 3732 | 3946 | 4168 | 4390 |
| 216 | 58 | | 1108 | 1330 | 1552 | 1774 | 1996 | 2218 | 2440 | 2662 | 2884 | 3106 | 3328 | 3550 | 3772 | 3994 | 4205 | 4427 | 4649 |
| 220 | 59 | | 1370 | 1592 | 1814 | 2036 | 2258 | 2480 | 2702 | 2924 | 3146 | 3368 | 3590 | 3812 | 4034 | 4256 | 4465 | 4687 | 4909 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. | S. A. A. & A. D. 63° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 154 (155 | 9923 | 0133 | 0362 | 0592 | 0821 | 1051 | 1281 | 1511 | 1740 | 1969 | 2199 | 2429 | 2659 | 2889 | 3119 | 3348 |
| 4 | 1 | 155 | 0160 | 0390 | 0619 | 0848 | 1078 | 1307 | 1537 | 1766 | 1996 | 2225 | 2455 | 2685 | 2914 | 3144 | 3374 | 3604 |
| 8 | 2 | | 0417 | 0647 | 0876 | 1105 | 1334 | 1564 | 1793 | 2022 | 2252 | 2481 | 2711 | 2941 | 3170 | 3400 | 3629 | 3859 |
| 11 | 3 | | 0675 | 0904 | 1133 | 1362 | 1591 | 1820 | 2049 | 2278 | 2508 | 2737 | 2967 | 3196 | 3425 | 3655 | 3884 | 4114 |
| 15 | 4 | | 0932 | 1161 | 1390 | 1618 | 1847 | 2076 | 2306 | 2535 | 2764 | 2993 | 3222 | 3451 | 3681 | 3910 | 4139 | 4368 |
| 19 | 5 | 155 | 1189 | 1418 | 1646 | 1875 | 2104 | 2333 | 2562 | 2791 | 3020 | 3249 | 3478 | 3707 | 3936 | 4165 | 4394 | 4623 |
| 23 | 6 | | 1446 | 1675 | 1903 | 2132 | 2361 | 2589 | 2818 | 3047 | 3276 | 3505 | 3734 | 3963 | 4192 | 4421 | 4650 | 4879 |
| 26 | 7 | | 1703 | 1932 | 2160 | 2389 | 2617 | 2846 | 3075 | 3303 | 3532 | 3761 | 3990 | 4219 | 4447 | 4676 | 4905 | 5134 |
| 30 | 8 | | 1960 | 2189 | 2417 | 2646 | 2874 | 3103 | 3331 | 3560 | 3788 | 4017 | 4246 | 4474 | 4703 | 4932 | 5160 | 5389 |
| 34 | 9 | | 2218 | 2446 | 2674 | 2902 | 3131 | 3359 | 3588 | 3816 | 4045 | 4273 | 4502 | 4730 | 4959 | 5187 | 5416 | 5644 |
| 38 | 10 | 155 | 2475 | 2703 | 2931 | 3159 | 3388 | 3616 | 3844 | 4072 | 4301 | 4529 | 4758 | 4986 | 5215 | 5443 | 5672 | 5900 |
| 41 | 11 | | 2732 | 2960 | 3188 | 3416 | 3644 | 3873 | 4101 | 4329 | 4557 | 4785 | 5014 | 5242 | 5470 | 5699 | 5927 | 6156 |
| 45 | 12 | | 2990 | 3218 | 3445 | 3673 | 3901 | 4129 | 4357 | 4585 | 4813 | 5042 | 5270 | 5498 | 5726 | 5954 | 6183 | 6411 |
| 49 | 13 | | 3247 | 3475 | 3703 | 3931 | 4158 | 4386 | 4614 | 4842 | 5070 | 5298 | 5526 | 5754 | 5982 | 6210 | 6438 | 6667 |
| 53 | 14 | | 3505 | 3732 | 3960 | 4187 | 4415 | 4643 | 4871 | 5099 | 5326 | 5554 | 5782 | 6010 | 6238 | 6466 | 6694 | 6922 |
| 57 | 15 | 155 | 3762 | 3990 | 4217 | 4445 | 4673 | 4900 | 5127 | 5355 | 5583 | 5811 | 6038 | 6266 | 6494 | 6722 | 6950 | 7178 |
| 60 | 16 | | 4020 | 4247 | 4474 | 4702 | 4929 | 5157 | 5384 | 5612 | 5839 | 6067 | 6294 | 6522 | 6750 | 6978 | 7205 | 7433 |
| 64 | 17 | | 4277 | 4504 | 4732 | 4959 | 5187 | 5414 | 5641 | 5868 | 6096 | 6323 | 6551 | 6778 | 7006 | 7234 | 7461 | 7689 |
| 68 | 18 | | 4535 | 4762 | 4989 | 5216 | 5443 | 5671 | 5898 | 6125 | 6352 | 6580 | 6807 | 7035 | 7262 | 7489 | 7717 | 7945 |
| 72 | 19 | | 4793 | 5020 | 5247 | 5473 | 5700 | 5928 | 6155 | 6382 | 6609 | 6836 | 7064 | 7291 | 7518 | 7745 | 7973 | 8200 |
| 75 | 20 | 155 | 5050 | 5277 | 5504 | 5731 | 5958 | 6185 | 6412 | 6639 | 6866 | 7093 | 7320 | 7547 | 7774 | 8001 | 8229 | 8456 |
| 79 | 21 | | 5308 | 5535 | 5761 | 5988 | 6215 | 6442 | 6668 | 6895 | 7122 | 7349 | 7576 | 7803 | 8030 | 8257 | 8484 | 8711 |
| 83 | 22 | | 5566 | 5792 | 6019 | 6245 | 6472 | 6699 | 6925 | 7152 | 7379 | 7606 | 7833 | 8060 | 8287 | 8513 | 8740 | 8968 |
| 87 | 23 | | 5824 | 6050 | 6276 | 6502 | 6729 | 6956 | 7183 | 7409 | 7636 | 7862 | 8089 | 8316 | 8543 | 8770 | 8996 | 9223 |
| 90 | 24 | | 6081 | 6308 | 6534 | 6760 | 6987 | 7213 | 7440 | 7666 | 7893 | 8119 | 8346 | 8573 | 8799 | 9026 | 9252 | 9479 |
| 94 | 25 | 155 | 0338 | 0565 | 0792 | 7018 | 7244 | 7471 | 7697 | 7923 | 8149 | 8376 | 8602 | 8829 | 9055 | 9282 | 9508 | 9735 |
| 98 | 26 | 155 (156 | 0597 | 0823 | 7049 | 7275 | 7501 | 7728 | 7954 | 8180 | 8407 | 8633 | 8859 | 9086 | 9312 | 9539 | 9765 | 9992 |
| 102 | 27 | | 0855 | 7081 | 7307 | 7533 | 7759 | 7985 | 8211 | 8437 | 8663 | 8890 | 9116 | 9342 | 9569 | 9795 | 0021 | 0248 |
| 106 | 28 | | 7113 | 7339 | 7565 | 7791 | 8017 | 8243 | 8469 | 8695 | 8921 | 9147 | 9373 | 9599 | 9825 | 0051 | 0277 | 0503 |
| 109 | 29 | | 7371 | 7597 | 7823 | 8049 | 8274 | 8500 | 8726 | 8952 | 9177 | 9403 | 9629 | 9855 | 0081 | 0307 | 0533 | 0759 |
| 113 | 30 | 155 (156 | 7629 | 7855 | 8080 | 8306 | 8531 | 8757 | 8983 | 9208 | 9434 | 9660 | 9885 | 0111 | 0337 | 0563 | 0788 | 1014 |
| 117 | 31 | | 7887 | 8113 | 8338 | 8564 | 8789 | 9014 | 9240 | 9465 | 9691 | 9917 | 0142 | 0368 | 0594 | 0820 | 1045 | 1271 |
| 121 | 32 | | 8146 | 8371 | 8596 | 8821 | 9047 | 9272 | 9497 | 9723 | 9948 | 0174 | 0399 | 0625 | 0850 | 1076 | 1302 | 1528 |
| 124 | 33 | | 8404 | 8629 | 8854 | 9079 | 9304 | 9529 | 9755 | 9980 | 0205 | 0431 | 0656 | 0882 | 1107 | 1333 | 1558 | 1784 |
| 128 | 34 | | 8662 | 8887 | 9111 | 9337 | 9562 | 9787 | 0012 | 0237 | 0463 | 0688 | 0913 | 1139 | 1364 | 1589 | 1815 | 2040 |
| 132 | 35 | 155 (156 | 8920 | 9145 | 9370 | 9595 | 9820 | 0045 | 0270 | 0496 | 0721 | 0946 | 1171 | 1396 | 1621 | 1846 | 2071 | 2296 |
| 136 | 36 | | 9179 | 9403 | 9628 | 9853 | 0077 | 0302 | 0527 | 0752 | 0977 | 1202 | 1427 | 1652 | 1877 | 2102 | 2327 | 2552 |
| 140 | 37 | | 9437 | 9661 | 9886 | 0111 | 0335 | 0560 | 0785 | 1010 | 1234 | 1459 | 1684 | 1909 | 2134 | 2359 | 2583 | 2808 |
| 143 | 38 | | 9695 | 9920 | 0144 | 0368 | 0593 | 0818 | 1042 | 1267 | 1492 | 1716 | 1941 | 2166 | 2391 | 2615 | 2840 | 3065 |
| 147 | 39 | | 9954 | 0178 | 0402 | 0627 | 0851 | 1075 | 1300 | 1524 | 1749 | 1974 | 2198 | 2423 | 2647 | 2872 | 3096 | 3321 |
| 151 | 40 | 156 | 0212 | 0437 | 0661 | 0885 | 1110 | 1334 | 1558 | 1783 | 2007 | 2231 | 2456 | 2680 | 2904 | 3129 | 3353 | 3577 |
| 154 | 41 | | 0471 | 0695 | 0919 | 1143 | 1367 | 1591 | 1815 | 2040 | 2264 | 2488 | 2712 | 2937 | 3161 | 3385 | 3609 | 3833 |
| 158 | 42 | | 0729 | 0953 | 1177 | 1401 | 1625 | 1849 | 2073 | 2297 | 2521 | 2745 | 2970 | 3194 | 3418 | 3642 | 3866 | 4090 |
| 162 | 43 | | 0988 | 1211 | 1435 | 1659 | 1883 | 2107 | 2331 | 2555 | 2778 | 3002 | 3226 | 3450 | 3674 | 3898 | 4122 | 4346 |
| 166 | 44 | | 1246 | 1469 | 1693 | 1917 | 2141 | 2365 | 2588 | 2812 | 3036 | 3260 | 3483 | 3707 | 3931 | 4155 | 4379 | 4603 |
| 169 | 45 | 156 | 1504 | 1728 | 1951 | 2175 | 2399 | 2622 | 2846 | 3069 | 3293 | 3517 | 3740 | 3964 | 4188 | 4411 | 4635 | 4859 |
| 173 | 46 | | 1762 | 1986 | 2209 | 2433 | 2656 | 2880 | 3103 | 3327 | 3550 | 3774 | 3997 | 4221 | 4444 | 4668 | 4892 | 5115 |
| 177 | 47 | | 2022 | 2246 | 2469 | 2692 | 2915 | 3139 | 3362 | 3586 | 3809 | 4033 | 4256 | 4480 | 4703 | 4927 | 5151 | 5375 |
| 181 | 48 | | 2281 | 2504 | 2727 | 2950 | 3174 | 3397 | 3620 | 3844 | 4067 | 4290 | 4514 | 4737 | 4960 | 5184 | 5407 | 5631 |
| 184 | 49 | | 2540 | 2763 | 2986 | 3209 | 3433 | 3656 | 3879 | 4102 | 4326 | 4549 | 4771 | 4995 | 5218 | 5441 | 5665 | 5888 |
| 188 | 50 | 156 | 2799 | 3022 | 3245 | 3468 | 3691 | 3914 | 4137 | 4360 | 4583 | 4806 | 5029 | 5252 | 5475 | 5698 | 5921 | 6144 |
| 192 | 51 | | 3057 | 3280 | 3503 | 3726 | 3949 | 4171 | 4394 | 4617 | 4840 | 5063 | 5286 | 5509 | 5732 | 5955 | 6178 | 6401 |
| 196 | 52 | | 3316 | 3539 | 3761 | 3984 | 4207 | 4429 | 4652 | 4875 | 5098 | 5321 | 5544 | 5767 | 5990 | 6213 | 6435 | 6658 |
| 199 | 53 | | 3575 | 3797 | 4020 | 4243 | 4465 | 4688 | 4911 | 5134 | 5356 | 5579 | 5802 | 6025 | 6247 | 6470 | 6693 | 6916 |
| 203 | 54 | | 3834 | 4056 | 4279 | 4501 | 4724 | 4947 | 5169 | 5392 | 5615 | 5837 | 6060 | 6283 | 6505 | 6728 | 6951 | 7173 |
| 207 | 55 | 156 | 4093 | 4315 | 4538 | 4760 | 4983 | 5205 | 5428 | 5650 | 5873 | 6095 | 6317 | 6540 | 6763 | 6985 | 7208 | 7430 |
| 211 | 56 | | 4352 | 4574 | 4797 | 5019 | 5241 | 5464 | 5686 | 5908 | 6131 | 6353 | 6575 | 6798 | 7020 | 7243 | 7465 | 7687 |
| 214 | 57 | | 4611 | 4833 | 5055 | 5277 | 5500 | 5722 | 5944 | 6166 | 6388 | 6611 | 6833 | 7055 | 7278 | 7500 | 7722 | 7944 |
| 218 | 58 | | 4871 | 5092 | 5314 | 5536 | 5758 | 5980 | 6202 | 6424 | 6646 | 6868 | 7090 | 7312 | 7534 | 7757 | 7979 | 8201 |
| 222 | 59 | | 5130 | 5351 | 5573 | 5795 | 6017 | 6239 | 6461 | 6683 | 6905 | 7126 | 7348 | 7570 | 7792 | 8014 | 8236 | 8458 |

| Parts for Sec. of C. D. | C. D. 63° | Sums |
|---|---|---|
| 0 | 0 | 454 |
| 4 | 1 | |
| 8 | 2 | |
| 11 | 3 | |
| 15 | 4 | |
| 19 | 5 | 454 |
| 23 | 6 | |
| 26 | 7 | |
| 30 | 8 | |
| 34 | 9 | |
| 38 | 10 | |
| 41 | 11 | |
| 45 | 12 | 9122 |
| 49 | 13 | |
| 53 | 14 | |
| 57 | 15 | 454 |
| 60 | 16 | |
| 64 | 17 | |
| 68 | 18 | |
| 72 | 19 | |
| 75 | 20 | |
| 79 | 21 | 1401 |
| 83 | 22 | 1721 |
| 87 | 23 | 1981 |
| 90 | 24 | 2221 |
| 94 | 25 | 455 |
| 98 | 26 | 2701 |
| 102 | 27 | 3021 |
| 105 | 28 | 3281 |
| 109 | 29 | 3542 |
| 113 | 30 | 455 |
| 117 | 31 | 4063 |
| 121 | 32 | 4328 |
| 124 | 33 | 4583 |
| 128 | 34 | 4844 |
| 132 | 35 | 455 |
| 136 | 36 | 5364 |
| 140 | 37 | 5623 |
| 143 | 38 | 5886 |
| 147 | 39 | 6147 |
| 151 | 40 | 455 |
| 154 | 41 | 6667 |
| 158 | 42 | 6926 |
| 162 | 43 | 7186 |
| 166 | 44 | 7446 |
| 169 | 45 | 7711 |
| 173 | 46 | 7972 |
| 177 | 47 | 8238 |
| 181 | 48 | 8504 |
| 184 | 49 | 8775 |
| 188 | 50 | |
| 192 | 51 | 9277 |
| 196 | 52 | 9538 |
| 199 | 53 | 9800 |
| 203 | 54 | 456 |
| 207 | 55 | 456 |
| 211 | 56 | 0322 |
| 214 | 57 | 0583 |
| 218 | 58 | 0845 |
| 222 | 59 | 1106 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- and Auxiliary Arguments.

| Sum of Alt. | Number |
|---|---|
| 0° | 0000 |
| 1 | 0017 |
| 2 | 0035 |
| 3 | 0052 |
| 4 | 0070 |
| 5 | 0087 |
| 6 | 0105 |
| 7 | 0122 |
| 8 | 0140 |
| 9 | 0157 |
| 10 | 0175 |
| 11 | 0192 |
| 12 | 0209 |
| 13 | 0227 |
| 14 | 0244 |
| 15 | 0262 |
| 16 | 0279 |
| 17 | 0297 |
| 18 | 0314 |
| 19 | 0332 |
| 20 | 0349 |
| 21 | 0366 |
| 22 | 0384 |
| 23 | 0401 |
| 24 | 0419 |
| 25 | 0436 |
| 26 | 0454 |
| 27 | 0471 |
| 28 | 0488 |
| 29 | 0506 |
| 30 | 0523 |
| 31 | 0541 |
| 32 | 0558 |
| 33 | 0576 |
| 34 | 0593 |
| 35 | 0610 |
| 36 | 0628 |
| 37 | 0645 |
| 38 | 0663 |
| 39 | 0680 |
| 40 | 0698 |
| 41 | 0715 |
| 42 | 0732 |
| 43 | 0750 |
| 44 | 0767 |
| 45 | 0785 |
| 46 | 0802 |
| 47 | 0819 |
| 48 | 0837 |
| 49 | 0854 |
| 50 | 0872 |
| 51 | 0889 |
| 52 | 0906 |
| 53 | 0924 |
| 54 | 0941 |
| 55 | 0959 |
| 56 | 0976 |
| 57 | 0993 |
| 58 | 1011 |
| 59 | 1028 |

| Sum of Alt. & Arg. | Auxiliary Argument. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0° | 1000 | | | | | | | | | | | | | | | | |
| 1 | 1000 | | | | | | | | | | | | | | | | |
| 2 | 2181 | | | | | | | | | | | | | | | | |
| 3 | 2413 | | | | | | | | | | | | | | | | |
| 4 | 2675 | | | | | | | | | | | | | | | | |
| 5 | 1350 | | | | | | | | | | | | | | | | |
| 6 | 3017 | | | | | | | | | | | | | | | | |
| 7 | 3420 | | | | | | | | | | | | | | | | |
| 8 | 3848 | | | | | | | | | | | | | | | | |
| 9 | 3954 | | | | | | | | | | | | | | | | |
| 10 | 1350 | | | | | | | | | | | | | | | | |
| 11 | 4572 | | | | | | | | | | | | | | | | |
| 12 | 4705 | | | | | | | | | | | | | | | | |
| 13 | 5031 | 5250 | 5469 | 5688 | 5908 | 6127 | 6346 | 6566 | 6785 | 7005 | 7224 | 7444 | 7663 | 7883 | 8102 | 8322 | 8542 |
| 14 | 5200 | | | | | | | | | | | | | | | | |
| 15 | 1350 | | | | | | | | | | | | | | | | |
| 16 | 5517 | | | | | | | | | | | | | | | | |
| 17 | 6000 | | | | | | | | | | | | | | | | |
| 18 | 6241 | | | | | | | | | | | | | | | | |
| 19 | 6500 | | | | | | | | | | | | | | | | |
| 20 | 1350 | | | | | | | | | | | | | | | | |
| 21 | 7000 | | | | | | | | | | | | | | | | |
| 22 | 7185 | | | | | | | | | | | | | | | | |
| 23 | 7652 | 7870 | 8088 | 8306 | 8523 | 8742 | 8960 | 9178 | 9396 | 9614 | 9832 | 0050 | 0269 | 0487 | 0705 | 0923 | 1142 |
| 24 | 7900 | | | | | | | | | | | | | | | | |
| 25 | 1350 | | | | | | | | | | | | | | | | |
| 26 | 8400 | | | | | | | | | | | | | | | | |
| 27 | 8701 | | | | | | | | | | | | | | | | |
| 28 | 8964 | 9181 | 9398 | 9615 | 9833 | 0050 | 0268 | 0485 | 0702 | 0920 | 1137 | 1355 | 1572 | 1790 | 2008 | 2226 | 2443 |
| 29 | 9000 | | | | | | | | | | | | | | | | |
| 30 | 1350 | | | | | | | | | | | | | | | | |
| 31 | 9751 | | | | | | | | | | | | | | | | |
| 32 | 0014 | | | | | | | | | | | | | | | | |
| 33 | 0277 | 0493 | 0710 | 0926 | 1143 | 1360 | 1576 | 1793 | 2010 | 2227 | 2444 | 2660 | 2877 | 3094 | 3311 | 3528 | 3745 |
| 34 | 0550 | | | | | | | | | | | | | | | | |
| 35 | 1350 | | | | | | | | | | | | | | | | |
| 36 | 1000 | | | | | | | | | | | | | | | | |
| 37 | 1281 | | | | | | | | | | | | | | | | |
| 38 | 1554 | | | | | | | | | | | | | | | | |
| 39 | 1833 | | | | | | | | | | | | | | | | |
| 40 | 2116 | 2332 | 2547 | 2763 | 2979 | 3195 | 3410 | 3626 | 3842 | 4058 | 4274 | 4490 | 4706 | 4922 | 5138 | 5354 | 5570 |
| 41 | 2387 | | | | | | | | | | | | | | | | |
| 42 | 2664 | | | | | | | | | | | | | | | | |
| 43 | 2950 | | | | | | | | | | | | | | | | |
| 44 | 3240 | | | | | | | | | | | | | | | | |
| 45 | 1350 | | | | | | | | | | | | | | | | |
| 46 | 3850 | | | | | | | | | | | | | | | | |
| 47 | 3957 | 4172 | 4387 | 4602 | 4816 | 5031 | 5246 | 5461 | 5676 | 5891 | 6106 | 6321 | 6536 | 6751 | 6966 | 7181 | 7397 |
| 48 | 4200 | | | | | | | | | | | | | | | | |
| 49 | 4500 | | | | | | | | | | | | | | | | |
| 50 | 1350 | | | | | | | | | | | | | | | | |
| 51 | 5100 | | | | | | | | | | | | | | | | |
| 52 | 5274 | 5488 | 5702 | 5916 | 6130 | 6344 | 6558 | 6773 | 6987 | 7201 | 7416 | 7630 | 7844 | 8059 | 8273 | 8488 | 8702 |
| 53 | 5537 | 5751 | 5965 | 6179 | 6393 | 6607 | 6821 | 7035 | 7249 | 7463 | 7678 | 7892 | 8106 | 8320 | 8535 | 8749 | 8963 |
| 54 | 5800 | | | | | | | | | | | | | | | | |
| 55 | 1350 | | | | | | | | | | | | | | | | |
| 56 | 6300 | | | | | | | | | | | | | | | | |
| 57 | 6538 | | | | | | | | | | | | | | | | |
| 58 | 6800 | | | | | | | | | | | | | | | | |
| 59 | 7118 | 7331 | 7544 | 7757 | 7971 | 8184 | 8397 | 8610 | 8824 | 9037 | 9250 | 9464 | 9677 | 9891 | 0104 | 0318 | 0532 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected D[illegible]

Auxiliary Arguments.

| A.D. 64° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 156 5389 | 5610 | 5832 | 6054 | 6275 | 6497 | 6719 | 6940 | 7162 | 7[illegible] | | | | | | | |
| 1 | 5648 | 5869 | 6091 | 6312 | 6534 | 6755 | 6977 | 7199 | 7420 | 7[illegible] | | | | | | | |
| 2 | 5907 | 6129 | 6350 | 6571 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | | | | | | |
| 3 | 6167 | 6388 | 6609 | 6[illegible] | [illegible] | 7273 | [illegible] | 7715 | 7937 | [illegible] | | | | | | | |
| 4 | 6426 | 6647 | 6868 | [illegible] | 7331 | 7553 | 7732 | 7974 | [illegible] | [illegible] | | | | | | | |
| 5 | 156 (157) 6685 | 6906 | 7127 | 734[illegible] | [illegible] | 7774 | [illegible] | [illegible] | [illegible] | [illegible] | 96 | 9117 | 9338 | [illegible] | | | |
| 6 | 6945 | 7165 | 738[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | |
| 7 | 7204 | 7425 | 76[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3970 | 9191 | 9412 | 963[illegible] | [illegible] | [illegible] | | | |
| 8 | 7464 | 7684 | 79[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9228 | 9449 | 9670 | 9891 | 011[illegible] | [illegible] | | | |
| 9 | 7723 | 7[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9266 | 9487 | 9707 | 9928 | 0149 | 037[illegible] | [illegible] | | | |
| 10 | 156 (157) 7983 | 8203 | 8423 | 8643 | 8864 | 9084 | 9304 | 9525 | 9745 | 9966 | [illegible] | [illegible] | 0628 | 0848 | 1069 | 128[illegible] | 151[illegible] |
| 11 | 8242 | 8462 | 8682 | 8903 | 9123 | 9343 | 9563 | 9784 | 0004 | 0224 | 0445 | 0665 | 0886 | 1106 | 1326 | 1547 | 176[illegible] |
| 12 | 8502 | 8722 | 8942 | 9162 | 9382 | 9602 | 9822 | 0042 | 0262 | 0483 | 0703 | 0923 | 1144 | 1364 | 1584 | 180[illegible] | [illegible] |
| 13 | 8762 | 8981 | 9201 | 9421 | 9641 | 9861 | 0081 | 0301 | 0521 | 0741 | 0961 | 1181 | 1402 | 1622 | 1842 | 206[illegible] | [illegible] |
| 14 | 9021 | 9241 | 9461 | 9680 | 9900 | 0120 | 0340 | 0560 | 0780 | 1000 | 1220 | 1440 | 1660 | 1880 | 2100 | 232[illegible] | [illegible] |
| 15 | 156 (157) 9281 | 9501 | 9720 | 9940 | 0159 | 0379 | 0599 | 0819 | 1038 | 1258 | 1478 | 1698 | 1918 | 2138 | 2358 | 257[illegible] | [illegible] |
| 16 | 9541 | 9760 | 9980 | 0199 | 0419 | 0638 | 0858 | 1077 | 1297 | 1517 | 1737 | 1956 | 2176 | 2396 | 2616 | 283[illegible] | [illegible] |
| 17 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18 | 157 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 157 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 21 | 0840 | 1059 | 1278 | 1497 | 1715 | 1934 | 2153 | 237[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 22 | 1100 | 1319 | 1537 | 1756 | 1975 | 2194 | 2412 | 2631 | 285[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 23 | 1360 | 1579 | 1797 | 2016 | 2234 | 2453 | 2672 | 2890 | 3109 | 3328 | 3547 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | 1620 | 1839 | 2057 | 2275 | 2494 | 2712 | 2931 | 3149 | 3368 | 3587 | 3805 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 157 1880 | 2099 | 2317 | 2535 | 2753 | 2972 | 3190 | 3409 | 3627 | 3846 | 4064 | 428[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | 2141 | 2359 | 2577 | 2795 | 3013 | 3231 | 3450 | 3668 | 3886 | 4105 | 4323 | 454[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 2401 | 2619 | 2837 | 3055 | 3273 | 3491 | 3709 | 3927 | 4145 | 4364 | 4582 | 4800 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 28 | 2661 | 2879 | 3097 | 3315 | 3532 | 3750 | 3968 | 4186 | 4404 | 4623 | 4841 | 5059 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | 2921 | 3139 | 3357 | 3574 | 3792 | 4010 | 4228 | 4446 | 4664 | 4882 | 5100 | 5318 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | 157 3182 | 3399 | 3617 | 3834 | 4052 | 4270 | 4487 | 4705 | 4923 | 5141 | 5359 | 5576 | 5794 | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | 3442 | 3659 | 3877 | 4094 | 4312 | 4529 | 4747 | 4964 | 5182 | 5400 | 5618 | 5835 | 6[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 32 | 3702 | 3919 | 4137 | 4354 | 4572 | 4789 | 5006 | 5224 | 5441 | 5659 | 5877 | 6094 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | 3963 | 4180 | 4397 | 4614 | 4831 | 5049 | 5266 | 5483 | 5701 | 5918 | 6136 | 6353 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 34 | 4223 | 4440 | 4657 | 4874 | 5091 | 5308 | 5526 | 5743 | 5960 | 6177 | 6395 | 6612 | 6[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | 157 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 37 | 5005 | 5221 | 5438 | 5654 | 5871 | 6088 | 6305 | 6522 | 6738 | 6955 | 7172 | 7389 | 7606 | 7823 | 8040 | 825[illegible] | [illegible] |
| 38 | 5[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 39 | 5526 | 5742 | 5958 | 6175 | 6391 | 6608 | 6824 | 7041 | 7257 | 7474 | 7691 | 7[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | 157 5786 | 6003 | 6219 | 6435 | 6651 | 6868 | 7084 | 7301 | 7517 | 7734 | 7950 | 816[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | 6047 | 6263 | 6479 | 6695 | 6912 | 7128 | 7344 | 7560 | 7777 | 7993 | 8209 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | 6308 | 6524 | 6740 | 6956 | 7172 | 7388 | 7604 | 7820 | 8036 | 825[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 43 | 157 (158) 6568 | 6784 | 7000 | 7216 | 7432 | 7648 | 7864 | 8080 | 8296 | 851[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 44 | 6829 | 7045 | 7261 | 7476 | 769[illegible] | [illegible] | [illegible] | 8340 | 8556 | 8772 | 8988 | 9204 | 942[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 45 | 157 (158) [illegible] | [illegible] | [illegible] | 7737 | 7952 | 8168 | 8384 | 8600 | 8815 | 9031 | 9247 | 9463 | 9679 | [illegible] | [illegible] | [illegible] | [illegible] |
| 46 | [illegible] | [illegible] | [illegible] | [illegible] | 8213 | 8428 | 8644 | 8860 | 9075 | 9291 | 9507 | 9722 | 993[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 47 | [illegible] | [illegible] | [illegible] | 8258 | 8473 | 8689 | 8904 | 912[illegible] | [illegible] | 9551 | 9766 | 9982 | 0198 | 041[illegible] | [illegible] | [illegible] | [illegible] |
| 48 | [illegible] | [illegible] | [illegible] | [illegible] | 8734 | 8949 | 9164 | 9379 | 9595 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 49 | [illegible] | [illegible] | [illegible] | [illegible] | 8994 | 9209 | 9424 | 9640 | 9855 | 0070 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 50 | 157 (158) 9395 | 9610 | 9824 | 9039 | 9254 | 9469 | 9685 | 9900 | 011[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | 8656 | 8870 | 9085 | 9300 | 9515 | 9730 | 9945 | 0160 | 037[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 52 | 8917 | 9131 | 9346 | 9561 | 9775 | 9990 | 0205 | 0420 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | 9178 | 9392 | 9607 | 9821 | 0036 | 0251 | 0465 | 068[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 9439 | 9653 | 9868 | 0082 | 0297 | 0511 | 0726 | 0940 | 115[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | 157 (158) 9700 | 9914 | 0129 | 0343 | 0557 | 0772 | 0986 | 1200 | 1415 | 103[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 56 | 9961 | 0175 | 0390 | 0604 | 0818 | 1032 | 1246 | 1461 | 1675 | 1890 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | 158 0223 | 0437 | 0651 | 0865 | 1079 | 1293 | 1507 | 1721 | 1935 | 2150 | 236[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 58 | 0484 | 0698 | 0912 | 1125 | 1339 | 1552 | 1767 | 1981 | 2195 | 2410 | 262[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | 0745 | 0959 | 1173 | 1386 | 1600 | 1814 | 2028 | 2242 | 2456 | 2670 | 288[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. of C.S.A. | C.S.A. 65° | Numbers |
|---|---|---|
| | ′ | |
| | 0 | 141 8116 |
| 38 | 1 | 7880 |
| 281 | 2 | 7587 |
| 244 | 3 | 7335 |
| 208 | 4 | 7093 |
| 241 | 5 | 143 6851 |
| 237 | 6 | 6544 |
| 193 | 7 | 6313 |
| 227 | 8 | 6117 |
| 223 | 9 | 5755 |
| 206 | 10 | 143 5401 |
| 202 | 11 | 5231 |
| 210 | 12 | 4969 |
| 206 | 13 | 4707 |
| 202 | 14 | 4445 |
| 197 | 15 | 143 4183 |
| 193 | 16 | 3921 |
| 189 | 17 | 3660 |
| 185 | 18 | 3307 |
| 177 | 19 | 3135 |
| 173 | 20 | 142 2874 |
| 171 | 21 | 2613 |
| 167 | 22 | 2352 |
| 163 | 23 | 2090 |
| 137 | 24 | 1828 |
| 153 | 25 | 143 1561 |
| 149 | 26 | 1299 |
| 145 | 27 | 1038 |
| 141 | 28 | 0776 |
| 137 | 29 | 0514 |
| 133 | 30 | 142 0253 |
| 129 | 31 | 141 9991 |
| 125 | 32 | 9729 |
| 121 | 33 | 9468 |
| 118 | 34 | 9206 |
| 114 | 35 | 8944 |
| 105 | 36 | 8682 |
| 101 | 37 | 8421 |
| 97 | 38 | 8159 |
| 93 | 39 | 7897 |
| 89 | 40 | 7635 |
| 85 | 41 | 141 7374 |
| 81 | 42 | 7112 |
| 77 | 43 | 6850 |
| 73 | 44 | 6588 |
| 69 | 45 | 141 6327 |
| 65 | 46 | 6065 |
| 61 | 47 | 5803 |
| 57 | 48 | 5541 |
| 53 | 49 | 5280 |
| 49 | 50 | 141 5018 |
| 45 | 51 | 4756 |
| 41 | 52 | 4494 |
| 37 | 53 | 4232 |
| 33 | 54 | 3971 |
| 29 | 55 | 141 3709 |
| 25 | 56 | 3447 |
| 21 | 57 | 3185 |
| 17 | 58 | 2924 |
| 13 | 59 | 2662 |
| 9 | 60 | 2400 |
| 4 | 61 | 2138 |

| Parts for Seconds of Auxil. Argum. | S.A.A. & A.D. 65° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 6 | 0 | 157 (158)7735 | 7943 | 8150 | 8358 | 8566 | 8773 | 8981 | 9189 | 9396 | 9604 | 9813 | 0021 | 0230 | 0438 | 0646 | 0855 | 1063 |
| 4 | 1 | 7457 | 7665 | 7873 | 8081 | 8289 | 8496 | 8704 | 8912 | 9120 | 9328 | 9536 | 9744 | 9953 | 0161 | 0369 | 0577 | 0785 |
| 7 | 2 | 7180 | 7388 | 7596 | 7804 | 8012 | 8220 | 8428 | 8636 | 8844 | 9052 | 9260 | 9468 | 9676 | 9884 | 0092 | 0300 | 0508 |
| 11 | 3 | 6903 | 7111 | 7319 | 7527 | 7735 | 7943 | 8151 | 8359 | 8567 | 8775 | 8983 | 9191 | 9399 | 9607 | 9815 | 0023 | 0231 |
| 14 | 4 | 6627 | 6835 | 7043 | 7251 | 7459 | 7667 | 7875 | 8083 | 8291 | 8499 | 8707 | 8915 | 9123 | 9331 | 9539 | 9747 | 9955 |
| 17 | 5 | 157 (158)6350 | 6558 | 6766 | 6974 | 7182 | 7390 | 7598 | 7806 | 8014 | 8222 | 8430 | 8638 | 8846 | 9054 | 9262 | 9470 | 9678 |
| 21 | 6 | 6073 | 6281 | 6489 | 6697 | 6905 | 7113 | 7321 | 7529 | 7737 | 7945 | 8153 | 8361 | 8569 | 8777 | 8985 | 9193 | 9401 |
| 18 | 7 | 5797 | 6005 | 6213 | 6421 | 6629 | 6837 | 7045 | 7253 | 7461 | 7669 | 7877 | 8085 | 8293 | 8501 | 8709 | 8917 | 9125 |
| 21 | 8 | 5521 | 5729 | 5937 | 6145 | 6353 | 6561 | 6769 | 6977 | 7185 | 7393 | 7601 | 7809 | 8017 | 8225 | 8433 | 8641 | 8849 |
| 25 | 9 | 5245 | 5453 | 5661 | 5869 | 6077 | 6285 | 6493 | 6701 | 6909 | 7117 | 7325 | 7533 | 7741 | 7949 | 8157 | 8365 | 8573 |
| 28 | 10 | 4969 | 5177 | 5385 | 5593 | 5801 | 6009 | 6217 | 6425 | 6633 | 6841 | 7049 | 7257 | 7465 | 7673 | 7881 | 8089 | 8297 |
| 31 | 11 | 4693 | 4901 | 5109 | 5317 | 5525 | 5733 | 5941 | 6149 | 6357 | 6565 | 6773 | 6981 | 7189 | 7397 | 7605 | 7813 | 8021 |
| 35 | 1 | 158 | 4625 | 4833 | 5041 | 5249 | 5457 | 5665 | 5873 | 6081 | 6289 | 6497 | 6705 | 6913 | 7121 | 7329 | 7537 | 7745 |
| 38 | 11 | 4349 | 4557 | 4765 | 4973 | 5181 | 5389 | 5597 | 5805 | 6013 | 6221 | 6429 | 6637 | 6845 | 7053 | 7261 | 7469 | 7677 |
| 42 | 12 | 0548 | 0759 | 0971 | 1182 | 1393 | 1605 | 1816 | 2028 | 2240 | 2451 | 2663 | 2875 | 3086 | 3298 | 3510 | 3722 | 3934 |
| 45 | 13 | 0812 | 1023 | 1234 | 1446 | 1657 | 1868 | 2080 | 2291 | 2503 | 2714 | 2926 | 3137 | 3349 | 3561 | 3772 | 3984 | 4196 |
| 49 | 14 | 1077 | 1287 | 1498 | 1709 | 1921 | 2132 | 2343 | 2554 | 2766 | 2977 | 3188 | 3400 | 3611 | 3823 | 4034 | 4246 | 4458 |
| 52 | 15 | 159 | 1341 | 1551 | 1762 | 1973 | 2184 | 2395 | 2607 | 2818 | 3029 | 3240 | 3451 | 3663 | 3874 | 4085 | 4297 | 4508 |
| 56 | 16 | 1604 | 1815 | 2026 | 2237 | 2448 | 2659 | 2870 | 3081 | 3292 | 3503 | 3714 | 3925 | 4137 | 4348 | 4559 | 4770 | 4982 |
| 59 | 17 | 1868 | 2079 | 2290 | 2501 | 2712 | 2922 | 3133 | 3344 | 3555 | 3766 | 3977 | 4188 | 4399 | 4610 | 4821 | 5033 | 5244 |
| 63 | 18 | 2132 | 2343 | 2554 | 2765 | 2975 | 3186 | 3397 | 3608 | 3818 | 4029 | 4240 | 4451 | 4662 | 4873 | 5084 | 5295 | 5506 |
| 67 | 19 | 2396 | 2607 | 2817 | 3028 | 3239 | 3450 | 3660 | 3871 | 4082 | 4292 | 4503 | 4714 | 4924 | 5135 | 5346 | 5557 | 5767 |
| 70 | 20 | 158 | 2661 | 2871 | 3082 | 3293 | 3503 | 3713 | 3924 | 4134 | 4345 | 4555 | 4766 | 4977 | 5187 | 5398 | 5609 | 5819 |
| 74 | 21 | 2927 | 3137 | 3348 | 3558 | 3767 | 3977 | 4187 | 4397 | 4608 | 4818 | 5028 | 5239 | 5450 | 5661 | 5871 | 6082 | 6293 |
| 77 | 22 | 3192 | 3402 | 3612 | 3821 | 4031 | 4241 | 4451 | 4661 | 4871 | 5082 | 5292 | 5502 | 5713 | 5923 | 6134 | 6344 | 6555 |
| 81 | 23 | 3458 | 3667 | 3875 | 4084 | 4294 | 4504 | 4715 | 4925 | 5135 | 5345 | 5555 | 5765 | 5976 | 6186 | 6396 | 6607 | 6817 |
| 84 | 24 | 3723 | 3931 | 4139 | 4347 | 4555 | 4764 | 4973 | 5183 | 5393 | 5603 | 5813 | 6023 | 6234 | 6444 | 6655 | 6865 | 7079 |
| 87 | 25 | 158 | 3984 | 4193 | 4403 | 4613 | 4822 | 5032 | 5242 | 5452 | 5662 | 5871 | 6081 | 6291 | 6501 | 6711 | 6922 | 7132 |
| 91 | 26 | 4249 | 4458 | 4667 | 4877 | 5086 | 5296 | 5506 | 5715 | 5925 | 6135 | 6345 | 6555 | 6764 | 6974 | 7184 | 7394 | 7604 |
| 94 | 27 | 4514 | 4723 | 4932 | 5141 | 5351 | 5560 | 5770 | 5979 | 6189 | 6398 | 6608 | 6818 | 7027 | 7237 | 7447 | 7657 | 7867 |
| 98 | 28 | 4779 | 4988 | 5197 | 5406 | 5615 | 5824 | 6033 | 6243 | 6452 | 6662 | 6871 | 7081 | 7290 | 7500 | 7710 | 7919 | 8129 |
| 101 | 29 | 5044 | 5253 | 5462 | 5671 | 5880 | 6089 | 6298 | 6507 | 6716 | 6926 | 7134 | 7344 | 7553 | 7763 | 7972 | 8182 | 8391 |
| 105 | 30 | 159 | 5518 | 5727 | 5936 | 6145 | 6352 | 6561 | 6770 | 6979 | 7188 | 7397 | 7607 | 7816 | 8026 | 8235 | 8445 | 8654 |
| 108 | 31 | 5571 | 5780 | 5989 | 6198 | 6407 | 6615 | 6824 | 7033 | 7242 | 7451 | 7661 | 7870 | 8080 | 8289 | 8498 | 8707 | 8917 |
| 112 | 32 | 5836 | 6045 | 6254 | 6463 | 6671 | 6880 | 7089 | 7298 | 7507 | 7716 | 7925 | 8134 | 8343 | 8552 | 8761 | 8970 | 9179 |
| 115 | 33 | 6101 | 6310 | 6518 | 6727 | 6935 | 7144 | 7353 | 7562 | 7771 | 7979 | 8188 | 8397 | 8606 | 8815 | 9024 | 9233 | 9442 |
| 119 | 34 | 6366 | 6574 | 6783 | 6991 | 7200 | 7408 | 7617 | 7826 | 8034 | 8243 | 8452 | 8661 | 8870 | 9078 | 9287 | 9496 | 9705 |
| 122 | 35 | 159 | 6631 | 6839 | 7047 | 7256 | 7464 | 7672 | 7881 | 8089 | 8298 | 8506 | 8715 | 8924 | 9132 | 9341 | 9550 | 9759 |
| 126 | 36 | 158(159)6896 | 7104 | 7312 | 7520 | 7728 | 7937 | 8145 | 8353 | 8562 | 8770 | 8979 | 9187 | 9396 | 9604 | 9813 | 0021 | 0230 |
| 129 | 37 | 7161 | 7369 | 7577 | 7785 | 7993 | 8201 | 8409 | 8618 | 8826 | 9034 | 9243 | 9451 | 9659 | 9867 | 0076 | 0284 | 0493 |
| 133 | 38 | 7425 | 7633 | 7841 | 8049 | 8257 | 8465 | 8673 | 8881 | 9089 | 9297 | 9505 | 9714 | 9924 | 0131 | 0339 | 0547 | 0756 |
| 136 | 39 | 7690 | 7898 | 8106 | 8314 | 8522 | 8730 | 8937 | 9145 | 9353 | 9561 | 9769 | 9978 | 0186 | 0394 | 0602 | 0811 | 1019 |
| 140 | 40 | 158(159)7955 | 8163 | 8371 | 8578 | 8786 | 8994 | 9202 | 9410 | 9618 | 9825 | 0033 | 0241 | 0449 | 0657 | 0865 | 1073 | 1281 |
| 143 | 41 | 8220 | 8427 | 8635 | 8843 | 9051 | 9258 | 9466 | 9674 | 9882 | 0089 | 0297 | 0505 | 0713 | 0921 | 1128 | 1336 | 1544 |
| 147 | 42 | 8484 | 8692 | 8899 | 9107 | 9315 | 9523 | 9730 | 9938 | 0145 | 0353 | 0561 | 0769 | 0976 | 1184 | 1392 | 1600 | 1807 |
| 150 | 43 | 8749 | 8956 | 9164 | 9371 | 9579 | 9787 | 9994 | 0202 | 0409 | 0617 | 0825 | 1032 | 1240 | 1447 | 1655 | 1863 | 2070 |
| 154 | 44 | 9013 | 9220 | 9428 | 9635 | 9843 | 0050 | 0258 | 0465 | 0673 | 0881 | 1088 | 1296 | 1503 | 1711 | 1919 | 2126 | 2334 |
| 157 | 45 | 9277 | 9485 | 9692 | 9900 | 0107 | 0315 | 0522 | 0730 | 0938 | 1145 | 1353 | 1560 | 1767 | 1974 | 2182 | 2389 | 2597 |
| 161 | 46 | 9541 | 9749 | 9956 | 0164 | 0371 | 0579 | 0786 | 0994 | 1201 | 1409 | 1616 | 1823 | 2030 | 2238 | 2445 | 2653 | 2860 |
| 164 | 47 | 9805 | 0013 | 0220 | 0428 | 0635 | 0843 | 1050 | 1257 | 1465 | 1672 | 1880 | 2087 | 2294 | 2502 | 2709 | 2916 | 3124 |
| 168 | 48 | 159 | 0277 | 0484 | 0692 | 0899 | 1106 | 1314 | 1521 | 1728 | 1936 | 2143 | 2350 | 2558 | 2765 | 2972 | 3179 | 3387 |
| 171 | 49 | 0541 | 0748 | 0956 | 1163 | 1370 | 1578 | 1785 | 1992 | 2200 | 2407 | 2614 | 2822 | 3029 | 3236 | 3443 | 3651 | 3858 |
| 175 | 50 | 0805 | 1012 | 1220 | 1427 | 1634 | 1842 | 2049 | 2256 | 2463 | 2671 | 2878 | 3085 | 3292 | 3500 | 3707 | 3914 | 4121 |
| 178 | 51 | 1069 | 1276 | 1484 | 1691 | 1898 | 2105 | 2313 | 2520 | 2727 | 2934 | 3142 | 3349 | 3556 | 3763 | 3970 | 4178 | 4385 |
| 182 | 52 | 1333 | 1540 | 1748 | 1955 | 2162 | 2369 | 2577 | 2784 | 2991 | 3198 | 3406 | 3613 | 3820 | 4027 | 4234 | 4441 | 4649 |
| 185 | 53 | 1597 | 1804 | 2012 | 2219 | 2426 | 2633 | 2841 | 3048 | 3255 | 3462 | 3670 | 3877 | 4084 | 4291 | 4498 | 4705 | 4913 |
| 189 | 54 | 1861 | 2068 | 2276 | 2483 | 2690 | 2897 | 3105 | 3312 | 3519 | 3726 | 3934 | 4141 | 4348 | 4555 | 4762 | 4969 | 5177 |
| 192 | 55 | 159 | 2125 | 2332 | 2540 | 2747 | 2954 | 3161 | 3369 | 3576 | 3783 | 3990 | 4198 | 4405 | 4612 | 4819 | 5026 | 5233 |
| 196 | 56 | 2389 | 2596 | 2804 | 3011 | 3218 | 3425 | 3633 | 3840 | 4047 | 4254 | 4462 | 4669 | 4876 | 5083 | 5290 | 5497 | 5705 |
| 199 | 57 | 2653 | 2860 | 3068 | 3275 | 3482 | 3689 | 3897 | 4104 | 4311 | 4518 | 4726 | 4933 | 5140 | 5347 | 5554 | 5761 | 5969 |
| 203 | 58 | 2917 | 3124 | 3332 | 3539 | 3746 | 3953 | 4161 | 4368 | 4575 | 4782 | 4990 | 5197 | 5404 | 5611 | 5818 | 6025 | 6233 |
| 206 | 59 | 3181 | 3388 | 3596 | 3803 | 4010 | 4217 | 4425 | 4632 | 4839 | 5046 | 5254 | 5461 | 5668 | 5875 | 6082 | 6289 | 6497 |
| 210 | 60 | 3445 | 3652 | 3860 | 4067 | 4274 | 4481 | 4689 | 4896 | 5103 | 5310 | 5518 | 5725 | 5932 | 6139 | 6346 | 6553 | 6761 |
| 213 | 61 | 3709 | 3916 | 4124 | 4331 | 4538 | 4745 | 4953 | 5160 | 5367 | 5574 | 5782 | 5989 | 6196 | 6403 | 6610 | 6817 | 7025 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. | A.M. & A.D. 65° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 158 | 1207 | 1225 | 1434 | 1647 | 1861 | 2075 | 2288 | 2502 | 2716 | 2930 | 3144 | 3358 | 3572 | 3786 | 4000 | 4214 |
| 1 | 1 | | 1268 | 1481 | 1695 | 1908 | 2122 | 2335 | 2549 | 2763 | 2976 | 3190 | 3404 | 3618 | 3831 | 4045 | 4259 | 4473 |
| 2 | 2 | | 1329 | 1543 | 1756 | 1970 | 2183 | 2397 | 2610 | 2824 | 3038 | 3251 | 3465 | 3678 | 3892 | 4106 | 4319 | 4533 |
| 3 | 3 | | 1391 | 1604 | 1818 | 2031 | 2245 | 2458 | 2672 | 2885 | 3099 | 3313 | 3526 | 3740 | 3953 | 4167 | 4381 | 4594 |
| 4 | 4 | | 1452 | 1665 | 1879 | 2092 | 2306 | 2520 | 2733 | 2947 | 3160 | 3374 | 3588 | 3801 | 4015 | 4228 | 4442 | 4656 |
| 5 | 5 | 158 | 1514 | 1727 | 1940 | 2154 | 2367 | 2581 | 2795 | 3008 | 3222 | 3436 | 3649 | 3863 | 4076 | 4290 | 4504 | 4717 |
| 6 | 6 | | 1575 | 1788 | 2002 | 2215 | 2429 | 2643 | 2856 | 3070 | 3284 | 3497 | 3711 | 3924 | 4138 | 4351 | 4565 | 4779 |
| 7 | 7 | | 1636 | 1850 | 2063 | 2277 | 2491 | 2704 | 2918 | 3132 | 3345 | 3559 | 3772 | 3986 | 4200 | 4413 | 4627 | 4841 |
| 8 | 8 | | 1698 | 1911 | 2125 | 2339 | 2552 | 2766 | 2980 | 3193 | 3407 | 3620 | 3834 | 4048 | 4261 | 4475 | 4689 | 4902 |
| 9 | 9 | | 1759 | 1973 | 2186 | 2400 | 2614 | 2827 | 3041 | 3255 | 3468 | 3682 | 3896 | 4109 | 4323 | 4537 | 4750 | 4964 |
| 10 | 10 | 158 | 1821 | 2034 | 2248 | 2462 | 2675 | 2889 | 3103 | 3316 | 3530 | 3744 | 3957 | 4171 | 4385 | 4598 | 4812 | 5026 |
| 11 | 11 | | 1882 | 2096 | 2310 | 2523 | 2737 | 2951 | 3164 | 3378 | 3592 | 3805 | 4019 | 4233 | 4446 | 4660 | 4874 | 5087 |
| 12 | 12 | | 1944 | 2158 | 2371 | 2585 | 2799 | 3012 | 3226 | 3440 | 3653 | 3867 | 4081 | 4294 | 4508 | 4722 | 4935 | 5149 |
| 13 | 13 | | 2006 | 2219 | 2433 | 2647 | 2860 | 3074 | 3288 | 3501 | 3715 | 3929 | 4142 | 4356 | 4570 | 4783 | 4997 | 5211 |
| 14 | 14 | | 2067 | 2281 | 2495 | 2708 | 2922 | 3136 | 3349 | 3563 | 3777 | 3990 | 4204 | 4418 | 4631 | 4845 | 5059 | 5272 |
| 15 | 15 | 158 | 2129 | 2343 | 2556 | 2770 | 2984 | 3197 | 3411 | 3625 | 3838 | 4052 | 4266 | 4479 | 4693 | 4907 | 5120 | 5334 |
| 16 | 16 | | 2191 | 2404 | 2618 | 2832 | 3045 | 3259 | 3473 | 3686 | 3900 | 4114 | 4327 | 4541 | 4755 | 4968 | 5182 | 5396 |
| 17 | 17 | | 2252 | 2466 | 2680 | 2893 | 3107 | 3321 | 3534 | 3748 | 3962 | 4175 | 4389 | 4603 | 4816 | 5030 | 5244 | 5457 |
| 18 | 18 | | 2314 | 2528 | 2741 | 2955 | 3169 | 3382 | 3596 | 3810 | 4023 | 4237 | 4451 | 4664 | 4878 | 5092 | 5305 | 5519 |
| 19 | 19 | | 2376 | 2589 | 2803 | 3017 | 3230 | 3444 | 3658 | 3871 | 4085 | 4299 | 4512 | 4726 | 4940 | 5153 | 5367 | 5581 |
| 20 | 20 | 158 | 2438 | 2651 | 2865 | 3079 | 3292 | 3506 | 3720 | 3933 | 4147 | 4361 | 4574 | 4788 | 5002 | 5215 | 5429 | 5643 |
| 21 | 21 | | 2499 | 2713 | 2927 | 3140 | 3354 | 3568 | 3781 | 3995 | 4209 | 4422 | 4636 | 4850 | 5063 | 5277 | 5491 | 5704 |
| 22 | 22 | 158 (159) | 2561 | 2775 | 2988 | 3202 | 3416 | 3629 | 3843 | 4057 | 4270 | 4484 | 4698 | 4911 | 5125 | 5339 | 5552 | 5766 |
| 23 | 23 | | 2623 | 2837 | 3050 | 3264 | 3478 | 3691 | 3905 | 4119 | 4332 | 4546 | 4760 | 4973 | 5187 | 5401 | 5614 | 5828 |
| 24 | 24 | | 2685 | 2898 | 3112 | 3326 | 3539 | 3753 | 3967 | 4180 | 4394 | 4608 | 4821 | 5035 | 5249 | 5462 | 5676 | 5890 |
| 25 | 25 | 158 (159) | 2747 | 2960 | 3174 | 3387 | 3601 | 3815 | 4028 | 4242 | 4456 | 4669 | 4883 | 5097 | 5310 | 5524 | 5738 | 5951 |
| 26 | 26 | | 2808 | 3022 | 3236 | 3449 | 3663 | 3877 | 4091 | 4304 | 4518 | 4732 | 4945 | 5159 | 5373 | 5586 | 5800 | 6014 |
| 27 | 27 | | 2870 | 3084 | 3297 | 3511 | 3725 | 3938 | 4152 | 4366 | 4579 | 4793 | 5007 | 5220 | 5434 | 5648 | 5861 | 6075 |
| 28 | 28 | | 2932 | 3146 | 3359 | 3573 | 3787 | 4000 | 4214 | 4428 | 4641 | 4855 | 5069 | 5282 | 5496 | 5710 | 5923 | 6137 |
| 29 | 29 | | 2994 | 3207 | 3421 | 3635 | 3848 | 4062 | 4276 | 4489 | 4703 | 4917 | 5130 | 5344 | 5558 | 5771 | 5985 | 6199 |
| 30 | 30 | 158 (159) | 3055 | 3269 | 3483 | 3696 | 3910 | 4124 | 4337 | 4551 | 4765 | 4978 | 5192 | 5406 | 5619 | 5833 | 6047 | 6260 |
| 31 | 31 | | 3117 | 3331 | 3544 | 3758 | 3972 | 4185 | 4399 | 4613 | 4826 | 5040 | 5254 | 5467 | 5681 | 5895 | 6108 | 6322 |
| 32 | 32 | | 3179 | 3392 | 3606 | 3820 | 4033 | 4247 | 4461 | 4674 | 4888 | 5102 | 5315 | 5529 | 5743 | 5956 | 6170 | 6384 |
| 33 | 33 | | 3240 | 3454 | 3668 | 3881 | 4095 | 4309 | 4522 | 4736 | 4950 | 5163 | 5377 | 5591 | 5804 | 6018 | 6232 | 6445 |
| 34 | 34 | | 3302 | 3516 | 3729 | 3943 | 4157 | 4370 | 4584 | 4798 | 5011 | 5225 | 5439 | 5652 | 5866 | 6080 | 6293 | 6507 |
| 35 | 35 | 159 | 3364 | 3577 | 3791 | 4005 | 4218 | 4432 | 4646 | 4859 | 5073 | 5287 | 5500 | 5714 | 5928 | 6141 | 6355 | 6569 |
| 36 | 36 | | 3425 | 3639 | 3853 | 4066 | 4280 | 4494 | 4707 | 4921 | 5135 | 5348 | 5562 | 5776 | 5989 | 6203 | 6417 | 6630 |
| 37 | 37 | | 3487 | 3701 | 3914 | 4128 | 4342 | 4555 | 4769 | 4983 | 5196 | 5410 | 5624 | 5837 | 6051 | 6265 | 6478 | 6692 |
| 38 | 38 | | 3549 | 3762 | 3976 | 4190 | 4403 | 4617 | 4831 | 5044 | 5258 | 5472 | 5685 | 5899 | 6113 | 6326 | 6540 | 6754 |
| 39 | 39 | | 3610 | 3824 | 4038 | 4251 | 4465 | 4679 | 4892 | 5106 | 5320 | 5533 | 5747 | 5961 | 6174 | 6388 | 6602 | 6815 |
| 40 | 40 | 159 | 3672 | 3886 | 4099 | 4313 | 4527 | 4740 | 4954 | 5168 | 5381 | 5595 | 5809 | 6022 | 6236 | 6450 | 6663 | 6877 |
| 41 | 41 | | 1752 | 1961 | 2169 | 2377 | 2585 | 2793 | 3001 | 3210 | 3418 | 3626 | 3835 | 4043 | 4252 | 4460 | 4669 | 4877 | 5086 |
| 42 | 42 | | 2015 | 2223 | 2431 | 2639 | 2847 | 3055 | 3263 | 3472 | 3680 | 3888 | 4096 | 4305 | 4513 | 4721 | 4929 | 5138 |
| 43 | 43 | | 2278 | 2486 | 2694 | 2902 | 3111 | 3319 | 3527 | 3734 | 3942 | 4150 | 4358 | 4566 | 4774 | 4982 | 5191 | 5399 |
| 44 | 44 | | 2541 | 2749 | 2958 | 3166 | 3374 | 3582 | 3790 | 3998 | 4206 | 4414 | 4622 | 4830 | 5038 | 5246 | 5454 | 5662 |
| 45 | 45 | 159 | 2804 | 3012 | 3220 | 3427 | 3634 | 3842 | 4050 | 4257 | 4465 | 4673 | 4881 | 5089 | 5297 | 5505 | 5713 | 5921 |
| 46 | 46 | | 3067 | 3274 | 3482 | 3689 | 3897 | 4104 | 4312 | 4520 | 4727 | 4935 | 5143 | 5351 | 5559 | 5766 | 5974 | 6182 |
| 47 | 47 | | 3330 | 3537 | 3745 | 3952 | 4159 | 4367 | 4574 | 4781 | 4989 | 5197 | 5404 | 5612 | 5820 | 6027 | 6235 | 6443 |
| 48 | 48 | | 3593 | 3800 | 4007 | 4214 | 4422 | 4629 | 4836 | 5044 | 5251 | 5458 | 5666 | 5873 | 6081 | 6288 | 6496 | 6704 | 6911 |
| 49 | 49 | | 3856 | 4063 | 4270 | 4477 | 4684 | 4891 | 5098 | 5305 | 5513 | 5720 | 5927 | 6135 | 6342 | 6550 | 6757 | 6965 |
| 50 | 50 | 159 | 4119 | 4326 | 4533 | 4740 | 4947 | 5154 | 5361 | 5568 | 5775 | 5982 | 6189 | 6397 | 6604 | 6811 | 7019 | 7226 |
| 51 | 51 | | 4382 | 4589 | 4796 | 5003 | 5210 | 5417 | 5624 | 5831 | 6037 | 6244 | 6451 | 6658 | 6865 | 7073 | 7280 | 7487 |
| 52 | 52 | | 4645 | 4852 | 5059 | 5265 | 5472 | 5679 | 5886 | 6092 | 6299 | 6506 | 6713 | 6920 | 7127 | 7334 | 7541 | 7748 |
| 53 | 53 | | 4908 | 5115 | 5322 | 5528 | 5735 | 5941 | 6148 | 6355 | 6561 | 6768 | 6975 | 7182 | 7389 | 7596 | 7802 | 8009 |
| 54 | 54 | | 5172 | 5378 | 5585 | 5791 | 5997 | 6204 | 6410 | 6617 | 6824 | 7030 | 7237 | 7443 | 7650 | 7857 | 8064 | 8271 | 8477 |
| 55 | 55 | 159 | 5435 | 5641 | 5848 | 6054 | 6260 | 6467 | 6673 | 6879 | 7086 | 7292 | 7498 | 7705 | 7911 | 8118 | 8324 | 8531 | 8737 |
| 56 | 56 | | 5698 | 5904 | 6111 | 6317 | 6523 | 6729 | 6936 | 7142 | 7348 | 7554 | 7761 | 7967 | 8173 | 8380 | 8586 | 8792 | 8999 |
| 57 | 57 | | 5961 | 6168 | 6374 | 6580 | 6786 | 6992 | 7198 | 7404 | 7611 | 7817 | 8023 | 8229 | 8436 | 8642 | 8848 | 9054 | 9261 |
| 58 | 58 | | 6225 | 6431 | 6637 | 6843 | 7049 | 7254 | 7460 | 7666 | 7872 | 8078 | 8285 | 8491 | 8697 | 8903 | 9109 | 9316 | 9522 |
| 59 | 59 | | 6488 | 6694 | 6900 | 7106 | 7311 | 7517 | 7723 | 7929 | 8135 | 8341 | 8547 | 8753 | 8960 | 9166 | 9372 | 9578 | 9784 |

| Parts for Sec. of C. | 65 | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 457 7382 |
| 1 | 1 | 7496 |
| 2 | 2 | 7609 |
| 3 | 3 | 7723 |
| 4 | 4 | 7837 |
| 5 | 5 | 7950 |
| 6 | 6 | 8064 |
| 7 | 7 | 8178 |
| 8 | 8 | 8291 |
| 9 | 9 | 8405 |
| 10 | 10 | 8518 |
| 11 | 11 | 8632 |
| 12 | 12 | 8746 |
| 13 | 13 | 8859 |
| 14 | 14 | 8973 |
| 15 | 15 | 9086 |
| 16 | 16 | 9200 |
| 17 | 17 | 9314 |
| 18 | 18 | 9427 |
| 19 | 19 | 9541 |
| 20 | 20 | 9654 |
| 21 | 21 | 9768 |
| 22 | 22 | 9882 |
| 23 | 23 | 9995 |
| 24 | 24 | 458 0109 |
| 25 | 25 | 0222 |
| 26 | 26 | 0336 |
| 27 | 27 | 0449 |
| 28 | 28 | 0563 |
| 29 | 29 | 0677 |
| 30 | 30 | 0790 |
| 31 | 31 | 0904 |
| 32 | 32 | 1017 |
| 33 | 33 | 1131 |
| 34 | 34 | 1244 |
| 35 | 35 | 1358 |
| 36 | 36 | 1472 |
| 37 | 37 | 1585 |
| 38 | 38 | 1699 |
| 39 | 39 | 1812 |
| 40 | 40 | 1926 |
| 41 | 41 | 2040 |
| 42 | 42 | 2153 |
| 43 | 43 | 2267 |
| 44 | 44 | 2380 |
| 45 | 45 | 2494 |
| 46 | 46 | 2608 |
| 47 | 47 | 2721 |
| 48 | 48 | 2835 |
| 49 | 49 | 2948 |
| 50 | 50 | 3062 |
| 51 | 51 | 3176 |
| 52 | 52 | 3289 |
| 53 | 53 | 3403 |
| 54 | 54 | 3516 |
| 55 | 55 | 3630 |
| 56 | 56 | 3744 |
| 57 | 57 | 3857 |
| 58 | 58 | 3971 |
| 59 | 59 | 4084 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

Auxiliary Arguments.

| ′ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbe | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 159 | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | 159 | | | | | | | | | | | | | | | | |
| 6 | | 4858 | 5063 | 5267 | 5471 | 5675 | 5879 | 6084 | 6288 | 6492 | 6697 | 6901 | 7106 | 7310 | 7515 | 7719 | 7924 | 8129 |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | 5390 | 5594 | 5798 | 6002 | 6206 | 6410 | 6614 | 6818 | 7022 | 7226 | 7430 | 7635 | 7839 | 8043 | 8248 | 8452 | 8656 |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | 159 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | 159 | | | | | | | | | | 8613 | 8816 | 9019 | 9223 | 9426 | 9630 | 9833 | |
| 15 | 159 | | | | | | | | | | | | | 9488 | 9691 | 9894 | 0097 | |
| 16 | | | | | | | | | 8737 | 8940 | 9143 | 9346 | 9549 | 9753 | 9955 | 0159 | 0362 | |
| 17 | | | | | | | | 9002 | 9205 | 9408 | 9611 | 9814 | 0017 | 0220 | 0423 | 0626 | | |
| 18 | | | | | | | | | | 9673 | 9876 | 0079 | 0282 | 0485 | 0688 | 0891 | | |
| 19 | | | | | | | 9533 | 9736 | 9939 | 0141 | 0344 | 0547 | 0750 | 0952 | 1155 | | | |
| 20 | 159 | | | | | 9192 | 9394 | 9597 | 9799 | 0002 | 0204 | 0407 | 0609 | 0812 | 1014 | 1217 | 1420 | |
| 21 | | 8851 | 9054 | 9256 | 9459 | 9660 | 9862 | 0065 | 0267 | 0469 | 0672 | 0874 | 1077 | 1279 | 1482 | 1684 | 1887 | |
| 22 | | | | | | | | | | | | | | | | | | |
| 23 | | 9384 | 9586 | 9788 | 9990 | | | | | | | | 1607 | 1809 | 2011 | 2214 | 2416 | 2618 |
| 24 | | | | | | | | | | | | | 1872 | 2074 | 2276 | 2478 | 2680 | 2883 |
| 25 | | | | | | | | | | | | | | | | | | |
| 26 | 160 | 0184 | 0386 | 0587 | 0789 | 0990 | 1192 | 1393 | 1595 | 1797 | 1998 | 2200 | | | | | | |
| 27 | | 0451 | 0652 | 0853 | 1055 | 1256 | 1458 | 1659 | 1861 | 2062 | 2264 | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | |
| 29 | | 0984 | 1185 | 1386 | 1587 | 1789 | 1990 | 2191 | 2392 | 2594 | 2795 | 2996 | 3198 | | | | | |
| 30 | 160 | 1251 | 1452 | 1653 | | | | | | | | | | | | | | |
| 31 | | 1518 | 1718 | 1919 | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | |
| 33 | | 2051 | 2252 | 2452 | 2653 | 2854 | 3054 | 3255 | 3456 | 3656 | 3857 | 4058 | 4259 | 4460 | 4661 | 4862 | 5063 | 5264 |
| 34 | | | | | | | | | | | | | | | | | | |
| 35 | 160 | 2585 | 2785 | 2986 | 3186 | 3386 | 3587 | 3787 | 3988 | 4188 | 4389 | 4589 | 4790 | 4990 | 5191 | 5392 | 5592 | 5793 |
| 36 | | 2852 | 3052 | 3252 | 3452 | 3653 | 3853 | 4053 | 4254 | 4454 | 4654 | 4855 | 5055 | 5256 | 5456 | 5657 | 5857 | 6058 |
| 37 | | | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | | | |
| 41 | | 4187 | 4387 | 4588 | 4788 | 4989 | 5189 | 5389 | 5589 | 5789 | 5990 | 6190 | 6390 | | | | | |
| 42 | | | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | | |
| 45 | 160 | 5256 | 5455 | 5654 | 5853 | 6052 | 6251 | 6450 | 6649 | 6848 | 7047 | | | | | | | |
| 46 | | 5523 | 5722 | 5921 | 6120 | 6319 | 6518 | 6716 | 6915 | 7114 | 7314 | 7513 | 7712 | 7911 | 8110 | | | |
| 47 | | | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | | | | |
| 50 | 160 | 6593 | 6791 | 6989 | 7188 | 7386 | 7584 | 7783 | 7981 | 8180 | 8378 | 8577 | 8775 | 8974 | 9172 | | | |
| 51 | 162(161) | | | | | | | | | | | | | | | | | |
| 52 | | 7128 | 7326 | 7524 | 7722 | 7920 | 8118 | 8316 | 8514 | 8712 | 8911 | 9109 | 9307 | 9505 | 9704 | | | |
| 53 | | | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | | | |
| 55 | 161(160) | | | | | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

| Parts for Seconds of Auxil. Argum. additive | S. A.A. & A.D. 66° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 159 (160)6752 | 6958 | 7163 | 7369 | 7574 | 7780 | 7986 | 8191 | 8397 | 8603 | 8809 | 9015 | 9221 | 9427 | 9633 | 9839 | 0045 |
| 3 | 1 | | 7016 | 7221 | 7426 | 7632 | 7837 | 8043 | 8248 | 8454 | 8660 | 8865 | 9071 | 9277 | 9482 | 9688 | 9894 | 0100 |
| 7 | 2 | | 7279 | 7484 | 7690 | 7895 | 8100 | 8306 | 8511 | 8717 | 8922 | 9128 | 9333 | 9539 | 9744 | 9950 | 0156 | 0361 | 0567 |
| 10 | 3 | | 7543 | 7748 | 7953 | 8158 | 8363 | 8569 | 8774 | 8979 | 9184 | 9390 | 9595 | 9801 | 0006 | 0212 | 0417 | 0623 | 0829 |
| 13 | 4 | | 7806 | 8011 | 8216 | 8421 | 8626 | 8831 | 9037 | 9242 | 9447 | 9652 | 9858 | 0063 | 0268 | 0474 | 0679 | 0885 | 1090 |
| 17 | 5 | 159 (160)8070 | 8275 | 8480 | 8684 | 8889 | 9094 | 9299 | 9504 | 9710 | 9915 | 0120 | 0325 | 0530 | 0736 | 0941 | 1146 | 1351 |
| 20 | 6 | | 8333 | 8538 | 8743 | 8948 | 9153 | 9357 | 9562 | 9767 | 9972 | 0177 | 0382 | 0587 | 0792 | 0997 | 1203 | 1408 | 1613 |
| 24 | 7 | | 8597 | 8802 | 9006 | 9211 | 9416 | 9620 | 9825 | 0030 | 0235 | 0440 | 0644 | 0849 | 1054 | 1259 | 1464 | 1669 | 1875 |
| 27 | 8 | | 8861 | 9065 | 9270 | 9474 | 9679 | 9883 | 0088 | 0293 | 0497 | 0702 | 0907 | 1112 | 1316 | 1521 | 1726 | 1931 | 2136 |
| 30 | 9 | | 9125 | 9329 | 9533 | 9738 | 9942 | 0146 | 0351 | 0556 | 0760 | 0965 | 1169 | 1374 | 1579 | 1783 | 1988 | 2193 | 2398 |
| 34 | 10 | 159 (160)9388 | 9592 | 9797 | 0001 | 0205 | 0410 | 0614 | 0818 | 1023 | 1227 | 1432 | 1636 | 1841 | 2045 | 2250 | 2455 | 2659 |
| 37 | 11 | | 9652 | 9856 | 0060 | 0264 | 0469 | 0673 | 0877 | 1081 | 1286 | 1490 | 1694 | 1899 | 2103 | 2307 | 2512 | 2716 | 2921 |
| 40 | 12 | | 9916 | 0120 | 0324 | 0528 | 0732 | 0936 | 1140 | 1344 | 1548 | 1752 | 1957 | 2161 | 2365 | 2569 | 2774 | 2978 | 3183 |
| 44 | 13 | 160 | 0180 | 0384 | 0588 | 0791 | 0995 | 1199 | 1403 | 1607 | 1811 | 2015 | 2219 | 2423 | 2627 | 2832 | 3036 | 3240 | 3444 |
| 47 | 14 | | 0444 | 0648 | 0851 | 1055 | 1259 | 1462 | 1666 | 1870 | 2074 | 2278 | 2482 | 2686 | 2890 | 3094 | 3298 | 3502 | 3706 |
| 50 | 15 | 160 | 0708 | 0911 | 1115 | 1318 | 1522 | 1726 | 1929 | 2133 | 2337 | 2541 | 2744 | 2948 | 3152 | 3356 | 3560 | 3764 | 3968 |
| 54 | 16 | | 0972 | 1175 | 1379 | 1582 | 1785 | 1989 | 2192 | 2396 | 2600 | 2803 | 3007 | 3211 | 3414 | 3618 | 3822 | 4026 | 4230 |
| 57 | 17 | | 1236 | 1439 | 1642 | 1846 | 2049 | 2252 | 2456 | 2659 | 2863 | 3066 | 3270 | 3473 | 3677 | 3880 | 4084 | 4288 | 4492 |
| 60 | 18 | | 1500 | 1703 | 1906 | 2109 | 2312 | 2516 | 2719 | 2922 | 3126 | 3329 | 3532 | 3736 | 3939 | 4143 | 4346 | 4550 | 4754 |
| 64 | 19 | | 1764 | 1967 | 2170 | 2373 | 2576 | 2779 | 2982 | 3185 | 3389 | 3592 | 3795 | 3998 | 4202 | 4405 | 4609 | 4812 | 5015 |
| 67 | 20 | 160 | 2028 | 2231 | 2434 | 2637 | 2840 | 3043 | 3246 | 3449 | 3652 | 3855 | 4058 | 4261 | 4464 | 4668 | 4871 | 5074 | 5277 |
| 71 | 21 | | 2292 | 2495 | 2698 | 2900 | 3103 | 3306 | 3509 | 3712 | 3915 | 4118 | 4321 | 4524 | 4727 | 4930 | 5133 | 5336 | 5539 |
| 74 | 22 | | 2556 | 2759 | 2962 | 3164 | 3367 | 3570 | 3772 | 3975 | 4178 | 4381 | 4584 | 4786 | 4989 | 5192 | 5395 | 5598 | 5801 |
| 77 | 23 | | 2821 | 3023 | 3226 | 3428 | 3631 | 3833 | 4036 | 4238 | 4441 | 4644 | 4846 | 5049 | 5252 | 5455 | 5658 | 5861 | 6064 |
| 81 | 24 | | 3085 | 3287 | 3490 | 3692 | 3894 | 4097 | 4299 | 4502 | 4704 | 4907 | 5109 | 5312 | 5515 | 5717 | 5920 | 6123 | 6326 |
| 84 | 25 | 160 | 3349 | 3551 | 3754 | 3956 | 4158 | 4360 | 4563 | 4765 | 4967 | 5170 | 5372 | 5575 | 5777 | 5980 | 6183 | 6385 | 6588 |
| 87 | 26 | | 3613 | 3815 | 4018 | 4220 | 4422 | 4624 | 4826 | 5028 | 5231 | 5433 | 5635 | 5838 | 6040 | 6243 | 6445 | 6647 | 6850 |
| 91 | 27 | | 3878 | 4080 | 4282 | 4484 | 4686 | 4888 | 5090 | 5292 | 5494 | 5696 | 5898 | 6100 | 6303 | 6505 | 6707 | 6911 | 7112 |
| 94 | 28 | | 4142 | 4344 | 4546 | 4748 | 4949 | 5151 | 5353 | 5555 | 5757 | 5959 | 6161 | 6363 | 6566 | 6768 | 6970 | 7172 | 7374 |
| 97 | 29 | | 4407 | 4608 | 4810 | 5012 | 5213 | 5415 | 5617 | 5819 | 6021 | 6222 | 6424 | 6626 | 6828 | 7030 | 7232 | 7435 | 7637 |
| 101 | 30 | 160 | 4671 | 4873 | 5074 | 5276 | 5477 | 5679 | 5880 | 6082 | 6284 | 6486 | 6688 | 6889 | 7091 | 7293 | 7495 | 7697 | 7899 |
| 104 | 31 | | 4936 | 5137 | 5338 | 5540 | 5741 | 5943 | 6144 | 6346 | 6547 | 6749 | 6951 | 7152 | 7354 | 7556 | 7758 | 7959 | 8161 |
| 107 | 32 | | 5200 | 5401 | 5603 | 5804 | 6005 | 6207 | 6408 | 6609 | 6811 | 7012 | 7214 | 7415 | 7617 | 7819 | 8020 | 8222 | 8424 |
| 111 | 33 | | 5465 | 5666 | 5867 | 6068 | 6269 | 6470 | 6672 | 6873 | 7074 | 7276 | 7477 | 7678 | 7880 | 8081 | 8283 | 8485 | 8686 |
| 114 | 34 | | 5729 | 5930 | 6131 | 6332 | 6533 | 6734 | 6936 | 7137 | 7338 | 7539 | 7740 | 7941 | 8143 | 8344 | 8546 | 8747 | 8949 |
| 118 | 35 | 160 | 5994 | 6195 | 6396 | 6596 | 6797 | 6998 | 7199 | 7400 | 7601 | 7802 | 8003 | 8205 | 8406 | 8607 | 8809 | 9010 | 9211 |
| 121 | 36 | | 6259 | 6459 | 6660 | 6861 | 7062 | 7262 | 7463 | 7664 | 7865 | 8066 | 8267 | 8468 | 8669 | 8870 | 9071 | 9272 | 9473 |
| 124 | 37 | | 6523 | 6724 | 6924 | 7125 | 7326 | 7526 | 7727 | 7928 | 8128 | 8329 | 8530 | 8731 | 8932 | 9133 | 9334 | 9535 | 9736 |
| 128 | 38 | | 6788 | 6988 | 7189 | 7389 | 7590 | 7790 | 7991 | 8191 | 8392 | 8593 | 8794 | 8995 | 9195 | 9396 | 9597 | 9798 | 9999 |
| 131 | 39 | 160 (161)7053 | 7253 | 7453 | 7654 | 7854 | 8054 | 8255 | 8455 | 8656 | 8857 | 9057 | 9258 | 9458 | 9659 | 9860 | 0060 | 0261 |
| 134 | 40 | 160 (161)7318 | 7518 | 7718 | 7918 | 8118 | 8318 | 8519 | 8719 | 8920 | 9120 | 9320 | 9521 | 9721 | 9922 | 0123 | 0323 | 0524 |
| 138 | 41 | | 7582 | 7782 | 7982 | 8182 | 8383 | 8583 | 8783 | 8983 | 9184 | 9384 | 9584 | 9784 | 9985 | 0185 | 0385 | 0586 | 0786 |
| 141 | 42 | | 7847 | 8047 | 8247 | 8447 | 8647 | 8847 | 9047 | 9247 | 9447 | 9647 | 9847 | 0048 | 0248 | 0448 | 0649 | 0849 | 1049 |
| 144 | 43 | | 8112 | 8312 | 8512 | 8711 | 8911 | 9111 | 9311 | 9511 | 9711 | 9911 | 0111 | 0311 | 0511 | 0711 | 0911 | 1112 | 1312 |
| 148 | 44 | | 8377 | 8577 | 8776 | 8976 | 9176 | 9375 | 9575 | 9775 | 9975 | 0175 | 0375 | 0574 | 0774 | 0974 | 1174 | 1374 | 1575 |
| 151 | 45 | 160 (161)8641 | 8841 | 9041 | 9240 | 9440 | 9640 | 9839 | 0039 | 0239 | 0438 | 0638 | 0838 | 1038 | 1238 | 1437 | 1637 | 1837 | 2037 |
| 155 | 46 | | 8905 | 9106 | 9306 | 9505 | 9704 | 9904 | 0103 | 0303 | 0503 | 0702 | 0902 | 1101 | 1301 | 1501 | 1701 | 1901 | 2100 |
| 158 | 47 | | 9172 | 9371 | 9570 | 9770 | 9969 | 0168 | 0368 | 0567 | 0766 | 0966 | 1165 | 1365 | 1564 | 1764 | 1964 | 2163 | 2363 |
| 161 | 48 | | 9437 | 9636 | 9835 | 0034 | 0233 | 0433 | 0632 | 0831 | 1030 | 1230 | 1429 | 1628 | 1828 | 2027 | 2227 | 2426 | 2625 |
| 165 | 49 | | 9701 | 9901 | 0100 | 0300 | 0499 | 0698 | 0897 | 1097 | 1296 | 1495 | 1695 | 1894 | 2093 | 2293 | 2492 | 2691 | 2891 |
| 168 | 50 | 160 (161)9965 | 0165 | 0365 | 0564 | 0763 | 0962 | 1160 | 1359 | 1558 | 1758 | 1957 | 2156 | 2355 | 2554 | 2753 | 2953 | 3152 | 3351 |
| 172 | 51 | | 0230 | 0431 | 0630 | 0829 | 1027 | 1226 | 1425 | 1624 | 1823 | 2022 | 2220 | 2419 | 2618 | 2817 | 3017 | 3216 | 3415 |
| 175 | 52 | | 0498 | 0696 | 0895 | 1093 | 1292 | 1490 | 1689 | 1888 | 2087 | 2286 | 2484 | 2683 | 2882 | 3081 | 3280 | 3479 | 3678 |
| 179 | 53 | | 0763 | 0961 | 1160 | 1358 | 1557 | 1755 | 1954 | 2152 | 2351 | 2550 | 2748 | 2947 | 3146 | 3344 | 3543 | 3742 | 3941 |
| 182 | 54 | | 1028 | 1226 | 1425 | 1623 | 1821 | 2020 | 2218 | 2416 | 2615 | 2814 | 3012 | 3211 | 3410 | 3608 | 3807 | 4006 | 4204 |
| 186 | 55 | 160 (161)1293 | 1491 | 1690 | 1888 | 2086 | 2284 | 2483 | 2681 | 2879 | 3078 | 3276 | 3474 | 3673 | 3871 | 4070 | 4268 | 4467 |
| 189 | 56 | | 1559 | 1757 | 1955 | 2153 | 2351 | 2549 | 2747 | 2945 | 3143 | 3340 | 3540 | 3738 | 3937 | 4135 | 4333 | 4532 | 4730 |
| 193 | 57 | | 1824 | 2022 | 2220 | 2418 | 2616 | 2814 | 3012 | 3210 | 3408 | 3606 | 3804 | 4002 | 4200 | 4398 | 4596 | 4795 | 4993 |
| 196 | 58 | | 2089 | 2287 | 2485 | 2683 | 2880 | 3078 | 3276 | 3474 | 3672 | 3870 | 4068 | 4266 | 4464 | 4662 | 4860 | 5058 | 5256 |
| 200 | 59 | | 2355 | 2552 | 2750 | 2948 | 3145 | 3343 | 3541 | 3738 | 3936 | 4134 | 4332 | 4530 | 4727 | 4925 | 5123 | 5321 | 5519 |
| 203 | 60 | | 2620 | 2817 | 3015 | 3213 | 3410 | 3608 | 3805 | 4003 | 4201 | 4398 | 4596 | 4793 | 4991 | 5189 | 5386 | 5584 | 5782 |

| Parts for Sec. of | C. D. 66° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | |
| 4 | 1 | |
| 7 | 2 | |
| 11 | 3 | |
| 14 | 4 | |
| 18 | 5 | 459 4592 |
| 22 | 6 | |
| 25 | 7 | |
| 29 | 8 | |
| 32 | 9 | |
| 36 | 10 | |
| 40 | 11 | |
| 43 | 12 | |
| 47 | 13 | |
| 50 | 14 | |
| 54 | 15 | |
| 58 | 16 | |
| 61 | 17 | |
| 65 | 18 | |
| 68 | 19 | |
| 72 | 20 | |
| 76 | 21 | |
| 79 | 22 | |
| 83 | 23 | |
| 86 | 24 | |
| 90 | 25 | |
| 94 | 26 | |
| 97 | 27 | |
| 101 | 28 | |
| 104 | 29 | |
| 108 | 30 | |
| 111 | 31 | |
| 115 | 32 | |
| 119 | 33 | |
| 122 | 34 | |
| 126 | 35 | |
| 130 | 36 | |
| 133 | 37 | |
| 137 | 38 | |
| 141 | 39 | 3653 |
| 144 | 40 | 3920 |
| 148 | 41 | |
| 151 | 42 | |
| 155 | 43 | |
| 159 | 44 | |
| 162 | 45 | |
| 166 | 46 | |
| 170 | 47 | |
| 173 | 48 | |
| 177 | 49 | |
| 181 | 50 | |
| 184 | 51 | |
| 188 | 52 | |
| 192 | 53 | |
| 195 | 54 | |
| 199 | 55 | |
| 203 | 56 | |
| 206 | 57 | |
| 210 | 58 | |
| 214 | 59 | |
| 217 | 60 | |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. | Sums $C_7$° | Numbers |
|---|---|---|
| 0 | 140 | 0271 |
| 1 | | 0222 |
| 2 | | 0174 |
| 3 | | 0125 |
| 4 | | 0077 |
| 5 | 140 | 0028 |
| 6 | | 9979 |
| 7 | | 9931 |
| 8 | | 9882 |
| 9 | | 9833 |
| 10 | 140 | 9784 |
| 11 | | 9736 |
| 12 | | 9687 |
| 13 | | 9638 |
| 14 | | 9589 |
| 15 | 140 | 9541 |
| 16 | | 9492 |
| 17 | | 9443 |
| 18 | | 9394 |
| 19 | | 9345 |
| 20 | 140 | 9297 |
| 21 | | 9248 |
| 22 | | 9199 |
| 23 | | 9150 |
| 24 | | 9102 |
| 25 | 139 | 9053 |
| 26 | | 9004 |
| 27 | | 8955 |
| 28 | | 8907 |
| 29 | | 8858 |
| 30 | 139 | 8809 |
| 31 | | 8761 |
| 32 | | 8712 |
| 33 | | 8663 |
| 34 | | 8615 |
| 35 | 139 | 8566 |
| 36 | | 8517 |
| 37 | | 8468 |
| 38 | | 8420 |
| 39 | | 8371 |
| 40 | 139 | 8322 |
| 41 | | 8274 |
| 42 | | 5278 |
| 43 | | 5011 |
| 44 | | 4744 |
| 45 | 139 | 4477 |
| 46 | | 4211 |
| 47 | | 3944 |
| 48 | | 3677 |
| 49 | | 3411 |
| 50 | 139 | 3144 |
| 51 | | 2877 |
| 52 | | 2605 |
| 53 | | 2337 |
| 54 | | 2070 |
| 55 | 139 | 1803 |
| 56 | | 1536 |
| 57 | | 1269 |
| 58 | | 1002 |
| 59 | | 0735 |
| 60 | 139 | 0468 |

| Parts for Seconds of Arc. | AA & A. D. $C_7$ | Auxiliary Arguments. ó | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 160 (161) | 0000 | 0197 | 0393 | 0590 | 0786 | 0983 | 1180 | 1376 | 1573 | 1770 | 1966 | 2163 | 2360 | 2556 | 2753 | 2950 |
| 1 | | | 0537 | 0733 | 0929 | 1126 | 1322 | 1519 | 1715 | 1912 | 2108 | 2305 | 2502 | 2698 | 2895 | 3092 | 3288 | 3485 |
| 2 | | | 1074 | 1270 | 1467 | 1663 | 1860 | 2056 | 2253 | 2449 | 2646 | 2842 | 3039 | 3235 | 3432 | 3628 | 3825 | 4021 |
| 3 | 1 | 161 | 1611 | 1808 | 2004 | 2201 | 2397 | 2594 | 2790 | 2987 | 3183 | 3380 | 3576 | 3773 | 3969 | 4166 | 4362 | 4559 |
| 4 | | | 2148 | 2345 | 2541 | 2738 | 2934 | 3131 | 3327 | 3524 | 3720 | 3917 | 4113 | 4310 | 4506 | 4703 | 4899 | 5096 |
| 5 | | | 2685 | 2882 | 3078 | 3275 | 3471 | 3668 | 3864 | 4061 | 4257 | 4454 | 4650 | 4847 | 5043 | 5240 | 5436 | 5633 |
| 6 | | | 3222 | 3418 | 3615 | 3811 | 4008 | 4204 | 4401 | 4597 | 4794 | 4990 | 5187 | 5383 | 5580 | 5776 | 5973 | 6169 |
| 7 | | | 3759 | 3956 | 4152 | 4349 | 4545 | 4742 | 4938 | 5135 | 5331 | 5528 | 5724 | 5921 | 6117 | 6314 | 6510 | 6707 |
| 8 | | | 4296 | 4492 | 4689 | 4885 | 5082 | 5278 | 5475 | 5671 | 5868 | 6064 | 6261 | 6457 | 6654 | 6850 | 7047 | 7243 |
| 9 | | | 4833 | 5029 | 5226 | 5422 | 5619 | 5815 | 6012 | 6208 | 6405 | 6601 | 6798 | 6994 | 7191 | 7387 | 7584 | 7780 |
| 10 | 1 | 161 | 5370 | 5566 | 5763 | 5959 | 6156 | 6352 | 6549 | 6745 | 6942 | 7138 | 7335 | 7531 | 7728 | 7924 | 8121 | 8317 |
| 11 | | | 5907 | 6103 | 6300 | 6496 | 6693 | 6889 | 7086 | 7282 | 7479 | 7675 | 7872 | 8068 | 8265 | 8461 | 8658 | 8854 |
| 12 | | | 6444 | 6640 | 6837 | 7033 | 7230 | 7426 | 7623 | 7819 | 8016 | 8212 | 8409 | 8605 | 8802 | 8998 | 9195 | 9391 |
| 13 | | | 6981 | 7178 | 7374 | 7571 | 7767 | 7964 | 8160 | 8357 | 8553 | 8750 | 8946 | 9143 | 9339 | 9536 | 9732 | 9929 |
| 14 | | | 7518 | 7714 | 7911 | 8107 | 8304 | 8500 | 8697 | 8893 | 9090 | 9286 | 9483 | 9679 | 9876 | 0072 | 0269 | 0465 |
| 15 | 2 | 161 | 8055 | 8252 | 8448 | 8645 | 8841 | 9038 | 9234 | 9431 | 9627 | 9824 | 0020 | 0217 | 0413 | 0610 | 0806 | 1003 |
| 16 | | | 8592 | 8788 | 8985 | 9181 | 9378 | 9574 | 9771 | 9967 | 0164 | 0360 | 0557 | 0753 | 0950 | 1146 | 1343 | 1539 |
| 17 | | | 9129 | 9325 | 9522 | 9718 | 9915 | 0111 | 0308 | 0504 | 0701 | 0897 | 1094 | 1290 | 1487 | 1683 | 1880 | 2076 |
| 18 | | | 9666 | 9862 | 0059 | 0255 | 0452 | 0648 | 0845 | 1041 | 1238 | 1434 | 1631 | 1827 | 2024 | 2220 | 2417 | 2613 |
| 19 | | | 0203 | 0399 | 0596 | 0792 | 0989 | 1185 | 1382 | 1578 | 1775 | 1971 | 2168 | 2364 | 2561 | 2757 | 2954 | 3150 |
| 20 | 2 | 161 | 0740 | 0936 | 1133 | 1329 | 1526 | 1722 | 1919 | 2115 | 2312 | 2508 | 2705 | 2901 | 3098 | 3294 | 3491 | 3687 |
| 21 | | | 1277 | 1473 | 1670 | 1866 | 2063 | 2259 | 2456 | 2652 | 2849 | 3045 | 3242 | 3438 | 3635 | 3831 | 4028 | 4224 |
| 22 | | | 1814 | 2010 | 2207 | 2403 | 2600 | 2796 | 2993 | 3189 | 3386 | 3582 | 3779 | 3975 | 4172 | 4368 | 4565 | 4761 |
| 23 | | | 2351 | 2547 | 2744 | 2940 | 3137 | 3333 | 3530 | 3726 | 3923 | 4119 | 4316 | 4512 | 4709 | 4905 | 5102 | 5298 |
| 24 | | | 2888 | 3084 | 3281 | 3477 | 3674 | 3870 | 4067 | 4263 | 4460 | 4656 | 4853 | 5049 | 5246 | 5442 | 5639 | 5835 |
| 25 | 3 | 161 | 3425 | 3621 | 3818 | 4014 | 4211 | 4407 | 4604 | 4800 | 4997 | 5193 | 5390 | 5586 | 5783 | 5979 | 6176 | 6372 |
| 26 | | | 3962 | 4158 | 4355 | 4551 | 4748 | 4944 | 5141 | 5337 | 5534 | 5730 | 5927 | 6123 | 6320 | 6516 | 6713 | 6909 |
| 27 | | | 4499 | 4695 | 4892 | 5088 | 5285 | 5481 | 5678 | 5874 | 6071 | 6267 | 6464 | 6660 | 6857 | 7053 | 7250 | 7446 |
| 28 | | | 5036 | 5232 | 5429 | 5625 | 5822 | 6018 | 6215 | 6411 | 6608 | 6804 | 7001 | 7197 | 7394 | 7590 | 7787 | 7983 |
| 29 | | | 5573 | 5769 | 5966 | 6162 | 6359 | 6555 | 6752 | 6948 | 7145 | 7341 | 7538 | 7734 | 7931 | 8127 | 8324 | 8520 |
| 30 | 3 | 161 | 6110 | 6306 | 6503 | 6699 | 6896 | 7092 | 7289 | 7485 | 7682 | 7878 | 8075 | 8271 | 8468 | 8664 | 8861 | 9057 |
| 31 | | | 6647 | 6843 | 7040 | 7236 | 7433 | 7629 | 7826 | 8022 | 8219 | 8415 | 8612 | 8808 | 9005 | 9201 | 9398 | 9594 |
| 32 | | | 7184 | 7380 | 7577 | 7773 | 7970 | 8166 | 8363 | 8559 | 8756 | 8952 | 9149 | 9345 | 9542 | 9738 | 9935 | 0131 |
| 33 | | | 7721 | 7917 | 8114 | 8310 | 8507 | 8703 | 8900 | 9096 | 9293 | 9489 | 9686 | 9882 | 0079 | 0275 | 0472 | 0668 |
| 34 | | | 8258 | 8454 | 8651 | 8847 | 9044 | 9240 | 9437 | 9633 | 9830 | 0026 | 0223 | 0419 | 0616 | 0812 | 1009 | 1205 |
| 35 | 4 | 161 | 8795 | 8991 | 9188 | 9384 | 9581 | 9777 | 9974 | 0170 | 0367 | 0563 | 0760 | 0956 | 1153 | 1349 | 1546 | 1742 |
| 36 | | | 9332 | 9528 | 9725 | 9921 | 0118 | 0314 | 0511 | 0707 | 0904 | 1100 | 1297 | 1493 | 1690 | 1886 | 2083 | 2279 |
| 37 | | | 9869 | 0065 | 0262 | 0458 | 0655 | 0851 | 1048 | 1244 | 1441 | 1637 | 1834 | 2030 | 2227 | 2423 | 2620 | 2816 |
| 38 | | | 0406 | 0602 | 0799 | 0995 | 1192 | 1388 | 1585 | 1781 | 1978 | 2174 | 2371 | 2567 | 2764 | 2960 | 3157 | 3353 |
| 39 | | | 0943 | 1139 | 1336 | 1532 | 1729 | 1925 | 2122 | 2318 | 2515 | 2711 | 2908 | 3104 | 3301 | 3497 | 3694 | 3890 |
| 40 | 4 | 162 | 1480 | 1676 | 1873 | 2069 | 2266 | 2462 | 2659 | 2855 | 3052 | 3248 | 3445 | 3641 | 3838 | 4034 | 4231 | 4427 |
| 41 | | | 2017 | 2213 | 2410 | 2606 | 2803 | 2999 | 3196 | 3392 | 3589 | 3785 | 3982 | 4178 | 4375 | 4571 | 4768 | 4964 |
| 42 | | | 2554 | 2750 | 2947 | 3143 | 3340 | 3536 | 3733 | 3929 | 4126 | 4322 | 4519 | 4715 | 4912 | 5108 | 5305 | 5501 |
| 43 | | | 3091 | 3287 | 3484 | 3680 | 3877 | 4073 | 4270 | 4466 | 4663 | 4859 | 5056 | 5252 | 5449 | 5645 | 5842 | 6038 |
| 44 | | | 3628 | 3824 | 4021 | 4217 | 4414 | 4610 | 4807 | 5003 | 5200 | 5396 | 5593 | 5789 | 5986 | 6182 | 6379 | 6575 |
| 45 | 5 | 162 | 4165 | 4361 | 4558 | 4754 | 4951 | 5147 | 5344 | 5540 | 5737 | 5933 | 6130 | 6326 | 6523 | 6719 | 6916 | 7112 |
| 46 | | | 4702 | 4898 | 5095 | 5291 | 5488 | 5684 | 5881 | 6077 | 6274 | 6470 | 6667 | 6863 | 7060 | 7256 | 7453 | 7649 |
| 47 | | | 5239 | 5435 | 5632 | 5828 | 6025 | 6221 | 6418 | 6614 | 6811 | 7007 | 7204 | 7400 | 7597 | 7793 | 7990 | 8186 |
| 48 | | | 5776 | 5972 | 6169 | 6365 | 6562 | 6758 | 6955 | 7151 | 7348 | 7544 | 7741 | 7937 | 8134 | 8330 | 8527 | 8723 |
| 49 | | | 6313 | 6509 | 6706 | 6902 | 7099 | 7295 | 7492 | 7688 | 7885 | 8081 | 8278 | 8474 | 8671 | 8867 | 9064 | 9260 |
| 50 | 5 | 162 | 6850 | 7046 | 7243 | 7439 | 7636 | 7832 | 8029 | 8225 | 8422 | 8618 | 8815 | 9011 | 9208 | 9404 | 9601 | 9797 |
| 51 | | | 7387 | 7583 | 7780 | 7976 | 8173 | 8369 | 8566 | 8762 | 8959 | 9155 | 9352 | 9548 | 9745 | 9941 | 0138 | 0334 |
| 52 | | | 7924 | 8120 | 8317 | 8513 | 8710 | 8906 | 9103 | 9299 | 9496 | 9692 | 9889 | 0085 | 0282 | 0478 | 0675 | 0871 |
| 53 | | | 8461 | 8657 | 8854 | 9050 | 9247 | 9443 | 9640 | 9836 | 0033 | 0229 | 0426 | 0622 | 0819 | 1015 | 1212 | 1408 |
| 54 | | | 8998 | 9194 | 9391 | 9587 | 9784 | 9980 | 0177 | 0373 | 0570 | 0766 | 0963 | 1159 | 1356 | 1552 | 1749 | 1945 |
| 55 | 6 | 162 | 9535 | 9731 | 9928 | 0124 | 0321 | 0517 | 0714 | 0910 | 1107 | 1303 | 1500 | 1696 | 1893 | 2089 | 2286 | 2482 |
| 56 | | | 0072 | 0268 | 0465 | 0661 | 0858 | 1054 | 1251 | 1447 | 1644 | 1840 | 2037 | 2233 | 2430 | 2626 | 2823 | 3019 |
| 57 | | | 0609 | 0805 | 1002 | 1198 | 1395 | 1591 | 1788 | 1984 | 2181 | 2377 | 2574 | 2770 | 2967 | 3163 | 3360 | 3556 |
| 58 | | | 1146 | 1342 | 1539 | 1735 | 1932 | 2128 | 2325 | 2521 | 2718 | 2914 | 3111 | 3307 | 3504 | 3700 | 3897 | 4093 |
| 59 | | | 1683 | 1879 | 2076 | 2272 | 2469 | 2665 | 2862 | 3058 | 3255 | 3451 | 3648 | 3844 | 4041 | 4237 | 4434 | 4630 |
| 60 | 6 | 162 | 2220 | 2416 | 2613 | 2809 | 3006 | 3202 | 3399 | 3595 | 3792 | 3988 | 4185 | 4381 | 4578 | 4774 | 4971 | 5167 |
| 61 | | | 2757 | 2953 | 3150 | 3346 | 3543 | 3739 | 3936 | 4132 | 4329 | 4525 | 4722 | 4918 | 5115 | 5311 | 5508 | 5704 |
| 62 | | | 3294 | 3490 | 3687 | 3883 | 4080 | 4276 | 4473 | 4669 | 4866 | 5062 | 5259 | 5455 | 5652 | 5848 | 6045 | 6241 |
| 63 | | | 3831 | 4027 | 4224 | 4420 | 4617 | 4813 | 5010 | 5206 | 5403 | 5599 | 5796 | 5992 | 6189 | 6385 | 6582 | 6778 |
| 64 | | | 4368 | 4564 | 4761 | 4957 | 5154 | 5350 | 5547 | 5743 | 5940 | 6136 | 6333 | 6529 | 6726 | 6922 | 7119 | 7315 |
| 65 | 7 | 162 | 4905 | 5101 | 5298 | 5494 | 5691 | 5887 | 6084 | 6280 | 6477 | 6673 | 6870 | 7066 | 7263 | 7459 | 7656 | 7852 |
| 66 | | | 5442 | 5638 | 5835 | 6031 | 6228 | 6424 | 6621 | 6817 | 7014 | 7210 | 7407 | 7603 | 7800 | 7996 | 8193 | 8389 |
| 67 | | | 5979 | 6175 | 6372 | 6568 | 6765 | 6961 | 7158 | 7354 | 7551 | 7747 | 7944 | 8140 | 8337 | 8533 | 8730 | 8926 |
| 68 | | | 6516 | 6712 | 6909 | 7105 | 7302 | 7498 | 7695 | 7891 | 8088 | 8284 | 8481 | 8677 | 8874 | 9070 | 9267 | 9463 |
| 69 | | | 7053 | 7249 | 7446 | 7642 | 7839 | 8035 | 8232 | 8428 | 8625 | 8821 | 9018 | 9214 | 9411 | 9607 | 9804 | 0000 |
| 70 | 7 | 162 | 7590 | 7786 | 7983 | 8179 | 8376 | 8572 | 8769 | 8965 | 9162 | 9358 | 9555 | 9751 | 9948 | 0144 | 0341 | 0537 |
| 71 | | | 8127 | 8323 | 8520 | 8716 | 8913 | 9109 | 9306 | 9502 | 9699 | 9895 | 0092 | 0288 | 0485 | 0681 | 0878 | 1074 |
| 72 | | | 8664 | 8860 | 9057 | 9253 | 9450 | 9646 | 9843 | 0039 | 0236 | 0432 | 0629 | 0825 | 1022 | 1218 | 1415 | 1611 |
| 73 | | | 9201 | 9397 | 9594 | 9790 | 9987 | 0183 | 0380 | 0576 | 0773 | 0969 | 1166 | 1362 | 1559 | 1755 | 1952 | 2148 |
| 74 | | | 9738 | 9934 | 0131 | 0327 | 0524 | 0720 | 0917 | 1113 | 1310 | 1506 | 1703 | 1899 | 2096 | 2292 | 2489 | 2685 |
| 75 | 8 | 162 | 0275 | 0471 | 0668 | 0864 | 1061 | 1257 | 1454 | 1650 | 1847 | 2043 | 2240 | 2436 | 2633 | 2829 | 3026 | 3222 |
| 76 | | | 0812 | 1008 | 1205 | 1401 | 1598 | 1794 | 1991 | 2187 | 2384 | 2580 | 2777 | 2973 | 3170 | 3366 | 3563 | 3759 |
| 77 | | | 1349 | 1545 | 1742 | 1938 | 2135 | 2331 | 2528 | 2724 | 2921 | 3117 | 3314 | 3510 | 3707 | 3903 | 4100 | 4296 |
| 78 | | | 1886 | 2082 | 2279 | 2475 | 2672 | 2868 | 3065 | 3261 | 3458 | 3654 | 3851 | 4047 | 4244 | 4440 | 4637 | 4833 |
| 79 | | | 2423 | 2619 | 2816 | 3012 | 3209 | 3405 | 3602 | 3798 | 3995 | 4191 | 4388 | 4584 | 4781 | 4977 | 5174 | 5370 |
| 80 | 8 | 162 | 2960 | 3156 | 3353 | 3549 | 3746 | 3942 | 4139 | 4335 | 4532 | 4728 | 4925 | 5121 | 5318 | 5514 | 5711 | 5907 |
| 81 | | | 3497 | 3693 | 3890 | 4086 | 4283 | 4479 | 4676 | 4872 | 5069 | 5265 | 5462 | 5658 | 5855 | 6051 | 6248 | 6444 |
| 82 | | | 4034 | 4230 | 4427 | 4623 | 4820 | 5016 | 5213 | 5409 | 5606 | 5802 | 5999 | 6195 | 6392 | 6588 | 6785 | 6981 |
| 83 | | | 4571 | 4767 | 4964 | 5160 | 5357 | 5553 | 5750 | 5946 | 6143 | 6339 | 6536 | 6732 | 6929 | 7125 | 7322 | 7518 |
| 84 | | | 5108 | 5304 | 5501 | 5697 | 5894 | 6090 | 6287 | 6483 | 6680 | 6876 | 7073 | 7269 | 7466 | 7662 | 7859 | 8055 |
| 85 | 9 | 162 | 5645 | 5841 | 6038 | 6234 | 6431 | 6627 | 6824 | 7020 | 7217 | 7413 | 7610 | 7806 | 8003 | 8199 | 8396 | 8592 |
| 86 | | | 6182 | 6378 | 6575 | 6771 | 6968 | 7164 | 7361 | 7557 | 7754 | 7950 | 8147 | 8343 | 8540 | 8736 | 8933 | 9129 |
| 87 | | | 6719 | 6915 | 7112 | 7308 | 7505 | 7701 | 7898 | 8094 | 8291 | 8487 | 8684 | 8880 | 9077 | 9273 | 9470 | 9666 |
| 88 | | | 7256 | 7452 | 7649 | 7845 | 8042 | 8238 | 8435 | 8631 | 8828 | 9024 | 9221 | 9417 | 9614 | 9810 | 0007 | 0203 |
| 89 | | | 7793 | 7989 | 8186 | 8382 | 8579 | 8775 | 8972 | 9168 | 9365 | 9561 | 9758 | 9954 | 0151 | 0347 | 0544 | 0740 |
| 90 | 9 | 162 | 8330 | 8526 | 8723 | 8919 | 9116 | 9312 | 9509 | 9705 | 9902 | 0098 | 0295 | 0491 | 0688 | 0884 | 1081 | 1277 |
| 91 | | | 8867 | 9063 | 9260 | 9456 | 9653 | 9849 | 0046 | 0242 | 0439 | 0635 | 0832 | 1028 | 1225 | 1421 | 1618 | 1814 |
| 92 | | | 9404 | 9600 | 9797 | 9993 | 0190 | 0386 | 0583 | 0779 | 0976 | 1172 | 1369 | 1565 | 1762 | 1958 | 2155 | 2351 |
| 93 | | | 9941 | 0137 | 0334 | 0530 | 0727 | 0923 | 1120 | 1316 | 1513 | 1709 | 1906 | 2102 | 2299 | 2495 | 2692 | 2888 |
| 94 | | | 0478 | 0674 | 0871 | 1067 | 1264 | 1460 | 1657 | 1853 | 2050 | 2246 | 2443 | 2639 | 2836 | 3032 | 3229 | 3425 |
| 95 | 10 | 162 | 1015 | 1211 | 1408 | 1604 | 1801 | 1997 | 2194 | 2390 | 2587 | 2783 | 2980 | 3176 | 3373 | 3569 | 3766 | 3962 |
| 96 | | | 1552 | 1748 | 1945 | 2141 | 2338 | 2534 | 2731 | 2927 | 3124 | 3320 | 3517 | 3713 | 3910 | 4106 | 4303 | 4499 |
| 97 | | | 2089 | 2285 | 2482 | 2678 | 2875 | 3071 | 3268 | 3464 | 3661 | 3857 | 4054 | 4250 | 4447 | 4643 | 4840 | 5036 |
| 98 | | | 2626 | 2822 | 3019 | 3215 | 3412 | 3608 | 3805 | 4001 | 4198 | 4394 | 4591 | 4787 | 4984 | 5180 | 5377 | 5573 |
| 99 | | | 3163 | 3359 | 3556 | 3752 | 3949 | 4145 | 4342 | 4538 | 4735 | 4931 | 5128 | 5324 | 5521 | 5717 | 5914 | 6110 |
| 100 | 10 | 162 | 3700 | 3896 | 4093 | 4289 | 4486 | 4682 | 4879 | 5075 | 5272 | 5468 | 5665 | 5861 | 6058 | 6254 | 6451 | 6647 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Parts for Seconds of Auxil. Argum. additive

S.A.A. & A.D. 67°

Auxiliary Arguments.

| ′ | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 161 2620 | 2818 | 3015 | 3213 | 3410 | 3608 | 3805 | 4003 | 4201 | 4398 | 4596 | 4794 | 4992 | 5189 | 5387 | 5585 | 5783 |
| 1 | | 2886 | 3083 | 3280 | 3478 | 3675 | 3873 | 4070 | 4268 | 4465 | 4663 | 4860 | 5058 | 5256 | 5453 | 5651 | 5849 | 6047 |
| 2 | | 3151 | 3348 | 3546 | 3743 | 3940 | 4137 | 4335 | 4532 | 4730 | 4927 | 5124 | 5322 | 5519 | 5717 | 5915 | 6112 | 6310 |
| 3 | | 3417 | 3614 | 3811 | 4008 | 4205 | 4402 | 4599 | 4797 | 4994 | 5191 | 5389 | 5586 | 5783 | 5981 | 6178 | 6376 | 6573 |
| 4 | | 3682 | 3879 | 4076 | 4273 | 4470 | 4667 | 4864 | 5061 | 5258 | 5456 | 5653 | 5850 | 6047 | 6245 | 6442 | 6639 | 6837 |
| 5 | 161 | 3948 | 4145 | 4342 | 4538 | 4735 | 4932 | 5129 | 5326 | 5523 | 5720 | 5917 | 6114 | 6311 | 6508 | 6706 | 6903 | 7100 |
| 6 | | 4214 | 4410 | 4607 | 4804 | 5000 | 5197 | 5394 | 5591 | 5788 | 5984 | 6181 | 6378 | 6575 | 6772 | 6969 | 7166 | 7364 |
| 7 | | 4479 | 4676 | 4872 | 5069 | 5266 | 5462 | 5659 | 5855 | 6053 | 6249 | 6446 | 6643 | 6839 | 7036 | 7233 | 7430 | 7627 |
| 8 | | 4745 | 4941 | 5138 | 5334 | 5531 | 5727 | 5924 | 6120 | 6317 | 6513 | 6710 | 6907 | 7103 | 7300 | 7497 | 7694 | 7891 |
| 9 | | 5011 | 5207 | 5403 | 5600 | 5796 | 5992 | 6189 | 6385 | 6581 | 6778 | 6975 | 7171 | 7368 | 7564 | 7761 | 7958 | 8154 |
| 10 | 161 | 5277 | 5473 | 5669 | 5865 | 6061 | 6257 | 6454 | 6650 | 6846 | 7043 | 7239 | 7435 | 7634 | 7828 | 8025 | 8221 | 8418 |
| 11 | | 5542 | 5738 | 5934 | 6130 | 6326 | 6522 | 6719 | 6915 | 7111 | 7307 | 7503 | 7700 | 7896 | 8092 | 8288 | 8485 | 8682 |
| 12 | | 5808 | 6004 | 6200 | 6396 | 6592 | 6788 | 6984 | 7180 | 7376 | 7572 | 7768 | 7964 | 8160 | 8356 | 8553 | 8749 | 8945 |
| 13 | | 6074 | 6270 | 6466 | 6661 | 6857 | 7053 | 7249 | 7445 | 7640 | 7836 | 8032 | 8228 | 8424 | 8620 | 8817 | 9013 | 9209 |
| 14 | | 6340 | 6536 | 6731 | 6927 | 7122 | 7318 | 7514 | 7710 | 7905 | 8101 | 8297 | 8493 | 8689 | 8885 | 9081 | 9277 | 9473 |
| 15 | 161 | 6606 | 6801 | 6997 | 7192 | 7388 | 7583 | 7779 | 7975 | 8170 | 8366 | 8561 | 8757 | 8953 | 9149 | 9345 | 9540 | 9736 |
| 16 | 161 (162) | 6872 | 7067 | 7263 | 7458 | 7653 | 7849 | 8044 | 8240 | 8435 | 8630 | 8826 | 9022 | 9217 | 9413 | 9609 | 9804 | 0000 |
| 17 | | 7138 | 7333 | 7528 | 7723 | 7919 | 8114 | 8309 | 8505 | 8700 | 8895 | 9091 | 9286 | 9482 | 9677 | 9873 | | |
| 18 | | 7404 | 7599 | 7794 | 7989 | 8184 | 8379 | 8574 | 8770 | 8965 | 9160 | 9355 | 9551 | 9746 | 9942 | 0137 | 0333 | 0528 |
| 19 | | 7670 | 7865 | 8060 | 8255 | 8450 | 8645 | 8840 | 9035 | 9230 | 9425 | 9620 | 9815 | 0011 | 0206 | 0401 | 0597 | 0792 |
| 20 | 161 (162) | 7936 | 8131 | 8326 | 8520 | 8715 | 8910 | 9105 | 9300 | 9495 | 9690 | 9885 | 0080 | 0275 | 0470 | 0665 | 0860 | 1056 |
| 21 | | 8202 | 8397 | 8591 | 8786 | 8981 | 9176 | 9370 | 9565 | 9760 | 9955 | 0150 | 0345 | 0540 | 0735 | 0930 | 1125 | 1320 |
| 22 | | 8468 | 8663 | 8857 | 9052 | 9246 | 9441 | 9636 | 9830 | 0025 | 0220 | 0414 | 0609 | 0804 | 0999 | 1194 | 1389 | 1584 |
| 23 | | 8735 | 8929 | 9123 | 9318 | 9512 | 9707 | 9901 | 0096 | 0290 | 0485 | 0679 | 0874 | 1069 | 1263 | 1458 | 1653 | 1848 |
| 24 | | 9001 | 9195 | 9389 | 9584 | 9778 | 9972 | 0166 | 0361 | 0555 | 0750 | 0944 | 1139 | 1333 | 1528 | 1722 | 1917 | 2112 |
| 25 | 161 (162) | 9267 | 9461 | 9655 | 9849 | 0044 | 0238 | 0432 | 0626 | 0820 | 1015 | 1209 | 1403 | 1598 | 1792 | 1987 | 2181 | 2376 |
| 26 | | 9533 | 9727 | 9921 | 0115 | 0309 | 0503 | 0697 | 0891 | 1086 | 1280 | 1474 | 1668 | 1863 | 2057 | 2251 | 2445 | 2640 |
| 27 | | 9800 | 9994 | 0187 | 0381 | 0575 | 0769 | 0963 | 1157 | 1351 | 1545 | 1739 | 1933 | 2127 | 2321 | 2516 | 2710 | 2904 |
| 28 | 162 | 0066 | 0260 | 0453 | 0647 | 0841 | 1035 | 1228 | 1422 | 1616 | 1810 | 2004 | 2198 | 2392 | 2586 | 2780 | 2974 | 3168 |
| 29 | | 0333 | 0526 | 0720 | 0913 | 1107 | 1300 | 1494 | 1688 | 1881 | 2075 | 2269 | 2463 | 2657 | 2851 | 3045 | 3239 | 3432 |
| 30 | 162 | 0599 | 0792 | 0986 | 1179 | 1373 | 1566 | 1760 | 1953 | 2147 | 2341 | 2534 | 2728 | 2921 | 3115 | 3309 | 3503 | 3697 |
| 31 | | 0865 | 1058 | 1252 | 1445 | 1639 | 1832 | 2025 | 2219 | 2412 | 2606 | 2799 | 2993 | 3186 | 3380 | 3574 | 3767 | 3961 |
| 32 | | 1131 | 1325 | 1518 | 1711 | 1905 | 2098 | 2291 | 2484 | 2678 | 2871 | 3064 | 3258 | 3451 | 3645 | 3838 | 4032 | 4225 |
| 33 | | 1398 | 1591 | 1784 | 1977 | 2171 | 2364 | 2557 | 2750 | 2943 | 3136 | 3330 | 3523 | 3716 | 3910 | 4103 | 4296 | 4489 |
| 34 | | 1665 | 1858 | 2051 | 2244 | 2437 | 2630 | 2823 | 3016 | 3209 | 3402 | 3595 | 3788 | 3981 | 4174 | 4367 | 4560 | 4754 |
| 35 | 162 | 1931 | 2124 | 2317 | 2510 | 2703 | 2895 | 3088 | 3281 | 3474 | 3667 | 3860 | 4053 | 4246 | 4439 | 4632 | 4825 | 5018 |
| 36 | | 2198 | 2391 | 2583 | 2776 | 2969 | 3161 | 3354 | 3547 | 3740 | 3933 | 4125 | 4318 | 4511 | 4704 | 4897 | 5090 | 5283 |
| 37 | | 2465 | 2657 | 2850 | 3042 | 3235 | 3428 | 3620 | 3813 | 4006 | 4198 | 4391 | 4584 | 4776 | 4969 | 5162 | 5355 | 5547 |
| 38 | | 2731 | 2924 | 3116 | 3308 | 3501 | 3693 | 3886 | 4078 | 4271 | 4463 | 4656 | 4848 | 5041 | 5234 | 5426 | 5619 | 5811 |
| 39 | | 2998 | 3190 | 3382 | 3575 | 3767 | 3959 | 4152 | 4344 | 4536 | 4729 | 4921 | 5113 | 5306 | 5498 | 5691 | 5883 | 6076 |
| 40 | 162 | 3265 | 3457 | 3649 | 3841 | 4033 | 4225 | 4417 | 4609 | 4801 | 4993 | 5185 | 5377 | 5569 | 5761 | 5954 | 6146 | 6338 |
| 41 | | 3532 | 3724 | 3916 | 4107 | 4299 | 4491 | 4683 | 4875 | 5066 | 5258 | 5450 | 5642 | 5834 | 6026 | 6218 | 6410 | 6602 |
| 42 | | 3798 | 3991 | 4183 | 4374 | 4566 | 4758 | 4949 | 5141 | 5333 | 5525 | 5717 | 5909 | 6101 | 6293 | 6485 | 6677 | 6867 |
| 43 | | 4065 | 4257 | 4449 | 4641 | 4832 | 5024 | 5216 | 5408 | 5600 | 5792 | 5984 | 6176 | 6368 | 6560 | 6752 | 6944 | 7136 |
| 44 | | 4332 | 4524 | 4716 | 4907 | 5099 | 5291 | 5483 | 5675 | 5867 | 6059 | 6251 | 6443 | 6635 | 6827 | 7019 | 7211 | 7403 |
| 45 | 162 | 4599 | 4791 | 4983 | 5175 | 5366 | 5558 | 5750 | 5942 | 6134 | 6326 | 6518 | 6710 | 6902 | 7094 | 7286 | 7478 | 7670 |
| 46 | | 4866 | 5058 | 5250 | 5442 | 5634 | 5826 | 6017 | 6209 | 6401 | 6593 | 6785 | 6977 | 7169 | 7361 | 7553 | 7745 | 7937 |
| 47 | | 5133 | 5324 | 5515 | 5706 | 5897 | 6089 | 6280 | 6471 | 6662 | 6854 | 7045 | 7236 | 7428 | 7619 | 7811 | 8002 | 8194 |
| 48 | | 5400 | 5591 | 5782 | 5973 | 6164 | 6355 | 6546 | 6737 | 6928 | 7119 | 7311 | 7502 | 7693 | 7885 | 8076 | 8267 | 8459 |
| 49 | | 5667 | 5858 | 6049 | 6240 | 6431 | 6622 | 6813 | 7004 | 7195 | 7385 | 7576 | 7767 | 7958 | 8149 | 8341 | 8532 | 8723 |
| 50 | 162 | 5934 | 6125 | 6316 | 6507 | 6698 | 6889 | 7080 | 7270 | 7461 | 7652 | 7843 | 8034 | 8225 | 8416 | 8607 | 8798 | 8988 |
| 51 | | 6201 | 6392 | 6583 | 6773 | 6964 | 7155 | 7346 | 7537 | 7728 | 7919 | 8110 | 8300 | 8491 | 8682 | 8873 | 9064 | 9253 |
| 52 | | 6469 | 6659 | 6850 | 7041 | 7232 | 7423 | 7613 | 7804 | 7995 | 8186 | 8376 | 8567 | 8758 | 8949 | 9139 | 9330 | 9521 |
| 53 | | 6736 | 6927 | 7118 | 7308 | 7499 | 7690 | 7880 | 8071 | 8262 | 8452 | 8643 | 8834 | 9024 | 9215 | 9406 | 9596 | 9787 |
| 54 | 162 | 7004 | 7194 | 7385 | 7576 | 7766 | 7957 | 8148 | 8338 | 8529 | 8720 | 8910 | 9101 | 9292 | 9482 | 9673 | 9864 | 0054 |
| 55 | 162 (163) | 7271 | 7462 | 7653 | 7843 | 8034 | 8225 | 8415 | 8606 | 8797 | 8987 | 9178 | 9369 | 9559 | 9750 | 9941 | 0131 | 0322 |
| 56 | | 7539 | 7730 | 7921 | 8111 | 8302 | 8493 | 8683 | 8874 | 9065 | 9255 | 9446 | 9637 | 9827 | 0018 | 0208 | 0399 | 0590 |
| 57 | | 7807 | 7998 | 8189 | 8379 | 8570 | 8761 | 8951 | 9142 | 9333 | 9523 | 9714 | 9904 | 0095 | 0286 | 0476 | 0667 | 0858 |
| 58 | | 8076 | 8267 | 8457 | 8648 | 8839 | 9029 | 9220 | 9411 | 9601 | 9792 | 9983 | 0173 | 0364 | 0554 | 0745 | 0936 | 1126 |
| 59 | | 8345 | 8535 | 8726 | 8917 | 9107 | 9298 | 9489 | 9679 | 9870 | 0061 | 0251 | 0442 | 0633 | 0823 | 1014 | 1204 | 1395 |

Sums for finding the Corrected Distances.

Parts for Sec. of S.D. additive

| S.D. 67° | ′ | Sums |
|---|---|---|
| 0 | 0 | 460 9269 |
| 1 | | 9537 |
| 2 | | 9804 |
| 3 | 1 | 461 0072 |
| 4 | | 0340 |
| 5 | 2 | 461 0608 |
| 6 | | 0876 |
| 7 | 3 | 1144 |
| 8 | | 1412 |
| 9 | 4 | 1680 |
| 10 | 5 | 461 1948 |
| 11 | | 2216 |
| 12 | 6 | 2484 |
| 13 | | 2753 |
| 14 | 7 | 3021 |
| 15 | 8 | 461 3289 |
| 16 | | 3557 |
| 17 | 9 | 3826 |
| 18 | | 4094 |
| 19 | 10 | 4362 |
| 20 | 11 | 461 4631 |
| 21 | | 4899 |
| 22 | 12 | 5168 |
| 23 | | 5436 |
| 24 | 13 | 5705 |
| 25 | 14 | 461 5973 |
| 26 | | 6242 |
| 27 | 15 | 6510 |
| 28 | | 6779 |
| 29 | 16 | 7048 |
| 30 | 17 | 461 7317 |
| 31 | | 7585 |
| 32 | 18 | 7854 |
| 33 | | 8123 |
| 34 | 19 | 8392 |
| 35 | 20 | 461 8661 |
| 36 | | 8930 |
| 37 | 21 | 9199 |
| 38 | | 9468 |
| 39 | 22 | 9737 |
| 40 | 23 | 462 0006 |
| 41 | | 0275 |
| 42 | 24 | 0544 |
| 43 | | 0813 |
| 44 | 25 | 1082 |
| 45 | 26 | 462 1351 |
| 46 | | 1621 |
| 47 | 27 | 1890 |
| 48 | | 2159 |
| 49 | 28 | 2429 |
| 50 | 29 | 462 2698 |
| 51 | | 2968 |
| 52 | 30 | 3237 |
| 53 | | 3506 |
| 54 | 31 | 3776 |
| 55 | 32 | 462 4045 |
| 56 | | 4315 |
| 57 | 33 | 4584 |
| 58 | | 4854 |
| 59 | 34 | 5124 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

| Parts for Sec. of Corrected addit. | C. S. A. 68° | Numbers |
|---|---|---|
| 269 | 0 | 139 0463 |
| 264 | 1 | 0197 |
| 260 | 2 | 138 9928 |
| 256 | 3 | 9660 |
| 251 | 4 | 9392 |
| 247 | 5 | 138 9124 |
| 242 | 6 | 8856 |
| 238 | 7 | 8588 |
| 233 | 8 | 8320 |
| 229 | 9 | 8052 |
| 224 | 10 | 138 7784 |
| 220 | 11 | 7516 |
| 215 | 12 | 7247 |
| 211 | 13 | 6979 |
| 206 | 14 | 6711 |
| 202 | 15 | 138 6443 |
| 197 | 16 | 6174 |
| 193 | 17 | 5906 |
| 188 | 18 | 5638 |
| 184 | 19 | 5369 |
| 179 | 20 | 138 5101 |
| 175 | 21 | 4832 |
| 170 | 22 | 4564 |
| 166 | 23 | 4295 |
| 161 | 24 | 4027 |
| 157 | 25 | 138 3758 |
| 152 | 26 | 3490 |
| 148 | 27 | 3221 |
| 143 | 28 | 2953 |
| 139 | 29 | 2684 |
| 134 | 30 | 138 2415 |
| 130 | 31 | 2147 |
| 125 | 32 | 1877 |
| 121 | 33 | 1608 |
| 117 | 34 | 1339 |
| 112 | 35 | 138 1070 |
| 108 | 36 | 0801 |
| 103 | 37 | 0532 |
| 99 | 38 | 0263 |
| 94 | 39 | 137 9994 |
| 90 | 40 | 137 9725 |
| 85 | 41 | 9456 |
| 81 | 42 | 9187 |
| 76 | 43 | 8918 |
| 72 | 44 | 8649 |
| 67 | 45 | 137 8379 |
| 63 | 46 | 8110 |
| 58 | 47 | 7841 |
| 54 | 48 | 7571 |
| 49 | 49 | 7302 |
| 45 | 50 | 137 7032 |
| 40 | 51 | 6763 |
| 36 | 52 | 6494 |
| 31 | 53 | 6224 |
| 27 | 54 | 5955 |
| 22 | 55 | 137 5685 |
| 18 | 56 | 5416 |
| 13 | 57 | 5146 |
| 9 | 58 | 4876 |
| 4 | 59 | 4607 |

| Parts for Seconds of Auxil. Arg. additive | C. S. A. & A. D. 68° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 162 5393 | 5582 | 5771 | 5960 | 6149 | 6337 | 6526 | 6715 | 6904 | 7093 | 7282 | 7471 | 7661 | 7850 | 8039 | 8228 | 8417 |
| 3 | 1 | | | | | | | | | | | | | | | | | |
| 6 | 2 | | | | | | | | | | | | | | | | | |
| 9 | 3 | | | | | | | | | | | | | | | | | |
| 12 | 4 | | | | | | | | | | | | | | | | | |
| 15 | 5 | 162 . 0742 | 0930 | 7119 | 7307 | 7495 | 7683 | 7871 | 8059 | 8248 | 8436 | 8624 | 8813 | 9001 | 9190 | 9378 | 9567 | 9755 |
| 19 | 6 | | | | | | | | | | | | | | | | | |
| 22 | 7 | | | | | | | | | | | | | | | | | |
| 25 | 8 | | | | | | | | | | | | | | | | | |
| 28 | 9 | | | | | | | | | | | | | | | | | |
| 31 | 10 | 162 (163) | | | | | | | | | | | | | | | | |
| 34 | 11 | 8362 | 8549 | 8737 | 8924 | 9111 | 9299 | 9486 | 9673 | 9861 | 0049 | 0236 | 0424 | 0611 | 0799 | 0987 | 1174 | 1362 |
| 37 | 12 | | | | | | | | | | | | | | | | | |
| 41 | 13 | | | | | | | | | | | | | | | | | |
| 43 | 14 | | | | | | | | | | | | | | | | | |
| 46 | 15 | 162 (163) | | | | | | | | | | | | | | | | |
| 49 | 16 | | | | | | | | | | | | | | | | | |
| 52 | 17 | | | | | | | | | | | | | | | | | |
| 56 | 18 | 163 | | | | | | | | | | | | | | | | |
| 59 | 19 | 0523 | 0710 | 0896 | 1082 | 1268 | 1455 | 1641 | 1827 | 2014 | 2200 | 2387 | 2573 | 2760 | 2946 | 3133 | 3319 | 3506 |
| 62 | 20 | 163 | | | | | | | | | | | | | | | | |
| 65 | 21 | 1064 | 1250 | 1436 | 1622 | 1808 | 1994 | 2180 | 2366 | 2552 | 2738 | 2925 | 3111 | 3297 | 3483 | 3670 | 3856 | 4042 |
| 68 | 22 | 1334 | 1520 | 1706 | 1892 | 2078 | 2264 | 2450 | 2636 | 2821 | 3008 | 3194 | 3380 | 3566 | 3752 | 3938 | 4124 | 4310 |
| 71 | 23 | 1605 | 1791 | 1976 | 2162 | 2348 | 2533 | 2719 | 2905 | 3091 | 3277 | 3463 | 3649 | 3834 | 4021 | 4207 | 4393 | 4579 |
| 74 | 24 | 1875 | | | | | | | | | | | | | | | | |
| 77 | 25 | 163 | | | | | | | | | | | | | | | | |
| 80 | 26 | | | | | | | | | | | | | | | | | |
| 83 | 27 | | | | | | | | | | | | | | | | | |
| 86 | 28 | | | | | | | | | | | | | | | | | |
| 89 | 29 | | | | | | | | | | | | | | | | | |
| 93 | 30 | 163 | | | | | | | | | | | | | | | | |
| 96 | 31 | | | | | | | | | | | | | | | | | |
| 99 | 32 | | | | | | | | | | | | | | | | | |
| 102 | 33 | | | | | | | | | | | | | | | | | |
| 105 | 34 | | | | | | | | | | | | | | | | | |
| 108 | 35 | 163 | | | | | | | | | | | | | | | | |
| 111 | 36 | | | | | | | | | | | | | | | | | |
| 114 | 37 | | | | | | | | | | | | | | | | | |
| 117 | 38 | | | | | | | | | | | | | | | | | |
| 120 | 39 | | | | | | | | | | | | | | | | | |
| 123 | 40 | 163 | | | | | | | | | | | | | | | | |
| 126 | 41 | | | | | | | | | | | | | | | | | |
| 130 | 42 | | | | | | | | | | | | | | | | | |
| 133 | 43 | | | | | | | | | | | | | | | | | |
| 136 | 44 | 163 (164) | | | | | | | | | | | | | | | | |
| 139 | 45 | 163 (164) | | | | | | | | | | | | | | | | |
| 142 | 46 | | | | | | | | | | | | | | | | | |
| 145 | 47 | | | | | | | | | | | | | | | | | |
| 148 | 48 | | | | | | | | | | | | | | | | | |
| 151 | 49 | | | | | | | | | | | | | | | | | |
| 154 | 50 | 163 (164) | | | | | | | | | | | | | | | | |
| 157 | 51 | | | | | | | | | | | | | | | | | |
| 160 | 52 | | | | | | | | | | | | | | | | | |
| 163 | 53 | | | | | | | | | | | | | | | | | |
| 167 | 54 | 164 | | | | | | | | | | | | | | | | |
| 170 | 55 | 164 | | | | | | | | | | | | | | | | |
| 173 | 56 | | | | | | | | | | | | | | | | | |
| 176 | 57 | | | | | | | | | | | | | | | | | |
| 179 | 58 | | | | | | | | | | | | | | | | | |
| 182 | 59 | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

Auxiliary Arguments.

| Para. | S.A.A. & A. D. 68° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Num. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0′ | 162 (163) 8606 | 8796 | 8985 | 9174 | 9364 | 9553 | 9743 | 9932 | 0122 | 0311 | 0501 | 0690 | 0880 | 1070 | 1259 | 1449 | 1638 |
| 1 | 1 | | 8797 | 8986 | 9175 | 9365 | 9554 | 9743 | 9933 | 0122 | 0312 | 0501 | 0691 | 0880 | 1070 | 1259 | 1449 | 1638 |
| 2 | 2 | | 8798 | 8987 | 9176 | 9365 | 9554 | 9744 | 9933 | 0123 | 0312 | 0502 | 0691 | 0881 | 1070 | 1260 | 1449 | 1639 |
| 3 | 3 | | 8799 | 8988 | 9177 | 9366 | 9555 | 9745 | 9934 | 0123 | 0313 | 0502 | 0692 | 0881 | 1071 | 1260 | 1450 | 1639 |
| 4 | 4 | | 8800 | 8989 | 9178 | 9367 | 9556 | 9745 | 9935 | 0124 | 0313 | 0503 | 0692 | 0882 | 1071 | 1261 | 1450 | 1640 |
| 5 | 5 | 162 (163) 9944 | 0133 | 0321 | 0510 | 0698 | 0887 | 1076 | 1265 | 1454 | 1643 | 1831 | 2020 | | | | | |
| 6 | 6 | 163 0211 | 0400 | 0588 | 0777 | 0965 | 1154 | 1343 | 1531 | 1720 | 1909 | 2098 | 2286 | | | | | |
| 7 | 7 | 0479 | 0667 | 0856 | 1044 | 1233 | 1421 | 1609 | 1798 | 1987 | 2175 | 2364 | 2553 | | | | | |
| 8 | 8 | 0747 | 0935 | 1123 | 1311 | 1500 | 1688 | | | | | | | | | | | |
| 9 | 9 | | 1202 | 1390 | 1579 | 1767 | 1955 | | | | | | | | | | | |
| 10 | 10 | 163 1282 | 1470 | 1658 | 1846 | 2034 | 2222 | 2410 | 2598 | 2786 | 2974 | 3162 | | | | | | |
| 11 | 11 | 1550 | 1738 | 1925 | 2113 | 2301 | 2489 | 2677 | 2865 | 3053 | 3241 | 3429 | | | | | | |
| 12 | 12 | 1818 | | 2193 | 2381 | | | | | 3320 | 3508 | 3695 | | | | | | |
| 13 | 13 | 2085 | 2273 | 2461 | 2648 | 2835 | | | | | 3774 | 3962 | | | | | | |
| 14 | 14 | 2353 | 2540 | 2728 | 2915 | 3103 | 3290 | | | | 4041 | 4228 | | | | | | |
| 15 | 15 | 163 2621 | 2808 | 2995 | 3183 | 3370 | 3557 | | | | 4307 | 4495 | | | | | | |
| 16 | 16 | 2888 | 3076 | 3262 | 3450 | 3637 | 3825 | | | | | | | | | | | |
| 17 | 17 | 3157 | 3344 | 3531 | | | | | | | | | | | | | | |
| 18 | 18 | 3425 | 3611 | 3798 | 3985 | 4172 | 4359 | 4546 | 4733 | 4920 | 5107 | 5294 | 5482 | 5669 | | | | |
| 19 | 19 | | | | | | | | | | | | | | | | | |
| 20 | 20 | 163 | | | | | | | | | | 5828 | 6014 | 6201 | | | | |
| 21 | 21 | 4229 | 4415 | 4602 | 4788 | 4975 | 5161 | | | | 5721 | 5908 | 6094 | 6281 | 6468 | 6655 | 6841 | |
| 22 | 22 | 4497 | 4683 | 4869 | 5056 | 5242 | 5428 | 5615 | 5801 | 5988 | 6174 | 6361 | 6548 | 6734 | 6921 | 7108 | | |
| 23 | 23 | 4765 | 4951 | 5137 | 5323 | 5510 | 5696 | 5882 | 6069 | 6255 | 6441 | 6628 | 6814 | 7001 | 7187 | 7374 | | |
| 24 | 24 | | | | | | | | | | | | | | | | | |
| 25 | 25 | 163 5301 | 5487 | 5673 | 5859 | 6045 | 6231 | 6417 | 6603 | 6789 | 6975 | 7161 | 7347 | | | | | |
| 26 | 26 | 5569 | 5755 | 5941 | 6127 | 6312 | 6498 | 6684 | 6870 | 7056 | 7242 | | | | | | | |
| 27 | 27 | 5838 | 6023 | 6209 | 6394 | 6580 | 6766 | 6952 | 7137 | 7323 | | | | | | | | |
| 28 | 28 | | | | | | | | | | | | | | | | | |
| 29 | 29 | 6374 | 6559 | 6745 | 693 | 7116 | 7301 | 7486 | 7672 | 7858 | 8043 | 8229 | 8414 | | | | | |
| 30 | 30 | 163 6642 | 6828 | 7013 | 7198 | 7383 | 7569 | 7754 | 7939 | | | | 8496 | 8681 | 8867 | 9052 | 9238 | 9423 |
| 31 | 31 | 6911 | 7096 | 7281 | 7466 | 7651 | 7836 | 8022 | 8207 | | | | 8763 | 8948 | 9133 | 9319 | 9504 | |
| 32 | 32 | 163 (164) 7179 | 7364 | 7549 | 7734 | 7919 | 8104 | 8289 | | | | | 9030 | 9215 | | | 9771 | 9956 |
| 33 | 33 | 7447 | 7632 | 7817 | 8002 | 8187 | 8372 | 8557 | | | | | 9297 | 9482 | | | 0037 | 0222 |
| 34 | 34 | | | | | | | | | | | | | | | | | |
| 35 | 35 | 163 (164) 7984 | 8169 | 8353 | 8538 | 8723 | 8907 | 9092 | 9277 | 9461 | 9646 | 9831 | 0016 | 0200 | 0385 | 0570 | 0755 | 0940 |
| 36 | 36 | 8253 | 8437 | 8622 | | | | | | | | | | | | | | |
| 37 | 37 | 8521 | 8706 | 8890 | | 9259 | 9443 | 9627 | 9812 | 9996 | 0181 | | | | | | | |
| 38 | 38 | 8790 | 8974 | 9158 | | | | | | | | 0632 | 0817 | 1001 | 1186 | | | |
| 39 | 39 | 9058 | 9243 | 9427 | 9610 | 9795 | 9979 | 0163 | 0347 | 0531 | 0715 | | | | | | | |
| 40 | 40 | 163 (164) 9327 | 9511 | 9695 | 9879 | 0063 | 0247 | 0431 | 0615 | 0799 | 0983 | | | | | | | |
| 41 | 41 | 9596 | 9779 | 9963 | | | | | | | | | | | | | | |
| 42 | 42 | 9864 | 0048 | 0232 | | 0599 | 0783 | 0966 | 1150 | | | | | 1701 | 1885 | | | |
| 43 | 43 | 164 0133 | 0317 | 0500 | 0683 | 0867 | 1051 | 1234 | 1418 | | | | | 1969 | 2152 | | | |
| 44 | 44 | 0402 | 0585 | 0768 | 0952 | 1135 | 1319 | 1502 | 1686 | | | | | | | | | |
| 45 | 45 | 164 0671 | 0854 | 1037 | 1220 | 1402 | | | | | | | | | | | | |
| 46 | 46 | | | | | | | | | | | | | | | | | |
| 47 | 47 | 1208 | 1391 | 1574 | | | | | | | | | | | | | | |
| 48 | 48 | 1477 | 1660 | 1843 | | | | | | | | | | | | | | |
| 49 | 49 | 1746 | 1929 | 2111 | | | | | | | | | | | | | | |
| 50 | 50 | 164 2015 | 2197 | 2380 | 2562 | 2745 | | | | | 3475 | 3658 | 3841 | 4024 | | | | |
| 51 | 51 | 2284 | 2466 | 2649 | 2831 | 3013 | | | | | 3743 | 3926 | 4109 | 4291 | | | | |
| 52 | 52 | | 273 | | | 3282 | | | | | 4011 | 4194 | 4376 | 4559 | 4741 | | | |
| 53 | 53 | | 300 | | | 3550 | | | | | 4279 | 4461 | 4644 | 4826 | 5009 | | | |
| 54 | 54 | | | | | 3819 | | | | | 4547 | 4729 | 4911 | 5094 | 5276 | | | |
| 55 | 55 | 164 | 3360 | 3543 | 3726 | | | | | | | | | | | | | |
| 56 | 56 | | | | | 4174 | 4356 | 4538 | 4721 | | | | | | | | | |
| 57 | 57 | 3898 | 4080 | 4261 | 4443 | 4624 | 4806 | 4987 | | | | | | | | | | |
| 58 | 58 | 4167 | 4349 | 4530 | 4712 | 4893 | 5075 | 5256 | | | | | | | | | | |
| 59 | 59 | 4437 | 4618 | 4799 | 4980 | 5162 | 53 | | | | | | | | | | | |

| Para. | 68° | Sums |
|---|---|---|
| | | |
| 0 | 0′ | 462 5293 |
| 1 | 1 | |
| 2 | 2 | 5483 |
| 3 | 3 | |
| 4 | 4 | 5672 |
| 5 | 5 | 592 0742 |
| 6 | 6 | 7 12 |
| 7 | 7 | 7282 |
| 8 | 8 | 7352 |
| 9 | 9 | 7422 |
| 10 | 10 | |
| 11 | 11 | 8132 |
| 12 | 12 | |
| 13 | 13 | |
| 14 | 14 | 9172 |
| 15 | 15 | 9242 |
| 16 | 16 | 9313 |
| 17 | 17 | 9383 |
| 18 | 18 | 463 9453 |
| 19 | 19 | |
| 20 | 20 | |
| 21 | 21 | |
| 22 | 22 | |
| 23 | 23 | |
| 24 | 24 | |
| 25 | 25 | |
| 26 | 26 | |
| 27 | 27 | |
| 28 | 28 | |
| 29 | 29 | |
| 30 | 30 | 463 3499 |
| 31 | 31 | 3769 |
| 32 | 32 | 4039 |
| 33 | 33 | 4310 |
| 34 | 34 | 4580 |
| 35 | 35 | 4850 |
| 36 | 36 | 5120 |
| 37 | 37 | 5390 |
| 38 | 38 | 5660 |
| 39 | 39 | 5930 |
| 40 | 40 | |
| 41 | 41 | |
| 42 | 42 | |
| 43 | 43 | |
| 44 | 44 | |
| 45 | 45 | |
| 46 | 46 | |
| 47 | 47 | |
| 48 | 48 | |
| 49 | 49 | |
| 50 | 50 | |
| 51 | 51 | |
| 52 | 52 | |
| 53 | 53 | |
| 54 | 54 | |
| 55 | 55 | |
| 56 | 56 | |
| 57 | 57 | |
| 58 | 58 | |
| 59 | 59 | |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

Auxiliary Arguments.

| ′ | Numbers | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 164 | 1632 | 1813 | 1993 | 2174 | 2354 | 2535 | 2716 | 2897 | 3077 | 3258 | 3439 | 3620 | | | | | |
| 1 | | | 0084 | 2264 | 2445 | 2625 | 2806 | 2987 | 3167 | 3348 | 3529 | 3709 | 3890 | 4071 | | | | |
| 2 | | 2175 | | 2536 | 2716 | 2897 | 3077 | 3257 | 3438 | 3618 | 3799 | 3980 | 4160 | 4341 | | | | |
| 3 | | | | 2807 | 2987 | 3168 | 3348 | 3528 | 3709 | 3889 | 4069 | 4250 | 4430 | 4611 | | | | |
| 4 | | 2717 | | 3079 | 3259 | 3439 | 3619 | 3799 | 3979 | 4160 | 4340 | 4520 | | | | | | |
| 5 | 164 | | | | | | | | | | | | | | | | | |
| 6 | | | | 3350 | 3530 | 3710 | 3890 | 4070 | 4250 | 4430 | 4610 | 4790 | | | | | | |
| 7 | | 3442 | 3621 | 3801 | 3981 | 4161 | 4341 | 4521 | 4701 | 4880 | 5061 | 5241 | 5421 | 5601 | 5781 | 5961 | 6141 | 6321 |
| 8 | | 3713 | 3893 | 4073 | 4252 | 4432 | 4612 | 4792 | 4971 | 5151 | 5331 | 5511 | 5691 | 5871 | 6051 | 6231 | | |
| 9 | | 3985 | 4165 | 4345 | 4524 | 4703 | 4883 | 5062 | 5242 | 5422 | 5602 | 5781 | 5961 | 6141 | 6321 | 6501 | 6681 | |
| 10 | | 4257 | 4436 | 4615 | 4795 | 4974 | 5154 | 5333 | 5513 | 5693 | 5872 | 6052 | 6231 | 6411 | 6591 | 6771 | 6951 | |
| 11 | 164 | | | | | | | | | | | | | | | | | |
| 12 | | 4521 | 4700 | 4879 | 5058 | 5238 | 5417 | 5596 | 5775 | 5954 | 6134 | 6313 | 6492 | 6672 | 6851 | 7031 | 7210 | |
| 13 | | 4785 | 4964 | 5143 | 5323 | 5502 | 5681 | 5860 | 6039 | 6219 | 6398 | 6577 | 6756 | 6934 | 7113 | 7292 | 7471 | |
| 14 | | 5047 | 5226 | 5405 | 5584 | 5763 | 5942 | 6121 | 6300 | 6479 | 6658 | 6837 | 7016 | 7195 | 7374 | 7553 | | |
| 15 | 164 | | | | | | | | | | | | | | | | | |
| 16 | | 5301 | 5480 | 5659 | 5838 | 6016 | 6195 | 6374 | 6553 | 6732 | 6911 | 7090 | 7269 | 7448 | 7627 | | | |
| 17 | | 5553 | 5732 | 5911 | 6090 | 6268 | 6447 | 6626 | 6805 | 6984 | 7163 | 7342 | 7521 | 7700 | | | | |
| 18 | | 5805 | 5984 | 6163 | 6341 | 6520 | 6699 | 6878 | 7057 | 7236 | 7415 | 7594 | 7773 | | | | | |
| 19 | | 6057 | 6236 | 6414 | 6593 | 6772 | 6951 | 7130 | 7309 | 7488 | 7667 | 7846 | | | | | | |
| 20 | 164 | 7069 | 7247 | 7425 | 7604 | 7781 | 7959 | 8137 | 8315 | 8493 | 8671 | 8849 | 9027 | 9205 | 9383 | 9562 | 9740 | 9918 |
| 21 | 164 (165) | 7342 | 7519 | 7697 | 7875 | 8053 | 8230 | 8408 | 8586 | 8764 | 8942 | 9120 | 9298 | 9476 | 9654 | 9832 | 0010 | 0188 |
| 22 | | 7614 | 7791 | 7969 | 8147 | 8324 | 8502 | 8680 | 8857 | 9035 | 9213 | 9391 | 9569 | 9746 | 9924 | 0102 | 0280 | 0458 |
| 23 | | 7886 | 8063 | 8241 | 8418 | 8596 | 8773 | 8951 | 9129 | 9306 | 9484 | 9662 | 9839 | 0017 | 0195 | 0373 | 0550 | 0728 |
| 24 | | 8157 | 8334 | 8511 | 8688 | 8866 | | | | | | | | | | | | |
| 25 | 164 (165) | 8431 | 8608 | 8785 | 8962 | 9139 | 9317 | 9494 | 9671 | 9849 | 0026 | 0203 | 0381 | 0558 | 0736 | 0913 | 1091 | 1269 |
| 26 | | 8703 | 8880 | 9057 | 9234 | 9411 | 9588 | 9765 | 9943 | | | | | | | | | |
| 27 | | 8975 | 9152 | 9329 | 9506 | 9683 | 9860 | 0037 | 0214 | 0391 | 0568 | 0745 | 0922 | 1100 | 1277 | 1454 | 1631 | |
| 28 | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | |
| 30 | 164 (165) | | | | | | | | | | | | | | | | | |
| 31 | 165 | 0066 | 0241 | 0418 | 0594 | 0771 | 0947 | 1123 | 1300 | 1476 | 1653 | 1830 | 2006 | 2183 | 2360 | 2536 | 2713 | |
| 32 | | 0338 | 0514 | 0690 | 0866 | 1043 | 1219 | 1395 | 1571 | 1748 | 1924 | 2101 | | | | | | |
| 33 | | 0610 | 0786 | 0962 | 1138 | 1315 | 1491 | 1667 | 1843 | 2019 | 2196 | 2372 | | | | | | |
| 34 | | 0883 | 1059 | 1235 | 1411 | 1587 | 1762 | 1939 | 2115 | | | | | | | | | |
| 35 | 165 | 1155 | 1331 | 1507 | 1683 | 1859 | | | | | | | | | | | | |
| 36 | | 1428 | 1604 | 1770 | 1955 | 2131 | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | | | |
| 38 | | 1973 | 2149 | 2324 | 2499 | 2675 | 2850 | 3026 | 3201 | 3377 | 3553 | 3728 | 3904 | 4080 | 4255 | 4431 | 4607 | 4783 |
| 39 | | | | | | | | | | | | | | | | | | |
| 4 | 165 | | | | | | | | | | | | | | | | | |
| 41 | | 2792 | 2966 | 3141 | 3316 | 3491 | 3667 | 3842 | 4017 | 4192 | 4367 | 4542 | 4718 | 4893 | 5068 | 5243 | 5419 | 5594 |
| 42 | | 3064 | 3239 | 3414 | 3588 | 3764 | 3939 | 4114 | 4289 | 4464 | 4639 | 4814 | 4989 | 5164 | 5339 | 5514 | 5690 | 5865 |
| 43 | | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | 4832 | 5007 | 5182 | 5357 | 5532 | 5706 | 5881 | 6056 | 6231 |
| 45 | 165 | | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | 5104 | 5279 | 5454 | 5628 | 5805 | 5978 | 6152 | 6327 | 6502 |
| 47 | | | | | | | | | | 5376 | 5551 | 5725 | 5900 | 6074 | 6249 | 6423 | | |
| 48 | | | | | | | | | | 5648 | 5823 | 5997 | 6171 | 6346 | 6520 | 6695 | | |
| 49 | | | | | | | | | | 5919 | 6094 | 6269 | 6443 | 6617 | 6792 | 6966 | | |
| 50 | | | | | | | | | | 6192 | 6366 | 6540 | 6715 | 6889 | 7063 | 7237 | | |
| 51 | | | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | | | |
| 55 | 165 | | | | | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

| Parts for Seconds of Aux. Arg. subtract | Aux. & A. D. 69° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ″ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 164 4706 | 4887 | 5068 | 5249 | 5430 | 5612 | 5793 | 5974 | 6155 | 6337 | 6518 | 6699 | 6881 | 7062 | 7244 | 7425 | 7607 |
| 3 | 1 | 4975 | 5156 | 5337 | 5518 | 5699 | 5880 | 6061 | 6242 | 6424 | 6605 | 6786 | 6967 | 7148 | 7330 | 7511 | 7692 | 7874 |
| 6 | 2 | 5244 | 5425 | 5606 | 5787 | 5968 | 6149 | 6330 | 6511 | 6692 | 6873 | 7054 | 7235 | 7416 | 7597 | 7778 | 7960 | 8141 |
| 9 | 3 | 5514 | 5694 | 5875 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7684 | 7 | [illegible] | [illegible] | [illegible] |
| 12 | 4 | 5783 | 5964 | 6144 | 6325 | 6505 | 6686 | 6867 | 7047 | 7228 | 7409 | 7590 | 7771 | 7951 | 8132 | 8313 | 8494 | 8675 |
| 15 | 5 | 164 6052 | 6233 | 6413 | 6594 | 6774 | 6955 | 7135 | 7316 | 7496 | 7677 | 7858 | 8038 | 8219 | 8400 | 8581 | 8762 | 8942 |
| 18 | 6 | 6322 | 6502 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 21 | 7 | 6591 | 6771 | 6952 | 7132 | 7312 | 7492 | 7672 | 7853 | 8033 | 8213 | 8394 | 8574 | 8755 | 8935 | 9116 | 9296 | 9477 |
| 24 | 8 | 6861 | 7041 | 7221 | 7401 | 7581 | 7761 | 7941 | 8121 | 8301 | 8482 | 8662 | 8842 | 9023 | 9203 | 9383 | 9564 | 9744 |
| 27 | 9 | 164(165) 7130 | 7310 | 7490 | 7670 | 7850 | 8030 | [illegible] | 8390 | 8570 | 8750 | 8930 | 9110 | 9290 | 9471 | 9651 | 9831 | 0011 |
| 30 | 10 | 164(165) 7400 | 7579 | 7759 | 7939 | 8119 | 8299 | 8478 | 8658 | 8838 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0279 |
| 33 | 11 | 7669 | 7849 | 8028 | 8208 | 8388 | 8567 | 8747 | 8927 | 9107 | 9287 | 9466 | 9646 | 9826 | 0006 | 0186 | 0366 | 0546 |
| 36 | 12 | 7939 | 8118 | 8298 | 8477 | 8657 | 8836 | 9016 | 9196 | 9375 | 9555 | 9735 | 9914 | 0094 | 0274 | 0454 | 0634 | 0813 |
| 39 | 13 | [illegible] | [illegible] | [illegible] | 8746 | 8926 | 9105 | 9285 | 9464 | 9644 | 9823 | 0003 | 0182 | 0362 | 0542 | 0721 | 0901 | 1081 |
| 42 | 14 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 45 | 15 | 164(165) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | 16 | 9017 | 9196 | 9375 | 9554 | 9733 | 9912 | 0091 | 0270 | 0449 | 0629 | 0808 | 0987 | 1166 | 1345 | 1525 | 1704 | 1883 |
| 51 | 17 | 9287 | 0466 | 0645 | 0824 | 0002 | 0181 | 0360 | 0539 | 0718 | 0897 | 1076 | 1255 | 1434 | 1613 | 1792 | 1972 | 2151 |
| 54 | 18 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | 19 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 60 | 20 | 165 0097 | 0275 | 0453 | 0632 | 0810 | 0989 | 1167 | 1346 | 1524 | 1703 | 1881 | 2060 | 2239 | 2417 | 2596 | 2775 | 2954 |
| 63 | 21 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 66 | 22 | 0636 | 0814 | 0993 | 1171 | 1349 | 1527 | 1705 | 1883 | 2062 | 2240 | 2418 | 2597 | 2775 | 2953 | 3132 | 3310 | 3489 |
| 69 | 23 | 0906 | 1084 | 1262 | 1440 | 1618 | 1796 | 1974 | 2152 | 2330 | 2509 | 2687 | 2865 | 3043 | 3222 | 3400 | 3578 | 3757 |
| 72 | 24 | 1176 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 75 | 25 | 165 1446 | 1624 | 1801 | 1979 | 2157 | 2335 | 2512 | 2690 | 2868 | 3046 | 3224 | 3402 | 3580 | 3758 | 3936 | 4114 | 4292 |
| 78 | 26 | 1716 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 81 | 27 | 1986 | 2164 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 84 | 28 | 2256 | 2433 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 87 | 29 | 2526 | 2703 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 90 | 30 | 165 2796 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 93 | 31 | 3067 | 3243 | 3420 | 3597 | 3774 | 3951 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 96 | 32 | 3337 | 3513 | 3690 | 3867 | 4044 | 4220 | 4397 | 4574 | 4751 | 4928 | 5105 | 5282 | 5459 | 5636 | 5813 | 5990 | 6167 |
| 99 | 33 | 3607 | 3783 | 3960 | 4137 | 4313 | 4490 | 4667 | 4843 | 5020 | 5197 | 5374 | 5551 | 5727 | 5904 | 6081 | 6258 | 6435 |
| 102 | 34 | 3877 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 105 | 35 | 165 4147 | 4324 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 108 | 36 | 4417 | [illegible] | 4777 | 4957 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 111 | 37 | 4688 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 114 | 38 | 4958 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 117 | 39 | 5228 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 120 | 40 | 165 5498 | 5675 | 5850 | 6026 | 6202 | 6377 | 6553 | 6729 | 6905 | 7080 | 7256 | 7432 | 7608 | 7784 | 7960 | 8136 | 8312 |
| 123 | 41 | 5768 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6823 | 6998 | 7174 | 7350 | 7525 | 7701 | 7877 | 8053 | 8229 | 8404 | 8580 |
| 126 | 42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7092 | 7268 | 7443 | 7619 | 7794 | 7970 | 8146 | 8321 | 8497 | 8673 | 8849 |
| 129 | 43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7362 | 7537 | 7713 | 7888 | 8064 | 8239 | 8415 | 8590 | 8766 | 8941 | 9117 |
| 132 | 44 | 6581 | 6756 | 6931 | 7106 | [illegible] | [illegible] | 7632 | 7807 | 7982 | 8157 | 8333 | 8508 | 8683 | 8859 | 9034 | 9210 | 9385 |
| 135 | 45 | 165 6852 | 7027 | 7201 | 7376 | 7551 | 7726 | 7901 | 8077 | 8252 | 8427 | 8602 | 8777 | 8952 | 9128 | 9303 | 9478 | 9653 |
| 138 | 46 | 7122 | 7297 | 7472 | 7647 | 7821 | 7996 | 8171 | 8346 | 8521 | 8696 | 8871 | 9046 | 9221 | 9396 | 9571 | 9747 | 9922 |
| 141 | 47 | 165(166) 7393 | 7567 | 7742 | 7917 | 8091 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 144 | 48 | 7664 | 7838 | 8012 | 8187 | 8362 | 8536 | 8711 | 8885 | 9060 | 9235 | 9410 | 9584 | 9759 | 9934 | 0109 | 0284 | 0459 |
| 147 | 49 | 7934 | 8109 | 8283 | 8457 | 8632 | 8806 | 8981 | 9155 | 9330 | 9504 | 9679 | 9854 | 0028 | 0203 | 0378 | 0552 | 0727 |
| 150 | 50 | 165(166) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 153 | 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 156 | 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 159 | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 162 | 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 165 | 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 168 | 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 171 | 57 | 166 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 174 | 58 | 0372 | 0545 | 0718 | 0891 | 1064 | 1237 | 1411 | 1584 | 1757 | 1930 | 2104 | 2277 | 2451 | 2624 | 2797 | 2971 | 3145 |
| 177 | 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| Parts for Sec. of C. D. Addit. | ″ | 69 | Sums |
|---|---|---|---|
| 0 | 0 | 464 | 1632 |
| 3 | 1 | | 1974 |
| 6 | 2 | | 2173 |
| 9 | 3 | | 2447 |
| 12 | 4 | | 2710 |
| 15 | 5 | 464 | [illegible] |
| 18 | 6 | | 3247 |
| 21 | 7 | | 3534 |
| 24 | 8 | | 3820 |
| 27 | 9 | | 4107 |
| 30 | 10 | 464 | 4349 |
| 33 | 11 | | 4631 |
| 36 | 12 | | 4918 |
| 39 | 13 | | 5195 |
| 42 | 14 | | 5477 |
| 45 | 15 | 464 | 5759 |
| 48 | 16 | | 6041 |
| 51 | 17 | | 6323 |
| 54 | 18 | | 6605 |
| 57 | 19 | | 6887 |
| 60 | 20 | 464 | 7169 |
| 63 | 21 | | 7452 |
| 66 | 22 | | 7735 |
| 69 | 23 | | 8018 |
| 72 | 24 | | 8301 |
| 75 | 25 | 464 | 8584 |
| 78 | 26 | | 8867 |
| 81 | 27 | | 9150 |
| 84 | 28 | | 9433 |
| 87 | 29 | | 9716 |
| 90 | 30 | 464 | 9999 |
| 93 | 31 | 465 | 0282 |
| 96 | 32 | | 0565 |
| 99 | 33 | | 0848 |
| 102 | 34 | | 1131 |
| 105 | 35 | 465 | 1414 |
| 108 | 36 | | 1697 |
| 111 | 37 | | 1980 |
| 114 | 38 | | 2263 |
| 117 | 39 | | 2546 |
| 120 | 40 | 465 | 2829 |
| 123 | 41 | | 3112 |
| 126 | 42 | | 3395 |
| 129 | 43 | | 3678 |
| 132 | 44 | | 3961 |
| 135 | 45 | 465 | 4244 |
| 138 | 46 | | 4527 |
| 141 | 47 | | 4810 |
| 144 | 48 | | 5093 |
| 147 | 49 | | 5376 |
| 150 | 50 | 465 | 5659 |
| 153 | 51 | | 5942 |
| 156 | 52 | | 6225 |
| 159 | 53 | | 6508 |
| 162 | 54 | | 6791 |
| 165 | 55 | 465 | 7074 |
| 168 | 56 | | 7357 |
| 171 | 57 | | 7640 |
| 174 | 58 | | 7923 |
| 177 | 59 | | 8206 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| Diff. | C. S. A. 7° | Numbers | Parts for Seconds of Diff. |
|---|---|---|---|
| 272 | 0 | 155 | 0 |
| 268 | 1 | 7423 | 5 |
| 263 | 2 | 7160 | 11 |
| 258 | 3 | 6897 | 16 |
| 254 | 4 | 6639 | 22 |
| 250 | 5 | 6389 | 27 |
| 245 | 6 | 6144 | 33 |
| 241 | 7 | 5903 | 38 |
| 236 | 8 | 5667 | 44 |
| 232 | 9 | 5435 | 49 |
| 227 | 10 | 5208 | 55 |
| 223 | 11 | 4985 | 60 |
| 218 | 12 | 4767 | 66 |
| 213 | 13 | 4553 | 71 |
| 209 | 14 | 4344 | 77 |
| 205 | 15 | 4139 | 82 |
| 200 | 16 | 3939 | 88 |
| 196 | 17 | 3743 | 93 |
| 192 | 18 | 3551 | 99 |
| 188 | 19 | 3363 | 104 |
| 184 | 20 | 3179 | 110 |
| 180 | 21 | 2999 | 115 |
| 176 | 22 | 2823 | 121 |
| 173 | 23 | 2647 | 126 |
| 169 | 24 | 2478 | 132 |
| 165 | 25 | 2313 | 137 |
| 161 | 26 | 2152 | 143 |
| 158 | 27 | 1993 | 148 |
| 154 | 28 | 1839 | 154 |
| 150 | 29 | 1689 | 159 |
| 147 | 30 | 1542 | 165 |
| 143 | 31 | 1399 | 170 |
| 140 | 32 | 1259 | 176 |
| 137 | 33 | 1123 | 181 |
| 134 | 34 | 0989 | 187 |
| 131 | 35 | 0858 | 192 |
| 128 | 36 | 0731 | 198 |
| 125 | 37 | 0606 | 203 |
| 122 | 38 | 0484 | 209 |
| 119 | 39 | 0365 | 214 |
| 116 | 40 | 0249 | 220 |
| 113 | 41 | 0136 | 225 |
| 111 | 42 | 0025 | 231 |
| 108 | 43 | 9917 | 236 |
| 105 | 44 | 9812 | 242 |
| 103 | 45 | 9709 | 247 |
| 100 | 46 | 9609 | 253 |
| 98 | 47 | 9511 | 258 |
| 96 | 48 | 9416 | 264 |
| 93 | 49 | 9323 | 269 |
| 91 | 50 | 9232 | 275 |
| 89 | 51 | 9143 | 280 |
| 87 | 52 | 9056 | 286 |
| 85 | 53 | 8971 | 291 |
| 83 | 54 | 8888 | 297 |
| 81 | 55 | 8807 | 302 |
| 79 | 56 | 8728 | 308 |
| 77 | 57 | 8650 | 313 |
| 76 | 58 | 8575 | 319 |
| 74 | 59 | 8501 | 324 |
| 72 | 60 | 8429 | 330 |
| 71 | 61 | 8358 | 335 |
| 69 | 62 | 8289 | 341 |
| 68 | 63 | 8221 | 346 |
| 66 | 64 | 8155 | 352 |
| 65 | 65 | 8090 | 357 |
| 64 | 66 | 8026 | 363 |
| 62 | 67 | 7964 | 368 |
| 61 | 68 | 7903 | 374 |
| 60 | 69 | 7843 | 379 |
| 59 | 70 | 7784 | 385 |
| 58 | 71 | 7726 | 390 |
| 57 | 72 | 7669 | 396 |
| 56 | 73 | 7613 | 401 |
| 55 | 74 | 7558 | 407 |
| 54 | 75 | 7504 | 412 |
| 53 | 76 | 7451 | 418 |
| 52 | 77 | 7399 | 423 |
| 51 | 78 | 7348 | 429 |
| 50 | 79 | 7298 | 434 |
| 49 | 80 | 7249 | 440 |
| 48 | 81 | 7201 | 445 |
| 47 | 82 | 7154 | 451 |
| 46 | 83 | 7108 | 456 |
| 45 | 84 | 7063 | 462 |
| 44 | 85 | 7019 | 467 |
| 43 | 86 | 6976 | 473 |
| 42 | 87 | 6934 | 478 |
| 41 | 88 | 6893 | 484 |
| 40 | 89 | 6853 | 489 |
| 39 | 90 | 6814 | 495 |
| 38 | 91 | 6776 | 500 |
| 37 | 92 | 6739 | 506 |
| 36 | 93 | 6703 | 511 |
| 35 | 94 | 6668 | 517 |
| 34 | 95 | 6634 | 522 |
| 33 | 96 | 6601 | 528 |
| 32 | 97 | 6569 | 533 |
| 31 | 98 | 6538 | 539 |
| 30 | 99 | 6508 | 544 |
| 29 | 100 | 6479 | 550 |
| 28 | 101 | 6451 | 555 |
| 27 | 102 | 6424 | 561 |
| 26 | 103 | 6398 | 566 |
| 25 | 104 | 6373 | 572 |
| 24 | 105 | 6349 | 577 |
| 23 | 106 | 6326 | 583 |
| 22 | 107 | 6304 | 588 |
| 21 | 108 | 6283 | 594 |
| 20 | 109 | 6263 | 599 |
| 19 | 110 | 6244 | 605 |
| 18 | 111 | 6226 | 610 |
| 17 | 112 | 6209 | 616 |
| 16 | 113 | 6193 | 621 |
| 15 | 114 | 6178 | 627 |
| 14 | 115 | 6164 | 632 |
| 13 | 116 | 6151 | 638 |
| 12 | 117 | 6139 | 643 |
| 11 | 118 | 6128 | 649 |
| 10 | 119 | 6118 | 654 |
| 9 | 120 | 6109 | 660 |
| 8 | 121 | 6101 | 665 |
| 7 | 122 | 6094 | 671 |
| 6 | 123 | 6088 | 676 |
| 5 | 124 | 6083 | 682 |
| 4 | 125 | 6079 | 687 |
| 3 | 126 | 6076 | 693 |
| 2 | 127 | 6074 | 698 |
| 1 | 128 | 6073 | 704 |
| 0 | 129 | 6072 | 709 |

Auxiliary Arguments.

| A. B. 7° | δ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 0154 | 0307 | 0460 | 0613 | 0766 | 0919 | 1072 | 1225 | 1377 | 1530 | 1683 | 1835 | 1988 | 2140 | 2293 | 2445 |
| 1 | 0153 | 0306 | 0459 | 0612 | 0765 | 0918 | 1071 | 1224 | 1376 | 1529 | 1682 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 |
| 2 | 0306 | 0459 | 0612 | 0765 | 0918 | 1071 | 1224 | 1376 | 1529 | 1682 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 |
| 3 | 0459 | 0612 | 0765 | 0918 | 1071 | 1224 | 1376 | 1529 | 1682 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 |
| 4 | 0612 | 0765 | 0918 | 1071 | 1224 | 1376 | 1529 | 1682 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 |
| 5 | 0765 | 0918 | 1071 | 1224 | 1376 | 1529 | 1682 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 |
| 6 | 0918 | 1071 | 1224 | 1376 | 1529 | 1682 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 |
| 7 | 1071 | 1224 | 1376 | 1529 | 1682 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 |
| 8 | 1224 | 1376 | 1529 | 1682 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 |
| 9 | 1376 | 1529 | 1682 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 |
| 10 | 1529 | 1682 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 |
| 11 | 1682 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 |
| 12 | 1834 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 |
| 13 | 1987 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 |
| 14 | 2139 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 |
| 15 | 2292 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 |
| 16 | 2444 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 |
| 17 | 2596 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 |
| 18 | 2748 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 |
| 19 | 2900 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 |
| 20 | 3052 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 |
| 21 | 3204 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 |
| 22 | 3356 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 |
| 23 | 3508 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 |
| 24 | 3660 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 |
| 25 | 3812 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 |
| 26 | 3964 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 |
| 27 | 4116 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 |
| 28 | 4268 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 |
| 29 | 4420 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 |
| 30 | 4572 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 |
| 31 | 4724 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 |
| 32 | 4876 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 |
| 33 | 5028 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 |
| 34 | 5180 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 |
| 35 | 5332 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 |
| 36 | 5484 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 |
| 37 | 5636 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 |
| 38 | 5788 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 |
| 39 | 5940 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 |
| 40 | 6092 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 |
| 41 | 6244 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 |
| 42 | 6396 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 |
| 43 | 6548 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 |
| 44 | 6700 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 |
| 45 | 6852 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 |
| 46 | 7004 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 |
| 47 | 7156 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 |
| 48 | 7308 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 |
| 49 | 7460 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 | 9892 |
| 50 | 7612 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 | 9892 | 0044 |
| 51 | 7764 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 | 9892 | 0044 | 0196 |
| 52 | 7916 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 | 9892 | 0044 | 0196 | 0348 |
| 53 | 8068 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 | 9892 | 0044 | 0196 | 0348 | 0500 |
| 54 | 8220 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 | 9892 | 0044 | 0196 | 0348 | 0500 | 0652 |
| 55 | 8372 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 | 9892 | 0044 | 0196 | 0348 | 0500 | 0652 | 0804 |
| 56 | 8524 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 | 9892 | 0044 | 0196 | 0348 | 0500 | 0652 | 0804 | 0956 |
| 57 | 8676 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 | 9892 | 0044 | 0196 | 0348 | 0500 | 0652 | 0804 | 0956 | 1108 |
| 58 | 8828 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 | 9892 | 0044 | 0196 | 0348 | 0500 | 0652 | 0804 | 0956 | 1108 | 1260 |
| 59 | 8980 | 9132 | 9284 | 9436 | 9588 | 9740 | 9892 | 0044 | 0196 | 0348 | 0500 | 0652 | 0804 | 0956 | 1108 | 1260 | 1412 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

Auxiliary Arguments.

| Parts for Seconds of Auxil. | A. A. & A. D. 70° | 17′ | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 166 | | | | | | | | | | | | | | | | |
| 3 | 1 | | | | | | | | | | | | | | | | | |
| 6 | 2 | | | | | | | | | | | | | | | | | |
| 8 | 3 | | | | | | | | | | | | | | | | | |
| 11 | 4 | | 1998 | 2170 | 2342 | 2515 | 2687 | 2859 | 3032 | 3204 | | | | | | | | |
| 14 | 5 | 166 | 2269 | 2441 | 2613 | 2785 | 2957 | 3130 | 3302 | 3474 | | | | | | | | |
| 17 | 6 | | 2540 | 2712 | 2884 | 3056 | 3228 | 3400 | 3572 | 3744 | | | | | | | | |
| 20 | 7 | | 2811 | 2983 | 3155 | 3327 | 3499 | 3671 | 3843 | 4015 | | | | | | | | |
| 23 | 8 | | 3082 | 3254 | 3426 | 3598 | 3769 | 3941 | 4113 | 4285 | | | | | | | | |
| 25 | 9 | | 3354 | 3525 | 3697 | 3868 | 4040 | 4212 | 4383 | | | | | | | | | |
| 28 | 10 | 166 | 3625 | 3796 | 3968 | 4139 | 4311 | 4482 | 4654 | | | | | | | | | |
| 31 | 11 | | 3896 | 4067 | 4239 | 4410 | 4582 | 4753 | 4924 | | | | | | | | | |
| 34 | 12 | | 4167 | 4339 | 4510 | 4681 | 4852 | 5024 | 5195 | | | | | | | | | |
| 37 | 13 | | 4439 | 4610 | 4781 | 4952 | 5123 | 5294 | 5465 | | | | | | | | | |
| 39 | 14 | | 4710 | 4881 | 5052 | 5223 | 5394 | 5565 | 5736 | | | | | | | | | |
| 42 | 15 | 166 | 4982 | 5152 | 5323 | 5494 | 5665 | 5836 | 6007 | 6178 | 6348 | 6519 | 6690 | | | | | |
| 45 | 16 | | 5253 | 5424 | 5594 | 5765 | 5936 | 6106 | 6277 | 6448 | 6619 | 6790 | 6961 | 71 | | | | |
| 48 | 17 | | 5525 | | | | | | | | | | | | | | | |
| 51 | 18 | | 5796 | 5966 | 6137 | 6307 | 6478 | 6648 | 6818 | 6989 | 7160 | | | | | | | |
| 54 | 19 | | 6068 | 6238 | 6408 | 6578 | 6749 | 6919 | 7089 | 7260 | 7430 | 7 | | | | | | |
| 56 | 20 | 166 | 6339 | 6509 | 6679 | 6849 | 7020 | 7190 | 7360 | 7530 | 7700 | 7871 | 8041 | 8211 | 8382 | | | |
| 59 | 21 | | 6611 | 6781 | 6951 | 7121 | 7291 | 7461 | 7631 | 7801 | 7971 | 8141 | 8311 | 8481 | 8652 | | | |
| | 22 | | | | | | | | | | | | | | | | | |
| 62 | 23 | | 7154 | 7324 | 7493 | 7663 | 7833 | 8003 | 8172 | 8342 | 8512 | 8682 | 8852 | | | | | |
| 68 | 24 | 166 (167) | 7426 | 7595 | 7765 | 7934 | 8104 | 8274 | 8443 | 8613 | 8783 | 8952 | 9122 | | | | | |
| 73 | 25 | 166 (167) | | | | | | | | | | | | | | | | |
| 73 | 26 | | 7 | | | | | | | | | | | | | | | |
| 76 | 27 | | | | | | | | | | | | | | | | | |
| 79 | 28 | | 8513 | 8682 | 8851 | 9020 | 9189 | 9358 | 9527 | 9696 | 9865 | | | | | | | |
| 82 | 29 | | 8784 | 8953 | 9122 | 9291 | 9460 | 9629 | 9798 | 9967 | 0136 | 0305 | 0474 | 0643 | 0812 | 0981 | 1150 | 1320 | 1489 |
| 84 | 30 | 166 (167) | | | | | | | | | | | | | | | | |
| 87 | 31 | | 9328 | 9497 | 9665 | 9834 | 0002 | 0171 | 0340 | 0509 | 0677 | 0846 | 1014 | 1184 | 1352 | 1521 | 1690 | 1859 | 2028 |
| 90 | 32 | | | | | | | | | | | | | | | | | | |
| 93 | 33 | | | | | | | | | | | | | | | | | | |
| 96 | 34 | 167 | | | | | | | | | | | | | | | | | |
| 99 | 35 | 167 | 0416 | 0584 | 0752 | 0920 | 1088 | 1256 | 1424 | 1592 | 1760 | 1929 | 2097 | 2265 | 2433 | 2602 | 2770 | 2939 | 3107 |
| 101 | 36 | | | | | | | | | | | | | | | | | | |
| 104 | 37 | | | | | | | | | | | | | | | | | | |
| 107 | 38 | | 1232 | 1400 | 1567 | 1735 | 1902 | 2070 | 2238 | 2406 | 2573 | 2741 | 2909 | 3077 | 3245 | 3412 | 3580 | 3748 | 3916 |
| 110 | 39 | | 1504 | 1672 | 1839 | 2006 | 2174 | 2341 | 2509 | 2677 | 2844 | | | | | | | | |
| 113 | 40 | 167 | 1776 | 1944 | 2111 | 2278 | 2445 | 2613 | 2780 | 2948 | 3115 | 3283 | 3450 | 3618 | 3785 | 3953 | 4121 | 4288 | 4456 |
| 116 | 41 | | 2048 | 2216 | 2383 | 2550 | 2717 | 2884 | 3052 | 3219 | 3386 | 3554 | 3721 | 3888 | 4056 | 4223 | 4391 | 4558 | 4726 |
| 119 | 42 | | 2321 | 2488 | 2655 | 2822 | 2989 | 3156 | 3323 | 3490 | 3657 | 3825 | 3992 | 4159 | 4326 | 4494 | 4661 | 4829 | 4996 |
| | 43 | | | | | | | | | | | | | | | | | | |
| | 44 | | | | | | | | | | | | | | | | | | |
| 127 | 45 | 167 | 3137 | | | | | | | | | | | | | | | | |
| 130 | 46 | | 3409 | | | | | | | | | | | | | | | | |
| 132 | 47 | | 3682 | | | | | | | | | | | | | | | | |
| 135 | 48 | | 3954 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | 167 | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

| Parts for Sec. of C.S.A. | C.S.A. 71° | Numbers |
|---|---|---|
| 874 | 0 | 1747 |
| 875 | 1 | 1473 |
| 876 | 2 | 1199 |
| 877 | 3 | 0925 |
| 878 | 4 | 0653 |
| 879 | 5 | 0378 |
| 880 | 6 | 0104 |
| 881 | 7 | 9830 |
| 882 | 8 | 9559 |
| 883 | 9 | 9285 |
| 884 | 10 | 9011 |
| 885 | 11 | 8738 |
| 886 | 12 | 8464 |
| 887 | 13 | 8191 |
| 888 | 14 | 7917 |
| 889 | 15 | 7643 |
| 890 | 16 | 7370 |
| 891 | 17 | 7096 |
| 892 | 18 | 6823 |
| 893 | 19 | 6547 |
| 894 | 20 | 6274 |
| 895 | 21 | 6000 |
| 896 | 22 | 5726 |
| 897 | 23 | 5453 |
| 898 | 24 | 5179 |
| 899 | 25 | 4906 |
| 900 | 26 | 4632 |
| 901 | 27 | 4355 |
| 902 | 28 | 4081 |
| 903 | 29 | 3807 |
| 904 | 30 | 3534 |
| 905 | 31 | 3260 |
| 906 | 32 | 2986 |
| 907 | 33 | 2713 |
| 908 | 34 | 2435 |
| 909 | 35 | 2161 |
| 910 | 36 | 1887 |
| 911 | 37 | 1614 |
| 912 | 38 | 1338 |
| 913 | 39 | 1064 |
| 914 | 40 | 0791 |
| 915 | 41 | 0514 |
| 916 | 42 | 0241 |
| 917 | 43 | 9967 |
| 918 | 44 | 9691 |
| 919 | 45 | 9418 |
| 920 | 46 | 9141 |
| 921 | 47 | 8867 |
| 922 | 48 | 8594 |
| 923 | 49 | 8321 |
| 924 | 50 | 8047 |
| 925 | 51 | 7771 |
| 926 | 52 | 7498 |
| 927 | 53 | 7224 |
| 928 | 54 | 6951 |
| 929 | 55 | 6677 |
| 930 | 56 | 6404 |
| 931 | 57 | 6128 |
| 932 | 58 | 5855 |
| 933 | 59 | 5581 |
| 934 | 60 | 5308 |

| Parts for Sec. of Auxil. Argum. | A. D. 71° | Auxiliary Arguments. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 167 | 4432 | 4596 | 4760 | 4924 | 5088 | 5252 | 5416 | 5581 | 5745 | 5909 | 6073 | 6238 | 6402 | 6567 | 6731 | 6895 |
| 1 | 1 | | 4571 | 4735 | 4899 | 5063 | 5227 | 5391 | 5555 | 5719 | 5883 | 6047 | 6211 | 6375 | 6539 | 6703 | 6867 | 7031 |
| 2 | 2 | | 4709 | 4873 | 5037 | 5201 | 5365 | 5529 | 5693 | 5857 | 6021 | 6185 | 6349 | 6513 | 6677 | 6841 | 7005 | 7169 |
| 3 | 3 | | 4847 | 5011 | 5175 | 5339 | 5503 | 5667 | 5831 | 5995 | 6159 | 6323 | 6487 | 6651 | 6815 | 6979 | 7143 | 7307 |
| 4 | 4 | | 4985 | 5149 | 5313 | 5477 | 5641 | 5805 | 5969 | 6133 | 6297 | 6461 | 6625 | 6789 | 6953 | 7117 | 7281 | 7445 |
| 5 | 5 | 167 | 5124 | 5288 | 5452 | 5616 | 5780 | 5944 | 6108 | 6272 | 6436 | 6600 | 6764 | 6928 | 7092 | 7256 | 7420 | 7584 |
| 6 | 6 | | 5262 | 5426 | 5590 | 5754 | 5918 | 6082 | 6246 | 6410 | 6574 | 6738 | 6902 | 7066 | 7230 | 7394 | 7558 | 7722 |
| 7 | 7 | | 5400 | 5564 | 5728 | 5892 | 6056 | 6220 | 6384 | 6548 | 6712 | 6876 | 7040 | 7204 | 7368 | 7532 | 7696 | 7860 |
| 8 | 8 | | 5538 | 5702 | 5866 | 6030 | 6194 | 6358 | 6522 | 6686 | 6850 | 7014 | 7178 | 7342 | 7506 | 7670 | 7834 | 7998 |
| 9 | 9 | | 5676 | 5840 | 6004 | 6168 | 6332 | 6496 | 6660 | 6824 | 6988 | 7152 | 7316 | 7480 | 7644 | 7808 | 7972 | 8136 |
| 10 | 10 | 167 | 5813 | 5977 | 6141 | 6305 | 6469 | 6633 | 6796 | 6959 | 7122 | 7285 | 7448 | 7611 | 7774 | 7937 | 8101 | 8264 |
| 11 | 11 | 167 (168) | 5951 | 6115 | 6279 | 6443 | 6607 | 6771 | 6934 | 7097 | 7260 | 7423 | 7586 | 7749 | 7912 | 8075 | 8238 | 8401 |
| 12 | 12 | | 6088 | 6252 | 6416 | 6580 | 6744 | 6908 | 7071 | 7234 | 7397 | 7560 | 7723 | 7886 | 8049 | 8212 | 8375 | 8538 |
| 13 | 13 | | 6225 | 6389 | 6553 | 6717 | 6881 | 7045 | 7208 | 7371 | 7534 | 7697 | 7860 | 8023 | 8186 | 8349 | 8512 | 8675 |
| 14 | 14 | | 6362 | 6526 | 6690 | 6854 | 7018 | 7182 | 7345 | 7508 | 7671 | 7834 | 7997 | 8160 | 8323 | 8486 | 8649 | 8812 |
| 15 | 15 | 167 (168) | 6499 | 6663 | 6827 | 6991 | 7155 | 7319 | 7482 | 7645 | 7808 | 7971 | 8134 | 8297 | 8460 | 8623 | 8786 | 8949 |
| 16 | 16 | | 6636 | 6800 | 6964 | 7128 | 7292 | 7456 | 7619 | 7782 | 7945 | 8108 | 8271 | 8434 | 8597 | 8760 | 8923 | 9086 |
| 17 | 17 | | 6773 | 6937 | 7101 | 7265 | 7429 | 7593 | 7756 | 7919 | 8082 | 8245 | 8408 | 8571 | 8734 | 8897 | 9060 | 9223 |
| 18 | 18 | | 6910 | 7074 | 7238 | 7402 | 7566 | 7730 | 7893 | 8056 | 8219 | 8382 | 8545 | 8708 | 8871 | 9034 | 9197 | 9360 |
| 19 | 19 | | 7047 | 7211 | 7375 | 7539 | 7703 | 7867 | 8030 | 8193 | 8356 | 8519 | 8682 | 8845 | 9008 | 9171 | 9334 | 9497 |
| 20 | 20 | 167 (168) | 7184 | 7348 | 7512 | 7676 | 7840 | 8004 | 8167 | 8330 | 8493 | 8656 | 8819 | 8982 | 9145 | 9308 | 9471 | 9634 |
| 21 | 21 | 168 | 7321 | 7485 | 7649 | 7813 | 7977 | 8141 | 8304 | 8467 | 8630 | 8793 | 8956 | 9119 | 9282 | 9445 | 9608 | 9771 |
| 22 | 22 | | 7458 | 7622 | 7786 | 7950 | 8114 | 8278 | 8441 | 8604 | 8767 | 8930 | 9093 | 9256 | 9419 | 9582 | 9745 | 9908 |
| 23 | 23 | | 7595 | 7759 | 7923 | 8087 | 8251 | 8415 | 8578 | 8741 | 8904 | 9067 | 9230 | 9393 | 9556 | 9719 | 9882 | 0045 |
| 24 | 24 | | 7732 | 7896 | 8060 | 8224 | 8388 | 8552 | 8715 | 8878 | 9041 | 9204 | 9367 | 9530 | 9693 | 9856 | 0019 | 0182 |
| 25 | 25 | 168 | 7870 | 8034 | 8198 | 8362 | 8526 | 8689 | 8852 | 9015 | 9178 | 9341 | 9504 | 9667 | 9830 | 9993 | 0156 | 0319 |
| 26 | 26 | | 8007 | 8171 | 8335 | 8499 | 8663 | 8826 | 8989 | 9152 | 9315 | 9478 | 9641 | 9804 | 9967 | 0130 | 0293 | 0456 |
| 27 | 27 | | 8144 | 8308 | 8472 | 8636 | 8800 | 8963 | 9126 | 9289 | 9452 | 9615 | 9778 | 9941 | 0104 | 0267 | 0430 | 0593 |
| 28 | 28 | | 8281 | 8445 | 8609 | 8773 | 8937 | 9100 | 9263 | 9426 | 9589 | 9752 | 9915 | 0078 | 0241 | 0404 | 0567 | 0730 |
| 29 | 29 | | 8418 | 8582 | 8746 | 8910 | 9074 | 9237 | 9400 | 9563 | 9726 | 9889 | 0052 | 0215 | 0378 | 0541 | 0704 | 0867 |
| 30 | 30 | 168 | 8555 | 8719 | 8883 | 9047 | 9211 | 9374 | 9537 | 9700 | 9863 | 0026 | 0189 | 0352 | 0515 | 0678 | 0841 | 1004 |
| 31 | 31 | | 8692 | 8856 | 9020 | 9184 | 9348 | 9511 | 9674 | 9837 | 0000 | 0163 | 0326 | 0489 | 0652 | 0815 | 0978 | 1141 |
| 32 | 32 | | 8829 | 8993 | 9157 | 9321 | 9485 | 9648 | 9811 | 9974 | 0137 | 0300 | 0463 | 0626 | 0789 | 0952 | 1115 | 1278 |
| 33 | 33 | | 8966 | 9130 | 9294 | 9458 | 9622 | 9785 | 9948 | 0111 | 0274 | 0437 | 0600 | 0763 | 0926 | 1089 | 1252 | 1415 |
| 34 | 34 | | 9103 | 9267 | 9431 | 9595 | 9759 | 9922 | 0085 | 0248 | 0411 | 0574 | 0737 | 0900 | 1063 | 1226 | 1389 | 1552 |
| 35 | 35 | 168 | 9241 | 9405 | 9569 | 9733 | 9896 | 0059 | 0222 | 0385 | 0548 | 0711 | 0874 | 1037 | 1200 | 1363 | 1526 | 1689 |
| 36 | 36 | | 9378 | 9542 | 9706 | 9870 | 0033 | 0196 | 0359 | 0522 | 0685 | 0848 | 1011 | 1174 | 1337 | 1500 | 1663 | 1826 |
| 37 | 37 | | 9515 | 9679 | 9843 | 0007 | 0170 | 0333 | 0496 | 0659 | 0822 | 0985 | 1148 | 1311 | 1474 | 1637 | 1800 | 1963 |
| 38 | 38 | | 9652 | 9816 | 9980 | 0144 | 0307 | 0470 | 0633 | 0796 | 0959 | 1122 | 1285 | 1448 | 1611 | 1774 | 1937 | 2100 |
| 39 | 39 | | 9789 | 9953 | 0117 | 0281 | 0444 | 0607 | 0770 | 0933 | 1096 | 1259 | 1422 | 1585 | 1748 | 1911 | 2074 | 2237 |
| 40 | 40 | 168 | 9926 | 0090 | 0254 | 0418 | 0581 | 0744 | 0907 | 1070 | 1233 | 1396 | 1559 | 1722 | 1885 | 2048 | 2211 | 2374 |
| 41 | 41 | | 0063 | 0227 | 0391 | 0555 | 0718 | 0881 | 1044 | 1207 | 1370 | 1533 | 1696 | 1859 | 2022 | 2185 | 2348 | 2511 |
| 42 | 42 | | 0200 | 0364 | 0528 | 0692 | 0855 | 1018 | 1181 | 1344 | 1507 | 1670 | 1833 | 1996 | 2159 | 2322 | 2485 | 2648 |
| 43 | 43 | | 0337 | 0501 | 0665 | 0829 | 0992 | 1155 | 1318 | 1481 | 1644 | 1807 | 1970 | 2133 | 2296 | 2459 | 2622 | 2785 |
| 44 | 44 | | 0474 | 0638 | 0802 | 0966 | 1129 | 1292 | 1455 | 1618 | 1781 | 1944 | 2107 | 2270 | 2433 | 2596 | 2759 | 2922 |
| 45 | 45 | 168 | 0611 | 0775 | 0939 | 1103 | 1266 | 1429 | 1592 | 1755 | 1918 | 2081 | 2244 | 2407 | 2570 | 2733 | 2896 | 3059 |
| 46 | 46 | | 0748 | 0912 | 1076 | 1240 | 1403 | 1566 | 1729 | 1892 | 2055 | 2218 | 2381 | 2544 | 2707 | 2870 | 3033 | 3196 |
| 47 | 47 | | 0885 | 1049 | 1213 | 1377 | 1540 | 1703 | 1866 | 2029 | 2192 | 2355 | 2518 | 2681 | 2844 | 3007 | 3170 | 3333 |
| 48 | 48 | | 1022 | 1186 | 1350 | 1514 | 1677 | 1840 | 2003 | 2166 | 2329 | 2492 | 2655 | 2818 | 2981 | 3144 | 3307 | 3470 |
| 49 | 49 | | 1159 | 1323 | 1487 | 1651 | 1814 | 1977 | 2140 | 2303 | 2466 | 2629 | 2792 | 2955 | 3118 | 3281 | 3444 | 3607 |
| 50 | 50 | 168 | 1296 | 1460 | 1624 | 1788 | 1951 | 2114 | 2277 | 2440 | 2603 | 2766 | 2929 | 3092 | 3255 | 3418 | 3581 | 3744 |
| 51 | 51 | | 1433 | 1597 | 1761 | 1925 | 2088 | 2251 | 2414 | 2577 | 2740 | 2903 | 3066 | 3229 | 3392 | 3555 | 3718 | 3881 |
| 52 | 52 | | 1570 | 1734 | 1898 | 2062 | 2225 | 2388 | 2551 | 2714 | 2877 | 3040 | 3203 | 3366 | 3529 | 3692 | 3855 | 4018 |
| 53 | 53 | | 1707 | 1871 | 2035 | 2199 | 2362 | 2525 | 2688 | 2851 | 3014 | 3177 | 3340 | 3503 | 3666 | 3829 | 3992 | 4155 |
| 54 | 54 | | 1844 | 2008 | 2172 | 2336 | 2499 | 2662 | 2825 | 2988 | 3151 | 3314 | 3477 | 3640 | 3803 | 3966 | 4129 | 4292 |
| 55 | 55 | 168 | 1981 | 2145 | 2309 | 2473 | 2636 | 2799 | 2962 | 3125 | 3288 | 3451 | 3614 | 3777 | 3940 | 4103 | 4266 | 4429 |
| 56 | 56 | | 2118 | 2282 | 2446 | 2610 | 2773 | 2936 | 3099 | 3262 | 3425 | 3588 | 3751 | 3914 | 4077 | 4240 | 4403 | 4566 |
| 57 | 57 | | 2255 | 2419 | 2583 | 2747 | 2910 | 3073 | 3236 | 3399 | 3562 | 3725 | 3888 | 4051 | 4214 | 4377 | 4540 | 4703 |
| 58 | 58 | | 2392 | 2556 | 2720 | 2884 | 3047 | 3210 | 3373 | 3536 | 3699 | 3862 | 4025 | 4188 | 4351 | 4514 | 4677 | 4840 |
| 59 | 59 | | 2529 | 2693 | 2857 | 3021 | 3184 | 3347 | 3510 | 3673 | 3836 | 3999 | 4162 | 4325 | 4488 | 4651 | 4814 | 4977 |
| 60 | 60 | 168 | 2666 | 2830 | 2994 | 3158 | 3321 | 3484 | 3647 | 3810 | 3973 | 4136 | 4299 | 4462 | 4625 | 4788 | 4951 | 5114 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

Parts for Seconds of Anxil. Argum.

Sums for finding the Corrected Distances.

| Sums & A. D. | Auxiliary Arguments. | | | | | | | | | | | | | | | | | | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 71 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 71 | |
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | | |
| 0 | 0 | 167 | 7224 | 7389 | 7553 | 7718 | 7883 | 8047 | 8212 | 8377 | 8541 | 8706 | 8871 | 9035 | 9200 | 9365 | 9530 | 9695 | 9860 |
| 3 | 1 | 167 (168) | 7497 | 7661 | 7826 | 7990 | 8155 | 8319 | 8484 | 8648 | 8813 | 8977 | 9142 | 9307 | 9471 | 9636 | 9801 | 9965 | 0130 |
| 5 | 2 | | 7770 | 7934 | 8098 | 8263 | 8427 | 8591 | 8756 | 8920 | 9084 | 9249 | 9413 | 9577 | 9742 | 9907 | 0071 | 0235 | 0401 |
| 8 | 3 | | 8042 | 8207 | 8371 | 8535 | 8699 | 8863 | 9028 | 9192 | 9356 | 9520 | 9685 | 9849 | 0013 | 0178 | 0343 | 0507 | 0671 |
| 11 | 4 | | 8315 | 8479 | 8643 | 8807 | 8971 | 9135 | 9299 | 9464 | 9628 | 9792 | 9956 | 0120 | 0285 | 0449 | 0613 | 0777 | 0942 |
| 13 | 5 | 167 (168) | 8588 | 8752 | 8916 | 9080 | 9244 | 9407 | 9571 | 9735 | 9899 | 0063 | 0227 | 0391 | 0556 | 0720 | 0884 | 1048 | 1212 |
| 16 | 6 | | 8861 | 9025 | 9188 | 9352 | 9516 | 9680 | 9843 | 0007 | 0171 | 0335 | 0499 | 0663 | 0827 | 0991 | 1155 | 1319 | 1483 |
| 19 | 7 | | 9134 | 9297 | 9461 | 9624 | 9788 | 9952 | 0115 | 0279 | 0443 | 0607 | 0771 | 0934 | 1098 | 1262 | 1426 | 1590 | 1754 |
| 21 | 8 | | 9407 | 9570 | 9733 | 9897 | 0060 | 0224 | 0387 | 0551 | 0715 | 0879 | 1042 | 1206 | 1369 | 1533 | 1697 | 1861 | 2025 |
| 24 | 9 | | 9680 | 9843 | 0006 | 0169 | 0333 | 0496 | 0660 | 0823 | 0986 | 1150 | 1313 | 1477 | 1641 | 1804 | 1968 | 2131 | 2295 |
| 27 | 10 | 167 (168) | 9952 | 0116 | 0279 | 0442 | 0606 | 0769 | 0932 | 1096 | 1258 | 1422 | 1585 | 1749 | 1912 | 2075 | 2239 | 2402 | 2566 |
| 29 | 11 | 168 | 0225 | 0388 | 0551 | 0714 | 0878 | 1041 | 1204 | 1367 | 1530 | 1693 | 1857 | 2020 | 2183 | 2346 | 2510 | 2673 | 2836 |
| 32 | 12 | | 0498 | 0661 | 0824 | 0987 | 1150 | 1313 | 1476 | 1639 | 1802 | 1965 | 2128 | 2291 | 2454 | 2618 | 2781 | 2944 | 3107 |
| 35 | 13 | | 0771 | 0934 | 1097 | 1260 | 1423 | 1585 | 1748 | 1911 | 2074 | 2237 | 2401 | 2564 | 2727 | 2889 | 3052 | 3215 | 3378 |
| 37 | 14 | | 1045 | 1207 | 1370 | 1532 | 1695 | 1858 | 2020 | 2183 | 2346 | 2509 | 2671 | 2834 | 2997 | 3160 | 3323 | 3486 | 3649 |
| 40 | 15 | 168 | 1318 | 1480 | 1643 | 1805 | 1967 | 2130 | 2293 | 2455 | 2618 | 2780 | 2943 | 3106 | 3268 | 3431 | 3594 | 3757 | 3920 |
| 43 | 16 | | 1591 | 1753 | 1916 | 2078 | 2241 | 2402 | 2565 | 2727 | 2890 | 3052 | 3215 | 3377 | 3540 | 3703 | 3865 | 4028 | 4191 |
| 45 | 17 | | 1864 | 2026 | 2189 | 2350 | 2513 | 2675 | 2837 | 2999 | 3161 | 3324 | 3487 | 3649 | 3811 | 3974 | 4136 | 4299 | 4462 |
| 48 | 18 | | 2137 | 2299 | 2461 | 2623 | 2785 | 2947 | 3109 | 3272 | 3434 | 3596 | 3758 | 3921 | 4083 | 4245 | 4408 | 4570 | 4732 |
| 51 | 19 | | 2410 | 2572 | 2734 | 2896 | 3058 | 3220 | 3382 | 3544 | 3706 | 3868 | 4030 | 4192 | 4354 | 4517 | 4679 | 4841 | 5003 |
| 53 | 20 | 168 | 2683 | 2845 | 3007 | 3169 | 3330 | 3492 | 3654 | 3816 | 3978 | 4140 | 4302 | 4464 | 4626 | 4788 | 4950 | 5112 | 5274 |
| 56 | 21 | | 2957 | 3118 | 3280 | 3441 | 3603 | 3765 | 3927 | 4088 | 4250 | 4412 | 4574 | 4736 | 4897 | 5059 | 5221 | 5382 | 5545 |
| 59 | 22 | | 3230 | 3391 | 3553 | 3714 | 3876 | 4037 | 4199 | 4361 | 4522 | 4684 | 4846 | 5007 | 5169 | 5331 | 5493 | 5654 | 5816 |
| 61 | 23 | | 3503 | 3664 | 3826 | 3987 | 4149 | 4310 | 4471 | 4633 | 4794 | 4956 | 5118 | 5279 | 5441 | 5602 | 5764 | 5926 | 6087 |
| 64 | 24 | | 3776 | 3938 | 4099 | 4260 | 4421 | 4583 | 4744 | 4905 | 5067 | 5228 | 5389 | 5551 | 5712 | 5874 | 6035 | 6197 | 6358 |
| 67 | 25 | 168 | 4050 | 4211 | 4372 | 4533 | 4694 | 4855 | 5016 | 5178 | 5339 | 5500 | 5661 | 5823 | 5984 | 6145 | 6307 | 6468 | 6629 |
| 70 | 26 | | 4323 | 4484 | 4645 | 4806 | 4967 | 5128 | 5289 | 5450 | 5611 | 5772 | 5933 | 6094 | 6256 | 6417 | 6578 | 6739 | 6900 |
| 72 | 27 | | 4597 | 4757 | 4918 | 5079 | 5240 | 5401 | 5562 | 5723 | 5884 | 6045 | 6206 | 6367 | 6528 | 6689 | 6850 | 7011 | 7172 |
| 75 | 28 | | 4870 | 5031 | 5191 | 5352 | 5513 | 5673 | 5834 | 5995 | 6156 | 6317 | 6478 | 6639 | 6800 | 6961 | 7122 | 7283 | 7443 |
| 78 | 29 | | 5143 | 5304 | 5465 | 5625 | 5786 | 5947 | 6107 | 6268 | 6429 | 6590 | 6751 | 6912 | 7073 | 7233 | 7394 | 7555 | 7715 |
| 80 | 30 | 168 | 5417 | 5577 | 5738 | 5898 | 6058 | 6219 | 6379 | 6540 | 6700 | 6861 | 7021 | 7182 | 7343 | 7503 | 7664 | 7825 | 7986 |
| 83 | 31 | | 5690 | 5851 | 6011 | 6171 | 6331 | 6492 | 6652 | 6812 | 6973 | 7133 | 7294 | 7454 | 7615 | 7775 | 7936 | 8096 | 8257 |
| 86 | 32 | | 5964 | 6124 | 6284 | 6444 | 6605 | 6765 | 6925 | 7085 | 7246 | 7406 | 7566 | 7727 | 7887 | 8047 | 8208 | 8368 | 8528 |
| 88 | 33 | | 6238 | 6397 | 6557 | 6717 | 6877 | 7037 | 7197 | 7358 | 7518 | 7678 | 7838 | 7998 | 8159 | 8319 | 8479 | 8639 | 8799 |
| 91 | 34 | | 6511 | 6671 | 6831 | 6991 | 7150 | 7310 | 7470 | 7630 | 7790 | 7950 | 8110 | 8270 | 8430 | 8590 | 8750 | 8911 | 9071 |
| 94 | 35 | 168 | 6785 | 6944 | 7104 | 7263 | 7423 | 7583 | 7743 | 7903 | 8063 | 8223 | 8383 | 8543 | 8703 | 8863 | 9023 | 9183 | 9343 |
| 96 | 36 | | 7058 | 7218 | 7377 | 7537 | 7696 | 7856 | 8016 | 8175 | 8335 | 8495 | 8654 | 8814 | 8974 | 9134 | 9294 | 9454 | 9614 |
| 99 | 37 | | 7332 | 7491 | 7651 | 7810 | 7969 | 8128 | 8288 | 8448 | 8607 | 8767 | 8927 | 9086 | 9246 | 9406 | 9565 | 9725 | 9885 |
| 102 | 38 | 168 (169) | 7606 | 7765 | 7924 | 8083 | 8243 | 8402 | 8561 | 8721 | 8880 | 9040 | 9199 | 9359 | 9518 | 9678 | 9837 | 9997 | 0156 |
| 104 | 39 | | 7879 | 8038 | 8197 | 8357 | 8516 | 8675 | 8834 | 8993 | 9153 | 9312 | 9471 | 9631 | 9790 | 9950 | 0109 | 0268 | 0428 |
| 107 | 40 | 168 (169) | 8153 | 8312 | 8471 | 8630 | 8789 | 8948 | 9107 | 9266 | 9425 | 9584 | 9744 | 9903 | 0062 | 0221 | 0381 | 0540 | 0699 |
| 110 | 41 | | 8427 | 8585 | 8745 | 8904 | 9063 | 9222 | 9381 | 9540 | 9699 | 9858 | 0017 | 0176 | 0335 | 0494 | 0653 | 0813 | 0972 |
| 112 | 42 | | 8701 | 8859 | 9018 | 9177 | 9336 | 9495 | 9654 | 9813 | 9972 | 0131 | 0290 | 0449 | 0608 | 0767 | 0926 | 1085 | 1244 |
| 115 | 43 | | 8974 | 9133 | 9292 | 9451 | 9610 | 9769 | 9928 | 0087 | 0246 | 0405 | 0564 | 0723 | 0882 | 1041 | 1200 | 1359 | 1518 |
| 118 | 44 | | 9248 | 9407 | 9566 | 9725 | 9884 | 0043 | 0202 | 0361 | 0520 | 0679 | 0838 | 0997 | 1156 | 1315 | 1474 | 1633 | 1792 |
| 120 | 45 | 169 (170) | 9522 | 9681 | 9840 | 9999 | 0157 | 0316 | 0475 | 0634 | 0793 | 0952 | 1111 | 1270 | 1429 | 1588 | 1747 | 1906 | 2065 |
| 123 | 46 | | 9796 | 9954 | 0112 | 0271 | 0429 | 0587 | 0745 | 0903 | 1062 | 1220 | 1378 | 1537 | 1695 | 1854 | 2012 | 2170 | 2329 |
| 126 | 47 | | 0070 | 0228 | 0386 | 0544 | 0702 | 0860 | 1018 | 1176 | 1335 | 1493 | 1651 | 1809 | 1967 | 2126 | 2284 | 2442 | 2601 |
| 128 | 48 | | | | | | | 1133 | 1291 | 1449 | 1607 | 1765 | 1923 | 2082 | 2240 | 2398 | 2556 | 2714 | 2873 |
| 131 | 49 | | | | | | | 1407 | 1565 | 1722 | 1880 | 2038 | 2196 | 2354 | 2512 | 2670 | 2828 | 2986 | 3144 |
| 134 | 50 | 169 | | | | | | 1680 | 1838 | 1995 | 2153 | 2311 | 2469 | 2627 | 2784 | 2942 | 3100 | 3258 | 3416 |
| 136 | 51 | | | | | | | 1954 | 2111 | 2269 | 2426 | 2584 | 2741 | 2899 | 3057 | 3214 | 3372 | 3530 | 3687 |
| 139 | 52 | | | | | | | 2227 | 2384 | 2541 | 2699 | 2856 | 3014 | 3171 | 3329 | 3487 | 3644 | 3802 | 3959 |
| 142 | 53 | | | | | | | 2500 | 2657 | 2814 | 2972 | 3129 | 3286 | 3444 | 3601 | 3759 | 3916 | 4074 | 4231 |
| 144 | 54 | | | | | | | 2773 | 2930 | 3087 | 3244 | 3401 | 3559 | 3716 | 3873 | 4031 | 4188 | 4346 | 4503 |
| 147 | 55 | 169 | | | | | | 3046 | 3203 | 3360 | 3517 | 3674 | 3831 | 3988 | 4146 | 4303 | 4460 | 4618 | 4775 |
| 150 | 56 | | | | | | | 3319 | 3476 | 3633 | 3789 | 3946 | 4103 | 4260 | 4417 | 4574 | 4732 | 4889 | 5046 |
| 152 | 57 | | | | | | | 3592 | 3748 | 3905 | 4062 | 4219 | 4376 | 4533 | 4690 | 4847 | 5004 | 5161 | 5318 |
| 155 | 58 | | | | | | | 3865 | 4021 | 4178 | 4335 | 4492 | 4648 | 4805 | 4962 | 5119 | 5276 | 5433 | 5590 |
| 158 | 59 | | | | | | | 4138 | 4294 | 4451 | 4608 | 4764 | 4921 | 5078 | 5234 | 5391 | 5548 | 5705 | 5862 |
| 160 | 60 | 169 | | | | | | 4411 | 4567 | 4724 | 4880 | 5037 | 5193 | 5350 | 5506 | 5663 | 5820 | 5977 | 6134 |
| 163 | 61 | | | | | | | 4683 | 4840 | 4996 | 5153 | 5309 | 5466 | 5622 | 5779 | 5935 | 6092 | 6249 | 6406 |
| 166 | 62 | | | | | | | 4956 | 5113 | 5269 | 5425 | 5582 | 5738 | 5894 | 6051 | 6207 | 6364 | 6521 | 6678 |
| 168 | 63 | | | | | | | 5229 | 5385 | 5541 | 5698 | 5854 | 6010 | 6167 | 6323 | 6480 | 6636 | 6793 | 6950 |
| 171 | 64 | | | | | | | 5502 | 5658 | 5814 | 5970 | 6126 | 6283 | 6439 | 6595 | 6752 | 6908 | 7065 | 7222 |
| 174 | 65 | 169 | | | | | | 5775 | 5931 | 6087 | 6243 | 6399 | 6555 | 6712 | 6868 | 7024 | 7181 | 7337 | 7494 |
| 176 | 66 | | | | | | | 6048 | 6204 | 6360 | 6516 | 6672 | 6828 | 6984 | 7140 | 7297 | 7453 | 7610 | 7766 |
| 179 | 67 | | | | | | | 6321 | 6477 | 6633 | 6789 | 6945 | 7101 | 7257 | 7413 | 7569 | 7726 | 7882 | 8038 |
| 182 | 68 | | | | | | | 6594 | 6750 | 6906 | 7062 | 7218 | 7374 | 7530 | 7686 | 7842 | 7998 | 8154 | 8310 |
| 184 | 69 | | | | | | | 6867 | 7023 | 7179 | 7335 | 7491 | 7647 | 7803 | 7959 | 8115 | 8271 | 8427 | 8583 |
| 187 | 70 | 169 | | | | | | 7140 | 7296 | 7452 | 7608 | 7764 | 7920 | 8076 | 8232 | 8388 | 8544 | 8700 | 8856 |
| 190 | 71 | | | | | | | 7413 | 7569 | 7725 | 7881 | 8037 | 8193 | 8349 | 8505 | 8661 | 8817 | 8973 | 9129 |
| 192 | 72 | | | | | | | 7686 | 7842 | 7998 | 8154 | 8310 | 8466 | 8622 | 8778 | 8934 | 9090 | 9246 | 9402 |
| 195 | 73 | | | | | | | 7959 | 8115 | 8271 | 8427 | 8583 | 8739 | 8895 | 9051 | 9207 | 9363 | 9519 | 9675 |
| 198 | 74 | | | | | | | 8232 | 8388 | 8544 | 8700 | 8856 | 9012 | 9168 | 9324 | 9480 | 9636 | 9792 | 9948 |
| 200 | 75 | 169 | | | | | | 8505 | 8661 | 8817 | 8973 | 9129 | 9285 | 9441 | 9597 | 9753 | 9909 | 0065 | 0221 |
| 203 | 76 | | | | | | | 8778 | 8934 | 9090 | 9246 | 9402 | 9558 | 9714 | 9870 | 0026 | 0182 | 0338 | 0494 |
| 206 | 77 | | | | | | | 9051 | 9207 | 9363 | 9519 | 9675 | 9831 | 9987 | 0143 | 0299 | 0455 | 0611 | 0767 |
| 208 | 78 | | | | | | | 9324 | 9480 | 9636 | 9792 | 9948 | 0104 | 0260 | 0416 | 0572 | 0728 | 0884 | 1040 |
| 211 | 79 | | | | | | | 9597 | 9753 | 9909 | 0065 | 0221 | 0377 | 0533 | 0689 | 0845 | 1001 | 1157 | 1313 |
| 214 | 80 | 169 | | | | | | 9870 | 0026 | 0182 | 0338 | 0494 | 0650 | 0806 | 0962 | 1118 | 1274 | 1430 | 1586 |
| 216 | 81 | | | | | | | 0143 | 0299 | 0455 | 0611 | 0767 | 0923 | 1079 | 1235 | 1391 | 1547 | 1703 | 1859 |
| 219 | 82 | | | | | | | 0416 | 0572 | 0728 | 0884 | 1040 | 1196 | 1352 | 1508 | 1664 | 1820 | 1976 | 2132 |
| 222 | 83 | | | | | | | 0689 | 0845 | 1001 | 1157 | 1313 | 1469 | 1625 | 1781 | 1937 | 2093 | 2249 | 2405 |
| 224 | 84 | 169 | | | | | | 0962 | 1118 | 1274 | 1430 | 1586 | 1742 | 1898 | 2054 | 2210 | 2366 | 2522 | 2678 |
| 227 | 85 | | | | | | | 1235 | 1391 | 1547 | 1703 | 1859 | 2015 | 2171 | 2327 | 2483 | 2639 | 2795 | 2951 |
| 230 | 86 | | | | | | | 1508 | 1664 | 1820 | 1976 | 2132 | 2288 | 2444 | 2600 | 2756 | 2912 | 3068 | 3224 |
| 232 | 87 | | | | | | | 1781 | 1937 | 2093 | 2249 | 2405 | 2561 | 2717 | 2873 | 3029 | 3185 | 3341 | 3497 |
| 235 | 88 | | | | | | | 2054 | 2210 | 2366 | 2522 | 2678 | 2834 | 2990 | 3146 | 3302 | 3458 | 3614 | 3770 |
| 238 | 89 | | | | | | | 2327 | 2483 | 2639 | 2795 | 2951 | 3107 | 3263 | 3419 | 3575 | 3731 | 3887 | 4043 |
| 240 | 90 | 169 | | | | | | 2600 | 2756 | 2912 | 3068 | 3224 | 3380 | 3536 | 3692 | 3848 | 4004 | 4160 | 4316 |
| 243 | 91 | | | | | | | 2873 | 3029 | 3185 | 3341 | 3497 | 3653 | 3809 | 3965 | 4121 | 4277 | 4433 | 4589 |
| 246 | 92 | | | | | | | 3146 | 3302 | 3458 | 3614 | 3770 | 3926 | 4082 | 4238 | 4394 | 4550 | 4706 | 4862 |
| 248 | 93 | | | | | | | 3419 | 3575 | 3731 | 3887 | 4043 | 4199 | 4355 | 4511 | 4667 | 4823 | 4979 | 5135 |
| 251 | 94 | | | | | | | 3692 | 3848 | 4004 | 4160 | 4316 | 4472 | 4628 | 4784 | 4940 | 5096 | 5252 | 5408 |
| 254 | 95 | 169 | | | | | | 3965 | 4121 | 4277 | 4433 | 4589 | 4745 | 4901 | 5057 | 5213 | 5369 | 5525 | 5681 |
| 256 | 96 | | | | | | | 4238 | 4394 | 4550 | 4706 | 4862 | 5018 | 5174 | 5330 | 5486 | 5642 | 5798 | 5954 |
| 259 | 97 | | | | | | | 4511 | 4667 | 4823 | 4979 | 5135 | 5291 | 5447 | 5603 | 5759 | 5915 | 6071 | 6227 |
| 262 | 98 | | | | | | | 4784 | 4940 | 5096 | 5252 | 5408 | 5564 | 5720 | 5876 | 6032 | 6188 | 6344 | 6500 |
| 264 | 99 | 169 | | | | | | 5057 | 5213 | 5369 | 5525 | 5681 | 5837 | 5993 | 6149 | 6305 | 6461 | 6617 | 6773 |
| 267 | 100 | | | | | | | 5330 | 5486 | 5642 | 5798 | 5954 | 6110 | 6266 | 6422 | 6578 | 6734 | 6890 | 7046 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Auxiliary Arguments.

| A. | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0000 | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | 0000 | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | 0000 | 3751 | 3905 | 4059 | 4214 | 4368 | 4522 | 4677 | 4831 | 4985 | 5140 | 5294 | 5448 | 5603 | 5757 | 5911 | 6066 |
| 11 | | 4028 | 4182 | 4335 | | | | | | | | | | | | | |
| 12 | | 4305 | 4459 | 4613 | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | 0000 | | | | | | | | 6212 | 6365 | 6519 | 6673 | 6827 | 6981 | 71 | | |
| 16 | | | | | | | | | | 41 | 6795 | 6949 | 7102 | 7256 | 741 | 75 | 771 |
| 17 | | | 43 | 5996 | 61 | | | | | | 7071 | 7224 | 7378 | 7 | | | |
| 18 | | | | | | | | | | 7500 | 7653 | | | | | | |
| 19 | | | | | | | | | 7622 | 7776 | 7928 | | | | | | |
| 20 | 0000 | 321 | 6674 | 6827 | 6980 | 71 | | | 7745 | 7898 | 8051 | 8205 | 8358 | | | | |
| 21 | | 6798 | 6951 | 7104 | 7257 | 7 | | | 8174 | 8327 | 8480 | 8633 | 87 | | | | |
| 22 | | | | | | | | | 8450 | 8603 | 8756 | 89 | | | | | |
| 23 | | | 35 | 75 | | | | | 8726 | 8879 | 9032 | 918 | | | | | |
| 24 | | 30 | 7782 | 7935 | 8087 | 8240 | 8392 | 8545 | 8697 | | | | | | | | |
| 25 | 0000 | | | 212 | 8364 | 8516 | 8669 | 8821 | 8973 | 9126 | 9278 | 9431 | 9 | | | 941 | 0193 | 0346 |
| 26 | | 8337 | 8489 | 8641 | 8793 | 8945 | 9097 | 925 | | | | | | | | 316 | 0469 | 0621 |
| 27 | | 8611 | 8766 | 8918 | 9070 | 9222 | 9374 | 952 | | | | | | | | | | |
| 28 | | | 043 | 919 | 347 | 9499 | 9651 | 98 | | | | | | | | | | |
| 29 | | 17 | 0320 | 047 | | | | | | | | | | | | 142 | 1294 | 1446 |
| 30 | 0000 | 294 | 9446 | 9597 | 9749 | 99 | | | | | | | | | | | | |
| 31 | | 72 | 9723 | 9874 | | | | | | | | 1087 | 1238 | 1390 | 1541 | 1693 | 1845 | 1997 |
| 32 | | | 0152 | 030 | | | | | | | | 1363 | 1514 | 1666 | 1817 | 1969 | 2120 | 2272 |
| 33 | 1700 | | 8 | 0429 | 0581 | | | | | | | | | | | | 2396 | 2547 |
| 34 | | | | | | | | | | | | | | | | | | |
| 35 | 1700 | | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | 2442 | 2592 | 2743 | 2 | | | | |
| 38 | | | | | | | | | | | 2718 | 2869 | 3019 | 31 | | | | |
| 39 | | 1792 | 194 | | | | | | | | | 3145 | 3296 | | | | | |
| 40 | 1700 | | | | | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | | |
| 45 | 1700 | | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | | | | |
| 50 | 1700 | | | | | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | | | |
| 55 | 1700 | | | | | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | | | |
| 60 | 1700 | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances ------ }

Sums for finding the Corrected Distances.

| Parts of Seconds of Auxil. Argum. | A. A. A. D. 72° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0′ | 169 | 3633 | 3790 | 3946 | 4102 | 4258 | 4415 | 4571 | 4727 | 4883 | 5040 | 5196 | 5353 | 5509 | 5665 | 5822 | 5978 | 6135 |
| 3 | 1 | | 3905 | | | | | | | | | | | | | | | | |
| 5 | 2 | | 4182 | | | | | | | | | | | | | | | | |
| 8 | 3 | | 4460 | | | | | | | | | | | | | | | | |
| 10 | 4 | | 4731 | 4886 | 5042 | 5198 | 5353 | 5509 | 5665 | 5821 | 5976 | 6132 | 6288 | 6444 | 6600 | 6755 | 6911 | 7067 | 7223 |
| 13 | 5 | 169 | | | | | | | | | | | | | | | | | |
| 15 | 6 | | | | | | | | | | | | | | | | | | |
| 18 | 7 | | | | | | | | | | | | | | | | | | |
| 20 | 8 | | | | | | | | | | | | | | | | | | |
| 23 | 9 | | | | | | | | | | | | | | | | | | |
| 25 | 10 | 169 | | | | | | | | | | | | | | | | | |
| 28 | 11 | | | | | | | | | | | | | | | | | | |
| 30 | 12 | | | | | | | | | | | | | | | | | | |
| 33 | 13 | | | | | | | | | | | | | | | | | | |
| 36 | 14 | | | | | | | | | | | | | | | | | | |
| 38 | 15 | 169 (170) | | | | | | | | | | | | | | | | | |
| 41 | 16 | | 8025 | 8179 | 8333 | 8487 | 8641 | 8795 | 8949 | 9103 | 9257 | 9411 | 9565 | 9720 | 9874 | 0028 | 0182 | 0337 | 0491 |
| 43 | 17 | | | | | | | | | | | | | | | | | | |
| 46 | 18 | | 8575 | 8728 | 8882 | 9036 | 9189 | 9343 | 9497 | 9651 | 9804 | 9958 | 0112 | 0266 | 0420 | 0574 | 0728 | 0882 | 1036 |
| 48 | 19 | | | | | | | | | | | | | | | | | | |
| 51 | 20 | 169 (170) | | | | | | | | | | | | | | | | | |
| 53 | 21 | | | | | | | | | | | | | | | | | | |
| 56 | 22 | | | | | | | | | | | | | | | | | | |
| 58 | 23 | | | | | | | | | | | | | | | | | | |
| 61 | 24 | 170 | | | | | | | | | | | | | | | | | |
| 64 | 25 | 170 | | | | | | | | | | | | | | | | | |
| 66 | 26 | | | | | | | | | | | | | | | | | | |
| 69 | 27 | | | | | | | | | | | | | | | | | | |
| 71 | 28 | | | | | | | | | | | | | | | | | | |
| 74 | 29 | | | | | | | | | | | | | | | | | | |
| 76 | 30 | 170 | | | | | | | | | | | | | | | | | |
| 79 | 31 | | | | | | | | | | | | | | | | | | |
| 81 | 32 | | | | | | | | | | | | | | | | | | |
| 84 | 33 | | | | | | | | | | | | | | | | | | |
| 86 | 34 | | | | | | | | | | | | | | | | | | |
| 89 | 35 | 170 | | | | | | | | | | | | | | | | | |
| 91 | 36 | | | | | | | | | | | | | | | | | | |
| 94 | 37 | | 3799 | 3950 | 4101 | 4252 | 4403 | 4554 | 4706 | 4857 | 5008 | 5159 | 5310 | 5461 | 5613 | 5764 | 5915 | 6066 | 6218 |
| 97 | 38 | | | | | | | | | | | | | | | | | | |
| 99 | 39 | | | | | | | | | | | | | | | | | | |
| 102 | 40 | 170 | | | | | | | | | | | | | | | | | |
| 104 | 41 | | | | | | | | | | | | | | | | | | |
| 107 | 42 | | | | | | | | | | | | | | | | | | |
| 109 | 43 | | | | | | | | | | | | | | | | | | |
| 112 | 44 | | | | | | | | | | | | | | | | | | |
| 114 | 45 | 170 | | | | | | | | | | | | | | | | | |
| 117 | 46 | | | | | | | | | | | | | | | | | | |
| 119 | 47 | | | | | | | | | | | | | | | | | | |
| 122 | 48 | | | | | | | | | | | | | | | | | | |
| 125 | 49 | | | | | | | | | | | | | | | | | | |
| 127 | 50 | 170 | | | | | | | | | | | | | | | | | |
| 130 | 51 | 170 (171) | | | | | | | | | | | | | | | | | |
| 132 | 52 | | 7930 | 8079 | 8228 | 8377 | 8526 | 8675 | 8824 | 8973 | 9122 | 9271 | 9420 | 9569 | 9718 | 9868 | 0017 | 0166 | 0315 |
| 135 | 53 | | | | | | | | | | | | | | | | | | |
| 137 | 54 | | | | | | | | | | | | | | | | | | |
| 140 | 55 | 171 | | | | | | | | | | | | | | | | | |
| 142 | 56 | | | | | | | | | | | | | | | | | | |
| 145 | 57 | | | | | | | | | | | | | | | | | | |
| 147 | 58 | | | | | | | | | | | | | | | | | | |
| 150 | 59 | | | | | | | | | | | | | | | | | | |

| Parts for Sec. of C. D. Addit. | C. D. 72° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 479 |
| 5 | 1 | |
| 9 | 2 | |
| 14 | 3 | |
| 18 | 4 | |
| 23 | 5 | 479 |
| 28 | 6 | |
| 32 | 7 | |
| 37 | 8 | |
| 42 | 9 | |
| 46 | 10 | 479 |
| 51 | 11 | |
| 55 | 12 | |
| 60 | 13 | |
| 65 | 14 | |
| 69 | 15 | 479 |
| 74 | 16 | |
| 78 | 17 | |
| 83 | 18 | |
| 88 | 19 | |
| 92 | 20 | 479 |
| 97 | 21 | |
| 102 | 22 | |
| 106 | 23 | |
| 111 | 24 | |
| 115 | 25 | 479 |
| 120 | 26 | |
| 125 | 27 | |
| 129 | 28 | |
| 134 | 29 | |
| 138 | 30 | 479 |
| 143 | 31 | |
| 148 | 32 | |
| 152 | 33 | |
| 157 | 34 | |
| 161 | 35 | 479 |
| 166 | 36 | |
| 171 | 37 | |
| 175 | 38 | |
| 180 | 39 | |
| 185 | 40 | 479 |
| 189 | 41 | |
| 194 | 42 | |
| 198 | 43 | |
| 203 | 44 | |
| 208 | 45 | 479 |
| 212 | 46 | |
| 217 | 47 | |
| 222 | 48 | |
| 226 | 49 | |
| 231 | 50 | 479 |
| 235 | 51 | |
| 240 | 52 | |
| 245 | 53 | |
| 249 | 54 | |
| 254 | 55 | 479 |
| 259 | 56 | |
| 263 | 57 | |
| 268 | 58 | |
| 272 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Part of Second Vertical | ′ | 73° Numbers | Part of Second Vertical | ′ | S.A. & A.D. 73° Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 277 | 0 | 130 8740 | 0 | 0 | 170 | 7028 | 7177 | 7325 | 7470 | 7618 | 8365 | 8513 | 8660 | 8807 | 8955 | 9103 | 9250 | 9398 | 9545 | 9693 | 9841 | 9988 |
| 272 | 1 | 8464 | 1 | 1 | 170 (171) | 7574 | 7720 | 7867 | 8014 | 8161 | 8308 | 8455 | 8602 | 8749 | 8897 | 9044 | 9191 | 9338 | 9485 | 9632 | 9779 | 9926 |
| 268 | 2 | 8187 | 2 | 2 | | 8120 | 8267 | 8414 | 8561 | 8708 | 8773 | 8920 | 9067 | 9214 | 9362 | 9509 | 9656 | 9803 | 9950 | 0097 | 0245 | 0393 | 0540 |
| 263 | 3 | 7910 | 3 | 3 | | 8667 | 8814 | 8961 | 9108 | 9255 | 9051 | 9198 | 9345 | 9492 | 9639 | 9786 | 9933 | 0080 | 0227 | 0374 | 0522 | 0669 | 0816 |
| 258 | 4 | 7633 | 4 | 4 | | 9214 | 9361 | 9508 | 9655 | 9802 | 9328 | 9475 | 9622 | 9769 | 9916 | 0063 | 0210 | 0357 | 0504 | 0651 | 0798 | 0945 | 1092 |
| 254 | 5 | 130 7357 | 5 | 5 | 170 (171) | 9761 | 9908 | 0055 | 0202 | 0349 | 0753 | 0899 | 0046 | 0193 | 0340 | 0487 | 0634 | 0781 | 0927 | 1074 | 1221 | 1368 | 1515 |
| 249 | 6 | 7080 | 6 | 6 | | 0308 | 0455 | 0602 | 0749 | 0896 | 0884 | 0031 | 0177 | 0324 | 0470 | 0617 | 0764 | 0910 | 1057 | 1204 | 1351 | 1498 | 1644 |
| 245 | 7 | 6803 | 7 | 7 | | 0855 | 1002 | 1149 | 1296 | 1443 | 0162 | 1309 | 0454 | 0601 | 0747 | 0894 | 1041 | 1187 | 1334 | 1481 | 1627 | 1774 | 1921 |
| 240 | 8 | 6526 | 8 | 8 | | 1402 | 1549 | 1696 | 1843 | 1990 | 0439 | 1586 | 0732 | 0878 | 1025 | 1171 | 1318 | 1464 | 1611 | 1757 | 1904 | 2050 | 2197 |
| 235 | 9 | 6249 | 9 | 9 | 171 | 1949 | 2096 | 2243 | 2390 | 2537 | 0717 | 1863 | 1010 | 1156 | 1302 | 1448 | 1595 | 1741 | 1887 | 2034 | 2180 | 2327 | 2473 |
| 231 | 10 | 130 5972 | 10 | 10 | 171 | 2496 | 2643 | 2790 | 2937 | 3084 | 1141 | 1287 | 1433 | 1579 | 1725 | 1872 | 2018 | 2164 | 2310 | 2457 | 2603 | 2749 | 2896 |
| 226 | 11 | 5695 | 11 | 11 | | 3043 | 3190 | 3337 | 3484 | 3631 | 1873 | 2019 | 1565 | 1711 | 1857 | 2003 | 2149 | 2295 | 2441 | 2587 | 2733 | 2879 | 3025 |
| 222 | 12 | 5418 | 12 | 12 | | 3590 | 3737 | 3884 | 4031 | 4178 | 2605 | 2751 | 1697 | 1842 | 1988 | 2134 | 2280 | 2426 | 2571 | 2717 | 2863 | 3009 | 3155 |
| 217 | 13 | 5141 | 13 | 13 | | 4137 | 4284 | 4431 | 4578 | 4725 | 3337 | 3483 | 1829 | 1974 | 2120 | 2266 | 2411 | 2557 | 2703 | 2848 | 2994 | 3140 | 3286 |
| 212 | 14 | 4864 | 14 | 14 | | 4684 | 4831 | 4978 | 5125 | 5272 | 4069 | 4215 | 2398 | 2543 | 2689 | 2834 | 2980 | 3125 | 3271 | 3417 | 3562 | 3708 | 3853 |
| 208 | 15 | 130 4587 | 15 | 15 | 171 | 5231 | 5378 | 5525 | 5672 | 5819 | 4801 | 4947 | 2675 | 2821 | 2966 | 3111 | 3257 | 3402 | 3548 | 3693 | 3839 | 3984 | 4130 |
| 203 | 16 | 4310 | 16 | 16 | | 5778 | 5925 | 6072 | 6219 | 6366 | 5533 | 5679 | 2953 | 3098 | 3244 | 3389 | 3534 | 3680 | 3825 | 3971 | 4116 | 4262 | 4407 |
| 198 | 17 | 4033 | 17 | 17 | | 2361 | 2506 | 2651 | 2796 | 2941 | 6265 | 6411 | 3231 | 3376 | 3521 | 3666 | 3811 | 3956 | 4101 | 4247 | 4392 | 4537 | 4683 |
| 194 | 18 | 3756 | 18 | 18 | | 2639 | 2784 | 2929 | 3074 | 3219 | 6998 | 7144 | 3508 | 3653 | 3798 | 3943 | 4088 | 4233 | 4378 | 4524 | 4669 | 4814 | 4959 |
| 189 | 19 | 3479 | 19 | 19 | | 2918 | 3063 | 3208 | 3352 | 3497 | 7731 | 7877 | 3786 | 3931 | 4076 | 4221 | 4366 | 4511 | 4656 | 4801 | 4946 | 5091 | 5236 |
| 185 | 20 | 130 3202 | 20 | 20 | 171 | 3197 | 3341 | 3486 | 3631 | 3775 | 3920 | 4064 | 4209 | 4354 | 4498 | 4643 | 4788 | 4933 | 5077 | 5222 | 5367 | 5511 | 5656 |
| 180 | 21 | 2924 | 21 | 21 | | 3475 | 3620 | 3764 | 3909 | 4053 | 4198 | 4342 | 4487 | 4631 | 4776 | 4920 | 5065 | 5210 | 5354 | 5499 | 5643 | 5788 | 5932 |
| 175 | 22 | 2647 | 22 | 22 | | 3754 | 3898 | 4043 | 4187 | 4331 | 4476 | 4620 | 4764 | 4909 | 5053 | 5198 | 5342 | 5487 | 5631 | 5775 | 5920 | 6064 | 6209 |
| 171 | 23 | 2370 | 23 | 23 | | 4033 | 4177 | 4321 | 4465 | 4609 | 4754 | 4898 | 5042 | 5186 | 5331 | 5475 | 5619 | 5764 | 5908 | 6052 | 6197 | 6341 | 6485 |
| 166 | 24 | 2093 | 24 | 24 | | 4314 | 4458 | 4602 | 4746 | 4890 | 5035 | 5179 | 5323 | 5467 | 5611 | 5755 | 5899 | 6043 | 6187 | 6331 | 6475 | 6618 | 6762 |
| 162 | 25 | 130 1815 | 25 | 25 | 171 | 4595 | 4739 | 4883 | 5027 | 5171 | 5310 | 5454 | 5598 | 5741 | 5886 | 6030 | 6174 | 6318 | 6462 | 6606 | 6750 | 6894 | 7038 |
| 157 | 26 | 1538 | 26 | 26 | | 4877 | 5021 | 5165 | 5309 | 5453 | 5592 | 5736 | 5880 | 6024 | 6169 | 6313 | 6457 | 6601 | 6745 | 6889 | 7033 | 7177 | 7321 |
| 152 | 27 | 1261 | 27 | 27 | | 5158 | 5302 | 5446 | 5590 | 5734 | 5874 | 6018 | 6162 | 6306 | 6451 | 6595 | 6739 | 6883 | 7027 | 7171 | 7315 | 7459 | 7603 |
| 148 | 28 | 0983 | 28 | 28 | | 5440 | 5584 | 5728 | 5872 | 6016 | 6157 | 6301 | 6444 | 6588 | 6732 | 6876 | 7020 | 7164 | 7308 | 7452 | 7596 | 7740 | 7884 |
| 143 | 29 | 0706 | 29 | 29 | | 5722 | 5866 | 6010 | 6154 | 6298 | 6440 | 6584 | 6727 | 6871 | 7015 | 7159 | 7303 | 7447 | 7591 | 7735 | 7879 | 8023 | 8167 |
| 138 | 30 | 130 0428 | 30 | 30 | 171 | 6005 | 6149 | 6293 | 6437 | 6581 | 6723 | 6867 | 7010 | 7154 | 7298 | 7442 | 7586 | 7730 | 7874 | 8018 | 8162 | 8306 | 8450 |
| 134 | 31 | 0151 | 31 | 31 | | 6289 | 6433 | 6577 | 6721 | 6865 | 7008 | 7152 | 7296 | 7440 | 7584 | 7728 | 7872 | 8016 | 8160 | 8304 | 8448 | 8592 | 8736 |
| 129 | 32 | 129 9873 | 32 | 32 | | 6573 | 6717 | 6861 | 7005 | 7149 | 7293 | 7437 | 7581 | 7725 | 7869 | 8013 | 8157 | 8301 | 8445 | 8589 | 8733 | 8877 | 9021 |
| 125 | 33 | 9596 | 33 | 33 | | 6857 | 7001 | 7145 | 7289 | 7433 | 7577 | 7721 | 7865 | 8009 | 8153 | 8297 | 8441 | 8585 | 8729 | 8873 | 9017 | 9161 | 9305 |
| 120 | 34 | 9318 | 34 | 34 | | 7141 | 7285 | 7429 | 7573 | 7717 | 7861 | 8005 | 8149 | 8293 | 8437 | 8581 | 8725 | 8869 | 9013 | 9157 | 9301 | 9445 | 9589 |
| 115 | 35 | 129 9041 | 35 | 35 | 171 | 7426 | 7570 | 7714 | 7858 | 8002 | 8146 | 8290 | 8434 | 8578 | 8722 | 8866 | 9010 | 9154 | 9298 | 9442 | 9586 | 9730 | 9874 |
| 111 | 36 | 8763 | 36 | 36 | | 7712 | 7856 | 8000 | 8144 | 8288 | 8432 | 8576 | 8720 | 8864 | 9008 | 9152 | 9296 | 9440 | 9584 | 9728 | 9872 | 0016 | 0160 |
| 106 | 37 | 8486 | 37 | 37 | 171 (172) | 7998 | 8142 | 8286 | 8430 | 8574 | 8718 | 8862 | 9006 | 9150 | 9294 | 9438 | 9582 | 9726 | 9870 | 0014 | 0158 | 0302 | 0446 |
| 102 | 38 | 8208 | 38 | 38 | | 8285 | 8429 | 8573 | 8717 | 8861 | 9005 | 9149 | 9293 | 9437 | 9581 | 9725 | 9869 | 0013 | 0157 | 0301 | 0445 | 0589 | 0733 |
| 97 | 39 | 7930 | 39 | 39 | | 8573 | 8717 | 8861 | 9005 | 9149 | 9293 | 9437 | 9581 | 9725 | 9869 | 0013 | 0157 | 0301 | 0445 | 0589 | 0733 | 0877 | 1021 |
| 92 | 40 | 129 7651 | 40 | 40 | 171 (172) | 8861 | 9005 | 9149 | 9293 | 9437 | 9581 | 9725 | 9869 | 0013 | 0157 | 0301 | 0445 | 0589 | 0733 | 0877 | 1021 | 1165 | 1309 |
| 88 | 41 | 7373 | 41 | 41 | | 9150 | 9294 | 9438 | 9582 | 9726 | 9870 | 0014 | 0158 | 0302 | 0446 | 0590 | 0734 | 0878 | 1022 | 1166 | 1310 | 1454 | 1598 |
| 83 | 42 | 7096 | 42 | 42 | | 9438 | 9582 | 9726 | 9870 | 0014 | 0158 | 0302 | 0446 | 0590 | 0734 | 0878 | 1022 | 1166 | 1310 | 1454 | 1598 | 1742 | 1886 |
| 78 | 43 | 6818 | 43 | 43 | | 9727 | 9871 | 0015 | 0159 | 0303 | 0447 | 0591 | 0735 | 0879 | 1023 | 1167 | 1311 | 1455 | 1599 | 1743 | 1887 | 2031 | 2175 |
| 74 | 44 | 6541 | 44 | 44 | | 0015 | 0159 | 0303 | 0447 | 0591 | 0735 | 0879 | 1023 | 1167 | 1311 | 1455 | 1599 | 1743 | 1887 | 2031 | 2175 | 2319 | 2463 |
| 69 | 45 | 6264 | 45 | 45 | | 0303 | 0447 | 0591 | 0735 | 0879 | 1023 | 1167 | 1311 | 1455 | 1599 | 1743 | 1887 | 2031 | 2175 | 2319 | 2463 | 2607 | 2751 |
| 65 | 46 | 5987 | 46 | 46 | | 0591 | 0735 | 0879 | 1023 | 1167 | 1311 | 1455 | 1599 | 1743 | 1887 | 2031 | 2175 | 2319 | 2463 | 2607 | 2751 | 2895 | 3039 |
| 60 | 47 | 5710 | 47 | 47 | | 0879 | 1023 | 1167 | 1311 | 1455 | 1599 | 1743 | 1887 | 2031 | 2175 | 2319 | 2463 | 2607 | 2751 | 2895 | 3039 | 3183 | 3327 |
| 55 | 48 | 5433 | 48 | 48 | | 1167 | 1311 | 1455 | 1599 | 1743 | 1887 | 2031 | 2175 | 2319 | 2463 | 2607 | 2751 | 2895 | 3039 | 3183 | 3327 | 3471 | 3615 |
| 51 | 49 | 5156 | 49 | 49 | | 1455 | 1599 | 1743 | 1887 | 2031 | 2175 | 2319 | 2463 | 2607 | 2751 | 2895 | 3039 | 3183 | 3327 | 3471 | 3615 | 3759 | 3903 |
| 46 | 50 | 129 4879 | 50 | 50 | 171 | 1743 | 1887 | 2031 | 2175 | 2319 | 2463 | 2607 | 2751 | 2895 | 3039 | 3183 | 3327 | 3471 | 3615 | 3759 | 3903 | 4047 | 4191 |
| 41 | 51 | 4602 | 51 | 51 | | 2031 | 2175 | 2319 | 2463 | 2607 | 2751 | 2895 | 3039 | 3183 | 3327 | 3471 | 3615 | 3759 | 3903 | 4047 | 4191 | 4335 | 4479 |
| 37 | 52 | 4325 | 52 | 52 | | 2319 | 2463 | 2607 | 2751 | 2895 | 3039 | 3183 | 3327 | 3471 | 3615 | 3759 | 3903 | 4047 | 4191 | 4335 | 4479 | 4623 | 4767 |
| 32 | 53 | 4048 | 53 | 53 | | 2607 | 2751 | 2895 | 3039 | 3183 | 3327 | 3471 | 3615 | 3759 | 3903 | 4047 | 4191 | 4335 | 4479 | 4623 | 4767 | 4911 | 5055 |
| 28 | 54 | 3771 | 54 | 54 | | 2895 | 3039 | 3183 | 3327 | 3471 | 3615 | 3759 | 3903 | 4047 | 4191 | 4335 | 4479 | 4623 | 4767 | 4911 | 5055 | 5199 | 5343 |
| 23 | 55 | 129 3494 | 55 | 55 | 171 | 3183 | 3327 | 3471 | 3615 | 3759 | 3903 | 4047 | 4191 | 4335 | 4479 | 4623 | 4767 | 4911 | 5055 | 5199 | 5343 | 5487 | 5631 |
| 18 | 56 | 3217 | 56 | 56 | | 3471 | 3615 | 3759 | 3903 | 4047 | 4191 | 4335 | 4479 | 4623 | 4767 | 4911 | 5055 | 5199 | 5343 | 5487 | 5631 | 5775 | 5919 |
| 14 | 57 | 2940 | 57 | 57 | | 3759 | 3903 | 4047 | 4191 | 4335 | 4479 | 4623 | 4767 | 4911 | 5055 | 5199 | 5343 | 5487 | 5631 | 5775 | 5919 | 6063 | 6207 |
| 9 | 58 | 2663 | 58 | 58 | | 4047 | 4191 | 4335 | 4479 | 4623 | 4767 | 4911 | 5055 | 5199 | 5343 | 5487 | 5631 | 5775 | 5919 | 6063 | 6207 | 6351 | 6495 |
| 5 | 59 | 2386 | 59 | 59 | | 4335 | 4479 | 4623 | 4767 | 4911 | 5055 | 5199 | 5343 | 5487 | 5631 | 5775 | 5919 | 6063 | 6207 | 6351 | 6495 | 6639 | 6783 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. additive | Arg. & A.D. 73° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | -N. | N. | N. |
| 0 | 0 | 171 | 0136 | 0284 | 0431 | 0579 | 0727 | 0875 | 1023 | 1171 | 1319 | 1467 | 1615 | 1763 | 1911 | 2059 | 2207 | 2355 | 2503 |
| 2 | 1 | | 0412 | 0559 | 0707 | 0855 | 1003 | 1151 | 1299 | 1446 | 1594 | 1741 | 1889 | 2037 | 2185 | 2333 | 2480 | 2628 | 2776 |
| 5 | 2 | | 0688 | 0835 | 0983 | 1130 | 1278 | 1425 | 1573 | 1720 | 1868 | 2016 | 2163 | 2311 | 2459 | 2607 | 2754 | 2902 | 3049 |
| 7 | 3 | | 0963 | 1111 | 1258 | 1406 | 1553 | 1701 | 1848 | 1995 | 2143 | 2290 | 2438 | 2585 | 2732 | 2881 | 3028 | 3176 | 3323 |
| 10 | 4 | | 1239 | 1387 | 1534 | 1681 | 1828 | 1976 | 2123 | 2270 | 2417 | 2565 | 2712 | 2860 | 3007 | 3155 | 3302 | 345- | 3597 |
| 12 | 5 | 171 | 1515 | 1662 | 1809 | 1957 | 2104 | 2251 | 2398 | 2545 | 2692 | 2839 | 2987 | 3134 | 3281 | 3429 | 3576 | 3723 | 3871 |
| 14 | 6 | | 1791 | 1938 | 2085 | 2232 | 2379 | 2526 | 2673 | 2820 | 2967 | 3114 | 3261 | 3408 | 3556 | 3703 | 3850 | 3997 | 4144 |
| 17 | 7 | | 2067 | 2214 | 2361 | 2507 | 2654 | 2801 | 2948 | 3095 | 3242 | 3389 | 3536 | 3683 | 3830 | 3977 | 4124 | 4271 | 4418 |
| 19 | 8 | | 2343 | 2490 | 2636 | 2783 | 2930 | 3076 | 3223 | 3370 | 3517 | 3664 | 3810 | 3957 | 4104 | 4251 | 4398 | 4545 | 4692 |
| 22 | 9 | | 2619 | 2766 | 2912 | 3059 | 3205 | 3352 | 3498 | 3645 | 3792 | 3938 | 4085 | 4232 | 4378 | 4525 | 4672 | 4819 | 4966 |
| 24 | 10 | 171 | 2895 | 3042 | 3188 | 3334 | 3481 | 3627 | 3773 | 3920 | 4067 | 4213 | 4360 | 4506 | 4653 | 4800 | 4947 | 5093 | 5240 |
| 26 | 11 | | 3171 | 3317 | 3464 | 3610 | 3756 | 3902 | 4049 | 4195 | 4341 | 4488 | 4634 | 4781 | 4927 | 5074 | 5220 | 5367 | 5513 |
| 29 | 12 | | 3447 | 3593 | 3739 | 3886 | 4032 | 4178 | 4324 | 4470 | 4616 | 4763 | 4909 | 5055 | 5201 | 5348 | 5494 | 5641 | 5787 |
| 31 | 13 | | 3723 | 3869 | 4015 | 4161 | 4307 | 4453 | 4599 | 4745 | 4891 | 5037 | 5184 | 5330 | 5476 | 5622 | 5768 | 5915 | 6061 |
| 34 | 14 | | 3999 | 4145 | 4291 | 4437 | 4583 | 4728 | 4875 | 5020 | 5166 | 5312 | 5458 | 5604 | 5750 | 5896 | 6042 | 6188 | 6334 |
| 36 | 15 | 171 | 4276 | 4421 | 4567 | 4713 | 4858 | 5004 | 5150 | 5296 | 5441 | 5587 | 5733 | 5879 | 6025 | 6171 | 6317 | 6463 | 6608 |
| 38 | 16 | | 4552 | 4697 | 4843 | 4989 | 5134 | 5279 | 5425 | 5571 | 5717 | 5863 | 6009 | 6154 | 6300 | 6446 | 6592 | 6737 | 6883 |
| 41 | 17 | | 4828 | 4973 | 5119 | 5264 | 5410 | 5555 | 5700 | 5846 | 5992 | 6138 | 6283 | 6429 | 6575 | 6721 | 6866 | 7012 | 7158 |
| 43 | 18 | | 5104 | 5249 | 5395 | 5540 | 5686 | 5831 | 5976 | 6121 | 6267 | 6413 | 6558 | 6704 | 6850 | 6995 | 7141 | 7287 | 7432 |
| 46 | 19 | | 5380 | 5525 | 5671 | 5816 | 5961 | 6107 | 6252 | 6397 | 6543 | 6688 | 6834 | 6980 | 7125 | 7271 | 7416 | 7562 | 7707 |
| 48 | 20 | 171 | 5657 | 5802 | 5947 | 6092 | 6237 | 6382 | 6527 | 6672 | 6817 | 6963 | 7108 | 7254 | 7399 | 7545 | 7690 | 7836 | 7981 |
| 50 | 21 | | 5933 | 6078 | 6223 | 6367 | 6512 | 6657 | 6802 | 6947 | 7092 | 7237 | 7383 | 7528 | 7673 | 7819 | 7964 | 8110 | 8255 |
| 53 | 22 | | 6209 | 6354 | 6499 | 6643 | 6788 | 6933 | 7077 | 7222 | 7367 | 7512 | 7657 | 7803 | 7948 | 8093 | 8239 | 8384 | 8530 |
| 55 | 23 | | 6486 | 6630 | 6775 | 6919 | 7064 | 7208 | 7353 | 7498 | 7642 | 7787 | 7932 | 8077 | 8221 | 8366 | 8511 | 8656 | 8801 |
| 57 | 24 | | 6762 | 6906 | 7051 | 7195 | 7340 | 7484 | 7629 | 7773 | 7918 | 8062 | 8207 | 8351 | 8496 | 8640 | 8785 | 8930 | 9074 |
| 60 | 25 | 171 | 7038 | 7183 | 7327 | 7471 | 7615 | 7760 | 7904 | 8048 | 8193 | 8337 | 8482 | 8626 | 8771 | 8915 | 9060 | 9204 | 9349 |
| 62 | 26 | | 7315 | 7459 | 7603 | 7747 | 7891 | 8035 | 8179 | 8323 | 8468 | 8612 | 8756 | 8901 | 9045 | 9189 | 9334 | 9478 | 9623 |
| 65 | 27 | | 7591 | 7735 | 7879 | 8023 | 8167 | 8311 | 8455 | 8599 | 8743 | 8887 | 9031 | 9176 | 9320 | 9464 | 9608 | 9753 | 9897 |
| 67 | 28 | 171 (172) | 7868 | 8011 | 8155 | 8299 | 8443 | 8587 | 8731 | 8875 | 9019 | 9163 | 9307 | 9451 | 9595 | 9739 | 9883 | 0027 | 0171 |
| 69 | 29 | | 8144 | 8288 | 8432 | 8575 | 8719 | 8863 | 9007 | 9151 | 9295 | 9439 | 9583 | 9727 | 9871 | 0015 | 0159 | 0303 | 0447 |
| 72 | 30 | 171 (172) | 8421 | 8565 | 8708 | 8852 | 8996 | 9140 | 9284 | 9428 | 9572 | 9716 | 9860 | 0004 | 0148 | 0292 | 0436 | 0580 | 0724 |
| 74 | 31 | | 8697 | 8841 | 8984 | 9128 | 9272 | 9416 | 9560 | 9704 | 9848 | 9992 | 0136 | 0280 | 0424 | 0568 | 0712 | 0856 | 1000 |
| 77 | 32 | | 8974 | 9117 | 9260 | 9404 | 9548 | 9692 | 9836 | 9980 | 0124 | 0268 | 0412 | 0556 | 0700 | 0844 | 0988 | 1132 | 1276 |
| 79 | 33 | | 9250 | 9393 | 9537 | 9681 | 9825 | 9969 | 0113 | 0257 | 0401 | 0545 | 0689 | 0833 | 0977 | 1121 | 1265 | 1409 | 1553 |
| 81 | 34 | | 9527 | 9670 | 9814 | 9958 | 0102 | 0246 | 0390 | 0534 | 0678 | 0822 | 0966 | 1110 | 1254 | 1398 | 1542 | 1686 | 1829 |
| 84 | 35 | 171 (172) | 9803 | 9947 | 0091 | 0235 | 0379 | 0523 | 0667 | 0811 | 0955 | 1099 | 1243 | 1387 | 1531 | 1675 | 1819 | 1963 | 2107 |
| 86 | 36 | 172 | 0080 | 0224 | 0368 | 0512 | 0656 | 0800 | 0944 | 1088 | 1232 | 1376 | 1520 | 1664 | 1808 | 1952 | 2096 | 2240 | 2384 |
| 88 | 37 | | 0356 | 0500 | 0644 | 0788 | 0932 | 1076 | 1220 | 1364 | 1508 | 1652 | 1796 | 1940 | 2084 | 2228 | 2372 | 2516 | 2660 |
| 91 | 38 | | 0633 | 0777 | 0921 | 1065 | 1209 | 1353 | 1497 | 1641 | 1785 | 1929 | 2073 | 2217 | 2361 | 2505 | 2649 | 2793 | 2937 |
| 93 | 39 | | 0910 | 1053 | 1195 | 1337 | 1479 | 1622 | 1764 | 1906 | 2049 | 2191 | 2334 | 2476 | 2619 | 2761 | 2904 | 3046 | 3189 |
| 96 | 40 | 172 | 1187 | 1329 | 1471 | 1613 | 1755 | 1897 | 2039 | 2181 | 2323 | 2465 | 2607 | 2749 | 2891 | 3033 | 3175 | 3317 | 3459 |
| 98 | 41 | | 1464 | 1606 | 1748 | 1890 | 2032 | 2174 | 2316 | 2458 | 2600 | 2742 | 2884 | 3026 | 3168 | 3311 | 3453 | 3595 | 3737 |
| 1 | 42 | | 1741 | 1883 | 2025 | 2167 | 2309 | 2451 | 2593 | 2735 | 2877 | 3019 | 3161 | 3303 | 3445 | 3587 | 3729 | 3871 | 4013 |
| 3 | 43 | | 2018 | 2160 | 2302 | 2444 | 2586 | 2728 | 2870 | 3012 | 3154 | 3296 | 3438 | 3580 | 3722 | 3864 | 4006 | 4148 | 4290 |
| 5 | 44 | | 2295 | 2437 | 2579 | 2721 | 2863 | 3005 | 3147 | 3289 | 3431 | 3573 | 3715 | 3857 | 3999 | 4141 | 4283 | 4425 | 4567 |
| 108 | 45 | 172 | 2571 | 2712 | 2854 | 2995 | 3137 | 3278 | 3420 | 3561 | 3703 | 3845 | 3986 | 4128 | 4270 | 4411 | 4553 | 4695 | 4837 |
| 110 | 46 | | 2848 | 2989 | 3131 | 3272 | 3414 | 3555 | 3697 | 3838 | 3980 | 4122 | 4263 | 4405 | 4547 | 4688 | 4830 | 4972 | 5114 |
| 113 | 47 | | 3125 | 3266 | 3407 | 3548 | 3690 | 3831 | 3973 | 4114 | 4256 | 4398 | 4539 | 4681 | 4823 | 4964 | 5106 | 5248 | 5390 |
| 115 | 48 | | 3402 | 3543 | 3684 | 3825 | 3967 | 4108 | 4249 | 4391 | 4532 | 4674 | 4816 | 4957 | 5099 | 5241 | 5382 | 5524 | 5666 |
| 117 | 49 | | 3679 | 3820 | 3961 | 4101 | 4242 | 4383 | 4524 | 4665 | 4807 | 4948 | 5090 | 5229 | 5370 | 5511 | 5653 | 5794 | 5936 |
| 120 | 50 | 172 | 3956 | 4097 | 4237 | 4378 | 4519 | 4659 | 4800 | 4941 | 5082 | 5223 | 5364 | 5505 | 5646 | 5787 | 5928 | 6069 | 6210 |
| 122 | 51 | | 4233 | 4373 | 4514 | 4654 | 4795 | 4936 | 5076 | 5217 | 5358 | 5499 | 5640 | 5781 | 5922 | 6062 | 6203 | 6344 | 6484 |
| 125 | 52 | | 4510 | 4650 | 4790 | 4931 | 5071 | 5212 | 5352 | 5493 | 5634 | 5774 | 5915 | 6056 | 6196 | 6337 | 6478 | 6618 | 6759 |
| 127 | 53 | | 4787 | 4927 | 5067 | 5208 | 5348 | 5488 | 5629 | 5769 | 5910 | 6050 | 6191 | 6331 | 6472 | 6613 | 6753 | 6894 | 7034 |
| 129 | 54 | | 5064 | 5204 | 5344 | 5484 | 5625 | 5765 | 5905 | 6045 | 6186 | 6326 | 6466 | 6607 | 6747 | 6888 | 7028 | 7169 | 7309 |
| 132 | 55 | 172 | 5341 | 5481 | 5621 | 5761 | 5901 | 6041 | 6181 | 6321 | 6462 | 66 | | | | | | | |
| 134 | 56 | | 5618 | 5758 | 5898 | 6038 | 6178 | 6318 | 6458 | 6598 | 6738 | 68 | | | | | | | |
| 136 | 57 | | 5895 | 6035 | 6175 | 6314 | 6454 | 6594 | 6734 | 6874 | 7014 | 71 | | | | | | | |
| 139 | 58 | | 6172 | 6312 | 6452 | 6591 | 6731 | 6870 | 7010 | 7150 | 7290 | 7- | | | | | | | |
| 141 | 59 | | 6450 | 6589 | 6729 | 6868 | 7007 | 7147 | 7287 | 7426 | | | | | | | | | |

| Parts for Seconds of Auxil. Argum. additive | Arg. & A.D. 73° | Sums |
|---|---|---|
| ′ | ′ | |
| 0 | 0 | 470 7628 |
| 2 | 1 | 7924 |
| 5 | 2 | 8185 |
| 7 | 3 | 8463 |
| 10 | 4 | 8741 |
| 12 | 5 | 470 9018 |
| 14 | 6 | 9296 |
| 17 | 7 | 9573 |
| 19 | 8 | 9851 |
| 22 | 9 | 471 0128 |
| 24 | 10 | 0406 |
| 26 | 11 | 0683 |
| 29 | 12 | 0960 |
| 31 | 13 | 1237 |
| 34 | 14 | 1515 |
| 36 | 15 | 471 1792 |
| 38 | 16 | 2069 |
| 41 | 17 | 2346 |
| 43 | 18 | 2624 |
| 46 | 19 | 2901 |
| 48 | 20 | 471 3178 |
| 50 | 21 | 3455 |
| 53 | 22 | 3732 |
| 55 | 23 | 4010 |
| 57 | 24 | 4287 |
| 60 | 25 | 471 4590 |
| 62 | 26 | 4869 |
| 65 | 27 | 5148 |
| 67 | 28 | 5427 |
| 69 | 29 | 5706 |
| 72 | 30 | 471 5985 |
| 74 | 31 | 6264 |
| 77 | 32 | 6543 |
| 79 | 33 | 6821 |
| 81 | 34 | 7100 |
| 84 | 35 | 471 7380 |
| 86 | 36 | 7659 |
| 88 | 37 | 7938 |
| 91 | 38 | 8217 |
| 93 | 39 | 8496 |
| 96 | 40 | 471 8775 |
| 98 | 41 | 9054 |
| 1 | 42 | 9334 |
| 3 | 43 | 9613 |
| 5 | 44 | 9892 |
| 108 | 45 | 472 0171 |
| 110 | 46 | 0450 |
| 113 | 47 | 0729 |
| 115 | 48 | 1008 |
| 117 | 49 | 1287 |
| 120 | 50 | 472 1566 |
| 122 | 51 | 1845 |
| 125 | 52 | 2124 |
| 127 | 53 | 2403 |
| 129 | 54 | 2682 |
| 132 | 55 | 472 2961 |
| 134 | 56 | 3240 |
| 136 | 57 | 3519 |
| 139 | 58 | 3798 |
| 141 | 59 | 4077 |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of G.S.A. | C.S.A. 74° | Numbers |
|---|---|---|
| 27 | 0 | 129 2701 |
| 274 | 1 | 1415 |
| 17 | 2 | 1537 |
| 2 | 3 | 1250 |
| 2 | 4 | 0631 |
| 25 | 5 | 129 0702 |
| 251 | 6 | 0424 |
| 24 | 7 | 0145 |
| 24 | 8 | 128 9867 |
| 23 | 9 | 9589 |
| 23 | 10 | 128 9310 |
| 228 | 11 | 9032 |
| 223 | 12 | 8753 |
| 219 | 13 | 8475 |
| 214 | 14 | 8196 |
| 21 | 15 | 128 7918 |
| 205 | 16 | 7639 |
| 20 | 17 | 7361 |
| 195 | 18 | 7082 |
| 191 | 19 | 6803 |
| 18 | 20 | 128 6525 |
| 181 | 21 | 6246 |
| 177 | 22 | 5967 |
| 173 | 23 | 5688 |
| 167 | 24 | 5410 |
| 163 | 25 | 128 5131 |
| 15 | 26 | 4852 |
| 153 | 27 | 4573 |
| 14 | 28 | 4294 |
| 144 | 29 | 4015 |
| 139 | 30 | 128 3737 |
| 135 | 31 | 3457 |
| 13 | 32 | 3178 |
| 126 | 33 | 2899 |
| 121 | 34 | 2620 |
| 117 | 35 | 128 2341 |
| 112 | 36 | 2062 |
| 107 | 37 | 1783 |
| 102 | 38 | 1504 |
| 98 | 39 | 1225 |
| 93 | 40 | 128 0946 |
| 88 | 41 | 0667 |
| 84 | 42 | 0388 |
| 79 | 43 | 0108 |
| 74 | 44 | 127 9829 |
| 70 | 45 | 127 9550 |
| 65 | 46 | 9270 |
| 6 | 47 | 8991 |
| 56 | 48 | 8712 |
| 51 | 49 | 8434 |
| 4 | 50 | 127 8153 |
| 41 | 51 | 7874 |
| 37 | 52 | 7594 |
| 33 | 53 | 7315 |
| 28 | 54 | 7035 |
| 24 | 55 | 127 6756 |
| 19 | 56 | 6476 |
| 15 | 57 | 6196 |
| 10 | 58 | 5917 |
| 6 | 59 | 5637 |

| Parts for Seconds of Argum. | S.A.S. & A.D. 74° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 172 | 4363 | 4521 | 4679 | 4836 | 4993 | 5150 | 5306 | 5463 | 5619 | 5775 | 5931 | 6087 | 6243 | 6398 | 6553 | 6708 |
| 2 | 1 | | 4042 | 4178 | 4314 | 4450 | 4586 | 4722 | 4858 | 4994 | 5130 | 5266 | 5402 | 5538 | 5674 | 5810 | 5946 | 6082 |
| 5 | 2 | | 4922 | 5060 | 5199 | 5337 | 5476 | 5615 | 5754 | 5893 | 6032 | 6170 | 6309 | 6448 | 6587 | 6726 | 6865 | 7004 |
| 7 | 3 | | 5222 | 5360 | 5499 | 5637 | 5776 | 5915 | 6054 | 6193 | 6331 | 6470 | 6609 | 6748 | 6887 | 7026 | 7165 | 7304 |
| 9 | 4 | | 5481 | 5620 | 5759 | 5898 | 6037 | 6176 | 6314 | 6453 | 6592 | 6731 | 6870 | 7009 | 7148 | 7287 | 7426 | 7565 |
| 11 | 5 | 172 | 5701 | 5840 | 5979 | 6117 | 6256 | 6395 | 6534 | 6673 | 6812 | 6951 | 7090 | 7228 | 7367 | 7506 | 7645 | 7784 |
| 14 | 6 | | 6041 | 6179 | 6318 | 6457 | 6596 | 6735 | 6874 | 7013 | 7152 | 7290 | 7429 | 7568 | 7707 | 7846 | 7985 | 8124 |
| 16 | 7 | | 6321 | 6459 | 6598 | 6737 | 6876 | 7015 | 7154 | 7293 | 7432 | 7571 | 7710 | 7849 | 7988 | 8127 | 8266 | 8405 |
| 18 | 8 | | 6582 | 6721 | 6860 | 6999 | 7138 | 7277 | 7416 | 7555 | 7694 | 7833 | 7972 | 8111 | 8250 | 8389 | 8528 | 8667 |
| 20 | 9 | | 6827 | 6966 | 7105 | 7244 | 7383 | 7522 | 7661 | 7800 | 7939 | 8078 | 8217 | 8356 | 8495 | 8634 | 8773 | 8912 |
| 23 | 10 | 172 | 7057 | 7196 | 7335 | 7474 | 7613 | 7752 | 7891 | 8030 | 8169 | 8308 | 8447 | 8586 | 8725 | 8864 | 9003 | 9142 |
| 25 | 11 | | 7440 | 7577 | 7714 | 7852 | 7989 | 8127 | 8264 | 8402 | 8539 | 8677 | 8814 | 8952 | 9089 | 9227 | 9365 | 9502 | 9640 |
| 27 | 12 | | 7720 | 7857 | 7994 | 8131 | 8269 | 8406 | 8543 | 8681 | 8818 | 8955 | 9093 | 9230 | 9368 | 9505 | 9643 | 9780 | 9918 |
| 29 | 13 | 172 (173) | 7980 | 8117 | 8254 | 8391 | 8528 | 8665 | 8802 | 8939 | 9076 | 9213 | 9350 | 9487 | 9624 | 9761 | 9898 | 0035 | 0173 |
| 32 | 14 | | 8228 | 8365 | 8502 | 8639 | 8776 | 8913 | 9050 | 9187 | 9324 | 9461 | 9598 | 9735 | 9872 | 0009 | 0146 | 0283 | 0420 |
| 34 | 15 | 172 (173) | 8460 | 8597 | 8734 | 8870 | 9007 | 9144 | 9281 | 9417 | 9554 | 9691 | 9828 | 9965 | 0102 | 0239 | 0376 | 0514 | 0651 |
| 36 | 16 | | 8840 | 8976 | 9113 | 9249 | 9386 | 9523 | 9660 | 9796 | 9933 | 0070 | 0207 | 0344 | 0481 | 0618 | 0754 | 0891 | 1028 |
| 38 | 17 | | 9120 | 9256 | 9393 | 9530 | 9666 | 9803 | 9939 | 0076 | 0212 | 0349 | 0485 | 0622 | 0759 | 0896 | 1032 | 1169 | 1307 |
| 41 | 18 | | 9400 | 9536 | 9672 | 9809 | 9945 | 0081 | 0218 | 0354 | 0491 | 0627 | 0764 | 0901 | 1037 | 1174 | 1310 | 1447 | 1584 |
| 43 | 19 | | 9680 | 9816 | 9952 | 0088 | 0225 | 0361 | 0497 | 0634 | 0770 | 0906 | 1043 | 1179 | 1316 | 1452 | 1589 | 1725 | 1862 |
| 45 | 20 | 172 (173) | 9960 | 0097 | 0233 | 0369 | 0504 | 0640 | 0776 | 0913 | 1049 | 1185 | 1321 | 1458 | 1594 | 1730 | 1867 | 2003 | 2139 |
| 47 | 21 | 173 | 0240 | 0376 | 0512 | 0648 | 0784 | 0920 | 1056 | 1192 | 1328 | 1464 | 1600 | 1736 | 1872 | 2008 | 2145 | 2281 | 2417 |
| 52 | 22 | | 0520 | 0656 | 0791 | 0927 | 1063 | 1199 | 1335 | 1471 | 1607 | 1743 | 1879 | 2015 | 2151 | 2287 | 2423 | 2559 | 2695 |
| 54 | 23 | | 0800 | 0936 | 1071 | 1207 | 1343 | 1479 | 1614 | 1750 | 1886 | 2022 | 2157 | 2293 | 2429 | 2565 | 2701 | 2837 | 2973 |
| 54 | 24 | | 1080 | 1216 | 1351 | 1487 | 1622 | 1758 | 1894 | 2029 | 2165 | 2301 | 2436 | 2572 | 2708 | 2843 | 2979 | 3115 | 3251 |
| 56 | 25 | 173 | 1360 | 1496 | 1631 | 1767 | 1902 | 2037 | 2173 | 2308 | 2444 | 2579 | 2715 | 2851 | 2986 | 3122 | 3257 | 3393 | 3529 |
| 59 | 26 | | 1641 | 1776 | 1911 | 2046 | 2182 | 2317 | 2452 | 2588 | 2723 | 2858 | 2994 | 3129 | 3265 | 3400 | 3536 | 3671 | 3807 |
| 61 | 27 | | 1921 | 2056 | 2191 | 2326 | 2461 | 2596 | 2732 | 2867 | 3002 | 3137 | 3273 | 3408 | 3543 | 3679 | 3814 | 3950 | 4085 |
| 63 | 28 | | 2201 | 2336 | 2471 | 2606 | 2741 | 2876 | 3011 | 3146 | 3281 | 3416 | 3551 | 3687 | 3822 | 3957 | 4094 | 4227 | 4363 |
| 64 | 29 | | 2481 | 2616 | 2751 | 2886 | 3021 | 3155 | 3290 | 3425 | 3560 | 3695 | 3830 | 3965 | 4100 | 4235 | 4370 | 4506 | 4641 |
| 68 | 30 | 173 | 2760 | 2895 | 3031 | 3166 | 3300 | 3435 | 3570 | 3705 | 3840 | 3974 | 4110 | 4244 | 4379 | 4514 | 4649 | 4784 | 4919 |
| 70 | 31 | | 3041 | 3176 | 3311 | 3446 | 3580 | 3715 | 3849 | 3984 | 4119 | 4253 | 4388 | 4525 | 4658 | 4792 | 4927 | 5062 | 5197 |
| 72 | 32 | | 3320 | 3457 | 3591 | 3725 | 3860 | 3994 | 4129 | 4263 | 4398 | 4532 | 4667 | 4802 | 4936 | 5071 | 5206 | 5340 | 5475 |
| 74 | 33 | | 3600 | 3737 | 3871 | 4005 | 4140 | 4274 | 4409 | 4543 | 4677 | 4811 | 4946 | 5080 | 5215 | 5349 | 5484 | 5618 | 5753 |
| 77 | 34 | | 3880 | 4017 | 4151 | 4285 | 4420 | 4554 | 4688 | 4822 | 4956 | 5091 | 5225 | 5359 | 5494 | 5628 | 5762 | 5897 | 6031 |
| 79 | 35 | 173 | 4160 | 4297 | 4431 | 4565 | 4700 | 4833 | 4967 | 5102 | 5236 | 5370 | 5504 | 5638 | 5772 | 5907 | 6041 | 6175 | 6309 |
| 81 | 36 | | 4441 | 4577 | 4711 | 4845 | 5079 | 5113 | 5247 | 5381 | 5515 | 5649 | 5783 | 5917 | 6051 | 6185 | 6319 | 6453 | 6587 |
| 83 | 37 | | 4724 | 4858 | 4992 | 5125 | 5259 | 5393 | 5527 | 5660 | 5794 | 5928 | 6062 | 6196 | 6330 | 6464 | 6598 | 6732 | 6866 |
| 86 | 38 | | 5005 | 5138 | 5272 | 5405 | 5539 | 5673 | 5806 | 5940 | 6074 | 6207 | 6341 | 6475 | 6609 | 6742 | 6876 | 7010 | 7144 |
| 88 | 39 | | 5285 | 5418 | 5552 | 5685 | 5819 | 5952 | 6086 | 6219 | 6353 | 6487 | 6620 | 6754 | 6887 | 7021 | 7155 | 7288 | 7422 |
| 90 | 40 | 173 | 5566 | 5699 | 5832 | 5966 | 6099 | 6232 | 6366 | 6499 | 6632 | 6766 | 6899 | 7033 | 7166 | 7300 | 7433 | 7567 | 7700 |
| 92 | 41 | | 5846 | 5979 | 6113 | 6246 | 6379 | 6512 | 6645 | 6778 | 6912 | 7045 | 7178 | 7312 | 7445 | 7578 | 7712 | 7845 | 7979 |
| 95 | 42 | | 6126 | 6259 | 6392 | 6526 | 6659 | 6792 | 6925 | 7058 | 7191 | 7324 | 7458 | 7591 | 7724 | 7857 | 7990 | 8124 | 8257 |
| 97 | 43 | | 6407 | 6540 | 6673 | 6806 | 6939 | 7072 | 7205 | 7338 | 7471 | 7604 | 7737 | 7870 | 8003 | 8136 | 8269 | 8402 | 8535 |
| 99 | 44 | | 6688 | 6821 | 6953 | 7086 | 7219 | 7352 | 7484 | 7617 | 7750 | 7883 | 8016 | 8149 | 8282 | 8415 | 8548 | 8681 | 8814 |
| 101 | 45 | 173 | 6968 | 7101 | 7234 | 7367 | 7499 | 7632 | 7764 | 7897 | 8030 | 8162 | 8295 | 8428 | 8561 | 8693 | 8826 | 8959 | 9092 |
| 104 | 46 | | 7249 | 7382 | 7514 | 7647 | 7779 | 7912 | 8044 | 8177 | 8309 | 8442 | 8574 | 8707 | 8840 | 8972 | 9105 | 9238 | 9370 |
| 106 | 47 | | 7530 | 7662 | 7795 | 7928 | 8060 | 8193 | 8324 | 8457 | 8589 | 8721 | 8854 | 8986 | 9119 | 9251 | 9384 | 9517 | 9649 |
| 108 | 48 | | 7811 | 7943 | 8075 | 8207 | 8339 | 8472 | 8604 | 8736 | 8868 | 9001 | 9133 | 9265 | 9398 | 9530 | 9662 | 9795 | 9927 |
| 111 | 49 | 173 (174) | 8092 | 8224 | 8356 | 8488 | 8620 | 8752 | 8884 | 9016 | 9148 | 9280 | 9412 | 9544 | 9676 | 9808 | 9940 | 0072 | 0204 |
| 113 | 50 | 173 (174) | 8372 | 8504 | 8636 | 8768 | 8900 | 9032 | 9163 | 9295 | 9427 | 9559 | 9691 | 9823 | 9955 | 0088 | 0220 | 0352 | 0484 |
| 116 | 51 | | 8653 | 8785 | 8916 | 9048 | 9180 | 9311 | 9443 | 9575 | 9707 | 9838 | 9970 | 0102 | 0233 | 0365 | 0497 | 0629 | 0761 |
| 117 | 52 | | 8934 | 9065 | 9197 | 9329 | 9460 | 9592 | 9723 | 9855 | 9987 | 0118 | 0250 | 0382 | 0514 | 0646 | 0777 | 0909 | 1041 |
| 119 | 53 | | 9215 | 9346 | 9477 | 9609 | 9740 | 9872 | 0003 | 0135 | 0266 | 0398 | 0530 | 0661 | 0793 | 0925 | 1056 | 1188 | 1320 |
| 122 | 54 | | 9494 | 9626 | 9757 | 9888 | 0021 | 0152 | 0283 | 0415 | 0546 | 0678 | 0809 | 0941 | 1072 | 1204 | 1335 | 1467 | 1598 |
| 124 | 55 | 173 (174) | 9775 | 9906 | 0037 | 0168 | 0299 | 0430 | 0561 | 0693 | 0824 | 0955 | 1087 | 1218 | 1350 | 1481 | 1613 | 1744 | 1876 |
| 126 | 56 | | 0056 | 0187 | 0318 | 0449 | 0580 | 0711 | 0842 | 0973 | 1104 | 1235 | 1366 | 1497 | 1628 | 1760 | 1891 | 2022 | 2154 |
| 128 | 57 | | 0337 | 0468 | 0599 | 0730 | 0861 | 0992 | 1123 | 1254 | 1385 | 1516 | 1647 | 1778 | 1909 | 2040 | 2171 | 2302 | 2433 |
| 131 | 58 | | 0618 | 0749 | 0880 | 1011 | 1142 | 1273 | 1404 | 1535 | 1666 | 1797 | 1928 | 2059 | 2190 | 2321 | 2452 | 2583 | 2714 |
| 133 | 59 | | 0899 | 1030 | 1161 | 1292 | 1423 | 1554 | 1685 | 1816 | 1947 | 2078 | 2209 | 2340 | 2471 | 2602 | 2733 | 2864 | 2995 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. additive | S. A.A. & A. D. 74° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 172 | | | | | | | | | | | | | | | | |
| 2 | 1 | | | | | | | | | | | | | | | | | |
| 5 | 2 | | | | | | | | | | | | | | | | | |
| 7 | 3 | | | | | | | | | | | | | | | | | |
| 9 | 4 | 172 (173) | | | | | | | | | | | | | | | | |
| 11 | 5 | 172 (173) | | | | | | | | | | | | | | | | |
| 14 | 6 | | | | | | | | | | | | | | | | | |
| 16 | 7 | | 8668 | 8806 | 8945 | 9083 | 9221 | 9360 | 9498 | 9636 | 9775 | 9913 | 0052 | 0190 | 0329 | 0467 | 0606 | 0745 | 0883 |
| 19 | 8 | | | | | | | | | | | | | | | | | |
| 21 | 9 | | | | | | | | | | | | | | | | | |
| 23 | 10 | 172 (173) | | | | | | | | | | | | | | | | |
| 25 | 11 | | | | | | | | | | | | | | | | | |
| 28 | 12 | 173 | | | | | | | | | | | | | | | | |
| 29 | 13 | | 0333 | 0470 | 0608 | 0745 | 0883 | 1020 | 1158 | 1295 | 1433 | 1570 | 1708 | 1846 | 1983 | 2121 | 2259 | 2397 | 2535 |
| 32 | 14 | | 0610 | 0747 | 0885 | 1022 | 1160 | 1297 | 1434 | 1572 | 1709 | 1847 | 1984 | 2122 | 2259 | 2397 | 2534 | 2672 | 2810 |
| 34 | 15 | 173 | | | | | | | | | | | | | | | | | |
| 36 | 16 | | | | | | | | | | | | | | | | | | |
| 38 | 17 | | 1443 | 1580 | 1717 | 1854 | 1991 | 2127 | 2265 | 2402 | 2539 | 2676 | 2813 | 2950 | 3087 | 3224 | 3361 | 3498 | 3636 |
| 41 | 18 | | 1721 | 1857 | 1994 | 2131 | 2268 | 2404 | 2541 | 2678 | 2815 | 2952 | 3089 | 3226 | 3363 | 3500 | 3637 | 3774 | 3911 |
| 43 | 19 | | | | | | | | | | | | | | | | | | |
| 45 | 20 | 173 | | | | | | | | | | | | | | | | | |
| 47 | 21 | | | | | | | | | | | | | | | | | | |
| 50 | 22 | | | | | | | | | | | | | | | | | | |
| 52 | 23 | | | | | | | | | | | | | | | | | | |
| 54 | 24 | | | | | | | | | | | | | | | | | | |
| 56 | 25 | 173 | | | | | | | | | | | | | | | | | |
| 59 | 26 | | | | | | | | | | | | | | | | | | |
| 61 | 27 | | | | | | | | | | | | | | | | | | |
| 63 | 28 | | | | | | | | | | | | | | | | | | |
| 66 | 29 | | | | | | | | | | | | | | | | | | |
| 68 | 30 | 173 | | | | | | | | | | | | | | | | | |
| 70 | 31 | | | | | | | | | | | | | | | | | | |
| 73 | 32 | | | | | | | | | | | | | | | | | | |
| 75 | 33 | | | | | | | | | | | | | | | | | | |
| 77 | 34 | | | | | | | | | | | | | | | | | | |
| 79 | 35 | 173 | | | | | | | | | | | | | | | | | |
| 81 | 36 | | | | | | | | | | | | | | | | | | |
| 84 | 37 | | | | | | | | | | | | | | | | | | |
| 86 | 38 | | | | | | | | | | | | | | | | | | |
| 88 | 39 | | | | | | | | | | | | | | | | | | |
| 90 | 40 | 173 | | | | | | | | | | | | | | | | | |
| 93 | 41 | 173 (174) | | | | | | | | | | | | | | | | | |
| 95 | 42 | | | | | | | | | | | | | | | | | | |
| 97 | 43 | | | | | | | | | | | | | | | | | | |
| 99 | 44 | | | | | | | | | | | | | | | | | | |
| 101 | 45 | 173 (174) | | | | | | | | | | | | | | | | | |
| 104 | 46 | | | | | | | | | | | | | | | | | | |
| 106 | 47 | | 9781 | 9914 | 0047 | 0179 | 0312 | 0445 | 0577 | 0710 | 0844 | 0976 | 1109 | 1242 | 1374 | 1507 | 1640 | 1773 | 1906 |
| 108 | 48 | 174 | | | | | | | | | | | | | | | | | |
| 111 | 49 | | | | | | | | | | | | | | | | | | |
| 113 | 50 | 174 | | | | | | | | | | | | | | | | | |
| 115 | 51 | | | | | | | | | | | | | | | | | | |
| 117 | 52 | | | | | | | | | | | | | | | | | | |
| 120 | 53 | | | | | | | | | | | | | | | | | | |
| 122 | 54 | | | | | | | | | | | | | | | | | | |
| 124 | 55 | 174 | | | | | | | | | | | | | | | | | |
| 126 | 56 | | | | | | | | | | | | | | | | | | |
| 129 | 57 | | | | | | | | | | | | | | | | | | |
| 131 | 58 | | | | | | | | | | | | | | | | | | |
| 133 | 59 | | | | | | | | | | | | | | | | | | |

| Parts for Sec. of C. D. addit. | C. D. 74° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 474 2063 |
| 2 | 1 | |
| 5 | 2 | |
| 7 | 3 | |
| 9 | 4 | |
| 11 | 5 | 474 2751 |
| 14 | 6 | |
| 16 | 7 | |
| 18 | 8 | |
| 20 | 9 | |
| 23 | 10 | |
| 25 | 11 | |
| 27 | 12 | |
| 29 | 13 | |
| 32 | 14 | |
| 34 | 15 | |
| 36 | 16 | |
| 38 | 17 | |
| 41 | 18 | |
| 43 | 19 | |
| 45 | 20 | |
| 47 | 21 | |
| 50 | 22 | |
| 52 | 23 | |
| 54 | 24 | |
| 56 | 25 | |
| 59 | 26 | |
| 61 | 27 | |
| 63 | 28 | |
| 65 | 29 | |
| 68 | 30 | |
| 70 | 31 | |
| 72 | 32 | |
| 74 | 33 | |
| 77 | 34 | |
| 79 | 35 | |
| 81 | 36 | |
| 83 | 37 | |
| 86 | 38 | |
| 88 | 39 | |
| 90 | 40 | |
| 92 | 41 | |
| 95 | 42 | |
| 97 | 43 | |
| 99 | 44 | |
| 101 | 45 | |
| 104 | 46 | |
| 106 | 47 | |
| 108 | 48 | |
| 110 | 49 | |
| 113 | 50 | |
| 115 | 51 | |
| 117 | 52 | |
| 119 | 53 | |
| 122 | 54 | |
| 124 | 55 | |
| 126 | 56 | |
| 128 | 57 | |
| 131 | 58 | |
| 133 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - - } and Auxiliary Arguments.

| 75° | Numbers |
|---|---|
| ′ | |
| 0 | 127 5358 |
| | |
| | |
| |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts of Auxil. Argum. additive | Auxiliary Arguments. | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A.D. 75° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 174 | 3400 | 3532 | 3663 | 3793 | 3924 | 4055 | 4186 | 4316 | 4448 | 4579 | 4710 | 4841 | | | | | |
| 2 | 1 | | 3679 | 3810 | 3941 | 4071 | 4202 | 4333 | 4464 | 4594 | 4725 | 4856 | 4987 | 5118 | | | | | |
| 4 | 2 | | 3958 | 4089 | 4219 | 4350 | 4480 | 4611 | 4741 | 4872 | 5003 | 5133 | 5264 | 5395 | | | | | |
| 6 | 3 | | 4237 | 4367 | 4497 | 4628 | 4758 | 4889 | 5019 | 5150 | 5280 | 5411 | 5541 | 5672 | | | | | |
| 8 | 4 | | | | | | | | | | | | | | | | | | |
| 10 | 5 | | | | | | | | | | | | | | | | | | |
| 12 | 6 | 174 | | | | | | | | | | | | | | | | | |
| 14 | 7 | | | | | | | | | | | | | | | | | | |
| 16 | 7 | | 5351 | 5481 | 5611 | 5741 | 5871 | 6001 | 6130 | 6260 | 6390 | 6520 | 6650 | 6780 | 6910 | 7040 | | | |
| 17 | 8 | | 5630 | 5760 | 5889 | 6019 | 6149 | 6279 | 6408 | 6538 | 6668 | 6798 | 6928 | 7057 | 7187 | 7317 | | | |
| 19 | 9 | | | | | | | | | | | | | | | | | | |
| 21 | 10 | 174 | | | | | | | | | | | | | | | | | |
| 23 | 11 | | | | | | | | | | | | | | | | | | |
| 25 | 12 | | | | | | | | | | | | | | | | | | |
| 27 | 13 | | | | | | | | | | | | | | | | | | |
| 29 | 14 | | | | | | | | | | | | | | | | | | |
| 31 | 15 | 174 | | | | | | | | | | | | | | | | | |
| 34 | 16 | | | | | | | | | | | | | | | | | | |
| 36 | 17 | 174 (175) | | | | | | | | | | | | | | | | | |
| 38 | 18 | | | | | | | | | | | | | | | | | | |
| 40 | 19 | | | | | | | | | | | | | | | | | | |
| 42 | 20 | 174 (175) | | | | | | | | | | | | | | | | | |
| 44 | 21 | | 9256 | 9383 | 9511 | 9639 | 9767 | 9895 | 0023 | 0151 | 0279 | 0407 | 0534 | 0663 | 0791 | 0919 | 1047 | 1175 | 1303 |
| 46 | 22 | | | | | | | | | | | | | | | | | | |
| 48 | 23 | | | | | | | | | | | | | | | | | | |
| 50 | 24 | 175 | | | | | | | | | | | | | | | | | |
| 52 | 25 | 175 | | | | | | | | | | | | | | | | | |
| 54 | 26 | | | | | | | | | | | | | | | | | | |
| 56 | 27 | | | | | | | | | | | | | | | | | | |
| 58 | 28 | | | | | | | | | | | | | | | | | | |
| 60 | 29 | | | | | | | | | | | | | | | | | | |
| 62 | 30 | 175 | | | | | | | | | | | | | | | | | |
| 64 | 31 | | | | | | | | | | | | | | | | | | |
| 66 | 32 | | | | | | | | | | | | | | | | | | |
| 68 | 33 | | | | | | | | | | | | | | | | | | |
| 70 | 34 | | | | | | | | | | | | | | | | | | |
| 72 | 35 | 175 | | | | | | | | | | | | | | | | | |
| 76 | 36 | | 3443 | 3569 | 3695 | 3820 | 3946 | 4072 | 4197 | 4323 | 4449 | 4575 | 4701 | 4827 | 4953 | 5078 | 5204 | 533 | |
| 78 | 37 | | | | | | | | | | | | | | | | | | |
| 80 | 38 | | | | | | | | | | | | | | | | | | |
| 82 | 39 | | 4281 | 4406 | 4532 | 4657 | 4782 | 4908 | 5033 | 5158 | 5284 | 5409 | 5535 | 5660 | 5785 | 5911 | 6036 | 6162 | |
| 84 | 40 | 175 | | | | | | | | | | | | | | | | | |
| 86 | 41 | | 4840 | 4965 | 5090 | 5215 | 5340 | 5465 | 5590 | 5715 | 5840 | 5965 | 6091 | 6216 | 6341 | 6466 | 6591 | 6717 | |
| 88 | 42 | | | | | | | | | | | | | | | | | | |
| 90 | 43 | | | | | | | | | | | | | | | | | | |
| 92 | 44 | | | | | | | | | | | | | | | | | | |
| 94 | 45 | 175 | | | | | | | | | | | | | | | | | |
| 96 | 46 | | | | | | | | | | | | | | | | | | |
| 98 | 47 | | | | | | | | | | | | | | | | | | |
| 100 | 48 | 175 | | | | | | | | | | | | | | | | | |
| 102 | 49 | | | | | | | | | | | | | | | | | | |
| 104 | 50 | | | | | | | | | | | | | | | | | | |
| 106 | 51 | | 797 | 6921 | 7045 | 7169 | 7293 | 7417 | 7541 | 7665 | 7789 | 7913 | 8037 | 8161 | 8285 | 8410 | 8534 | 8658 | 8782 |
| 108 | 52 | | | | | | | | | | | | | | | | | | |
| 110 | 53 | | | | | | | | | | | | | | | | | | |
| 112 | 54 | | | | | | | | | | | | | | | | | | |
| 114 | 55 | 175 | | | | | | | | | | | | | | | | | |
| 116 | 56 | | | | | | | | | | | | | | | | | | |
| 118 | 57 | | | | | | | | | | | | | | | | | | |
| 120 | 58 | | | | | | | | | | | | | | | | | | |
| 122 | 59 | | | | | | | | | | | | | | | | | | |
| 124 | 60 | 175 (176) | | | | | | | | | | | | | | | | | |

| | | Sums |
|---|---|---|
| 0 | 0 | 174 |
| 2 | 1 | |
| 4 | 2 | |
| 6 | 3 | |
| 8 | 4 | |
| 10 | 5 | |
| 12 | 6 | |
| 14 | 7 | |
| 16 | 7 | |
| 17 | 8 | |
| 19 | 9 | |
| 21 | 10 | |
| 23 | 11 | |
| 25 | 12 | |
| 27 | 13 | |
| 29 | 14 | |
| 31 | 15 | |
| 34 | 16 | |
| 36 | 17 | |
| 38 | 18 | |
| 40 | 19 | |
| 42 | 20 | 174 |
| 44 | 21 | |
| 46 | 22 | |
| 48 | 23 | |
| 50 | 24 | |
| 52 | 25 | 174 |
| 54 | 26 | |
| 56 | 27 | |
| 58 | 28 | |
| 60 | 29 | |
| 62 | 30 | 174 |
| 64 | 31 | |
| 66 | 32 | 175 |
| 68 | 33 | |
| 70 | 34 | |
| 72 | 35 | 175 |
| 76 | 36 | |
| 78 | 37 | |
| 80 | 38 | |
| 82 | 39 | |
| 84 | 40 | 175 |
| 86 | 41 | |
| 88 | 42 | |
| 90 | 43 | |
| 92 | 44 | |
| 94 | 45 | 175 |
| 96 | 46 | |
| 98 | 47 | |
| 100 | 48 | 175 |
| 102 | 49 | |
| 104 | 50 | |
| 106 | 51 | |
| 108 | 52 | |
| 110 | 53 | |
| 112 | 54 | |
| 114 | 55 | 175 |
| 116 | 56 | |
| 118 | 57 | |
| 120 | 58 | |
| 122 | 59 | |
| 124 | 60 | 175 (176) |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| 76 | Numbers |
|---|---|
| 0 | 125 8535 |
| 1 | 8257 |
| 2 | 7979 |
| 3 | 7701 |
| 4 | 7414 |
| 5 | 125 7135 |
| 6 | 6852 |
| 7 | 6571 |
| 8 | 6288 |
| 9 | 6005 |
| 10 | 125 5727 |
| 11 | 5446 |
| 12 | 5164 |
| 13 | 4883 |
| 14 | 4601 |
| 15 | 125 4321 |
| 16 | 4039 |
| 17 | 3758 |
| 18 | 3477 |
| 19 | 3195 |
| 20 | 125 2914 |
| 21 | 2633 |
| 22 | 2351 |
| 23 | 2070 |
| 24 | 1789 |
| 25 | 125 1507 |
| 26 | 1226 |
| 27 | 0943 |
| 28 | 0662 |
| 29 | 0381 |
| 30 | 125 0101 |
| 31 | 124 9820 |
| 32 | 9538 |
| 33 | 9255 |
| 34 | 8972 |
| 35 | 124 8690 |
| 36 | 8408 |
| 37 | 8126 |
| 38 | 7845 |
| 39 | 7563 |
| 40 | 124 7281 |
| 41 | 7000 |
| 42 | 6719 |
| 43 | 6438 |
| 44 | 6157 |
| 45 | 124 5874 |
| 46 | 5593 |
| 47 | 5312 |
| 48 | 5031 |
| 49 | 4749 |
| 50 | 124 4468 |
| 51 | 4187 |
| 52 | 3906 |
| 53 | 3625 |
| 54 | 3343 |
| 55 | 124 3062 |
| 56 | 2781 |
| 57 | 2500 |
| 58 | 2218 |
| 59 | 1937 |

| ϕ & N. D. 76 | ϕ | Auxiliary Arguments. 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 175 (176) | 8[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 31 |
| 1 | | 8360 | 8482 | 8604 | 8726 | 8847 | 8969 | 9091 | 9213 | 9335 | 9457 | 9579 | 9701 | 9823 | 9945 | 0067 | 0189 | 0311 |
| 2 | | 8643 | 8764 | 8886 | 9008 | 9129 | 9251 | 9373 | 9494 | 9616 | 9738 | 9860 | 9981 | 0103 | 0225 | 0347 | 0469 | 0591 |
| 3 | | 8925 | 9046 | 9168 | 9289 | 9411 | 9532 | 9654 | 9776 | 9897 | 0019 | 0140 | 0262 | 0384 | 0506 | 0627 | 0749 | 0871 |
| 4 | | 9207 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | 175 (176) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | | 9772 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7 | 176 | 0054 | 0175 | 0296 | 0417 | 0538 | 0659 | 0780 | 0901 | 1022 | 1143 | 1264 | 1385 | 1506 | 1628 | 1749 | 1870 | 1991 |
| 8 | | 0337 | 0457 | 0578 | 0699 | 0820 | 0941 | 1062 | 1182 | 1303 | 1424 | 1545 | 1666 | 1787 | 1908 | 2029 | 2150 | 2271 |
| 9 | | [illegible] | [illegible] | [illegible] | [illegible] | 1102 | 1222 | 1343 | 1464 | 1585 | 1705 | 1826 | 1947 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 10 | 176 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 11 | | 1184 | 1304 | 1425 | 1545 | 1666 | 1786 | 1907 | 2027 | 2147 | 2268 | 2388 | 2509 | 2629 | 2750 | 2870 | 2991 | 3112 |
| 12 | | 1467 | 1587 | 1707 | 1827 | 1947 | [illegible] | [illegible] | 2188 | 2308 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 13 | | 1749 | 1869 | 1990 | 2110 | 2230 | 2349 | 2470 | 2590 | 2711 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | | [illegible] | 2151 | 2271 | 2391 | 2511 | 2631 | 2751 | 2871 | 2991 | 3111 | 3232 | 3352 | 3472 | 3592 | 3712 | [illegible] | [illegible] |
| 15 | 176 | 2314 | 2434 | 2554 | 2673 | 2793 | 2913 | 3033 | 3153 | 3273 | 3393 | 3513 | 3633 | 3753 | 3873 | 3993 | 4113 | 4233 |
| 16 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 17 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 176 | 3727 | 3846 | 3965 | 4084 | 4203 | 4322 | 4442 | 4561 | 4680 | 4799 | 4919 | 5038 | 5157 | 5276 | 5395 | 5515 | 5634 |
| 21 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 22 | | 4292 | 4411 | 4530 | 4649 | 4768 | 4886 | 5005 | 5124 | 5243 | 5362 | 5481 | 5600 | 5719 | 5838 | 5957 | 6076 | 6195 |
| 23 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 176 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | | 5423 | 5542 | 5660 | 5778 | 5896 | 6015 | 6133 | 6251 | 6369 | 6488 | 6606 | 6725 | 6843 | 6961 | 7080 | 7198 | 7317 |
| 27 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 28 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | 176 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 32 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 34 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | 176 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 37 | | 8535 | 8652 | 8768 | 8885 | 9002 | 9118 | 9235 | 9352 | 9469 | 9585 | 9702 | 9819 | 9936 | 0053 | 0170 | 0286 | 0403 |
| 38 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 39 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | 177 (176) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 43 | 177 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 44 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 45 | 177 | 0800 | 0915 | 1031 | 1146 | 1262 | 1377 | 1493 | 1608 | 1724 | 1840 | 1955 | 2071 | 2187 | [illegible] | [illegible] | [illegible] | [illegible] |
| 46 | | 1083 | 1198 | 1313 | 1429 | 1544 | 1660 | 1775 | 1891 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 47 | | 1366 | 1481 | 1596 | 1712 | 1827 | 1942 | 2057 | 2173 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | | 1649 | 1764 | 1879 | 1994 | 2109 | 2225 | 2340 | 2455 | 2570 | 2685 | 2801 | 2916 | 3031 | 3146 | 3262 | 3377 | 3492 |
| 49 | | 1932 | 2047 | 2162 | 2277 | 2392 | 2507 | 2622 | 2737 | 2852 | 2967 | 3082 | 3197 | 3313 | 3428 | 3543 | 3658 | 3773 |
| 50 | 177 | 2215 | 2330 | 2445 | 2560 | 2675 | 2790 | 2904 | 3019 | 3134 | 3249 | 3364 | 3479 | 3594 | 3709 | 3824 | 3939 | 4054 |
| 51 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 52 | | 2782 | 2897 | 3011 | 3126 | 3240 | 3355 | 3469 | 3584 | 3698 | 3813 | 3928 | 4043 | 4157 | 4272 | 4387 | 4501 | [illegible] |
| 53 | | 3065 | 3180 | 3294 | 3408 | 3523 | 3637 | 3752 | 3866 | 3981 | 4095 | 4210 | 4324 | 4439 | 4553 | 4668 | 4783 | [illegible] |
| 54 | | 3349 | 3463 | 3577 | 3691 | 3806 | 3920 | 4034 | 4149 | 4263 | 4377 | 4491 | 4606 | 4721 | 4835 | 4949 | 5 | [illegible] |
| 55 | 177 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | | 4199 | 4312 | 4426 | 4540 | 4654 | 4768 | 4882 | 4995 | 5109 | 5223 | 5337 | 5451 | 5565 | 5679 | 5793 | 5907 | 6021 |
| 58 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

Parts for Seconds of Appar. Alt. or Dist. to be added.

Auxiliary Arguments.

| Mo. & A.D. 76 | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| ′ 0 | 176 | 0153 | 0275 | 0397 | 0520 | 0642 | 0764 | 0887 | 1009 | 1131 | 1254 | 1376 | 1499 | 1621 | 1744 | 1866 | 1988 | 2111 |
| 1 | | 0433 | 0555 | 0677 | 0799 | 0921 | 1044 | 1166 | 1288 | 1410 | 1533 | 1655 | 1777 | 1900 | 2022 | 2144 | 2267 | 2389 |
| 2 | | 0713 | 0835 | 0957 | 1079 | 1202 | 1324 | 1446 | 1568 | 1691 | 1813 | 1935 | 2058 | 2180 | 2302 | 2425 | 2547 | 2669 |
| 3 | | 0993 | 1115 | 1238 | 1360 | 1482 | 1604 | 1727 | 1849 | 1971 | 2093 | 2216 | 2338 | 2460 | 2583 | 2705 | 2827 | 2950 |
| 4 | | 1273 | 1396 | 1518 | 1640 | 1762 | 1885 | 2007 | 2129 | 2251 | 2374 | 2496 | 2618 | 2741 | 2863 | 2985 | 3108 | 3230 |
| 5 | 176 | 1553 | 1674 | 1797 | 1919 | 2042 | 2164 | 2286 | 2408 | 2531 | 2653 | 2775 | 2898 | 3020 | 3143 | 3265 | 3387 | 3510 |
| 6 | | 1832 | 1954 | 2075 | 2197 | 2318 | 2440 | 2561 | 2683 | 2804 | 2926 | 3047 | 3169 | 3290 | 3412 | 3534 | 3655 | 3777 |
| 7 | | 2112 | 2233 | 2355 | 2476 | 2598 | 2719 | 2841 | 2962 | 3084 | 3205 | 3327 | 3448 | 3570 | 3691 | 3813 | 3934 | 4055 |
| 8 | | 2392 | 2513 | 2635 | 2756 | 2877 | 2999 | 3120 | 3241 | 3362 | 3484 | 3605 | 3726 | 3847 | 3968 | 4090 | 4211 | 4332 |
| 9 | | 2672 | 2793 | 2914 | 3035 | 3156 | 3277 | 3398 | 3520 | 3641 | 3762 | 3883 | 4004 | 4125 | 4246 | 4368 | 4489 | 4610 |
| 10 | 176 | 2952 | 3073 | 3194 | 3315 | 3436 | 3557 | 3678 | 3799 | 3920 | 4041 | 4161 | 4283 | 4404 | 4525 | 4646 | 4767 | 4888 |
| 11 | | 3232 | 3353 | 3474 | 3595 | 3715 | 3836 | 3957 | 4078 | 4199 | 4320 | 4440 | 4561 | 4682 | 4803 | 4924 | 5045 | 5166 |
| 12 | | 3511 | 3633 | 3754 | 3874 | 3995 | 4115 | 4236 | 4357 | 4477 | 4598 | 4719 | 4839 | 4960 | 5081 | 5202 | 5323 | 5443 |
| 13 | | 3793 | 3913 | 4033 | 4154 | 4274 | 4395 | 4515 | 4636 | 4756 | 4877 | 4997 | 5118 | 5239 | 5359 | 5480 | 5601 | 5721 |
| 14 | | 4073 | 4193 | 4313 | 4433 | 4554 | 4674 | 4794 | 4915 | 5035 | 5156 | 5276 | 5397 | 5517 | 5637 | 5758 | 5879 | 5999 |
| 15 | 176 | 4353 | 4473 | 4593 | 4713 | 4833 | 4953 | 5074 | 5194 | 5314 | 5434 | 5555 | 5675 | 5795 | 5916 | 6036 | 6157 | 6277 |
| 16 | | 4633 | 4753 | 4873 | 4993 | 5113 | 5233 | 5353 | 5473 | 5593 | 5713 | 5833 | 5954 | 6074 | 6194 | 6314 | 6435 | 6555 |
| 17 | | 4913 | 5033 | 5153 | 5273 | 5393 | 5513 | 5632 | 5752 | 5872 | 5992 | 6112 | 6233 | 6353 | 6473 | 6593 | 6713 | 6833 |
| 18 | | 5193 | 5313 | 5433 | 5552 | 5672 | 5792 | 5912 | 6031 | 6151 | 6271 | 6391 | 6511 | 6631 | 6751 | 6870 | 6991 | 7111 |
| 19 | | 5473 | 5593 | 5713 | 5832 | 5952 | 6071 | 6191 | 6311 | 6431 | 6551 | 6672 | 6792 | 6912 | 7031 | 7151 | 7271 | 7389 |
| 20 | 176 | 5754 | 5873 | 5992 | 6112 | 6231 | 6351 | 6470 | 6590 | 6709 | 6829 | 6948 | 7068 | 7188 | 7307 | 7426 | 7547 | 7666 |
| 21 | | 6034 | 6153 | 6272 | 6392 | 6511 | 6631 | 6750 | 6869 | 6988 | 7108 | 7227 | 7347 | 7466 | 7586 | 7705 | 7825 | 7944 |
| 22 | | 6314 | 6433 | 6552 | 6672 | 6791 | 6910 | 7029 | 7148 | 7268 | 7387 | 7506 | 7625 | 7745 | 7864 | 7983 | 8103 | 8222 |
| 23 | | 6594 | 6713 | 6832 | 6951 | 7070 | 7189 | 7309 | 7428 | 7547 | 7666 | 7785 | 7904 | 8023 | 8142 | 8262 | 8381 | 8500 |
| 24 | | 6875 | 6994 | 7112 | 7231 | 7350 | 7469 | 7588 | 7707 | 7826 | 7945 | 8064 | 8183 | 8302 | 8421 | 8540 | 8659 | 8778 |
| 25 | 176 | 7155 | 7274 | 7392 | 7511 | 7630 | 7749 | 7867 | 7986 | 8105 | 8224 | 8343 | 8462 | 8580 | 8699 | 8818 | 8937 | 9056 |
| 26 | | 7435 | 7554 | 7673 | 7791 | 7910 | 8028 | 8147 | 8266 | 8384 | 8503 | 8622 | 8740 | 8859 | 8978 | 9097 | 9215 | 9334 |
| 27 | | 7716 | 7834 | 7953 | 8071 | 8190 | 8308 | 8427 | 8545 | 8664 | 8782 | 8901 | 9019 | 9138 | 9256 | 9375 | 9494 | 9612 |
| 28 | | 7996 | 8114 | 8233 | 8351 | 8470 | 8588 | 8707 | 8824 | 8943 | 9061 | 9179 | 9297 | 9416 | 9535 | 9653 | 9772 | 9890 |
| 29 | 176 (177) | 8277 | 8395 | 8513 | 8631 | 8749 | 8867 | 8985 | 9104 | 9222 | 9340 | 9458 | 9577 | 9695 | 9813 | 9932 | 0050 | 0168 |
| 30 | 176 (177) | 8557 | 8675 | 8793 | 8911 | 9029 | 9147 | 9265 | 9383 | 9501 | 9619 | 9737 | 9855 | 9974 | 0092 | 0210 | 0328 | 0447 |
| 31 | | 8837 | 8955 | 9073 | 9191 | 9309 | 9427 | 9545 | 9663 | 9781 | 9899 | 0017 | 0134 | 0252 | 0371 | 0489 | 0607 | 0725 |
| 32 | | 9118 | 9236 | 9353 | 9471 | 9589 | 9707 | 9824 | 9942 | 0060 | 0178 | 0295 | 0413 | 0531 | 0649 | 0767 | 0885 | 1003 |
| 33 | | 9398 | 9516 | 9633 | 9751 | 9869 | 9986 | 0104 | 0221 | 0339 | 0457 | 0574 | 0692 | 0810 | 0928 | 1045 | 1163 | 1281 |
| 34 | | 9678 | 9796 | 9914 | 0031 | 0149 | 0266 | 0384 | 0501 | 0619 | 0736 | 0854 | 0971 | 1089 | 1207 | 1324 | 1442 | 1559 |
| 35 | 176 (177) | 9958 | 0076 | 0194 | 0311 | 0429 | 0546 | 0663 | 0781 | 0898 | 1015 | 1133 | 1250 | 1367 | 1485 | 1602 | 1720 | 1838 |
| 36 | 177 | 0237 | 0357 | 0474 | 0591 | 0708 | 0826 | 0943 | 1060 | 1177 | 1294 | 1411 | 1528 | 1646 | 1764 | 1881 | 1998 | 2116 |
| 37 | | 0517 | 0637 | 0754 | 0871 | 0988 | 1106 | 1223 | 1340 | 1457 | 1574 | 1691 | 1808 | 1925 | 2043 | 2160 | 2277 | 2394 |
| 38 | | 0797 | 0918 | 1035 | 1151 | 1268 | 1385 | 1502 | 1619 | 1736 | 1853 | 1970 | 2087 | 2204 | 2321 | 2438 | 2555 | 2672 |
| 39 | | 1078 | 1198 | 1315 | 1432 | 1548 | 1665 | 1782 | 1899 | 2015 | 2132 | 2249 | 2366 | 2483 | 2600 | 2717 | 2834 | 2951 |
| 40 | 177 | 1362 | 1479 | 1595 | 1712 | 1828 | 1945 | 2062 | 2178 | 2295 | 2412 | 2528 | 2645 | 2762 | 2879 | 2995 | 3112 | 3229 |
| 41 | | 1642 | 1759 | 1876 | 1992 | 2109 | 2225 | 2341 | 2458 | 2574 | 2691 | 2808 | 2924 | 3041 | 3157 | 3274 | 3390 | 3507 |
| 42 | | 1923 | 2040 | 2156 | 2272 | 2389 | 2505 | 2621 | 2738 | 2854 | 2971 | 3087 | 3203 | 3320 | 3436 | 3553 | 3669 | 3786 |
| 43 | | 2203 | 2320 | 2436 | 2553 | 2669 | 2785 | 2901 | 3017 | 3133 | 3249 | 3366 | 3482 | 3598 | 3715 | 3831 | 3947 | 4064 |
| 44 | | 2483 | 2600 | 2717 | 2833 | 2949 | 3065 | 3181 | 3297 | 3413 | 3530 | 3645 | 3761 | 3878 | 3994 | 4111 | 4227 | 4343 |
| 45 | 177 | 2763 | 2880 | 2997 | 3113 | 3230 | 3345 | 3461 | 3577 | 3693 | 3809 | 3925 | 4041 | 4157 | 4273 | 4389 | 4505 | 4621 |
| 46 | | 3043 | 3160 | 3277 | 3393 | 3510 | 3625 | 3741 | 3856 | 3972 | 4088 | 4204 | 4320 | 4436 | 4551 | 4667 | 4783 | 4899 |
| 47 | | 3323 | 3440 | 3557 | 3673 | 3790 | 3905 | 4021 | 4136 | 4252 | 4367 | 4483 | 4599 | 4715 | 4830 | 4946 | 5061 | 5178 |
| 48 | | 3603 | 3720 | 3837 | 3953 | 4070 | 4185 | 4301 | 4416 | 4531 | 4647 | 4762 | 4878 | 4994 | 5110 | 5225 | 5341 | 5456 |
| 49 | | 3883 | 4000 | 4117 | 4233 | 4350 | 4465 | 4581 | 4696 | 4811 | 4926 | 5042 | 5157 | 5273 | 5388 | 5504 | 5620 | 5735 |
| 50 | 177 | 4163 | 4280 | 4397 | 4513 | 4630 | 4745 | 4861 | 4976 | 5091 | 5206 | 5321 | 5437 | 5552 | 5667 | 5783 | 5898 | 6013 |
| 51 | | 4443 | 4560 | 4677 | 4793 | 4910 | 5025 | 5141 | 5256 | 5371 | 5486 | 5601 | 5716 | 5831 | 5947 | 6062 | 6177 | 6292 |
| 52 | | 4723 | 4840 | 4957 | 5073 | 5190 | 5305 | 5421 | 5536 | 5651 | 5765 | 5880 | 5996 | 6111 | 6225 | 6340 | 6455 | 6570 |
| 53 | | 5003 | 5120 | 5237 | 5353 | 5470 | 5585 | 5701 | 5816 | 5930 | 6045 | 6160 | 6275 | 6390 | 6504 | 6619 | 6734 | 6849 |
| 54 | | 5283 | 5400 | 5517 | 5633 | 5750 | 5865 | 5981 | 6095 | 6210 | 6324 | 6439 | 6554 | 6669 | 6783 | 6898 | 7013 | 7127 |
| 55 | 177 | 5563 | 5680 | 5797 | 5913 | 6030 | 6145 | 6260 | 6375 | 6489 | 6603 | 6718 | 6833 | 6948 | 7062 | 7177 | 7292 | 7406 |
| 56 | | 5843 | 5960 | 6077 | 6193 | 6310 | 6425 | 6540 | 6654 | 6768 | 6883 | 6997 | 7112 | 7227 | 7341 | 7456 | 7571 | 7685 |
| 57 | | 6123 | 6240 | 6357 | 6473 | 6590 | 6705 | 6819 | 6934 | 7048 | 7163 | 7277 | 7392 | 7506 | 7621 | 7735 | 7850 | 7963 |
| 58 | | 6403 | 6520 | 6637 | 6753 | 6870 | 6985 | 7099 | 7213 | 7327 | 7442 | 7556 | 7671 | 7785 | 7900 | 8014 | 8128 | 8242 |
| 59 | | 6683 | 6800 | 6917 | 7033 | 7150 | 7265 | 7379 | 7493 | 7607 | 7721 | 7835 | 7950 | 8064 | 8178 | 8293 | 8407 | 8521 |

| Mo. & A.D. 76 | Sums |
|---|---|
| ′ 0 | 175 |
| 5 | |
| 9 | |
| 14 | |
| 19 | |
| 24 | 175 |
| 28 | |
| 33 | 176 |
| 38 | |
| 42 | |
| 47 | 176 |
| 52 | |
| 57 | |
| 61 | |
| 66 | |
| 71 | 176 |
| 75 | |
| 80 | |
| 85 | |
| 90 | |
| 94 | 176 |
| 99 | |
| 104 | |
| 108 | |
| 113 | |
| 118 | 176 |
| 123 | |
| 127 | |
| 132 | |
| 137 | |
| 141 | 176 |
| 146 | |
| 151 | |
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| 165 | 176 |
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| 212 | 177 |
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| 226 | |
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| 236 | 177 |
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| 250 | |
| 255 | |
| 256 | 177 |
| 260 | |
| 265 | |
| 270 | |
| 275 | |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Seconds of Aux. Arg. additive | ′ | 77° | Numbers |
|---|---|---|---|
| 083 | 0 | 124 | 1642 |
| 27 | 1 | | 1357 |
| 274 | 2 | | 1075 |
| 270 | 3 | | 0793 |
| 264 | 4 | | 0511 |
| 258 | 5 | 124 | 0228 |
| 253 | 6 | 123 | 0044 |
| 247 | 7 | | 0663 |
| 243 | 8 | | 0381 |
| 241 | 9 | | 0098 |
| 236 | 10 | 123 | 8814 |
| 231 | 11 | | 8533 |
| 227 | 12 | | 8251 |
| 222 | 13 | | 7970 |
| 217 | 14 | | 7688 |
| 211 | 15 | 123 | 7405 |
| 205 | 16 | | 7123 |
| 203 | 17 | | 6838 |
| 198 | 18 | | 6556 |
| 193 | 19 | | 6273 |
| 189 | 20 | 123 | 5991 |
| 184 | 21 | | 5708 |
| 179 | 22 | | 5426 |
| 174 | 23 | | 5143 |
| 171 | 24 | | 4859 |
| 165 | 25 | 123 | 4577 |
| 160 | 26 | | 4294 |
| 156 | 27 | | 4011 |
| 151 | 28 | | 3728 |
| 147 | 29 | | 3445 |
| 141 | 30 | 123 | 3161 |
| 137 | 31 | | 2878 |
| 132 | 32 | | 2597 |
| 127 | 33 | | 2314 |
| 123 | 34 | | 2031 |
| 118 | 35 | 123 | 1748 |
| 113 | 36 | | 1465 |
| 108 | 37 | | 1182 |
| 104 | 38 | | 0900 |
| 98 | 39 | | 0617 |
| 94 | 40 | 123 | 0333 |
| 89 | 41 | | 0050 |
| 84 | 42 | 122 | 9767 |
| 80 | 43 | | 9484 |
| 75 | 44 | | 9201 |
| 70 | 45 | 122 | 8917 |
| 65 | 46 | | 8634 |
| 61 | 47 | | 8351 |
| 57 | 48 | | 8068 |
| 51 | 49 | | 7785 |
| 47 | 50 | 122 | 7501 |
| 42 | 51 | | 7218 |
| 37 | 52 | | 6935 |
| 33 | 53 | | 6651 |
| 28 | 54 | | 6368 |
| 24 | 55 | 122 | 6085 |
| 19 | 56 | | 5801 |
| 14 | 57 | | 5518 |
| 09 | 58 | | 5234 |
| 05 | 59 | | 4951 |

| Parts for Seconds of Aux. Arg. additive | ′ | 77° | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 177 | 5[illegible] | 5162 | 5277 | 5392 | 5507 | 5616 | 5726 | 5843 | 5958 | 6073 | 6183 | 6297 | 6412 | 6524 | 6637 | 6751 | [illegible] |
| 2 | 1 | | 5332 | 5445 | 5558 | 5671 | 5785 | 5896 | 6012 | 6125 | 6238 | 6352 | 6465 | 6578 | 6692 | 6805 | 6918 | 7031 | 7144 |
| 4 | 2 | | 5501 | 5728 | 5841 | 5955 | 6068 | 6181 | 6294 | 6408 | 6521 | 6634 | 6747 | 6861 | 6974 | 7087 | 7200 | 7313 | 7427 |
| 6 | 3 | | 5670 | 5784 | 5898 | 6011 | 6125 | 6238 | 6351 | 6464 | 6577 | 6690 | 6803 | 6916 | 7029 | 7142 | 7256 | 7369 | 7482 |
| 7 | 4 | | 5753 | 5867 | 5980 | 6094 | 6207 | 6321 | 6434 | 6547 | 6660 | 6774 | 6887 | 7000 | 7114 | 7227 | 7340 | 7453 | 7567 |
| 9 | 5 | 177 | 6[illegible] | 6037 | 6150 | 6264 | 6377 | 6491 | 6604 | 6717 | 6831 | 6944 | 7057 | 7171 | 7284 | 7397 | 7511 | 7624 | 7737 |
| 11 | 6 | | 6756 | 6869 | 6982 | 7096 | 7209 | 7322 | 7436 | 7549 | 7662 | 7776 | 7889 | 8002 | 8116 | 8229 | 8342 | 8456 | 8569 |
| 13 | 7 | | 7036 | 7149 | 7263 | 7376 | 7489 | 7603 | 7716 | 7829 | 7943 | 8056 | 8169 | 8283 | 8396 | 8509 | 8623 | 8736 | 8849 |
| 15 | 8 | | 7317 | 7430 | 7543 | 7656 | 7770 | 7883 | 7996 | 8110 | 8223 | 8336 | 8450 | 8563 | 8676 | 8790 | 8903 | 9016 | 9130 |
| 16 | 9 | | 7601 | 7713 | 7825 | 7937 | 8049 | 8161 | 8273 | 8385 | 8498 | 8610 | 8722 | 8834 | 8947 | 9059 | 9171 | 9283 | 9396 |
| 18 | 10 | 177 | 7885 | 7997 | 8109 | 8221 | 8333 | 8444 | 8556 | 8668 | 8780 | 8892 | 9004 | 9116 | 9228 | 9341 | 9453 | 9565 | [illegible] |
| 20 | 11 | | 8168 | 8280 | 8391 | 8503 | 8615 | 8727 | 8838 | 8950 | 9062 | 9174 | 9286 | 9398 | 9510 | 9622 | 9734 | [illegible] | [illegible] |
| 22 | 12 | 177 (178) | 8451 | 8563 | 8675 | 8786 | 8898 | 9010 | 9122 | 9233 | 9345 | 9457 | 9569 | 9681 | 9793 | 9904 | [illegible] | [illegible] | [illegible] |
| 24 | 13 | | 8735 | 8847 | 8958 | 9070 | 9181 | 9293 | 9404 | 9516 | 9628 | 9739 | 9851 | 9963 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 14 | | 9018 | 9130 | 9241 | 9353 | 9464 | 9576 | 9687 | 9799 | 9910 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 15 | 177 (178) | 9302 | 9414 | 9525 | 9637 | 9748 | 9860 | 9971 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | 16 | | 9585 | 9697 | 9808 | 9920 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | 17 | | 9870 | 9981 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | 18 | 178 | 0154 | 0265 | 0375 | 0486 | 0597 | 0708 | 0819 | 0930 | 1041 | 1152 | 1263 | 1374 | 1485 | 1596 | 1707 | 1818 | [illegible] |
| 35 | 19 | | 0437 | 0548 | 0659 | 0770 | 0881 | 0992 | 1102 | 1213 | 1324 | 1434 | 1545 | 1656 | 1766 | 1877 | 1988 | [illegible] | [illegible] |
| 37 | 20 | 178 | 0721 | 0832 | 0942 | 1053 | 1163 | 1274 | 1385 | 1495 | 1606 | 1716 | 1827 | 1938 | 2048 | 2159 | 2269 | 2381 | [illegible] |
| 38 | 21 | | 1005 | 1115 | 1225 | 1336 | 1447 | 1557 | 1668 | 1778 | 1888 | 1999 | 2109 | 2220 | 2330 | 2441 | 2552 | 2662 | 2773 |
| 40 | 22 | | 1288 | 1398 | 1508 | 1618 | 1728 | 1838 | 1948 | 2058 | 2168 | 2278 | 2388 | 2498 | 2608 | 2718 | 2828 | 2938 | 3048 |
| 42 | 23 | | 1573 | 1683 | 1793 | 1903 | 2013 | 2123 | 2233 | 2344 | 2454 | 2564 | 2674 | 2784 | 2895 | 3005 | 3115 | 3226 | 3337 |
| 44 | 24 | | 1857 | 1967 | 2077 | 2187 | 2297 | 2407 | 2517 | 2627 | 2737 | 2847 | 2957 | 3067 | 3177 | 3287 | 3397 | 3507 | 3617 |
| 46 | 25 | 178 | 2141 | 2251 | 2361 | 2470 | 2580 | 2690 | 2800 | 2910 | 3020 | 3129 | 3239 | 3349 | 3459 | 3569 | 3679 | 3789 | [illegible] |
| 47 | 26 | | 2425 | 2534 | 2644 | 2754 | 2863 | 2973 | 3083 | 3193 | 3302 | 3412 | 3522 | 3632 | 3741 | 3851 | 3961 | 4071 | [illegible] |
| 49 | 27 | | 2708 | 2818 | 2927 | 3037 | 3146 | 3256 | 3366 | 3475 | 3585 | 3694 | 3804 | 3914 | 4024 | 4133 | 4243 | 4353 | [illegible] |
| 51 | 28 | | 2992 | 3101 | 3211 | 3320 | 3430 | 3539 | 3648 | 3758 | 3867 | 3977 | 4087 | 4196 | 4306 | 4415 | 4525 | 4634 | [illegible] |
| 53 | 29 | | 3276 | 3385 | 3495 | 3604 | 3713 | 3823 | 3932 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | 30 | 178 | 3560 | 3669 | 3778 | 3887 | 3997 | 4106 | 4215 | 4324 | 4433 | 4543 | 4652 | 4761 | 4870 | 4979 | 5088 | 5198 | [illegible] |
| 57 | 31 | | 3844 | 3953 | 4062 | 4171 | 4280 | 4389 | 4498 | 4607 | 4716 | 4825 | 4934 | 5043 | 5152 | 5261 | 5370 | 5479 | [illegible] |
| 58 | 32 | | 4128 | 4237 | 4346 | 4455 | 4564 | 4672 | 4781 | 4890 | 4999 | 5108 | 5217 | 5326 | 5435 | 5544 | 5653 | 5762 | [illegible] |
| 60 | 33 | | 4412 | 4521 | 4630 | 4738 | 4847 | 4956 | 5065 | 5173 | 5282 | 5391 | 5500 | 5608 | 5717 | 5826 | 5935 | 6044 | [illegible] |
| 62 | 34 | | 4696 | 4805 | 4913 | 5022 | 5131 | 5239 | 5348 | 5456 | 5565 | 5673 | 5782 | 5891 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 64 | 35 | 178 | 4981 | 5089 | 5197 | 5306 | 5414 | 5522 | 5631 | 5739 | 5848 | 5956 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 66 | 36 | | 5265 | 5373 | 5481 | 5589 | 5698 | 5806 | 5914 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 68 | 37 | | 5549 | 5657 | 5765 | 5873 | 5981 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 69 | 38 | | 5833 | 5941 | 6049 | 6157 | 6265 | 6373 | 6481 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 71 | 39 | | 6117 | 6225 | 6333 | 6441 | 6549 | 6657 | 6764 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 73 | 40 | 178 | 6401 | 6508 | 6616 | 6724 | 6832 | 6939 | 7047 | 7155 | 7263 | 7371 | 7479 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 75 | 41 | | 6685 | 6792 | 6900 | 7008 | 7115 | 7223 | 7331 | 7438 | 7546 | 7654 | 7762 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 77 | 42 | | 6969 | 7076 | 7184 | 7292 | 7399 | 7507 | 7614 | 7722 | 7830 | 7938 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 78 | 43 | | 7254 | 7361 | 7468 | 7576 | 7683 | 7791 | 7898 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 80 | 44 | | 7538 | 7645 | 7752 | 7860 | 7967 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 82 | 45 | 178 | 7823 | 7930 | 8037 | 8145 | 8252 | 8359 | 8467 | 8574 | 8681 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 84 | 46 | | 8107 | 8214 | 8322 | 8429 | 8536 | 8643 | 8751 | 8858 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 86 | 47 | 178 (179) | 8391 | 8498 | 8605 | 8712 | 8819 | 8926 | 9033 | 9140 | 9247 | 9354 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 88 | 48 | | 8675 | 8782 | 8889 | 8996 | 9103 | 9210 | 9317 | 9424 | 9531 | 9638 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 89 | 49 | | 8959 | 9066 | 9173 | 9280 | 9387 | 9494 | 9601 | 9708 | 9815 | 9922 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 91 | 50 | 178 (179) | 9244 | 9351 | 9458 | 9565 | 9672 | 9778 | 9885 | 9992 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 93 | 51 | | 9528 | 9634 | 9740 | 9846 | 9952 | 0059 | 0165 | 0271 | 0377 | 0483 | 0589 | 0696 | 0802 | 0908 | [illegible] | [illegible] | [illegible] |
| 95 | 52 | | 9813 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 97 | 53 | 179 | 0097 | 0203 | 0308 | 0414 | 0520 | 0626 | 0732 | 0838 | 0944 | 1050 | 1155 | 1261 | 1367 | 1473 | [illegible] | [illegible] | [illegible] |
| 98 | 54 | | 0381 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 100 | 55 | 179 | 0664 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 102 | 56 | | 0950 | 1056 | 1161 | 1266 | 1372 | 1477 | 1583 | 1688 | 1793 | 1899 | 2004 | 2111 | 2216 | 2321 | 2427 | [illegible] | [illegible] |
| 104 | 57 | | 1235 | 1340 | 1445 | 1550 | 1656 | 1761 | 1866 | 1971 | 2077 | 2182 | 2287 | 2393 | 2498 | [illegible] | [illegible] | [illegible] | [illegible] |
| 106 | 58 | | 1520 | 1624 | 1729 | 1834 | 1940 | 2045 | 2150 | 2255 | 2360 | 2465 | 2571 | 2676 | 2781 | 2886 | [illegible] | [illegible] | [illegible] |
| 108 | 59 | | 1804 | 1909 | 2014 | 2119 | 2224 | 2329 | 2434 | 2539 | 2644 | 2749 | 2854 | 2959 | 3064 | 3169 | 3274 | 3379 | [illegible] |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

Auxiliary Arguments.

| Part. to be added to the Sum of Auxil. Argum additive | A. A. & A. D. 77° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 177 | 6978 | 7092 | 7206 | 7319 | 7433 | 7547 | 7661 | 7774 | 7888 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | 1 | | 7250 | 7373 | 7487 | [illegible] | 7714 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2 | 2 | | 754[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 3 | 3 | | 7821 | 7935 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 4 | 4 | | 8103 | 8217 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | 5 | 177 (178) | 8386 | 8499 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | 6 | | 8665 | 8778 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7 | 7 | | 8946 | 9059 | 9171 | 9284 | 9397 | 9509 | 9622 | 9735 | 9848 | 9901 | 0073 | 0186 | 0299 | 0412 | 0525 | 0638 | 0751 |
| 8 | 8 | | 9227 | 9340 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 9 | 9 | | 9508 | 9621 | 9733 | 9845 | 9958 | 0070 | 0183 | 0295 | 0408 | 0520 | 0633 | 0745 | 0858 | 0971 | 1083 | 1196 | 1309 |
| 10 | 10 | 177 (178) | 9788 | 9902 | 0014 | 0126 | 0238 | 0351 | 0463 | 0575 | 0688 | 0800 | 0913 | 1025 | 1137 | 1250 | 1362 | 1475 | 1587 |
| 11 | 11 | 178 | 0071 | 0183 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 12 | 12 | | 0353 | 0464 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 13 | 13 | | 0633 | 0745 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | 14 | | 0914 | 1026 | 1138 | 1249 | 1361 | 1473 | 1585 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 15 | 178 | 1194 | 1307 | 1419 | 1530 | 1642 | 1753 | 1865 | 1977 | 2088 | 2200 | 2312 | 2423 | 2535 | 2647 | 2758 | 2870 | 2982 |
| 16 | 16 | | 1477 | 1588 | 1700 | 1811 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 17 | 17 | | 1758 | 1869 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18 | 18 | | 2036 | 2147 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19 | 19 | | 2321 | 2432 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 20 | 178 | 2602 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 21 | 21 | | 2884 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 22 | 22 | | 3165 | 3275 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 23 | 23 | | 3446 | 3557 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | 24 | | 3727 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 25 | 178 | 4008 | 4119 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | 26 | | 4291 | 4401 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 27 | | 4572 | 4682 | 4792 | 4902 | 5012 | 5121 | 5231 | 5341 | 5451 | 5561 | 5671 | 5781 | 5891 | 6001 | 6111 | 6221 | 6331 |
| 28 | 28 | | 4854 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | 29 | | 5135 | 5245 | 5355 | 5464 | 5573 | 5683 | 5793 | 5902 | 6012 | 6122 | 6231 | 6341 | 6451 | 6561 | [illegible] | [illegible] | [illegible] |
| 30 | 30 | 178 | 5417 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | 31 | | 5698 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 32 | 32 | | 5979 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | 33 | | 6260 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 34 | 34 | | 6543 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | 35 | 178 | 6824 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | 36 | | 7105 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 37 | 37 | | 7386 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 38 | 38 | | 7667 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 39 | 39 | | 7948 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | 40 | 178 | 8229 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | 41 | 178 (179) | 8510 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | 42 | | 8791 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 43 | 43 | | 9072 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 44 | 44 | | 9353 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 45 | 45 | 178 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1037 | 1148 | 1258 | 1369 | [illegible] |
| 46 | 46 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 47 | 47 | 179 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | 48 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 49 | 49 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 50 | 50 | 179 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | 51 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 52 | 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | 53 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 54 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | 55 | 179 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 56 | 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | 57 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 58 | 58 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | 59 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| Part. to be added to the Sum of C. D. additive | C. D. 77° | Sums |
|---|---|---|
| 0 | 0 | 477 5 49 |
| 1 | 1 | 5334 |
| 2 | 2 | 5[illegible] |
| 3 | 3 | 5[illegible] |
| 4 | 4 | 6[illegible] |
| 5 | 5 | 477 [illegible] |
| 6 | 6 | 6[illegible] |
| 7 | 7 | 7[illegible] |
| 8 | 8 | 7317 |
| 9 | 9 | 7[illegible] |
| 10 | 10 | 477 7884 |
| 11 | 11 | [illegible] |
| 12 | 12 | [illegible] |
| 13 | 13 | [illegible] |
| 14 | 14 | [illegible] |
| 15 | 15 | 477 9303 |
| 16 | 16 | [illegible] |
| 17 | 17 | [illegible] |
| 18 | 18 | 478 0154 |
| 19 | 19 | [illegible] |
| 20 | 20 | 478 0721 |
| 21 | 21 | [illegible] |
| 22 | 22 | [illegible] |
| 23 | 23 | [illegible] |
| 24 | 24 | [illegible] |
| 25 | 25 | 478 2141 |
| 26 | 26 | [illegible] |
| 27 | 27 | 2708 |
| 28 | 28 | [illegible] |
| 29 | 29 | [illegible] |
| 30 | 30 | 478 3276 |
| 31 | 31 | [illegible] |
| 32 | 32 | 4128 |
| 33 | 33 | 4412 |
| 34 | 34 | [illegible] |
| 35 | 35 | 478 4981 |
| 36 | 36 | [illegible] |
| 37 | 37 | [illegible] |
| 38 | 38 | [illegible] |
| 39 | 39 | [illegible] |
| 40 | 40 | 478 6401 |
| 41 | 41 | [illegible] |
| 42 | 42 | [illegible] |
| 43 | 43 | [illegible] |
| 44 | 44 | [illegible] |
| 45 | 45 | 478 7821 |
| 46 | 46 | [illegible] |
| 47 | 47 | [illegible] |
| 48 | 48 | [illegible] |
| 49 | 49 | [illegible] |
| 50 | 50 | 478 9244 |
| 51 | 51 | [illegible] |
| 52 | 52 | [illegible] |
| 53 | 53 | 479 0667 |
| 54 | 54 | [illegible] |
| 55 | 55 | 479 [illegible] |
| 56 | 56 | [illegible] |
| 57 | 57 | [illegible] |
| 58 | 58 | [illegible] |
| 59 | 59 | [illegible] |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. or C.A. addit. | C.S.A. 78° | Numbers |
|---|---|---|
| 284 | 0 | 122 4668 |
| 279 | 1 | 4384 |
| 274 | 2 | 4101 |
| 270 | 3 | 3817 |
| 265 | 4 | 3534 |
| 260 | 5 | 122 3250 |
| 256 | 6 | 2967 |
| 251 | 7 | 2683 |
| 246 | 8 | 2399 |
| 241 | 9 | 2116 |
| 237 | 10 | 122 1832 |
| 232 | 11 | 1548 |
| 227 | 12 | 1265 |
| 222 | 13 | 0981 |
| 218 | 14 | 0697 |
| 213 | 15 | 122 0413 |
| 208 | 16 | 0130 |
| 203 | 17 | 121 9846 |
| 199 | 18 | 9562 |
| 194 | 19 | 9279 |
| 189 | 20 | 121 8995 |
| 185 | 21 | 8711 |
| 180 | 22 | 8427 |
| 175 | 23 | 8143 |
| 170 | 24 | 7859 |
| 166 | 25 | 121 7575 |
| 161 | 26 | 7292 |
| 156 | 27 | 7008 |
| 151 | 28 | 6724 |
| 147 | 29 | 6440 |
| 142 | 30 | 121 6156 |
| 137 | 31 | 5872 |
| 132 | 32 | 5588 |
| 128 | 33 | 5303 |
| 123 | 34 | 5019 |
| 118 | 35 | 121 4735 |
| 114 | 36 | 4451 |
| 109 | 37 | 4167 |
| 104 | 38 | 3883 |
| 99 | 39 | 3599 |
| 95 | 40 | 121 3315 |
| 90 | 41 | 3030 |
| 85 | 42 | 2746 |
| 80 | 43 | 2462 |
| 76 | 44 | 2178 |
| 71 | 45 | 121 1893 |
| 66 | 46 | 1609 |
| 61 | 47 | 1325 |
| 57 | 48 | 1040 |
| 52 | 49 | 0756 |
| 47 | 50 | 121 0472 |
| 43 | 51 | 0187 |
| 38 | 52 | 120 9903 |
| 33 | 53 | 9619 |
| 28 | 54 | 9334 |
| 24 | 55 | 120 9050 |
| 19 | 50 | 8765 |
| 14 | 57 | 8481 |
| 9 | 58 | 8196 |
| 5 | 59 | 7912 |

| Parts for Seconds of Arcs. Addit. | L.A. & A. D. 78° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 179 2085 | 2193 | 2299 | 2403 | 2507 | 2611 | 2717 | 2822 | 2927 | 3032 | 3137 | 3242 | 3347 | 3452 | 3557 | 3662 | 3767 |
| 2 | 1 | 2373 | 2477 | 2582 | 2687 | 2791 | 2896 | 3001 | 3105 | 3210 | 3315 | 3420 | 3525 | 3629 | 3734 | 3838 | 3943 | 4047 |
| 3 | 2 | 2657 | 2761 | 2866 | 2971 | 3075 | 3180 | 3284 | 3389 | 3494 | 3599 | 3703 | 3808 | 3913 | 4017 | 4122 | 4226 | 4331 |
| 5 | 3 | 2942 | 3046 | 3151 | 3255 | 3360 | 3464 | 3568 | 3673 | 3777 | 3882 | 3986 | 4091 | 4195 | 4300 | 4404 | 4509 | 4613 |
| 7 | 4 | 3227 | 3331 | 3435 | 3539 | 3643 | 3748 | 3852 | 3956 | 4061 | 4165 | 4269 | 4374 | 4478 | 4582 | 4687 | 4791 | 4895 |
| 8 | 5 | 179 3511 | 3615 | 3719 | 3823 | 3927 | 4032 | 4136 | 4240 | 4344 | 4448 | 4552 | 4657 | 4761 | 4865 | 4969 | 5073 | 5177 |
| 10 | 6 | 3796 | 3900 | 4004 | 4108 | 4211 | 4315 | 4419 | 4523 | 4627 | 4732 | 4836 | 4940 | 5044 | 5148 | 5252 | 5356 | 5460 |
| 12 | 7 | 4080 | 4184 | 4288 | 4392 | 4496 | 4600 | 4703 | 4807 | 4911 | 5015 | 5119 | 5223 | 5327 | 5431 | 5535 | 5639 | 5743 |
| 13 | 8 | 4365 | 4469 | 4572 | 4676 | 4780 | 4883 | 4987 | 5091 | 5194 | 5298 | 5402 | 5506 | 5609 | 5713 | 5817 | 5921 | 6025 |
| 15 | 9 | 4650 | 4753 | 4857 | 4960 | 5064 | 5167 | 5271 | 5374 | 5478 | 5582 | 5685 | 5789 | 5893 | 5997 | 6101 | 6204 | 6308 |
| 17 | 10 | 179 4934 | 5038 | 5141 | 5245 | 5348 | 5451 | 5555 | 5658 | 5762 | 5865 | 5969 | 6072 | 6176 | 6279 | 6383 | 6486 | 6590 |
| 18 | 11 | 5219 | 5322 | 5426 | 5529 | 5632 | 5736 | 5839 | 5943 | 6046 | 6149 | 6253 | 6356 | 6459 | 6562 | 6665 | 6769 | 6872 |
| 20 | 12 | 5504 | 5607 | 5710 | 5813 | 5917 | 6020 | 6123 | 6226 | 6329 | 6432 | 6535 | 6638 | 6742 | 6845 | 6948 | 7051 | 7155 |
| 22 | 13 | 5788 | 5891 | 5994 | 6097 | 6200 | 6303 | 6406 | 6509 | 6612 | 6715 | 6818 | 6921 | 7025 | 7128 | 7231 | 7334 | 7437 |
| 23 | 14 | 6073 | 6176 | 6279 | 6382 | 6485 | 6587 | 6690 | 6793 | 6896 | 6999 | 7102 | 7205 | 7308 | 7411 | 7514 | 7617 | 7720 |
| 25 | 15 | 179 6358 | 6461 | 6563 | 6666 | 6769 | 6871 | 6974 | 7077 | 7180 | 7283 | 7385 | 7488 | 7591 | 7694 | 7797 | 7900 | 8003 |
| 27 | 16 | 6643 | 6745 | 6848 | 6950 | 7053 | 7155 | 7258 | 7361 | 7463 | 7566 | 7668 | 7771 | 7874 | 7976 | 8079 | 8182 | 8285 |
| 28 | 17 | 6928 | 7030 | 7133 | 7235 | 7337 | 7440 | 7542 | 7644 | 7747 | 7849 | 7952 | 8054 | 8157 | 8259 | 8362 | 8464 | 8567 |
| 30 | 18 | 7213 | 7315 | 7417 | 7519 | 7621 | 7724 | 7826 | 7928 | 8031 | 8133 | 8235 | 8338 | 8440 | 8542 | 8645 | 8747 | 8850 |
| 32 | 19 | 7498 | 7600 | 7702 | 7804 | 7906 | 8008 | 8111 | 8213 | 8314 | 8416 | 8518 | 8621 | 8723 | 8825 | 8928 | 9030 | 9133 |
| 33 | 20 | 179 7783 | 7884 | 7986 | 8088 | 8190 | 8292 | 8394 | 8496 | 8598 | 8700 | 8802 | 8904 | 9006 | 9108 | 9210 | 9313 | 9415 |
| 35 | 21 | 8067 | 8169 | 8271 | 8373 | 8474 | 8576 | 8678 | 8779 | 8881 | 8983 | 9085 | 9187 | 9289 | 9391 | 9493 | 9595 | 9697 |
| 37 | 22 | 8352 | 8454 | 8555 | 8657 | 8759 | 8860 | 8962 | 9064 | 9165 | 9267 | 9369 | 9471 | 9573 | 9674 | 9776 | 9878 | 9980 |
| 38 | 23 | 179 (180) 8637 | 8738 | 8840 | 8942 | 9043 | 9145 | 9246 | 9348 | 9449 | 9551 | 9653 | 9754 | 9856 | 9957 | 0059 | 0161 | 0263 |
| 40 | 24 | 8922 | 9023 | 9125 | 9227 | 9328 | 9430 | 9531 | 9633 | 9735 | 9836 | 9938 | 0039 | 0141 | 0243 | 0344 | 0446 | 0548 |
| 42 | 25 | 179 (180) 9207 | 9308 | 9409 | 9511 | 9612 | 9713 | 9814 | 9916 | 0017 | 0118 | 0220 | 0321 | 0422 | 0524 | 0625 | 0727 | 0829 |
| 44 | 26 | 9492 | 9593 | 9694 | 9795 | 9896 | 9997 | 0098 | 0200 | 0301 | 0402 | 0503 | 0604 | 0705 | 0807 | 0908 | 1010 | 1111 |
| 45 | 27 | 9777 | 9878 | 9979 | 0080 | 0181 | 0282 | 0383 | 0484 | 0585 | 0686 | 0787 | 0888 | 0989 | 1090 | 1191 | 1292 | 1393 |
| 47 | 28 | 180 0062 | 0163 | 0263 | 0364 | 0465 | 0566 | 0667 | 0768 | 0868 | 0969 | 1070 | 1171 | 1272 | 1373 | 1474 | 1575 | 1676 |
| 49 | 29 | 0347 | 0448 | 0548 | 0649 | 0749 | 0850 | 0951 | 1052 | 1152 | 1253 | 1354 | 1454 | 1555 | 1656 | 1757 | 1858 | 1959 |
| 50 | 30 | 180 0632 | 0732 | 0833 | 0933 | 1034 | 1134 | 1235 | 1336 | 1436 | 1537 | 1637 | 1738 | 1839 | 1939 | 2040 | 2141 | 2241 |
| 52 | 31 | 0917 | 1017 | 1118 | 1218 | 1318 | 1419 | 1519 | 1620 | 1720 | 1820 | 1921 | 2021 | 2122 | 2222 | 2323 | 2424 | 2524 |
| 54 | 32 | 1202 | 1302 | 1402 | 1503 | 1603 | 1703 | 1803 | 1904 | 2004 | 2104 | 2205 | 2305 | 2405 | 2506 | 2606 | 2707 | 2807 |
| 55 | 33 | 1487 | 1587 | 1687 | 1787 | 1887 | 1988 | 2088 | 2188 | 2288 | 2388 | 2488 | 2588 | 2689 | 2789 | 2889 | 2990 | 3090 |
| 57 | 34 | 1772 | 1872 | 1972 | 2072 | 2172 | 2272 | 2372 | 2472 | 2572 | 2672 | 2772 | 2872 | 2972 | 3072 | 3172 | 3272 | 3372 |
| 59 | 35 | 180 2057 | 2157 | 2257 | 2357 | 2457 | 2556 | 2656 | 2756 | 2856 | 2956 | 3056 | 3156 | 3255 | 3355 | 3455 | 3555 | 3655 |
| 60 | 36 | 2343 | 2442 | 2542 | 2641 | 2741 | 2841 | 2940 | 3040 | 3140 | 3240 | 3339 | 3439 | 3539 | 3639 | 3738 | 3838 | 3938 |
| 62 | 37 | 2628 | 2727 | 2827 | 2926 | 3026 | 3125 | 3225 | 3324 | 3424 | 3523 | 3623 | 3723 | 3822 | 3922 | 4022 | 4121 | 4221 |
| 64 | 38 | 2913 | 3012 | 3112 | 3211 | 3310 | 3410 | 3509 | 3608 | 3708 | 3807 | 3907 | 4006 | 4106 | 4205 | 4305 | 4404 | 4504 |
| 65 | 39 | 3198 | 3297 | 3396 | 3496 | 3595 | 3694 | 3793 | 3893 | 3992 | 4091 | 4191 | 4290 | 4389 | 4489 | 4588 | 4687 | 4787 |
| 67 | 40 | 180 3483 | 3582 | 3681 | 3780 | 3880 | 3979 | 4078 | 4177 | 4276 | 4375 | 4474 | 4573 | 4673 | 4772 | 4871 | 4970 | 5070 |
| 69 | 41 | 3769 | 3867 | 3966 | 4065 | 4164 | 4263 | 4362 | 4461 | 4560 | 4659 | 4758 | 4857 | 4956 | 5055 | 5154 | 5253 | 5353 |
| 70 | 42 | 4054 | 4153 | 4251 | 4350 | 4449 | 4548 | 4646 | 4745 | 4844 | 4943 | 5042 | 5141 | 5240 | 5339 | 5438 | 5537 | 5636 |
| 72 | 43 | 4339 | 4438 | 4536 | 4635 | 4734 | 4833 | 4931 | 5030 | 5128 | 5227 | 5326 | 5424 | 5523 | 5622 | 5721 | 5820 | 5919 |
| 74 | 44 | 4624 | 4723 | 4821 | 4920 | 5019 | 5117 | 5216 | 5314 | 5413 | 5511 | 5610 | 5708 | 5807 | 5906 | 6004 | 6103 | 6201 |
| 75 | 45 | 180 4909 | 5008 | 5106 | 5205 | 5303 | 5401 | 5500 | 5598 | 5696 | 5795 | 5893 | 5992 | 6090 | 6188 | 6287 | 6385 | 6484 |
| 77 | 46 | 5193 | 5292 | 5390 | 5488 | 5588 | 5686 | 5784 | 5882 | 5981 | 6079 | 6177 | 6276 | 6374 | 6473 | 6571 | 6670 | 6767 |
| 79 | 47 | 5480 | 5578 | 5676 | 5774 | 5872 | 5970 | 6069 | 6167 | 6265 | 6363 | 6461 | 6560 | 6658 | 6757 | 6855 | 6954 | 7053 |
| 80 | 48 | 5766 | 5863 | 5961 | 6059 | 6157 | 6255 | 6353 | 6451 | 6549 | 6647 | 6745 | 6843 | 6941 | 7039 | 7137 | 7235 | 7333 |
| 82 | 49 | 6051 | 6149 | 6246 | 6344 | 6442 | 6540 | 6638 | 6735 | 6833 | 6931 | 7028 | 7126 | 7223 | 7321 | 7419 | 7516 | 7614 |
| 84 | 50 | 180 6336 | 6434 | 6531 | 6629 | 6727 | 6824 | 6922 | 7020 | 7117 | 7215 | 7312 | 7410 | 7507 | 7605 | 7702 | 7800 | 7897 |
| 85 | 51 | 6621 | 6719 | 6816 | 6914 | 7011 | 7109 | 7206 | 7303 | 7401 | 7498 | 7596 | 7693 | 7791 | 7888 | 7986 | 8083 | 8181 |
| 87 | 52 | 6906 | 7003 | 7101 | 7198 | 7296 | 7393 | 7490 | 7588 | 7685 | 7783 | 7880 | 7978 | 8075 | 8173 | 8270 | 8368 | 8465 |
| 89 | 53 | 7190 | 7288 | 7385 | 7483 | 7580 | 7677 | 7775 | 7872 | 7970 | 8067 | 8165 | 8262 | 8360 | 8457 | 8555 | 8652 | 8749 |
| 90 | 54 | 7475 | 7572 | 7670 | 7767 | 7864 | 7962 | 8059 | 8157 | 8254 | 8352 | 8449 | 8547 | 8644 | 8742 | 8839 | 8936 | 9034 |
| 92 | 55 | 180 7760 | 7857 | 7954 | 8052 | 8149 | 8246 | 8344 | 8441 | 8539 | 8636 | 8734 | 8831 | 8928 | 9026 | 9123 | 9221 | 9318 |
| 94 | 56 | 8044 | 8142 | 8239 | 8336 | 8434 | 8531 | 8628 | 8726 | 8823 | 8921 | 9018 | 9115 | 9213 | 9310 | 9408 | 9505 | 9603 |
| 95 | 57 | 8329 | 8426 | 8524 | 8621 | 8718 | 8816 | 8913 | 9010 | 9108 | 9205 | 9303 | 9400 | 9497 | 9595 | 9692 | 9790 | 9887 |
| 97 | 58 | 180 (181) 8614 | 8711 | 8808 | 8906 | 9003 | 9100 | 9198 | 9295 | 9392 | 9490 | 9587 | 9685 | 9782 | 9879 | 9977 | 0074 | 0172 |
| 98 | 59 | 8899 | 8996 | 9093 | 9191 | 9288 | 9385 | 9482 | 9580 | 9677 | 9774 | 9872 | 9969 | 0066 | 0164 | 0261 | 0358 | 0456 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Sec. of Appar. Argum. | C. A & A. D 78 | Auxiliary Arguments. 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | Parts for Sec. of C. D. addit. | C. D 78 | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | | | |
| 0 | 0 | 179 | 3872 | 3977 | 4082 | 4187 | 4292 | 4397 | 4502 | 4607 | 4713 | 4818 | 4923 | 5028 | 5133 | 5238 | 5344 | 5449 | 5555 | 0 | 0 | 479 | 2088 |
| 2 | 1 | | 4154 | 4259 | 4364 | 4469 | 4573 | 4678 | 4783 | 4888 | 4993 | 5099 | 5204 | 5309 | 5414 | 5519 | 5624 | 5729 | 5834 | 5 | 1 | | 2373 |
| 3 | 2 | | 4436 | 4541 | 4645 | 4750 | 4855 | 4960 | 5065 | 5170 | 5274 | 5379 | 5484 | 5589 | 5694 | 5799 | 5904 | 6009 | 6114 | 9 | 2 | | 2657 |
| 5 | 3 | | 4718 | 4823 | 4927 | 5032 | 5137 | 5241 | 5346 | 5451 | 5555 | 5660 | 5765 | 5870 | 5975 | 6079 | 6184 | 6289 | 6394 | 14 | 3 | | 2942 |
| 7 | 4 | | 5000 | 5105 | 5209 | 5314 | 5418 | 5523 | 5627 | 5732 | 5836 | 5941 | 6046 | 6151 | 6256 | 6361 | 6466 | 6571 | 6674 | 19 | 4 | | 3227 |
| 8 | 5 | 179 | 5282 | 5387 | 5491 | 5595 | 5700 | 5804 | 5909 | 6013 | 6117 | 6222 | 6327 | 6431 | 6535 | 6640 | 6745 | 6849 | 6954 | 24 | 5 | 479 | 3511 |
| 10 | 6 | | 5564 | 5669 | 5773 | 5877 | 5982 | 6086 | 6190 | 6294 | 6398 | 6503 | 6607 | 6711 | 6816 | 6920 | 7025 | 7129 | 7234 | 28 | 6 | | 3796 |
| 12 | 7 | | 5847 | 5951 | 6055 | 6159 | 6263 | 6368 | 6471 | 6575 | 6680 | 6784 | 6888 | 6992 | 7097 | 7201 | 7305 | 7409 | 7514 | 33 | 7 | | 4080 |
| 14 | 8 | | 6129 | 6233 | 6337 | 6441 | 6545 | 6649 | 6753 | 6857 | 6961 | 7065 | 7169 | 7273 | 7377 | 7481 | 7585 | 7689 | 7793 | 38 | 8 | | 4365 |
| 15 | 9 | | 6411 | 6515 | 6619 | 6722 | 6826 | 6930 | 7034 | 7138 | 7242 | 7346 | 7450 | 7553 | 7657 | 7761 | 7865 | 7969 | 8073 | 43 | 9 | | 4650 |
| 17 | 10 | 179 | 6693 | 6797 | 6901 | 7004 | 7108 | 7212 | 7315 | 7419 | 7523 | 7627 | 7730 | 7834 | 7938 | 8042 | 8145 | 8249 | 8353 | 47 | 10 | 479 | 4935 |
| 19 | 11 | | 6976 | 7079 | 7183 | 7286 | 7390 | 7493 | 7597 | 7700 | 7804 | 7908 | 8011 | 8115 | 8218 | 8322 | 8426 | 8532 | 8633 | 52 | 11 | | 5220 |
| 20 | 12 | | 7258 | 7361 | 7465 | 7568 | 7671 | 7775 | 7878 | 7982 | 8085 | 8189 | 8292 | 8396 | 8499 | 8603 | 8707 | 8811 | 8913 | 57 | 12 | | 5504 |
| 22 | 13 | | 7541 | 7643 | 7747 | 7850 | 7953 | 8056 | 8160 | 8263 | 8366 | 8470 | 8573 | 8677 | 8780 | 8883 | 8987 | 9090 | 9193 | 62 | 13 | | 5789 |
| 24 | 14 | | 7823 | 7926 | 8029 | 8132 | 8235 | 8338 | 8441 | 8544 | 8647 | 8751 | 8854 | 8957 | 9060 | 9164 | 9267 | 9371 | 9473 | 66 | 14 | | 6073 |
| 25 | 15 | 179 | 8105 | 8208 | 8311 | 8414 | 8517 | 8620 | 8723 | 8826 | 8929 | 9032 | 9135 | 9238 | 9341 | 9444 | 9547 | 9650 | 9753 | 71 | 15 | 479 | 6358 |
| 27 | 16 | 179 (180) | 8387 | 8490 | 8593 | 8696 | 8799 | 8901 | 9004 | 9107 | 9210 | 9313 | 9416 | 9519 | 9621 | 9724 | 9827 | 9930 | 0033 | 76 | 16 | | 6643 |
| 29 | 17 | | 8670 | 8772 | 8875 | 8978 | 9080 | 9183 | 9286 | 9388 | 9491 | 9594 | 9697 | 9799 | 9902 | 0005 | 0108 | 0211 | 0313 | 81 | 17 | | 6928 |
| 30 | 18 | | 8952 | 9055 | 9157 | 9260 | 9362 | 9465 | 9567 | 9670 | 9772 | 9875 | 9977 | 0080 | 0183 | 0285 | 0388 | 0491 | 0594 | 85 | 18 | | 7213 |
| 32 | 19 | | 9234 | 9337 | 9439 | 9541 | 9644 | 9746 | 9849 | 9951 | 0054 | 0156 | 0258 | 0361 | 0463 | 0566 | 0669 | 0771 | 0874 | 90 | 19 | | 7498 |
| 34 | 20 | 179 (180) | 9517 | 9619 | 9721 | 9823 | 9926 | 0028 | 0130 | 0233 | 0335 | 0437 | 0539 | 0642 | 0744 | 0847 | 0949 | 1051 | 1154 | 95 | 20 | 479 | 7782 |
| 35 | 21 | | 9799 | 9901 | 0003 | 0105 | 0208 | 0310 | 0412 | 0514 | 0616 | 0718 | 0820 | 0923 | 1025 | 1127 | 1229 | 1332 | 1434 | 100 | 21 | | 8067 |
| 37 | 22 | 180 | 0081 | 0184 | 0286 | 0387 | 0489 | 0591 | 0693 | 0795 | 0897 | 0999 | 1101 | 1204 | 1306 | 1408 | 1510 | 1612 | 1714 | 104 | 22 | | 8352 |
| 39 | 23 | | 0364 | 0466 | 0568 | 0670 | 0771 | 0873 | 0975 | 1077 | 1179 | 1281 | 1383 | 1484 | 1586 | 1688 | 1790 | 1892 | 1994 | 109 | 23 | | 8637 |
| 40 | 24 | | 0647 | 0748 | 0850 | 0952 | 1053 | 1155 | 1257 | 1358 | 1460 | 1562 | 1664 | 1765 | 1867 | 1969 | 2071 | 2173 | 2274 | 114 | 24 | | 8922 |
| 42 | 25 | 180 | 0929 | 1031 | 1132 | 1234 | 1335 | 1437 | 1538 | 1640 | 1741 | 1843 | 1945 | 2046 | 2148 | 2250 | 2351 | 2453 | 2555 | 119 | 25 | 479 | 9207 |
| 44 | 26 | | 1212 | 1313 | 1414 | 1516 | 1617 | 1719 | 1820 | 1921 | 2023 | 2124 | 2226 | 2327 | 2429 | 2530 | 2632 | 2733 | 2835 | 123 | 26 | | 9492 |
| 46 | 27 | | 1494 | 1595 | 1697 | 1798 | 1899 | 2000 | 2102 | 2203 | 2304 | 2405 | 2507 | 2608 | 2710 | 2811 | 2912 | 3014 | 3115 | 128 | 27 | | 9777 |
| 47 | 28 | | 1777 | 1878 | 1979 | 2080 | 2181 | 2282 | 2383 | 2484 | 2586 | 2687 | 2788 | 2889 | 2990 | 3092 | 3193 | 3294 | 3395 | 133 | 28 | 480 | 0062 |
| 49 | 29 | | 2059 | 2160 | 2261 | 2362 | 2463 | 2564 | 2665 | 2766 | 2867 | 2968 | 3069 | 3170 | 3271 | 3372 | 3473 | 3575 | 3676 | 138 | 29 | | 0347 |
| 51 | 30 | 180 | 2342 | 2443 | 2544 | 2644 | 2745 | 2846 | 2947 | 3048 | 3148 | 3249 | 3350 | 3451 | 3552 | 3653 | 3754 | 3855 | 3956 | 142 | 30 | 480 | 0632 |
| 52 | 31 | | 2625 | 2725 | 2826 | 2926 | 3027 | 3128 | 3229 | 3329 | 3430 | 3531 | 3631 | 3732 | 3833 | 3934 | 4035 | 4135 | 4236 | 147 | 31 | | 0917 |
| 54 | 32 | | 2907 | 3008 | 3108 | 3209 | 3309 | 3410 | 3510 | 3611 | 3711 | 3812 | 3913 | 4013 | 4114 | 4214 | 4315 | 4416 | 4517 | 152 | 32 | | 1202 |
| 56 | 33 | | 3190 | 3290 | 3391 | 3491 | 3591 | 3692 | 3792 | 3892 | 3993 | 4093 | 4194 | 4294 | 4395 | 4495 | 4596 | 4696 | 4797 | 157 | 33 | | 1487 |
| 57 | 34 | | 3473 | 3573 | 3673 | 3773 | 3873 | 3974 | 4074 | 4174 | 4274 | 4375 | 4475 | 4575 | 4677 | 4777 | 4877 | 4977 | 5077 | 161 | 34 | | 1772 |
| 59 | 35 | 180 | 3755 | 3855 | 3955 | 4055 | 4155 | 4255 | 4356 | 4456 | 4556 | 4656 | 4756 | 4856 | 4957 | 5057 | 5157 | 5257 | 5358 | 166 | 35 | 480 | 2058 |
| 61 | 36 | | 4038 | 4138 | 4238 | 4338 | 4438 | 4538 | 4637 | 4737 | 4837 | 4937 | 5037 | 5138 | 5238 | 5338 | 5438 | 5538 | 5638 | 171 | 36 | | 2343 |
| 62 | 37 | | 4321 | 4420 | 4520 | 4620 | 4720 | 4820 | 4919 | 5019 | 5119 | 5219 | 5319 | 5419 | 5519 | 5619 | 5719 | 5819 | 5919 | 176 | 37 | | 2628 |
| 64 | 38 | | 4603 | 4703 | 4803 | 4902 | 5002 | 5102 | 5201 | 5301 | 5401 | 5501 | 5601 | 5701 | 5801 | 5901 | 6001 | 6101 | 6200 | 180 | 38 | | 2913 |
| 66 | 39 | | 4886 | 4986 | 5085 | 5185 | 5284 | 5384 | 5483 | 5583 | 5682 | 5782 | 5881 | 5981 | 6081 | 6180 | 6280 | 6380 | 6479 | 185 | 39 | | 3198 |
| 67 | 40 | 180 | 5169 | 5268 | 5368 | 5467 | 5566 | 5666 | 5765 | 5864 | 5964 | 6063 | 6163 | 6262 | 6362 | 6461 | 6561 | 6660 | 6759 | 190 | 40 | 480 | 3483 |
| 69 | 41 | | 5452 | 5551 | 5650 | 5749 | 5848 | 5947 | 6046 | 6145 | 6245 | 6344 | 6443 | 6543 | 6642 | 6741 | 6841 | 6940 | 7039 | 195 | 41 | | 3768 |
| 71 | 42 | | 5734 | 5834 | 5933 | 6032 | 6131 | 6230 | 6329 | 6428 | 6527 | 6626 | 6725 | 6825 | 6924 | 7023 | 7122 | 7221 | 7321 | 199 | 42 | | 4053 |
| 72 | 43 | | 6017 | 6116 | 6215 | 6314 | 6413 | 6512 | 6611 | 6710 | 6809 | 6908 | 7007 | 7106 | 7205 | 7304 | 7403 | 7502 | 7601 | 204 | 43 | | 4338 |
| 74 | 44 | | 6300 | 6399 | 6498 | 6596 | 6695 | 6794 | 6893 | 6992 | 7090 | 7189 | 7288 | 7387 | 7486 | 7585 | 7684 | 7783 | 7882 | 209 | 44 | | 4623 |
| 76 | 45 | 180 | 6583 | 6682 | 6780 | 6879 | 6977 | 7076 | 7175 | 7273 | 7372 | 7471 | 7570 | 7668 | 7767 | 7866 | 7965 | 8063 | 8162 | 214 | 45 | 480 | 4910 |
| 77 | 46 | | 6866 | 6964 | 7063 | 7161 | 7260 | 7358 | 7457 | 7555 | 7654 | 7752 | 7851 | 7950 | 8048 | 8147 | 8245 | 8344 | 8443 | 219 | 46 | | 5196 |
| 79 | 47 | | 7148 | 7247 | 7345 | 7444 | 7542 | 7641 | 7739 | 7837 | 7936 | 8034 | 8132 | 8231 | 8329 | 8428 | 8526 | 8625 | 8723 | 223 | 47 | | 5481 |
| 81 | 48 | | 7431 | 7529 | 7628 | 7726 | 7824 | 7923 | 8021 | 8119 | 8217 | 8316 | 8414 | 8512 | 8610 | 8709 | 8807 | 8906 | 9004 | 228 | 48 | | 5766 |
| 83 | 49 | | 7713 | 7813 | 7911 | 8009 | 8107 | 8205 | 8303 | 8401 | 8499 | 8597 | 8695 | 8793 | 8892 | 8990 | 9088 | 9186 | 9285 | 233 | 49 | | 6051 |
| 84 | 50 | 180 | 7997 | 8095 | 8193 | 8291 | 8389 | 8487 | 8585 | 8683 | 8781 | 8879 | 8977 | 9075 | 9173 | 9271 | 9369 | 9467 | 9565 | 237 | 50 | 480 | 6336 |
| 86 | 51 | | 8280 | 8378 | 8476 | 8574 | 8671 | 8769 | 8867 | 8965 | 9063 | 9161 | 9258 | 9356 | 9454 | 9552 | 9650 | 9748 | 9846 | 242 | 51 | | 6622 |
| 88 | 52 | 180 (181) | 8563 | 8661 | 8759 | 8856 | 8954 | 9051 | 9149 | 9247 | 9344 | 9442 | 9540 | 9638 | 9735 | 9833 | 9931 | 0029 | 0126 | 247 | 52 | | 6907 |
| 89 | 53 | | 8846 | 8944 | 9041 | 9139 | 9236 | 9334 | 9431 | 9529 | 9626 | 9724 | 9821 | 9919 | 0017 | 0114 | 0212 | 0309 | 0407 | 252 | 53 | | 7193 |
| 91 | 54 | | 9128 | 9227 | 9324 | 9421 | 9519 | 9616 | 9713 | 9811 | 9908 | 0006 | 0103 | 0200 | 0298 | 0395 | 0493 | 0590 | 0688 | 256 | 54 | | 7478 |
| 93 | 55 | 180 (181) | 9412 | 9509 | 9607 | 9704 | 9801 | 9898 | 9995 | 0093 | 0190 | 0287 | 0384 | 0481 | 0578 | 0676 | 0773 | 0870 | 0968 | 261 | 55 | 480 | 7762 |
| 94 | 56 | | 9695 | 9792 | 9889 | 9986 | 0083 | 0180 | 0278 | 0375 | 0472 | 0569 | 0666 | 0763 | 0860 | 0958 | 1055 | 1152 | 1249 | 266 | 56 | | 8049 |
| 96 | 57 | | 9977 | 0075 | 0172 | 0269 | 0366 | 0462 | 0559 | 0657 | 0754 | 0851 | 0948 | 1045 | 1142 | 1239 | 1336 | 1433 | 1530 | 271 | 57 | | 8334 |
| 98 | 58 | | 0261 | 0358 | 0455 | 0552 | 0648 | 0745 | 0842 | 0939 | 1036 | 1132 | 1229 | 1326 | 1423 | 1520 | 1617 | 1714 | 1811 | 275 | 58 | | 8620 |
| 99 | 59 | | 0544 | 0641 | 0738 | 0834 | 0931 | 1027 | 1124 | 1221 | 1317 | 1414 | 1511 | 1608 | 1704 | 1801 | 1898 | 1995 | 2091 | 280 | 59 | | 8905 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Part of Sum of Apparent Altitudes | ′ | Numbers |
|---|---|---|
| | 79 | |
| 285 | 0 | 120 7627 |
| 280 | 1 | 7343 |
| 275 | 2 | 7058 |
| 271 | 3 | 6773 |
| 266 | 4 | 6487 |
| 261 | 5 | 120 6201 |
| 256 | 6 | 5914 |
| 251 | 7 | 5628 |
| 247 | 8 | 5341 |
| 242 | 9 | 5054 |
| 237 | 10 | 120 4766 |
| 233 | 11 | 4479 |
| 228 | 12 | 4191 |
| 223 | 13 | 3903 |
| 218 | 14 | 3614 |
| 214 | 15 | 120 3326 |
| 209 | 16 | 3037 |
| 204 | 17 | 2747 |
| 199 | 18 | 2458 |
| 195 | 19 | 2168 |
| 190 | 20 | 120 1878 |
| 185 | 21 | 1588 |
| 180 | 22 | 1298 |
| 176 | 23 | 1007 |
| 171 | 24 | 0716 |
| 166 | 25 | 120 0426 |
| 161 | 26 | 0135 |
| 157 | 27 | 119 9844 |
| 152 | 28 | 9553 |
| 147 | 29 | 9262 |
| 142 | 30 | 119 8971 |
| 138 | 31 | 8679 |
| 133 | 32 | 8388 |
| 128 | 33 | 8096 |
| 123 | 34 | 7804 |
| 119 | 35 | 119 7512 |
| 114 | 36 | 7220 |
| 109 | 37 | 6928 |
| 104 | 38 | 6636 |
| 100 | 39 | 6343 |
| 95 | 40 | 119 6050 |
| 90 | 41 | 5757 |
| 85 | 42 | 5464 |
| 81 | 43 | 5171 |
| 76 | 44 | 4877 |
| 71 | 45 | 119 4584 |
| 66 | 46 | 4290 |
| 62 | 47 | 3996 |
| 57 | 48 | 3702 |
| 52 | 49 | 3408 |
| 47 | 50 | 119 3114 |
| 43 | 51 | 2819 |
| 38 | 52 | 2525 |
| 33 | 53 | 2230 |
| 28 | 54 | 1935 2237 |
| 24 | 55 | 119 1951 |
| 19 | 56 | 1666 |
| 14 | 57 | 1380 |
| 9 | 58 | 1095 |
| 5 | 59 | 0809 |

| Part of Sum of Apparent Altitudes | ′ | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A. D. 79 | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 285 | 0 | 180 (181) 9191 | 9287 | 9383 | 9479 | 9576 | 9672 | 9768 | 9864 | 9961 | 0057 | 0153 | 0249 | 0346 | 0442 | 0538 | 0635 | 0731 |
| 280 | 1 | 9477 | 9572 | 9669 | 9765 | 9861 | 9957 | 0053 | 0149 | 0245 | 0341 | 0437 | 0533 | 0630 | 0726 | 0822 | 0918 | 1014 |
| 275 | 2 | 9762 | 9858 | 9954 | [illegible] | 0146 | 0242 | 0337 | 0433 | 0529 | 0625 | 0721 | 0817 | 0913 | [illegible] | [illegible] | [illegible] | [illegible] |
| 271 | 3 | [illegible] | [illegible] | [illegible] | 0335 | 0431 | 0526 | 0622 | 0718 | 0814 | 0910 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 266 | 4 | 0333 | 0429 | 0524 | 0620 | 0716 | 0811 | 0907 | 1003 | 1098 | 1194 | 1290 | 1385 | 1481 | 1577 | 1673 | 1768 | 1864 |
| 261 | 5 | [illegible] | [illegible] | [illegible] | [illegible] | 1001 | 1096 | 1192 | 1287 | 1383 | 1478 | 1574 | 1669 | 1765 | 1861 | [illegible] | [illegible] | [illegible] |
| 256 | 6 | 0905 | 1000 | 1095 | 1190 | 1286 | 1381 | 1476 | 1572 | 1667 | 1763 | 1858 | 1953 | 2049 | 2144 | [illegible] | [illegible] | [illegible] |
| 251 | 7 | 1190 | 1285 | 1380 | 1476 | 1571 | 1666 | 1761 | 1856 | 1952 | 2047 | 2142 | 2237 | 2333 | 2428 | 2523 | 2618 | 2714 |
| 247 | 8 | 1476 | 1571 | 1666 | 1761 | 1856 | 1951 | 2046 | 2141 | 2236 | 2331 | 2426 | 2522 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 242 | 9 | 1762 | [illegible] | [illegible] | 2046 | 2141 | 2236 | 2331 | 2426 | 2521 | 2616 | 2711 | 2806 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 237 | 10 | 181 2047 | [illegible] | [illegible] | 2331 | 2426 | 2521 | [illegible] | 2710 | 2805 | 2900 | 2995 | 3090 | 3185 | [illegible] | [illegible] | [illegible] | [illegible] |
| 233 | 11 | [illegible] | [illegible] | [illegible] | 2617 | 2711 | 2806 | [illegible] | 2995 | 3090 | 3185 | 3279 | 3374 | 3469 | 3563 | 3658 | 3753 | 3848 |
| 228 | 12 | [illegible] | [illegible] | [illegible] | 2902 | 2996 | [illegible] | [illegible] | 3280 | 3374 | 3469 | 3564 | [illegible] | 3753 | 3847 | 3942 | 4037 | 4131 |
| 223 | 13 | [illegible] | [illegible] | 93 | 3187 | [illegible] | [illegible] | [illegible] | [illegible] | 3659 | 3753 | 3848 | 3942 | 4037 | 4131 | 4226 | 4320 | 4415 |
| 218 | 14 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 214 | 15 | 181 3479 | 3570 | 3004 | 3756 | [illegible] | 3946 | 4040 | 4134 | 4228 | 4322 | 4416 | 4511 | 4605 | 4699 | 4793 | 4887 | 4982 |
| 209 | 16 | 3762 | 3856 | 3949 | 4043 | 4137 | 4231 | 4325 | 4419 | 4513 | 4607 | 4701 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 204 | 17 | 4047 | 4141 | 4235 | 4329 | 4422 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 199 | 18 | 4333 | 4427 | 4520 | 4614 | 47 [illegible] | [illegible] | [illegible] | 4989 | 5082 | 5176 | 5270 | [illegible] | [illegible] | 5551 | [illegible] | [illegible] | [illegible] |
| 195 | 19 | 4619 | 4713 | 4806 | 4899 | [illegible] | [illegible] | [illegible] | 5273 | 5367 | 5460 | 5554 | 5648 | 5741 | 5835 | 5928 | 6022 | 6116 |
| 190 | 20 | 181 4905 | 4998 | 5092 | 5185 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5745 | 5838 | 5932 | 6025 | 6119 | 6212 | 6306 | 6399 |
| 185 | 21 | 5191 | 5284 | 5377 | [illegible] | [illegible] | [illegible] | 5750 | 5843 | 5936 | 6030 | 6123 | 6216 | 6309 | 6403 | 6496 | 6589 | 6683 |
| 180 | 22 | 5477 | 5570 | 5663 | 5756 | [illegible] | [illegible] | 6035 | 6128 | 6221 | 6314 | 6407 | 6500 | 6594 | 6687 | 6780 | 6873 | 6966 |
| 176 | 23 | 5763 | 5856 | 5948 | 6041 | 0134 | [illegible] | 6320 | 6413 | 6506 | 6599 | 6692 | 6785 | 6878 | 6971 | 7064 | 7157 | 7250 |
| 171 | 24 | 6049 | 6141 | 6234 | 6327 | 6419 | 6512 | 6605 | 6698 | 6791 | 6883 | 6976 | 7069 | 7162 | 7255 | 7348 | 7441 | 7535 |
| 166 | 25 | 181 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6797 | 6890 | 6983 | 7075 | 7168 | [illegible] | 7353 | 7446 | 7539 | 7632 | 7724 | [illegible] |
| 161 | 26 | 6620 | 6713 | 6805 | 6898 | 6990 | 7083 | 7175 | 7268 | 7360 | 7453 | 7545 | 7638 | 7730 | 7823 | 7915 | 8008 | [illegible] |
| 157 | 27 | 6906 | 6999 | 7091 | 7183 | 7276 | 7368 | 7460 | 7553 | 7645 | 7737 | 7830 | 7922 | 8015 | 8107 | 8199 | 8292 | [illegible] |
| 152 | 28 | 7192 | 7285 | [illegible] | [illegible] | [illegible] | 7653 | 7745 | 7838 | 7930 | 8022 | 8114 | 8206 | 8299 | 8391 | 8483 | [illegible] | [illegible] |
| 147 | 29 | 7479 | 7571 | 7662 | 7754 | [illegible] | 7938 | 8030 | 8123 | 8215 | 8307 | 8399 | 8491 | 8583 | 8675 | 8767 | [illegible] | [illegible] |
| 142 | 30 | 181 7764 | 7856 | 7948 | 8040 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8775 | 8867 | 8959 | 9051 | 9143 | 9235 |
| 138 | 31 | 8050 | 8142 | 8234 | 8326 | [illegible] | 8509 | 8601 | 8693 | 8784 | 8876 | 8968 | 9060 | 9152 | 9243 | 9335 | 9427 | 9519 |
| 133 | 32 | 8337 | 8428 | 8520 | 8611 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9344 | 9436 | 9528 | 9619 | 9711 | 9803 |
| 128 | 33 | 181 (182) 8623 | 8714 | 8805 | 8897 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9629 | 9720 | 9812 | 9903 | 9995 | 0087 |
| 123 | 34 | 8906 | 9000 | 9091 | 9182 | [illegible] | 9365 | 9456 | 9548 | 9639 | 9730 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 119 | 35 | [illegible] | 9286 | 9377 | 9468 | 9559 | 9650 | 9742 | 9833 | 9924 | 0015 | 0106 | 0198 | 0289 | 0380 | 0472 | 0563 | 0654 |
| 114 | 36 | [illegible] | [illegible] | [illegible] | [illegible] | 9845 | 9936 | 0027 | 0118 | 0209 | 0300 | 0391 | 0482 | 0573 | 0665 | 0756 | 0847 | 0938 |
| 109 | 37 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0312 | 0403 | 0494 | 0585 | 0676 | 0767 | [illegible] | [illegible] | [illegible] | [illegible] |
| 104 | 38 | [illegible] | [illegible] | [illegible] | 25 | 0416 | 0507 | 0597 | [illegible] | [illegible] | [illegible] | [illegible] | 1051 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 100 | 39 | [illegible] | [illegible] | [illegible] | [illegible] | 0701 | 0792 | 0883 | 0973 | 1064 | 1154 | 1245 | 1336 | 1427 | [illegible] | [illegible] | [illegible] | [illegible] |
| 95 | 40 | [illegible] | [illegible] | 0716 | 0806 | 0897 | 0987 | 1077 | 1168 | 1258 | 1349 | 1439 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 90 | 41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1273 | 1363 | 1453 | 1543 | 1634 | 1724 | [illegible] | 1905 | [illegible] | [illegible] | [illegible] | [illegible] |
| 85 | 42 | 1198 | 1288 | 1378 | 1468 | 1558 | 1648 | 1738 | 1829 | 1919 | 2009 | [illegible] | 2190 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 81 | 43 | 1484 | 1574 | 1664 | 1754 | 1844 | 1934 | 2024 | 2114 | 2204 | 2294 | 2384 | 2474 | 2564 | [illegible] | [illegible] | [illegible] | [illegible] |
| 76 | 44 | [illegible] | [illegible] | [illegible] | [illegible] | 2129 | 2219 | 2309 | 2399 | 2489 | 2579 | [illegible] | 2759 | 2846 | [illegible] | [illegible] | [illegible] | [illegible] |
| 71 | 45 | [illegible] | 2056 | 2146 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2864 | [illegible] | 3043 | 3133 | [illegible] | [illegible] | [illegible] | [illegible] |
| 66 | 46 | [illegible] | 2343 | 2432 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3149 | [illegible] | [illegible] | [illegible] | 3597 | 3687 | 3777 |
| 62 | 47 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3882 | 3971 | 4061 |
| 57 | 48 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4166 | 4255 | [illegible] |
| 52 | 49 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 47 | 50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 43 | 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 38 | 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 28 | 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | 55 | 182 4920 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19 | 56 | 5206 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 9 | 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Seconds of Auxil. Add. | A. A. & A. D. 79° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N |
| 0 | 0 | 181 0828 | 0924 | 1020 | 1117 | 1213 | 1310 | 1406 | 1503 | 1599 | 1696 | 1792 | 1889 | 1986 | 2082 | 2179 | 2276 | 2372 |
| 2 | 1 | | 1111 | 1207 | 1303 | 1400 | 1496 | 1592 | 1689 | 1785 | 1881 | 1978 | 2074 | 2171 | 2267 | 2364 | 2460 | 2557 |
| 3 | 2 | | 1394 | 1490 | 1586 | 1682 | 1778 | 1875 | 1971 | 2067 | 2163 | 2260 | 2356 | 2452 | 2548 | 2645 | 2741 | 2837 |
| 5 | 3 | | 1677 | 1773 | 1869 | 1965 | 2061 | 2157 | 2253 | 2349 | 2445 | 2541 | 2638 | 2734 | 2830 | 2926 | 3022 | 3118 |
| 6 | 4 | | 1960 | 2056 | 2152 | 2248 | 2344 | 2440 | 2536 | 2631 | 2727 | 2823 | 2919 | 3015 | 3111 | 3207 | 3303 | 3399 |
| 8 | 5 | 181 | 2243 | 2339 | 2435 | 2530 | 2626 | 2722 | 2818 | 2913 | 3009 | 3105 | 3201 | 3297 | 3393 | 3488 | 3584 | 3680 |
| 9 | 6 | | 2526 | 2622 | 2718 | 2813 | 2909 | 3004 | 3100 | 3196 | 3291 | 3387 | 3483 | 3578 | 3674 | 3770 | 3866 | 3961 |
| 11 | 7 | | 2810 | 2905 | 3001 | 3097 | 3192 | 3288 | 3383 | 3478 | 3573 | 3669 | 3764 | 3860 | 3955 | 4051 | 4147 | 4242 |
| 12 | 8 | | 3093 | 3188 | 3284 | 3379 | 3474 | 3570 | 3665 | 3760 | 3855 | 3951 | 4046 | 4142 | 4237 | 4332 | 4428 | 4523 |
| 14 | 9 | | 3376 | 3471 | 3567 | 3662 | 3757 | 3852 | 3947 | 4042 | 4137 | 4233 | 4328 | 4423 | 4518 | 4614 | 4709 | 4804 |
| 15 | 10 | 181 | 3659 | 3754 | 3849 | 3944 | 4039 | 4134 | 4229 | 4324 | 4420 | 4515 | 4610 | 4705 | 4800 | 4895 | 4990 | 5086 |
| 17 | 11 | | 3943 | 4037 | 4132 | 4227 | 4322 | 4417 | 4512 | 4607 | 4702 | 4797 | 4891 | 4986 | 5081 | 5176 | 5271 | 5366 |
| 18 | 12 | | 4226 | 4321 | 4415 | 4510 | 4605 | 4700 | 4795 | 4890 | 4984 | 5079 | 5174 | 5269 | 5364 | 5458 | 5553 | 5648 |
| 20 | 13 | | 4509 | 4604 | 4698 | 4793 | 4887 | 4982 | 5077 | 5171 | 5266 | 5361 | 5455 | 5550 | 5645 | 5739 | 5834 | 5928 |
| 21 | 14 | | 4793 | 4887 | 4981 | 5076 | 5170 | 5265 | 5359 | 5454 | 5548 | 5643 | 5737 | 5832 | 5926 | 6021 | 6115 | 6209 |
| 23 | 15 | 181 | 5076 | 5170 | 5264 | 5358 | 5453 | 5547 | 5642 | 5736 | 5830 | 5925 | 6019 | 6113 | 6208 | 6302 | 6396 | 6490 |
| 24 | 16 | | 5359 | 5453 | 5547 | 5641 | 5735 | 5830 | 5924 | 6018 | 6112 | 6207 | 6301 | 6395 | 6489 | 6584 | 6678 | 6772 |
| 26 | 17 | | 5642 | 5736 | 5830 | 5924 | 6018 | 6112 | 6206 | 6300 | 6394 | 6488 | 6582 | 6676 | 6770 | 6864 | 6958 | 7052 |
| 27 | 18 | | 5926 | 6020 | 6114 | 6207 | 6301 | 6395 | 6489 | 6583 | 6677 | 6771 | 6865 | 6959 | 7053 | 7147 | 7241 | 7335 |
| 29 | 19 | | 6209 | 6303 | 6397 | 6490 | 6584 | 6678 | 6771 | 6865 | 6959 | 7053 | 7147 | 7241 | 7334 | 7428 | 7522 | 7616 |
| 30 | 20 | 181 | 6493 | 6586 | 6680 | 6773 | 6867 | 6960 | 7054 | 7148 | 7241 | 7335 | 7429 | 7522 | 7616 | 7710 | 7803 | 7897 |
| 32 | 21 | | 6776 | 6869 | 6963 | 7056 | 7150 | 7243 | 7337 | 7430 | 7524 | 7617 | 7711 | 7804 | 7897 | 7991 | 8085 | 8178 |
| 33 | 22 | | 7059 | 7153 | 7246 | 7339 | 7433 | 7526 | 7619 | 7713 | 7806 | 7899 | 7993 | 8086 | 8179 | 8273 | 8366 | 8460 |
| 35 | 23 | | 7343 | 7436 | 7529 | 7622 | 7715 | 7809 | 7902 | 7995 | 8088 | 8181 | 8275 | 8368 | 8461 | 8554 | 8648 | 8741 |
| 36 | 24 | | 7626 | 7719 | 7812 | 7905 | 7998 | 8091 | 8184 | 8277 | 8371 | 8464 | 8557 | 8650 | 8743 | 8837 | 8930 | 9023 |
| 38 | 25 | 181 | 7910 | 8003 | 8096 | 8189 | 8281 | 8374 | 8467 | 8560 | 8653 | 8746 | 8839 | 8932 | 9025 | 9118 | 9211 | 9304 |
| 39 | 26 | | 8193 | 8286 | 8379 | 8471 | 8564 | 8657 | 8750 | 8842 | 8935 | 9028 | 9121 | 9214 | 9307 | 9400 | 9493 | 9586 |
| 41 | 27 | | 8477 | 8569 | 8662 | 8754 | 8847 | 8940 | 9032 | 9125 | 9217 | 9310 | 9403 | 9496 | 9588 | 9681 | 9774 | 9867 |
| 42 | 28 | 181 (182 | 8760 | 8853 | 8945 | 9038 | 9130 | 9222 | 9315 | 9407 | 9500 | 9592 | 9685 | 9777 | 9870 | 9963 | 0055 | 0148 |
| 44 | 29 | | 9044 | 9136 | 9228 | 9321 | 9413 | 9505 | 9598 | 9690 | 9782 | 9875 | 9967 | 0059 | 0152 | 0244 | 0337 | 0429 |
| 45 | 30 | 181 (182 | 9327 | 9420 | 9512 | 9604 | 9696 | 9788 | 9880 | 9972 | 0065 | 0157 | 0249 | 0341 | 0434 | 0526 | 0618 | 0710 |
| 47 | 31 | | 9611 | 9703 | 9795 | 9887 | 9979 | 0071 | 0163 | 0255 | 0347 | 0439 | 0531 | 0623 | 0715 | 0807 | 0899 | 0991 |
| 48 | 32 | | 9895 | 9987 | 0078 | 0170 | 0262 | 0354 | 0446 | 0538 | 0629 | 0721 | 0813 | 0905 | 0997 | 1089 | 1181 | 1273 |
| 50 | 33 | 182 | 0178 | 0270 | 0362 | 0453 | 0545 | 0637 | 0728 | 0820 | 0912 | 1004 | 1095 | 1187 | 1279 | 1371 | 1463 | 1555 |
| 51 | 34 | | 0462 | 0553 | 0645 | 0737 | 0828 | 0920 | 1011 | 1103 | 1194 | 1286 | 1378 | 1469 | 1561 | 1653 | 1744 | 1836 |
| 53 | 35 | 182 | 0745 | 0837 | 0928 | 1020 | 1111 | 1202 | 1294 | 1385 | 1477 | 1568 | 1660 | 1751 | 1843 | 1934 | 2026 | 2118 |
| 54 | 36 | | 1028 | 1120 | 1212 | 1303 | 1394 | 1485 | 1577 | 1668 | 1759 | 1851 | 1942 | 2033 | 2125 | 2216 | 2308 | 2399 |
| 56 | 37 | | 1313 | 1404 | 1495 | 1586 | 1677 | 1768 | 1860 | 1951 | 2042 | 2133 | 2224 | 2315 | 2407 | 2498 | 2589 | 2680 |
| 57 | 38 | | 1597 | 1688 | 1779 | 1870 | 1961 | 2051 | 2142 | 2233 | 2324 | 2415 | 2506 | 2597 | 2688 | 2780 | 2871 | 2962 |
| 59 | 39 | | 1880 | 1971 | 2062 | 2153 | 2243 | 2334 | 2425 | 2516 | 2607 | 2698 | 2788 | 2879 | 2970 | 3062 | 3153 | 3244 |
| 60 | 40 | 182 | 2163 | 2254 | 2345 | 2436 | 2526 | 2617 | 2708 | 2799 | 2890 | 2980 | 3071 | 3162 | 3253 | 3343 | 3434 | 3525 |
| 62 | 41 | | 2447 | 2537 | 2628 | 2719 | 2810 | 2901 | 2991 | 3082 | 3173 | 3264 | 3354 | 3445 | 3536 | 3627 | 3717 | 3808 |
| 63 | 42 | | 2730 | 2821 | 2912 | 3002 | 3093 | 3183 | 3274 | 3364 | 3455 | 3546 | 3636 | 3727 | 3817 | 3907 | 3998 | 4089 |
| 65 | 43 | | 3013 | 3104 | 3195 | 3285 | 3376 | 3466 | 3557 | 3647 | 3737 | 3828 | 3918 | 4009 | 4099 | 4189 | 4280 | 4370 |
| 66 | 44 | | 3297 | 3387 | 3478 | 3568 | 3659 | 3749 | 3839 | 3930 | 4020 | 4110 | 4201 | 4291 | 4381 | 4471 | 4561 | 4652 |
| 68 | 45 | 182 | 3580 | 3670 | 3761 | 3851 | 3942 | 4032 | 4122 | 4212 | 4303 | 4393 | 4483 | 4573 | 4663 | 4753 | 4843 | 4933 |
| 69 | 46 | | 3863 | 3954 | 4044 | 4135 | 4225 | 4315 | 4405 | 4495 | 4585 | 4675 | 4765 | 4855 | 4945 | 5035 | 5125 | 5215 |
| 71 | 47 | | 4147 | 4237 | 4327 | 4418 | 4508 | 4598 | 4688 | 4778 | 4868 | 4958 | 5047 | 5137 | 5227 | 5317 | 5407 | 5497 |
| 72 | 48 | | 4430 | 4520 | 4610 | 4701 | 4791 | 4881 | 4971 | 5061 | 5150 | 5240 | 5330 | 5420 | 5510 | 5600 | 5689 | 5779 |
| 74 | 49 | | 4713 | 4803 | 4894 | 4984 | 5074 | 5164 | 5254 | 5343 | 5433 | 5523 | 5613 | 5703 | 5792 | 5882 | 5972 | 6062 |
| 75 | 50 | 182 | 4997 | 5087 | 5177 | 5267 | 5357 | 5447 | 5536 | 5626 | 5716 | 5806 | 5896 | 5985 | 6075 | 6165 | 6255 | 6344 |
| 77 | 51 | | 5280 | 5370 | 5460 | 5550 | 5640 | 5729 | 5819 | 5909 | 5999 | 6088 | 6178 | 6268 | 6358 | 6447 | 6537 | 6627 |
| 78 | 52 | | 5563 | 5653 | 5743 | 5833 | 5922 | 6012 | 6102 | 6192 | 6281 | 6371 | 6461 | 6550 | 6640 | 6730 | 6820 | 6909 |
| 80 | 53 | | 5846 | 5936 | 6026 | 6115 | 6205 | 6295 | 6385 | 6474 | 6564 | 6654 | 6743 | 6833 | 6923 | 7013 | 7102 | 7192 |
| 81 | 54 | | 6130 | 6219 | 6309 | 6399 | 6488 | 6578 | 6668 | 6757 | 6847 | 6937 | 7026 | 7116 | 7206 | 7295 | 7385 | 7475 |
| 83 | 55 | 182 | 6413 | 6502 | 6592 | 6682 | 6771 | 6861 | 6951 | 7040 | 7130 | 7219 | 7309 | 7399 | 7488 | 7578 | 7668 | 7757 |
| 84 | 56 | | 6696 | 6786 | 6875 | 6965 | 7055 | 7144 | 7234 | 7323 | 7413 | 7503 | 7592 | 7682 | 7771 | 7861 | 7951 | 8040 |
| 86 | 57 | | 6979 | 7069 | 7158 | 7248 | 7337 | 7427 | 7516 | 7606 | 7696 | 7785 | 7875 | 7964 | 8054 | 8144 | 8233 | 8323 |
| 87 | 58 | | 7263 | 7352 | 7441 | 7531 | 7620 | 7710 | 7799 | 7889 | 7978 | 8068 | 8157 | 8247 | 8337 | 8426 | 8516 | 8605 |
| 89 | 59 | | 7546 | 7635 | 7725 | 7814 | 7904 | 7993 | 8083 | 8172 | 8262 | 8351 | 8441 | 8530 | 8620 | 8709 | 8799 | 8888 |
| 90 | 60 | | 7829 | 7919 | 8008 | 8098 | 8187 | 8277 | 8366 | 8456 | 8545 | 8635 | 8724 | 8814 | 8903 | 8993 | 9082 | 9172 |
| 92 | 61 | | 8113 | 8202 | 8291 | 8381 | 8470 | 8560 | 8649 | 8738 | 8828 | 8917 | 9007 | 9096 | 9186 | 9275 | 9365 | 9454 |
| 93 | 62 | | 8396 | 8485 | 8575 | 8664 | 8753 | 8843 | 8932 | 9021 | 9111 | 9200 | 9289 | 9379 | 9468 | 9558 | 9647 | 9737 |
| 95 | 63 | | 8679 | 8768 | 8858 | 8947 | 9036 | 9126 | 9215 | 9304 | 9394 | 9483 | 9572 | 9662 | 9751 | 9840 | 9930 | 0019 |
| 96 | 64 | | 8962 | 9052 | 9141 | 9230 | 9319 | 9409 | 9498 | 9587 | 9676 | 9766 | 9855 | 9944 | 0034 | 0123 | 0212 | 0302 |
| 98 | 65 | | 9246 | 9335 | 9424 | 9513 | 9602 | 9692 | 9781 | 9870 | 9959 | 0048 | 0138 | 0227 | 0316 | 0405 | 0495 | 0584 |
| 99 | 66 | | 9529 | 9618 | 9707 | 9796 | 9885 | 9974 | 0064 | 0153 | 0242 | 0331 | 0420 | 0510 | 0599 | 0688 | 0777 | 0867 |
| 101 | 67 | | 9812 | 9901 | 9990 | 0079 | 0168 | 0257 | 0347 | 0436 | 0525 | 0614 | 0703 | 0793 | 0882 | 0971 | 1060 | 1149 |
| 102 | 68 | | 0095 | 0184 | 0273 | 0362 | 0451 | 0541 | 0630 | 0719 | 0808 | 0897 | 0986 | 1076 | 1165 | 1254 | 1343 | 1432 |
| 104 | 69 | | 0378 | 0467 | 0556 | 0645 | 0734 | 0824 | 0913 | 1002 | 1091 | 1180 | 1269 | 1359 | 1448 | 1537 | 1626 | 1715 |
| 105 | 70 | | 0661 | 0750 | 0839 | 0928 | 1017 | 1107 | 1196 | 1285 | 1374 | 1463 | 1552 | 1642 | 1731 | 1820 | 1909 | 1998 |
| 107 | 71 | | 0945 | 1034 | 1123 | 1212 | 1301 | 1390 | 1479 | 1568 | 1657 | 1746 | 1835 | 1925 | 2014 | 2103 | 2192 | 2281 |
| 108 | 72 | | 1228 | 1317 | 1406 | 1495 | 1584 | 1673 | 1762 | 1851 | 1940 | 2029 | 2118 | 2208 | 2297 | 2386 | 2475 | 2564 |
| 110 | 73 | | 1511 | 1600 | 1689 | 1778 | 1867 | 1956 | 2045 | 2134 | 2223 | 2312 | 2401 | 2491 | 2580 | 2669 | 2758 | 2847 |
| 111 | 74 | | 1795 | 1884 | 1973 | 2062 | 2151 | 2240 | 2329 | 2418 | 2507 | 2596 | 2685 | 2774 | 2863 | 2952 | 3041 | 3130 |
| 113 | 75 | | 2078 | 2167 | 2256 | 2345 | 2434 | 2523 | 2612 | 2701 | 2790 | 2879 | 2968 | 3057 | 3146 | 3235 | 3324 | 3413 |
| 114 | 76 | | 2361 | 2450 | 2539 | 2628 | 2717 | 2806 | 2895 | 2984 | 3073 | 3162 | 3251 | 3340 | 3429 | 3518 | 3607 | 3696 |
| 116 | 77 | | 2644 | 2733 | 2822 | 2911 | 3000 | 3089 | 3178 | 3267 | 3356 | 3445 | 3534 | 3623 | 3712 | 3801 | 3890 | 3979 |
| 117 | 78 | | 2928 | 3017 | 3106 | 3195 | 3284 | 3373 | 3462 | 3551 | 3640 | 3729 | 3818 | 3907 | 3996 | 4085 | 4174 | 4263 |
| 119 | 79 | | 3211 | 3300 | 3389 | 3478 | 3567 | 3656 | 3745 | 3834 | 3923 | 4012 | 4101 | 4190 | 4279 | 4368 | 4457 | 4546 |
| 120 | 80 | | 3494 | 3583 | 3672 | 3761 | 3850 | 3939 | 4028 | 4117 | 4206 | 4295 | 4384 | 4473 | 4562 | 4651 | 4740 | 4829 |
| 122 | 81 | | 3777 | 3866 | 3955 | 4044 | 4133 | 4222 | 4311 | 4400 | 4489 | 4578 | 4667 | 4756 | 4845 | 4934 | 5023 | 5112 |
| 123 | 82 | | 4061 | 4150 | 4239 | 4328 | 4417 | 4506 | 4595 | 4684 | 4773 | 4862 | 4951 | 5040 | 5129 | 5218 | 5307 | 5396 |
| 125 | 83 | | 4344 | 4433 | 4522 | 4611 | 4700 | 4789 | 4878 | 4967 | 5056 | 5145 | 5234 | 5323 | 5412 | 5501 | 5590 | 5679 |
| 126 | 84 | | 4627 | 4716 | 4805 | 4894 | 4983 | 5072 | 5161 | 5250 | 5339 | 5428 | 5517 | 5606 | 5695 | 5784 | 5873 | 5962 |
| 128 | 85 | | 4910 | 4999 | 5088 | 5177 | 5266 | 5355 | 5444 | 5533 | 5622 | 5711 | 5800 | 5889 | 5978 | 6067 | 6156 | 6245 |
| 129 | 86 | | 5194 | 5283 | 5372 | 5461 | 5550 | 5639 | 5728 | 5817 | 5906 | 5995 | 6084 | 6173 | 6262 | 6351 | 6440 | 6529 |
| 131 | 87 | | 5477 | 5566 | 5655 | 5744 | 5833 | 5922 | 6011 | 6100 | 6189 | 6278 | 6367 | 6456 | 6545 | 6634 | 6723 | 6812 |
| 132 | 88 | | 5760 | 5849 | 5938 | 6027 | 6116 | 6205 | 6294 | 6383 | 6472 | 6561 | 6650 | 6739 | 6828 | 6917 | 7006 | 7095 |
| 134 | 89 | | 6043 | 6132 | 6221 | 6310 | 6399 | 6488 | 6577 | 6666 | 6755 | 6844 | 6933 | 7022 | 7111 | 7200 | 7289 | 7378 |
| 135 | 90 | | 6327 | 6416 | 6505 | 6594 | 6683 | 6772 | 6861 | 6950 | 7039 | 7128 | 7217 | 7306 | 7395 | 7484 | 7573 | 7662 |
| 137 | 91 | | 6610 | 6699 | 6788 | 6877 | 6966 | 7055 | 7144 | 7233 | 7322 | 7411 | 7500 | 7589 | 7678 | 7767 | 7856 | 7945 |
| 138 | 92 | | 6893 | 6982 | 7071 | 7160 | 7249 | 7338 | 7427 | 7516 | 7605 | 7694 | 7783 | 7872 | 7961 | 8050 | 8139 | 8228 |
| 140 | 93 | | 7176 | 7265 | 7354 | 7443 | 7532 | 7621 | 7710 | 7799 | 7888 | 7977 | 8066 | 8154 | 8243 | 8331 | 8419 | 8508 |
| 141 | 94 | | 7460 | 7549 | 7638 | 7727 | 7816 | 7905 | 7994 | 8083 | 8172 | 8261 | 8349 | 8437 | 8525 | 8613 | 8701 | 8789 |

Sums for finding the Corrected Distances.

| Parts for Sec. of Auxil. Add. | ° | 79 | Sums |
|---|---|---|---|
| ′ | ′ | | |
| 0 | 0 | 180 | 9101 |
| 2 | 1 | | 9477 |
| 3 | 2 | | 9772 |
| 5 | 3 | 181 | 0048 |
| 6 | 4 | | 0333 |
| 8 | 5 | 181 | 0619 |
| 9 | 6 | | 0885 |
| 11 | 7 | | 1149 |
| 12 | 8 | | 1407 |
| 14 | 9 | | 1662 |
| 15 | 10 | 181 | 2047 |
| 17 | 11 | | 2333 |
| 18 | 12 | | 2617 |
| 20 | 13 | | 2894 |
| 21 | 14 | | 3165 |
| 23 | 15 | 181 | 3447 |
| 24 | 16 | | 3702 |
| 26 | 17 | | 4003 |
| 27 | 18 | | 4283 |
| 29 | 19 | | 4562 |
| 30 | 20 | 181 | 4835 |
| 32 | 21 | | 5101 |
| 33 | 22 | | 5477 |
| 35 | 23 | | 5763 |
| 36 | 24 | | 6040 |
| 38 | 25 | 181 | 6335 |
| 39 | 26 | | 6621 |
| 41 | 27 | | 6904 |
| 42 | 28 | | 7191 |
| 44 | 29 | | 7475 |
| 45 | 30 | 181 | 7764 |
| 47 | 31 | | 8050 |
| 48 | 32 | | 8337 |
| 50 | 33 | | 8623 |
| 51 | 34 | | 8909 |
| 53 | 35 | 181 | 9196 |
| 54 | 36 | | 9481 |
| 56 | 37 | | 9767 |
| 57 | 38 | 182 | 0053 |
| 59 | 39 | | 0339 |
| 60 | 40 | 182 | 0625 |
| 62 | 41 | | 0911 |
| 63 | 42 | | 1198 |
| 65 | 43 | | 1484 |
| 66 | 44 | | 1771 |
| 68 | 45 | 182 | 2057 |
| 69 | 46 | | 2343 |
| 71 | 47 | | 2629 |
| 72 | 48 | | 2915 |
| 74 | 49 | | 3201 |
| 75 | 50 | 182 | 3487 |
| 77 | 51 | | 3774 |
| 78 | 52 | | 4061 |
| 80 | 53 | | 4347 |
| 81 | 54 | | 4633 |
| 83 | 55 | 182 | 4919 |
| 84 | 56 | | 5205 |
| 86 | 57 | | 5492 |
| 87 | 58 | | 5778 |
| 89 | 59 | | 6064 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Diff. for Sec. of C.S.A. addit. | C.S.A. 80° | Numbers |
|---|---|---|
| 285 | 0 | 119 0523 |
| 281 | 1 | 0238 |
| 276 | 2 | 118 9952 |
| 272 | 3 | 9667 |
| 267 | 4 | 9381 |
| 262 | 5 | 118 9095 |
| 257 | 6 | 8810 |
| 253 | 7 | 8524 |
| 248 | 8 | 8238 |
| 243 | 9 | 7953 |
| 238 | 10 | 118 7667 |
| 234 | 11 | 7381 |
| 229 | 12 | 7096 |
| 224 | 13 | 6810 |
| 219 | 14 | 6524 |
| 214 | 15 | 118 6238 |
| 210 | 16 | 5952 |
| 205 | 17 | 5667 |
| 200 | 18 | 5381 |
| 195 | 19 | 5095 |
| 191 | 20 | 118 4809 |
| 186 | 21 | 4523 |
| 181 | 22 | 4237 |
| 176 | 23 | 3951 |
| 172 | 24 | 3665 |
| 167 | 25 | 118 3379 |
| 162 | 26 | 3093 |
| 157 | 27 | 2807 |
| 152 | 28 | 2521 |
| 148 | 29 | 2235 |
| 143 | 30 | 118 1948 |
| 138 | 31 | 1662 |
| 133 | 32 | 1377 |
| 129 | 33 | 1091 |
| 124 | 34 | 0805 |
| 119 | 35 | 118 0519 |
| 114 | 36 | 0233 |
| 110 | 37 | 117 9947 |
| 105 | 38 | 9661 |
| 100 | 39 | 9375 |
| 96 | 40 | 117 9089 |
| 91 | 41 | 8803 |
| 86 | 42 | 8516 |
| 81 | 43 | 8230 |
| 76 | 44 | 7944 |
| 71 | 45 | 117 7658 |
| 67 | 46 | 7371 |
| 62 | 47 | 7085 |
| 57 | 48 | 6798 |
| 52 | 49 | 6512 |
| 48 | 50 | 117 6226 |
| 43 | 51 | 5939 |
| 38 | 52 | 5653 |
| 33 | 53 | 5367 |
| 29 | 54 | 5080 |
| 24 | 55 | 117 4794 |
| 19 | 56 | 4508 |
| 14 | 57 | 4221 |
| 9 | 58 | 3935 |
| 5 | 59 | 3648 |

| Diff. for Seconds of Auxil. Argum. additive | A. D. 80° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 182 | | | | | | | | | | | | | | | | |
| 1 | 1 | | | | | | | | | | | | | | | | | |
| 3 | 2 | | 6925 | 7012 | 7099 | 7186 | 7274 | 7361 | 7448 | 7535 | 7623 | 7710 | 7797 | 7885 | 7972 | 8060 | 8147 | |
| 4 | 3 | | | | | | | | | | | | | | | | | |
| 6 | 4 | | | | | | | | | | | | | | | | | |
| 7 | 5 | 182 | | | | | | | | | | | | | | | | |
| 8 | 6 | | | | | | | | | | | | | | | | | |
| 10 | 7 | | | | | | | | | | | | | | | | | |
| 11 | 8 | 182 (183) | | | | | | | | | | | | | | | | |
| 13 | 9 | | | | | | | | | | | | | | | | | |
| 14 | 10 | 182 (183) | | | | | | | | | | | | | | | | |
| 15 | 11 | | 9504 | | | | | | | | | | | | | | | |
| 17 | 12 | | | | | | | | | | | | | | | | | |
| 18 | 13 | 183 | | | | | | | | | | | | | | | | |
| 19 | 14 | | | | | | | | | | | | | | | | | |
| 21 | 15 | 183 | | | | | | | | | | | | | | | | |
| 22 | 16 | | | | | | | | | | | | | | | | | |
| 24 | 17 | | | | | | | | | | | | | | | | | |
| 25 | 18 | | | | | | | | | | | | | | | | | |
| 26 | 19 | | | | | | | | | | | | | | | | | |
| 28 | 20 | 183 | | | | | | | | | | | | | | | | |
| 29 | 21 | | | | | | | | | | | | | | | | | |
| 31 | 22 | | 2658 | 2742 | 2826 | 2911 | 2995 | 3079 | 3164 | 3248 | 3333 | 3417 | 3501 | 3586 | 3670 | 3755 | 3839 | 3924 |
| 32 | 23 | | 2944 | 3029 | 3113 | 3197 | 3281 | 3365 | 3450 | 3534 | 3618 | 3702 | 3787 | 3871 | 3955 | 4040 | 4124 | 4208 |
| 33 | 24 | | | | | | | | | | | | | | | | | |
| 35 | 25 | 183 | | | | | | | | | | | | | | | | |
| 36 | 26 | | | | | | | | | | | | | | | | | |
| 37 | 27 | | | | | | | | | | | | | | | | | |
| 39 | 28 | | | | | | | | | | | | | | | | | |
| 40 | 29 | | | | | | | | | | | | | | | | | |
| 42 | 30 | 183 | | | | | | | | | | | | | | | | |
| 43 | 31 | | | | | | | | | | | | | | | | | |
| 45 | 32 | | | | | | | | | | | | | | | | | |
| 46 | 33 | | | | | | | | | | | | | | | | | |
| 47 | 34 | | | | | | | | | | | | | | | | | |
| 49 | 35 | 183 | | | | | | | | | | | | | | | | |
| 50 | 36 | | | | | | | | | | | | | | | | | |
| 51 | 37 | | | | | | | | | | | | | | | | | |
| 53 | 38 | | | | | | | | | | | | | | | | | |
| 54 | 39 | | | | | | | | | | | | | | | | | |
| 56 | 40 | 183 | | | | | | | | | | | | | | | | |
| 57 | 41 | | | | | | | | | | | | | | | | | |
| 58 | 42 | | | | | | | | | | | | | | | | | |
| 60 | 43 | | 8683 | 8765 | 8846 | 8927 | 9008 | 9090 | 9171 | 9253 | 9334 | 9415 | 9496 | 9578 | 9659 | 9741 | 9822 | 9904 |
| 61 | 44 | 183 (184) | | | | | | | | | | | | | | | | |
| 63 | 45 | 183 (184) | 9257 | 9338 | 9419 | 9500 | 9581 | 9663 | 9744 | 9825 | 9906 | 9987 | | | | | | |
| 64 | 46 | | 9545 | 9625 | 9706 | 9787 | 9868 | 9949 | 0030 | 0111 | 0192 | 0273 | 0354 | 0435 | 0516 | 0597 | 0678 | 0759 |
| 66 | 47 | | 9832 | 9912 | 9993 | 0074 | 0154 | 0235 | 0316 | 0397 | 0478 | 0558 | 0639 | 0720 | 0801 | 0882 | 0963 | 1044 |
| 67 | 48 | 184 | 0119 | 0199 | 0280 | 0360 | 0441 | 0522 | 0602 | 0683 | 0764 | 0844 | 0925 | 1006 | 1086 | 1167 | 1248 | 1329 |
| 69 | 49 | | | | | | | | | | | | | | | | | |
| 70 | 50 | 184 | 0693 | 0773 | 0854 | 0934 | 1014 | 1095 | 1175 | 1255 | 1336 | 1416 | 1496 | 1577 | 1657 | 1738 | 1818 | 1899 |
| 71 | 51 | | | | | | | | | | | | | | | | | |
| 73 | 52 | | | | | | | | | | | | | | | | | |
| 74 | 53 | | | | | | | | | | | | | | | | | |
| 75 | 54 | | | | | | | | | | | | | | | | | |
| 77 | 55 | 184 | 2129 | 2209 | 2288 | 2368 | 2447 | 2527 | 2607 | 2686 | 2766 | 2846 | 2925 | 3005 | 3085 | 3164 | | |
| 78 | 56 | | 2416 | 2496 | 2575 | 2655 | 2734 | 2814 | 2893 | 2973 | 3052 | 3131 | 3211 | 3291 | 3370 | 3450 | | |
| 79 | 57 | | | | | | | | | | | | | | | | | |
| 81 | 58 | | | | | | | | | | | | | | | | | |
| 82 | 59 | | 3278 | 3357 | 3436 | 3515 | 3594 | 3673 | 3752 | 3831 | 3910 | 3989 | 4069 | 4148 | 4227 | 4306 | 4385 | 4464 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

| A. D. Sec. | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 182 | 7841 | 7929 | 8017 | 8104 | 8192 | 8280 | 8368 | 8456 | 8544 | 8631 | 8719 | 8807 | 8895 | 8983 | 9071 | 9159 | 9247 |
| 1 | 1 | | | | | | | | | | | | | | | | | |
| 2 | 2 | | | | | | | | | | | | | | | | | |
| 3 | 3 182 (183 | | | | | | | | | | | | | | | | | |
| 4 | 4 | | | | | | | | | | | | | | | | | |
| 5 | 5 182 (183 | | | | | | | | | | | | | | | | | |
| 6 | 6 | 9546 | 9632 | 9719 | 9806 | 9893 | 9980 | 0067 | 0154 | 0241 | 0328 | 0415 | 0502 | 0589 | 0676 | 0763 | 0850 | 0937 |
| 7 | 7 | | | | | | | | | | | | | | | | | |
| 8 | 8 183 | 0114 | 0200 | 0287 | 0374 | 0460 | 0547 | 0634 | 0720 | 0807 | 0894 | 0980 | 1067 | 1154 | 1241 | 1327 | 1414 | 1501 |
| 9 | 9 | | | | | | | | | | | | | | | | | |
| 10 | 10 183 | | | | | | | | | | | | | | | | | |
| 11 | 11 | 0966 | 1052 | 1139 | 1225 | 1311 | 1397 | 1483 | 1570 | 1656 | 1742 | 1828 | 1915 | 2001 | 2087 | 2174 | 2260 | 2346 |
| 12 | 12 | | | | | | | | | | | | | | | | | |
| 13 | 13 | 1535 | 1620 | 1706 | 1792 | 1878 | 1964 | 2050 | 2136 | 2222 | 2308 | 2394 | 2480 | 2566 | 2652 | 2738 | 2824 | 2910 |
| 14 | 14 | | | | | | | | | | | | | | | | | |
| 15 | 15 183 | | | | | | | | | | | | | | | | | |
| 16 | 16 | | | | | | | | | | | | | | | | | |
| 17 | 17 | | | | | | | | | | | | | | | | | |
| 18 | 18 | | | | | | | | | | | | | | | | | |
| 19 | 19 | | | | | | | | | | | | | | | | | |
| 20 | 20 183 | | | | | | | | | | | | | | | | | |
| 21 | 21 | | | | | | | | | | | | | | | | | |
| 22 | 22 | | | | | | | | | | | | | | | | | |
| 23 | 23 | | | | | | | | | | | | | | | | | |
| 24 | 24 | | | | | | | | | | | | | | | | | |
| 25 | 25 183 | | | | | | | | | | | | | | | | | |
| 26 | 26 | | | | | | | | | | | | | | | | | |
| 27 | 27 | | | | | | | | | | | | | | | | | |
| 28 | 28 | | | | | | | | | | | | | | | | | |
| 29 | 29 | | | | | | | | | | | | | | | | | |
| 30 | 30 183 | | | | | | | | | | | | | | | | | |
| 31 | 31 | | | | | | | | | | | | | | | | | |
| 32 | 32 | | | | | | | | | | | | | | | | | |
| 33 | 33 | | | | | | | | | | | | | | | | | |
| 34 | 34 | | | | | | | | | | | | | | | | | |
| 35 | 35 183 | | | | | | | | | | | | | | | | | |
| 36 | 36 | | | | | | | | | | | | | | | | | |
| 37 | 37 | | | | | | | | | | | | | | | | | |
| 38 | 38 | | | | | | | | | | | | | | | | | |
| 39 | 39 183 (184 | | | | | | | | | | | | | | | | | |
| 40 | 40 183 (184 | | | | | | | | | | | | | | | | | |
| 41 | 41 | | | | | | | | | | | | | | | | | |
| 42 | 42 | | | | | | | | | | | | | | | | | |
| 43 | 43 184 | 0067 | 0148 | 0230 | 0312 | 0393 | 0475 | 0556 | 0638 | 0719 | 0801 | 0883 | 0964 | 1046 | 1128 | 1209 | 1291 | 1373 |
| 44 | 44 | | | | | | | | | | | | | | | | | |
| 45 | 45 184 | | | | | | | | | | | | | | | | | |
| 46 | 46 | | | | | | | | | | | | | | | | | |
| 47 | 47 | | | | | | | | | | | | | | | | | |
| 48 | 48 | | | | | | | | | | | | | | | | | |
| 49 | 49 | | | | | | | | | | | | | | | | | |
| 50 | 50 184 | | | | | | | | | | | | | | | | | |
| 51 | 51 | | | | | | | | | | | | | | | | | |
| 52 | 52 | | | | | | | | | | | | | | | | | |
| 53 | 53 | | | | | | | | | | | | | | | | | |
| 54 | 54 | | | | | | | | | | | | | | | | | |
| 55 | 55 184 | | | | | | | | | | | | | | | | | |
| 56 | 56 | | | | | | | | | | | | | | | | | |
| 57 | 57 | | | | | | | | | | | | | | | | | |
| 58 | 58 | | | | | | | | | | | | | | | | | |
| 59 | 59 | | | | | | | | | | | | | | | | | |

| Parts for Sec. of C. D. | ′ | Sums |
|---|---|---|
| 0 | 0 | 482 0354 |
| | 1 | 0093 |
| 1 | 2 | 0185 |
| 2 | 3 | 7211 |
| 3 | 4 | 7298 |
| 4 | 5 | 482 7384 |
| 29 | 6 | 8471 |
| | 7 | 8557 |
| 38 | 8 | 8644 |
| | 9 | 8731 |
| | 10 | 482 8817 |
| 53 | 11 | 0904 |
| 57 | 12 | 0991 |
| 62 | 13 | 483 0077 |
| 67 | 14 | 0364 |
| 72 | 15 | 483 0450 |
| 77 | 16 | 0537 |
| 81 | 17 | 1224 |
| 86 | 18 | 1511 |
| 91 | 19 | 1707 |
| 96 | 20 | 483 2084 |
| 1 | 21 | 2371 |
| 105 | 22 | 2658 |
| 110 | 23 | 2644 |
| 115 | 24 | 3231 |
| 120 | 25 | 483 3518 |
| 124 | 26 | 3805 |
| 129 | 27 | 4092 |
| 134 | 28 | 4379 |
| 139 | 29 | 4666 |
| 143 | 30 | 483 4953 |
| 148 | 31 | 5240 |
| 153 | 32 | 5527 |
| 158 | 33 | 5814 |
| 163 | 34 | 6101 |
| 167 | 35 | 483 6387 |
| 172 | 36 | 6674 |
| 177 | 37 | 6961 |
| 182 | 38 | 7248 |
| 187 | 39 | 7535 |
| 191 | 40 | 483 7822 |
| 196 | 41 | 8109 |
| 201 | 42 | 8396 |
| 206 | 43 | 8683 |
| 211 | 44 | 8970 |
| 215 | 45 | 483 9257 |
| 220 | 46 | 9545 |
| 225 | 47 | 9832 |
| 230 | 48 | 484 0119 |
| 235 | 49 | 0406 |
| 239 | 50 | 484 0693 |
| 244 | 51 | 0980 |
| 249 | 52 | 1267 |
| 254 | 53 | 1554 |
| 259 | 54 | 1841 |
| 263 | 55 | 484 2128 |
| 268 | 56 | 2415 |
| 273 | 57 | 2702 |
| 278 | 58 | 2989 |
| 283 | 59 | 3276 |

Numbers II. for Corrected [illegible]

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Sec. of C.S A. | 81° | Numbers | Seconds of Auxil. Argum |
|---|---|---|---|
| 287 | 0 | 117 3362 | 0 |
| 282 | 1 | 3075 | 1 |
| 277 | 2 | 2789 | 2 |
| 273 | 3 | 2502 | 4 |
| 268 | 4 | 2216 | 5 |
| [illegible] | [illegible] | [illegible] | 6 |
| [illegible] | [illegible] | [illegible] | 7 |
| [illegible] | [illegible] | [illegible] | 9 |
| [illegible] | [illegible] | [illegible] | 10 |
| 241 | 9 | [illegible] | 11 |
| 239 | 10 | 117 0496 | 12 |
| 234 | 11 | 0209 | 14 |
| 230 | 12 | 116 9923 | 15 |
| [illegible] | 13 | [illegible] | 16 |
| 220 | 14 | 9350 | 17 |
| 215 | 15 | 116 [illegible] | 19 |
| 21[illegible] | 16 | [illegible] | 20 |
| 206 | 17 | 8[illegible] | 21 |
| 201 | 18 | 8[illegible] | 23 |
| 197 | 19 | [illegible] | 24 |
| 191 | 20 | 116 [illegible] | 25 |
| 187 | 21 | [illegible] | 26 |
| 18[illegible] | 22 | [illegible] | 27 |
| 177 | 23 | [illegible] | 28 |
| 17[illegible] | 24 | [illegible] | 30 |
| 167 | 25 | 116 [illegible] | 31 |
| 163 | 26 | [illegible] | 32 |
| 158 | 27 | [illegible] | 34 |
| 153 | 28 | 5334 | 35 |
| 149 | 29 | [illegible] | 36 |
| [illegible] | 30 | 116 [illegible] | 37 |
| 139 | 31 | 4474 | 38 |
| 134 | 32 | 4187 | 40 |
| 129 | 33 | 3900 | 41 |
| [illegible] | 34 | [illegible] | 42 |
| [illegible] | [illegible] | 3326 | 43 |
| [illegible] | [illegible] | 3039 | 45 |
| 110 | 37 | 2752 | 46 |
| 105 | 38 | 2466 | 47 |
| [illegible] | 39 | [illegible] | 48 |
| 96 | 40 | 116 1891 | 50 |
| [illegible] | 41 | [illegible] | 51 |
| [illegible] | 42 | [illegible] | 52 |
| [illegible] | 43 | [illegible] | 53 |
| [illegible] | 44 | [illegible] | 54 |
| [illegible] | 45 | [illegible] | 56 |
| [illegible] | 46 | [illegible] | 57 |
| [illegible] | 47 | [illegible] | 58 |
| 57 | 48 | 9594 | 60 |
| [illegible] | 49 | [illegible] | 61 |
| [illegible] | 50 | [illegible] | 62 |
| 43 | 51 | 8732 | 63 |
| [illegible] | 52 | [illegible] | 65 |
| [illegible] | 53 | [illegible] | 66 |
| [illegible] | 54 | 7071 | 67 |
| [illegible] | 55 | [illegible] | 68 |
| [illegible] | 56 | [illegible] | 70 |
| [illegible] | 57 | [illegible] | 71 |
| 20 | 58 | 6722 | 72 |
| [illegible] | 59 | 6434 | 73 |

| A.D. 81° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| ′ | | | | | | | | | | | | | | | | | |
| 0 | 184 3566 | 3644 | 3723 | 3802 | 3881 | 3960 | 4039 | 4118 | 4196 | 4275 | 4354 | 4433 | 4512 | 4591 | 4671 | 4749 | 4828 |
| 1 | 3853 | 3932 | 4010 | 4089 | 4168 | 4246 | 4325 | 4404 | 4483 | 4561 | 4640 | 4719 | 4797 | 4877 | 4955 | 5034 | 5111 |
| 2 | 4140 | 4219 | 4297 | 4376 | 4454 | 4533 | 4612 | 4690 | 4769 | 4847 | 4926 | 5005 | 5083 | 5162 | 5241 | 5319 | 5396 |
| 3 | 4428 | 4506 | 4584 | 4663 | 4741 | 4820 | 4898 | 4976 | 5055 | 5133 | 5212 | 5290 | 5369 | 5447 | 5525 | 5603 | 5681 |
| 4 | 4715 | 4793 | 4871 | 4950 | 5028 | 5106 | 5184 | 5263 | 5341 | 5419 | 5498 | 5576 | 5655 | 5734 | 5811 | [illegible] | [illegible] |
| 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | 184 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 9 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 10 | 184 6439 | 6517 | 6594 | 6671 | 6749 | 6826 | 6904 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 11 | 6727 | 6804 | 6881 | 6958 | 7036 | 7113 | 7190 | [illegible] | 7345 | 7422 | 7500 | 7577 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 12 | 7014 | 7091 | 7168 | 7245 | 7323 | 7400 | 7477 | 7554 | 7631 | 7708 | 7786 | 7863 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 13 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | 7589 | 7666 | 7743 | 7819 | 7896 | 7973 | 8050 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 184 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 17 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19 | 184 (185) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 184 (185) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | 2478 | 2553 | 2627 | 2701 | 2776 | 2850 | 2924 | 2999 | 3073 | 3148 | 3222 | 3297 | 3371 | 3446 | 3520 | 3595 | 3669 |
| 32 | 2766 | 2840 | 2914 | 2989 | 3063 | 3137 | 3211 | 3286 | 3360 | 3434 | 3508 | 3583 | 3657 | 3731 | 3806 | 3880 | [illegible] |
| 33 | 3054 | 3128 | 3202 | 3276 | 3350 | 3424 | 3498 | 3572 | 3646 | 3721 | 3795 | 3869 | 3943 | 4017 | 4091 | 4166 | 4240 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | 185 3629 | 3703 | 3777 | 3850 | 3924 | 3998 | 4072 | 4146 | 4220 | 4293 | 4367 | 4441 | 4515 | 4589 | 4663 | 4737 | 4811 |
| 36 | 3917 | 3991 | 4064 | 4138 | 4211 | 4285 | 4359 | 4432 | 4506 | 4580 | 4654 | 4727 | 4801 | 4875 | 4949 | 5022 | 5096 |
| 37 | 4205 | 4278 | 4352 | 4425 | 4499 | 4572 | 4646 | 4719 | 4793 | 4866 | 4940 | 5013 | 5087 | 5161 | 5234 | 5308 | 5382 |
| 38 | 4492 | 4566 | 4639 | 4713 | 4786 | 4859 | 4933 | 5006 | 5079 | 5153 | 5226 | 5300 | 5373 | 5447 | 5520 | 5594 | 5667 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | 185 5068 | 5141 | 5214 | 5287 | 5360 | 5433 | 5506 | 5580 | 5653 | 5726 | 5799 | 5872 | 5945 | 6018 | [illegible] | [illegible] | [illegible] |
| 41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 63 | 51 8235 | 8306 | 8378 | 8449 | 8521 | 8592 | 8664 | 8735 | 8807 | 8878 | 8950 | 9021 | 9093 | 9164 | 9236 | 9308 | 9379 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 67 | 54 185 (186) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 185 (186) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 72 | 58 186 0251 | 0321 | 0392 | 0462 | 0532 | 0603 | 0673 | 0744 | 0814 | 0885 | 0955 | 1026 | 1097 | 1167 | 1238 | 1308 | 1379 |
| 73 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Apparent Argument additive | Sum A.D. 81 | Auxiliary Argument 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 184 4907 | 4986 | 5065 | 5144 | 5224 | 5303 | 5382 | 5461 | 5540 | 5619 | 5698 | 5778 | 5857 | 5936 | 6015 | 6094 | 6174 |
| 1 | 1 | 519 | 5471 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 55 | 5982 | 6061 | 6140 | 6219 | 6298 | 6377 |
| 2 | 2 | 5477 | 5556 | 5634 | 5713 | 5792 | 5871 | 5950 | 6029 | 6107 | 6186 | 6265 | 6344 | 6423 | 6502 | 6581 | 6660 | 6739 |
| 3 | 3 | 5762 | 5840 | 5919 | 5998 | 6076 | 6155 | 6234 | 6312 | 6391 | 6470 | 6549 | 6627 | 6706 | 6785 | 6864 | 6942 | |
| 4 | 4 | 6047 | 6125 | 6204 | 6282 | 6361 | 6439 | 6518 | 6596 | 6675 | 6753 | 6832 | 6911 | 6989 | 7068 | 7146 | 7225 | |
| 5 | 5 | 184 6331 | | | | | | | | | | | | | | | | |
| 6 | 6 | 6617 | 6695 | 6773 | 6851 | 6929 | 7008 | 7086 | 7164 | 7242 | 7321 | 7399 | 7477 | 7556 | 7634 | 7712 | 7791 | |
| 7 | 7 | | | | | | | | | | | | | | | | | |
| 8 | 8 | 7186 | 7264 | 7342 | 7420 | 7498 | 7576 | 7654 | 7732 | 7810 | 7888 | 7966 | 8044 | 8122 | 8200 | 8278 | 8356 | 8434 |
| 9 | 9 | 7471 | 7549 | 7627 | 7705 | 7782 | 7860 | 7938 | 8016 | 8094 | 8171 | 8249 | 8327 | 8405 | 8483 | 8561 | 8639 | 8717 |
| 10 | 10 | 184 7756 | | | | | | | | | | | | | | | | |
| 11 | 11 | 8041 | | | | | | | | | | | | | | | | |
| 12 | 12 | 8327 | | | | | | | | | | | | | | | | |
| 13 | 13 | 8611 | 8688 | 8766 | 8843 | 8920 | 8997 | 9075 | 9152 | 9229 | 9306 | 9384 | 9461 | 9538 | 9615 | 9693 | 9770 | 9847 |
| 14 | 14 | 184 (185) 8884 | | | | | | | | | | | | | | | | |
| 15 | 15 | 184 (185) 9181 | | | | | | | | | | | | | | | | |
| 16 | 16 | 9466 | 9543 | 9620 | 9697 | 9773 | 9850 | 9927 | 0004 | 0081 | 0157 | 0234 | 0311 | 0388 | 0465 | 0542 | 0619 | 0695 |
| 17 | 17 | 9752 | 9828 | 9905 | 9981 | 0058 | 0134 | 0211 | 0288 | 0364 | 0441 | 0518 | 0595 | 0671 | 0748 | 0825 | 0901 | 0978 |
| 18 | 18 | 185 0037 | 0113 | 0189 | 0266 | 0342 | 0419 | 0495 | 0572 | 0648 | 0725 | 0801 | 0878 | 0955 | 1031 | 1108 | 1184 | 1261 |
| 19 | 19 | | | | | | | | | | | | | | | | | |
| 20 | 20 | 185 | | | | | | | | | | | | | | | | |
| 21 | 21 | | | | | | | | | | | | | | | | | |
| 22 | 22 | 1177 | 1253 | 1329 | 1405 | 1482 | 1558 | 1634 | 1710 | 1786 | 1862 | | | | | | | |
| 23 | 23 | 1462 | 1538 | 1614 | 1689 | 1765 | 1841 | 1917 | 1992 | 2068 | 2144 | | | | | | | |
| 24 | 24 | 1747 | 1823 | 1898 | 1974 | 2050 | 2125 | 2201 | 2276 | 2352 | | | | | | | | |
| 25 | 25 | 185 2032 | 2108 | 2183 | 2259 | 2334 | 2410 | 2485 | 2561 | 2636 | | | | | | | | |
| 26 | 26 | 2318 | 2393 | 2468 | 2543 | 2619 | 2694 | 2769 | 2845 | 2920 | | | | | | | | |
| 27 | 27 | 2603 | 2678 | 2753 | 2828 | 2903 | 2978 | 3054 | 3129 | 3204 | 3279 | 3355 | 3430 | 3505 | 3580 | | | |
| 28 | 28 | 2888 | 2963 | 3038 | 3113 | 3188 | 3263 | 3338 | 3413 | 3488 | 3563 | 3638 | 3713 | 3789 | 3864 | | | |
| 29 | 29 | 3173 | 3248 | 3323 | 3398 | | | | | | | | | | | | | |
| 30 | 30 | 185 3458 | 3533 | 3608 | 3682 | 3757 | 3832 | 3907 | 3982 | 4056 | 4131 | 4206 | 4281 | 4355 | 4430 | 4505 | 4580 | 4655 |
| 31 | 31 | 3744 | | | | | | | | | | | | | | | | |
| 32 | 32 | | | | | | | | | | | | | | | | | |
| 33 | 33 | 4314 | 4388 | 4463 | 4537 | 4611 | 4685 | 4760 | 4834 | 4908 | 4983 | 5057 | 5132 | 5206 | 5280 | 5355 | 5429 | 5504 |
| 34 | 34 | | | | | | | | | | | | | | | | | |
| 35 | 35 | 185 | | | | | | | | | | | | | | | | |
| 36 | 36 | 5170 | 5244 | 5318 | 5391 | 5465 | 5539 | 5613 | 5687 | 5761 | 5835 | 5909 | 5983 | 6057 | 6131 | 6204 | 6278 | 6352 |
| 37 | 37 | | | | | | | | | | | | | | | | | |
| 38 | 38 | 6741 | | | | | | | | | | | | | | | | |
| 39 | 39 | | | | | | | | | | | | | | | | | |
| 40 | 40 | 185 | | | | | | | | | | | | | | | | |
| 41 | 41 | 6597 | 6670 | 6743 | 6816 | 6889 | 6962 | 7035 | 7108 | 7182 | 7255 | 7328 | 7401 | 7474 | 7548 | 7621 | 7694 | 7768 |
| 42 | 42 | 6882 | 6955 | 7028 | 7101 | 7174 | 7247 | 7320 | 7393 | 7466 | 7539 | 7612 | 7685 | 7758 | 7831 | 7904 | 7977 | 8051 |
| 43 | 43 | | | | | | | | | | | | | | | | | |
| 44 | 44 | 7452 | 7525 | 7598 | 7671 | 7743 | 7816 | 7889 | 7962 | 8034 | 8107 | 8180 | 8253 | 8325 | 8398 | 8471 | 8544 | 8617 |
| 45 | 45 | 185 | | | | | | | | | | | | | | | | |
| 46 | 46 | | | | | | | | | | | | | | | | | |
| 47 | 47 | | | | | | | | | | | | | | | | | |
| 48 | 48 | | | | | | | | | | | | | | | | | |
| 49 | 49 | | | | | | | | | | | | | | | | | |
| 50 | 50 | 185 (186) | | | | | | | | | | | | | | | | |
| 51 | 51 | | | | | | | | | | | | | | | | | |
| 52 | 52 | | | | | | | | | | | | | | | | | |
| 53 | 53 | | | | | | | | | | | | | | | | | |
| 54 | 54 | 0307 | 0378 | 0450 | 0521 | 0592 | 0663 | 0735 | 0806 | 0877 | 0949 | | | | | | | |
| 55 | 55 | 186 0593 | 0664 | 0735 | 0806 | 0877 | 0948 | 1019 | 1090 | 1162 | 1233 | | | | | | | |
| 56 | 56 | 0878 | 0949 | 1020 | 1091 | 1162 | 1233 | 1304 | 1375 | 1446 | 1517 | | | | | | | |
| 57 | 57 | | | | | | | | | | | | | | | | | |
| 58 | 58 | 1449 | 1520 | 1591 | 1661 | 1732 | 1803 | 1873 | 1944 | 2015 | 2085 | 2156 | 2227 | 2298 | 2368 | 2439 | 2510 | 2581 |
| 59 | 59 | | | | | | | | | | | | | | | | | |

| Parts for Seconds of Argument additive | Sum 81° | Sums |
|---|---|---|
| ′ | ′ | |
| 0 | 0 | 484 3566 |
| 1 | 1 | 3853 |
| 2 | 2 | 4140 |
| 3 | 3 | 4427 |
| 4 | 4 | 4715 |
| 5 | 5 | 5002 |
| 6 | 6 | 5289 |
| 7 | 7 | 5577 |
| 8 | 8 | 5864 |
| 9 | 9 | 6151 |
| 10 | 10 | 484 6438 |
| 11 | 11 | 6726 |
| 12 | 12 | 7013 |
| 13 | 13 | 7300 |
| 14 | 14 | 7588 |
| 15 | 15 | 484 7875 |
| 16 | 16 | 8162 |
| 17 | 17 | 8449 |
| 18 | 18 | 8737 |
| 19 | 19 | 485 9024 |
| 20 | 20 | 9311 |
| 21 | 21 | 9598 |
| 22 | 22 | 9885 |
| 23 | 23 | 485 0173 |
| 24 | 24 | 0460 |
| 25 | 25 | 485 0747 |
| 26 | 26 | 1034 |
| 27 | 27 | 1321 |
| 28 | 28 | 1608 |
| 29 | 29 | 1896 |
| 30 | 30 | 485 2183 |
| 31 | 31 | 2470 |
| 32 | 32 | 2757 |
| 33 | 33 | 3044 |
| 34 | 34 | 3332 |
| 35 | 35 | 485 3619 |
| 36 | 36 | 3906 |
| 37 | 37 | 4193 |
| 38 | 38 | 4480 |
| 39 | 39 | 4767 |
| 40 | 40 | 485 5055 |
| 41 | 41 | 5342 |
| 42 | 42 | 5629 |
| 43 | 43 | 5916 |
| 44 | 44 | 6203 |
| 45 | 45 | 485 6491 |
| 46 | 46 | 6778 |
| 47 | 47 | 7065 |
| 48 | 48 | 7352 |
| 49 | 49 | 7639 |
| 50 | 50 | 485 7927 |
| 51 | 51 | 8214 |
| 52 | 52 | 8501 |
| 53 | 53 | 8788 |
| 54 | 54 | 9075 |
| 55 | 55 | 485 9363 |
| 56 | 56 | 9650 |
| 57 | 57 | 9937 |
| 58 | 58 | 486 0224 |
| 59 | 59 | 0512 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Parts for Sec. of C.S.A. | C.S.A. 82° | Numbers |
|---|---|---|
| 287 | 0 | 115 6147 |
| 283 | 1 | 5862 |
| 278 | 2 | 5572 |
| 273 | 3 | 5285 |
| 268 | 4 | 4998 |
| 264 | 5 | 115 4710 |
| 259 | 6 | 4423 |
| 254 | 7 | 4136 |
| 249 | 8 | 3848 |
| 244 | 9 | 3561 |
| 240 | 10 | 115 3273 |
| 235 | 11 | 2986 |
| 230 | 12 | 2698 |
| 225 | 13 | 2411 |
| 220 | 14 | 2123 |
| 216 | 15 | 115 1836 |
| 211 | 16 | 1548 |
| 206 | 17 | 1261 |
| 201 | 18 | 0973 |
| 196 | 19 | 0686 |
| 192 | 20 | 115 0398 |
| 187 | 21 | 0111 |
| 182 | 22 | 114 9823 |
| 177 | 23 | 9535 |
| 172 | 24 | 9248 |
| 168 | 25 | 114 8960 |
| 163 | 26 | 8673 |
| 158 | 27 | 8385 |
| 153 | 28 | 8097 |
| 149 | 29 | 7810 |
| 144 | 30 | 114 7522 |
| 139 | 31 | 7234 |
| 134 | 32 | 6946 |
| 130 | 33 | 6658 |
| 125 | 34 | 6371 |
| 120 | 35 | 114 6083 |
| 115 | 36 | 5795 |
| 110 | 37 | 5507 |
| 105 | 38 | 5220 |
| 101 | 39 | 4932 |
| 96 | 40 | 114 4644 |
| 91 | 41 | 4356 |
| 86 | 42 | 4068 |
| 81 | 43 | 3780 |
| 77 | 44 | 3492 |
| 72 | 45 | 114 3205 |
| 67 | 46 | 2917 |
| 62 | 47 | 2629 |
| 57 | 48 | 2341 |
| 53 | 49 | 2053 |
| 48 | 50 | 114 1765 |
| 43 | 51 | 1477 |
| 38 | 52 | 1189 |
| 34 | 53 | 0901 |
| 29 | 54 | 0613 |
| 24 | 55 | 114 0325 |
| 19 | 56 | 0037 |
| 14 | 57 | 113 9749 |
| 10 | 58 | 9461 |
| 5 | 59 | 9173 |

| Parts for Seconds of Arg. | Arg. & A. D. 82° | Auxiliary Arguments. ′0 | ′1 | ′2 | ′3 | ′4 | ′5 | ′6 | ′7 | ′8 | ′9 | ′10 | ′11 | ′12 | ′13 | ′14 | ′15 | ′16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 189 | 0827 | 0897 | 0967 | 1037 | 1107 | 1178 | 1248 | 1318 | 1388 | 1458 | 1529 | 1599 | 1669 | 1739 | 1810 | 1880 |
| 1 | 1 | | 1113 | 1185 | 1255 | 1325 | 1395 | 1465 | 1535 | 1605 | 1675 | 1745 | 1815 | 1885 | 1955 | 2025 | 2095 | 2166 |
| 2 | 2 | | 1403 | 1473 | 1543 | 1613 | 1682 | 1752 | 1822 | 1892 | 1962 | 2032 | 2102 | 2172 | 2242 | 2312 | 2382 | 2452 |
| 3 | 3 | | 1691 | 1761 | 1831 | 1900 | 1970 | 2040 | 2109 | 2179 | 2249 | 2319 | 2389 | 2458 | 2528 | 2598 | 2668 | 2738 |
| 4 | 4 | | 1979 | 2049 | 2118 | 2188 | 2257 | 2327 | 2397 | 2466 | 2536 | 2606 | 2675 | 2745 | 2814 | 2884 | 2954 | 3024 |
| 5 | 5 | 189 | 2267 | 2337 | 2407 | 2475 | 2545 | 2614 | 2684 | 2753 | 2823 | 2892 | 2962 | 3031 | 3101 | 3171 | 3241 | 3311 |
| 6 | 6 | | 2555 | 2625 | 2694 | 2763 | 2832 | 2902 | 2971 | 3040 | 3110 | 3179 | 3248 | 3318 | 3387 | 3457 | 3526 | 3596 |
| 7 | 7 | | 2843 | 2913 | 2982 | 3051 | 3120 | 3189 | 3258 | 3328 | 3397 | 3466 | 3535 | 3604 | 3674 | 3743 | 3812 | 3881 |
| 8 | 8 | | 3132 | 3201 | 3270 | 3339 | 3408 | 3477 | 3546 | 3615 | 3684 | 3753 | 3822 | 3891 | 3960 | 4029 | 4098 | 4167 |
| 9 | 9 | | 3420 | 3489 | 3557 | 3626 | 3695 | 3764 | 3833 | 3902 | 3971 | 4040 | 4109 | 4178 | 4247 | 4315 | 4384 | 4453 |
| 10 | 10 | 189 | 3708 | 3777 | 3845 | 3914 | 3983 | 4052 | 4121 | 4189 | 4258 | 4327 | 4396 | 4464 | 4533 | 4602 | 4671 | 4739 |
| 11 | 11 | | 3996 | 4065 | 4133 | 4202 | 4270 | 4339 | 4408 | 4476 | 4545 | 4613 | 4682 | 4751 | 4819 | 4888 | 4957 | 5025 |
| 12 | 12 | | 4284 | 4353 | 4421 | 4490 | 4558 | 4627 | 4695 | 4763 | 4832 | 4900 | 4969 | 5037 | 5106 | 5174 | 5243 | 5311 |
| 13 | 13 | | 4573 | 4641 | 4709 | 4777 | 4846 | 4914 | 4982 | 5051 | 5119 | 5187 | 5255 | 5324 | 5392 | 5461 | 5529 | 5597 |
| 14 | 14 | | 4861 | 4929 | 4997 | 5065 | 5133 | 5202 | 5270 | 5338 | 5406 | 5474 | 5542 | 5610 | 5678 | 5747 | 5815 | 5883 |
| 15 | 15 | 189 | 5149 | 5217 | 5285 | 5353 | 5421 | 5489 | 5557 | 5625 | 5693 | 5761 | 5829 | 5897 | 5965 | 6033 | 6101 | 6169 |
| 16 | 16 | | 5437 | 5505 | 5573 | 5641 | 5709 | 5778 | 5844 | 5912 | 5980 | 6048 | 6116 | 6184 | 6252 | 6320 | 6387 | 6455 |
| 17 | 17 | | 5725 | 5793 | 5861 | 5929 | 5997 | 6064 | 6132 | 6199 | 6267 | 6335 | 6403 | 6470 | 6538 | 6606 | 6674 | 6741 |
| 18 | 18 | | 6014 | 6081 | 6149 | 6217 | 6284 | 6351 | 6419 | 6487 | 6554 | 6622 | 6690 | 6757 | 6825 | 6892 | 6960 | 7028 |
| 19 | 19 | | 6302 | 6369 | 6437 | 6504 | 6572 | 6639 | 6707 | 6774 | 6841 | 6909 | 6976 | 7044 | 7111 | 7179 | 7246 | 7314 |
| 20 | 20 | 189 | 6590 | 6658 | 6725 | 6792 | 6859 | 6927 | 6994 | 7061 | 7128 | 7196 | 7263 | 7330 | 7398 | 7465 | 7532 | 7600 |
| 21 | 21 | | 6879 | 6946 | 7013 | 7080 | 7147 | 7214 | 7281 | 7348 | 7416 | 7483 | 7550 | 7617 | 7684 | 7751 | 7818 | 7885 |
| 22 | 22 | | 7167 | 7234 | 7301 | 7368 | 7435 | 7502 | 7569 | 7636 | 7703 | 7770 | 7837 | 7904 | 7971 | 8038 | 8105 | 8172 |
| 23 | 23 | | 7455 | 7522 | 7589 | 7656 | 7722 | 7789 | 7856 | 7923 | 7990 | 8057 | 8124 | 8191 | 8257 | 8324 | 8391 | 8458 |
| 24 | 24 | | 7744 | 7810 | 7877 | 7944 | 8011 | 8077 | 8144 | 8210 | 8277 | 8344 | 8411 | 8477 | 8544 | 8611 | 8678 | 8744 |
| 25 | 25 | 189 | 8032 | 8098 | 8165 | 8231 | 8298 | 8364 | 8431 | 8498 | 8564 | 8631 | 8697 | 8764 | 8831 | 8897 | 8964 | 9031 |
| 26 | 26 | | 8320 | 8387 | 8453 | 8519 | 8586 | 8652 | 8719 | 8785 | 8851 | 8918 | 8984 | 9051 | 9117 | 9184 | 9250 | 9317 |
| 27 | 27 | | 8608 | 8675 | 8741 | 8807 | 8874 | 8940 | 9006 | 9072 | 9139 | 9205 | 9271 | 9337 | 9404 | 9470 | 9537 | 9603 |
| 28 | 28 | | 8897 | 8963 | 9029 | 9095 | 9161 | 9227 | 9293 | 9359 | 9425 | 9491 | 9558 | 9624 | 9690 | 9757 | 9823 | 9890 |
| 29 | 29 | 189 | 9185 | 9251 | 9317 | 9383 | 9449 | 9515 | 9581 | 9647 | 9713 | 9779 | 9845 | 9911 | 9977 | 0043 | 0109 | 0175 |
| 30 | 30 | 186 | 9474 | 9540 | 9606 | 9671 | 9737 | 9803 | 9869 | 9935 | 0001 | 0067 | 0133 | 0199 | 0264 | 0330 | 0396 | 0462 |
| 31 | 31 | | 9762 | 9828 | 9893 | 9959 | 0025 | 0090 | 0156 | 0222 | 0288 | 0353 | 0419 | 0485 | 0550 | 0616 | 0682 | 0748 |
| 32 | 32 | 187 | 0051 | 0116 | 0182 | 0247 | 0313 | 0378 | 0444 | 0509 | 0575 | 0640 | 0706 | 0771 | 0837 | 0903 | 0968 | 1034 |
| 33 | 33 | | 0339 | 0404 | 0470 | 0535 | 0600 | 0666 | 0731 | 0797 | 0862 | 0927 | 0993 | 1058 | 1124 | 1189 | 1255 | 1320 |
| 34 | 34 | | 0627 | 0693 | 0758 | 0823 | 0888 | 0954 | 1019 | 1084 | 1149 | 1215 | 1280 | 1345 | 1410 | 1476 | 1541 | 1607 |
| 35 | 35 | 187 | 0916 | 0981 | 1046 | 1111 | 1176 | 1241 | 1306 | 1371 | 1437 | 1502 | 1567 | 1632 | 1697 | 1762 | 1828 | 1893 |
| 36 | 36 | | 1204 | 1269 | 1334 | 1399 | 1464 | 1529 | 1594 | 1659 | 1724 | 1789 | 1854 | 1919 | 1984 | 2049 | 2114 | 2179 |
| 37 | 37 | | 1493 | 1558 | 1622 | 1687 | 1752 | 1817 | 1881 | 1946 | 2011 | 2076 | 2141 | 2206 | 2271 | 2336 | 2401 | 2466 |
| 38 | 38 | | 1781 | 1846 | 1911 | 1975 | 2040 | 2104 | 2169 | 2234 | 2298 | 2363 | 2428 | 2493 | 2557 | 2622 | 2687 | 2752 |
| 39 | 39 | | 2070 | 2134 | 2199 | 2263 | 2328 | 2392 | 2457 | 2521 | 2586 | 2650 | 2715 | 2779 | 2844 | 2908 | 2973 | 3037 |
| 40 | 40 | 187 | 2358 | 2423 | 2487 | 2551 | 2616 | 2680 | 2744 | 2809 | 2873 | 2938 | 3002 | 3067 | 3131 | 3196 | 3260 | 3325 |
| 41 | 41 | | 2647 | 2711 | 2775 | 2839 | 2904 | 2968 | 3032 | 3096 | 3161 | 3225 | 3289 | 3353 | 3418 | 3482 | 3546 | 3611 |
| 42 | 42 | | 2935 | 2999 | 3063 | 3127 | 3191 | 3256 | 3320 | 3384 | 3448 | 3512 | 3576 | 3640 | 3705 | 3769 | 3833 | 3897 |
| 43 | 43 | | 3224 | 3288 | 3352 | 3416 | 3479 | 3543 | 3607 | 3671 | 3735 | 3799 | 3863 | 3927 | 3991 | 4055 | 4119 | 4183 |
| 44 | 44 | | 3512 | 3576 | 3640 | 3704 | 3767 | 3831 | 3895 | 3959 | 4023 | 4087 | 4151 | 4215 | 4279 | 4343 | 4407 | 4471 |
| 45 | 45 | 187 | 3801 | 3865 | 3928 | 3992 | 4056 | 4119 | 4183 | 4247 | 4311 | 4374 | 4438 | 4502 | 4566 | 4630 | 4694 | 4758 |
| 46 | 46 | | 4090 | 4153 | 4216 | 4280 | 4343 | 4407 | 4470 | 4534 | 4597 | 4661 | 4724 | 4788 | 4852 | 4916 | 4980 | 5044 |
| 47 | 47 | | 4378 | 4441 | 4505 | 4568 | 4631 | 4695 | 4758 | 4821 | 4885 | 4948 | 5012 | 5075 | 5139 | 5203 | 5267 | 5331 |
| 48 | 48 | | 4667 | 4730 | 4793 | 4856 | 4919 | 4983 | 5046 | 5109 | 5172 | 5235 | 5299 | 5362 | 5426 | 5490 | 5554 | 5618 |
| 49 | 49 | | 4955 | 5018 | 5081 | 5144 | 5207 | 5270 | 5334 | 5397 | 5460 | 5523 | 5587 | 5650 | 5714 | 5778 | 5842 | 5906 |
| 50 | 50 | 187 | 5244 | 5307 | 5370 | 5433 | 5495 | 5558 | 5621 | 5684 | 5747 | 5811 | 5874 | 5938 | 6002 | 6066 | 6130 | 6194 |
| 51 | 51 | | 5533 | 5595 | 5658 | 5721 | 5784 | 5847 | 5910 | 5973 | 6036 | 6099 | 6163 | 6226 | 6290 | 6354 | 6418 | 6482 |
| 52 | 52 | | 5821 | 5884 | 5946 | 6009 | 6072 | 6134 | 6197 | 6259 | 6322 | 6385 | 6447 | 6511 | 6575 | 6639 | 6703 | 6767 |
| 53 | 53 | | 6110 | 6172 | 6235 | 6297 | 6360 | 6422 | 6485 | 6547 | 6609 | 6672 | 6735 | 6799 | 6863 | 6927 | 6991 | 7055 |
| 54 | 54 | | 6398 | 6461 | 6523 | 6586 | 6648 | 6710 | 6773 | 6835 | 6897 | 6960 | 7023 | 7087 | 7151 | 7215 | 7279 | 7343 |
| 55 | 55 | 187 | 6687 | 6749 | 6811 | 6874 | 6936 | 6998 | 7060 | 7122 | 7185 | 7248 | 7311 | 7375 | 7439 | 7503 | 7567 | 7631 |
| 56 | 56 | | 6975 | 7037 | 7099 | 7161 | 7223 | 7285 | 7347 | 7410 | 7473 | 7536 | 7599 | 7663 | 7727 | 7791 | 7855 | 7919 |
| 57 | 57 | | 7264 | 7326 | 7388 | 7450 | 7512 | 7574 | 7636 | 7698 | 7760 | 7821 | 7883 | 7945 | 8007 | 8069 | 8131 | 8193 |
| 58 | 58 | | 7553 | 7615 | 7676 | 7738 | 7800 | 7862 | 7923 | 7985 | 8047 | 8108 | 8170 | 8232 | 8294 | 8356 | 8418 | 8480 |
| 59 | 59 | | 7842 | 7903 | 7965 | 8027 | 8088 | 8149 | 8211 | 8273 | 8335 | 8396 | 8458 | 8519 | 8581 | 8643 | 8705 | 8767 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Sums for finding the Corrected Distances.

Parts for Seconds of Auxil. Argum. additive

| ° A. A. & A. D 82° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| ′ | ′ | | | | | | | | | | | | | | | | |
| 0 | 0 | 186 2021 | 2091 | 2161 | 2232 | 2302 | 2372 | 2443 | 2513 | 2584 | 2654 | 2724 | 2795 | 2865 | 2936 | 3006 | 3077 | 3147 |
| 1 | 1 | 2326 | 2376 | 2447 | 2517 | 2587 | 2657 | 2727 | 2798 | 2868 | 2938 | 3008 | 3079 | 3149 | 3219 | 3289 | 3360 | 3430 |
| 2 | 2 | 2592 | 2662 | 2732 | 2802 | 2872 | 2942 | 3012 | 3082 | 3152 | 3222 | 3292 | 3362 | 3432 | 3502 | 3572 | 3642 | 3712 |
| 3 | 3 | 2857 | 2928 | 2997 | 3067 | 3137 | 3207 | 3277 | 3347 | 3417 | 3487 | 3557 | 3627 | 3697 | 3767 | 3837 | 3907 | 3977 |
| 4 | 4 | 3123 | 3193 | 3263 | 3333 | 3403 | 3473 | 3543 | 3613 | 3683 | 3753 | 3823 | 3893 | 3963 | 4033 | 4103 | 4173 | 4243 |
| 5 | 5 | 186 3389 | 3458 | 3528 | 3598 | 3668 | 3738 | 3808 | 3878 | 3948 | 4018 | 4088 | 4158 | 4228 | 4298 | 4368 | 4438 | 4508 |
| 6 | 6 | 3654 | 3724 | 3794 | 3864 | 3934 | 4004 | 4074 | 4144 | 4214 | 4284 | 4354 | 4424 | 4494 | 4564 | 4634 | 4704 | 4774 |
| 7 | 7 | 3920 | 3990 | 4060 | 4130 | 4200 | 4270 | 4340 | 4410 | 4480 | 4550 | 4620 | 4690 | 4760 | 4830 | 4900 | 4970 | 5040 |
| 8 | 8 | 4186 | 4256 | 4326 | 4396 | 4466 | 4536 | 4606 | 4676 | 4746 | 4816 | 4886 | 4956 | 5026 | 5096 | 5166 | 5236 | 5306 |
| 9 | 9 | 4451 | 4521 | 4591 | 4661 | 4731 | 4801 | 4871 | 4941 | 5011 | 5081 | 5151 | 5221 | 5291 | 5361 | 5431 | 5501 | 5571 |
| 10 | 10 | 186 4717 | 4787 | 4857 | 4927 | 4997 | 5067 | 5137 | 5207 | 5277 | 5347 | 5417 | 5487 | 5557 | 5627 | 5697 | 5767 | 5837 |
| 11 | 11 | 4982 | 5052 | 5122 | 5192 | 5262 | 5332 | 5402 | 5472 | 5542 | 5612 | 5682 | 5752 | 5822 | 5892 | 5962 | 6032 | 6102 |
| 12 | 12 | 5248 | 5318 | 5388 | 5458 | 5528 | 5598 | 5668 | 5738 | 5808 | 5878 | 5948 | 6018 | 6088 | 6158 | 6228 | 6298 | 6368 |
| 13 | 13 | 5513 | 5583 | 5653 | 5723 | 5793 | 5863 | 5933 | 6003 | 6073 | 6143 | 6213 | 6283 | 6353 | 6423 | 6493 | 6563 | 6633 |
| 14 | 14 | 5778 | 5848 | 5918 | 5988 | 6058 | 6128 | 6198 | 6268 | 6338 | 6408 | 6478 | 6548 | 6618 | 6688 | 6758 | 6828 | 6898 |
| 15 | 15 | 6044 | 6114 | 6184 | 6254 | 6324 | 6394 | 6464 | 6534 | 6604 | 6674 | 6744 | 6814 | 6884 | 6954 | 7024 | 7094 | 7164 |
| 16 | 16 | 186 6309 | 6379 | 6449 | 6519 | 6589 | 6659 | 6729 | 6799 | 6869 | 6939 | 7009 | 7079 | 7149 | 7219 | 7289 | 7359 | 7429 |
| 17 | 17 | 6574 | 6644 | 6714 | 6784 | 6854 | 6924 | 6994 | 7064 | 7134 | 7204 | 7274 | 7344 | 7414 | 7484 | 7554 | 7624 | 7694 |
| 18 | 18 | 6839 | 6909 | 6979 | 7049 | 7119 | 7189 | 7259 | 7329 | 7399 | 7469 | 7539 | 7609 | 7679 | 7749 | 7819 | 7889 | 7959 |
| 19 | 19 | 7104 | 7174 | 7244 | 7314 | 7384 | 7454 | 7524 | 7594 | 7664 | 7734 | 7804 | 7874 | 7944 | 8014 | 8084 | 8154 | 8224 |
| 20 | 20 | 186 7369 | 7439 | 7509 | 7579 | 7649 | 7719 | 7789 | 7859 | 7929 | 7999 | 8069 | 8139 | 8209 | 8279 | 8349 | 8419 | 8489 |
| 21 | 21 | 7634 | 7704 | 7774 | 7844 | 7914 | 7984 | 8054 | 8124 | 8194 | 8264 | 8334 | 8404 | 8474 | 8544 | 8614 | 8684 | 8754 |
| 22 | 22 | 7899 | 7969 | 8039 | 8109 | 8179 | 8249 | 8319 | 8389 | 8459 | 8529 | 8599 | 8669 | 8739 | 8809 | 8879 | 8949 | 9019 |
| 23 | 23 | 8164 | 8234 | 8304 | 8374 | 8444 | 8514 | 8584 | 8654 | 8724 | 8794 | 8864 | 8934 | 9004 | 9074 | 9144 | 9214 | 9284 |
| 24 | 24 | 8429 | 8499 | 8569 | 8639 | 8709 | 8779 | 8849 | 8919 | 8989 | 9059 | 9129 | 9199 | 9269 | 9339 | 9409 | 9479 | 9549 |
| 25 | 25 | 186 (187) 8694 | 8764 | 8834 | 8904 | 8974 | 9044 | 9114 | 9184 | 9254 | 9324 | 9394 | 9464 | 9534 | 9604 | 9674 | 9744 | 9814 |
| 26 | 26 | 8959 | 9029 | 9099 | 9169 | 9239 | 9309 | 9379 | 9449 | 9519 | 9589 | 9659 | 9729 | 9799 | 9869 | 9939 | 10009 | 10079 |
| 27 | 27 | 9224 | 9294 | 9364 | 9434 | 9504 | 9574 | 9644 | 9714 | 9784 | 9854 | 9924 | 9994 | 10064 | 10134 | 10204 | 10274 | 10344 |
| 28 | 28 | 187 9489 | 9559 | 9629 | 9699 | 9769 | 9839 | 9909 | 9979 | 10049 | 10119 | 10189 | 10259 | 10329 | 10399 | 10469 | 10539 | 10609 |
| 29 | 29 | 9754 | 9824 | 9894 | 9964 | 10034 | 10104 | 10174 | 10244 | 10314 | 10384 | 10454 | 10524 | 10594 | 10664 | 10734 | 10804 | 10874 |
| 30 | 30 | 187 10019 | 10089 | 10159 | 10229 | 10299 | 10369 | 10439 | 10509 | 10579 | 10649 | 10719 | 10789 | 10859 | 10929 | 10999 | 11069 | 11139 |
| 31 | 31 | 10284 | 10354 | 10424 | 10494 | 10564 | 10634 | 10704 | 10774 | 10844 | 10914 | 10984 | 11054 | 11124 | 11194 | 11264 | 11334 | 11404 |
| 32 | 32 | 10549 | 10619 | 10689 | 10759 | 10829 | 10899 | 10969 | 11039 | 11109 | 11179 | 11249 | 11319 | 11389 | 11459 | 11529 | 11599 | 11669 |
| 33 | 33 | 10814 | 10884 | 10954 | 11024 | 11094 | 11164 | 11234 | 11304 | 11374 | 11444 | 11514 | 11584 | 11654 | 11724 | 11794 | 11864 | 11934 |
| 34 | 34 | 11079 | 11149 | 11219 | 11289 | 11359 | 11429 | 11499 | 11569 | 11639 | 11709 | 11779 | 11849 | 11919 | 11989 | 12059 | 12129 | 12199 |
| 35 | 35 | 187 11344 | 11414 | 11484 | 11554 | 11624 | 11694 | 11764 | 11834 | 11904 | 11974 | 12044 | 12114 | 12184 | 12254 | 12324 | 12394 | 12464 |
| 36 | 36 | 11609 | 11679 | 11749 | 11819 | 11889 | 11959 | 12029 | 12099 | 12169 | 12239 | 12309 | 12379 | 12449 | 12519 | 12589 | 12659 | 12729 |
| 37 | 37 | 2595 | 2660 | 2725 | 2790 | 2855 | 2920 | 2985 | 3050 | 3115 | 3180 | 3245 | 3310 | 3375 | 3440 | 3505 | 3570 | 3635 |
| 38 | 38 | 2881 | 2946 | 3011 | 3076 | 3140 | 3205 | 3270 | 3335 | 3400 | 3465 | 3529 | 3594 | 3659 | 3724 | 3789 | 3854 | 3919 |
| 39 | 39 | 3167 | 3232 | 3296 | 3361 | 3426 | 3491 | 3556 | 3621 | 3686 | 3751 | 3816 | 3881 | 3946 | 4011 | 4076 | 4141 | 4206 |
| 40 | 40 | 187 3453 | 3518 | 3583 | 3647 | 3712 | 3777 | 3842 | 3907 | 3972 | 4037 | 4102 | 4167 | 4232 | 4297 | 4362 | 4427 | 4492 |
| 41 | 41 | 3739 | 3804 | 3869 | 3934 | 3998 | 4063 | 4128 | 4193 | 4258 | 4323 | 4388 | 4453 | 4518 | 4583 | 4648 | 4713 | 4778 |
| 42 | 42 | 4025 | 4090 | 4155 | 4220 | 4285 | 4349 | 4414 | 4479 | 4544 | 4609 | 4674 | 4739 | 4804 | 4869 | 4934 | 4999 | 5064 |
| 43 | 43 | 4311 | 4376 | 4441 | 4506 | 4571 | 4636 | 4700 | 4765 | 4830 | 4895 | 4960 | 5025 | 5090 | 5155 | 5220 | 5285 | 5350 |
| 44 | 44 | 4597 | 4662 | 4727 | 4792 | 4857 | 4922 | 4987 | 5052 | 5117 | 5181 | 5246 | 5311 | 5376 | 5441 | 5506 | 5571 | 5636 |
| 45 | 45 | 187 4883 | 4948 | 5013 | 5078 | 5143 | 5208 | 5273 | 5338 | 5403 | 5468 | 5533 | 5598 | 5663 | 5728 | 5793 | 5858 | 5923 |
| 46 | 46 | 5170 | 5235 | 5300 | 5365 | 5430 | 5495 | 5560 | 5625 | 5690 | 5755 | 5820 | 5885 | 5950 | 6015 | 6080 | 6145 | 6210 |
| 47 | 47 | 5456 | 5521 | 5586 | 5651 | 5716 | 5781 | 5846 | 5911 | 5976 | 6041 | 6106 | 6171 | 6236 | 6301 | 6366 | 6431 | 6496 |
| 48 | 48 | 5743 | 5808 | 5873 | 5938 | 6003 | 6068 | 6133 | 6198 | 6263 | 6328 | 6393 | 6458 | 6523 | 6588 | 6653 | 6718 | 6783 |
| 49 | 49 | 6030 | 6095 | 6160 | 6225 | 6290 | 6355 | 6420 | 6485 | 6550 | 6615 | 6680 | 6745 | 6810 | 6875 | 6940 | 7005 | 7070 |
| 50 | 50 | 187 6317 | 6382 | 6447 | 6512 | 6577 | 6642 | 6707 | 6772 | 6837 | 6902 | 6967 | 7032 | 7097 | 7162 | 7227 | 7292 | 7357 |
| 51 | 51 | 6605 | 6670 | 6735 | 6800 | 6865 | 6930 | 6995 | 7060 | 7125 | 7190 | 7255 | 7320 | 7385 | 7450 | 7515 | 7580 | 7645 |
| 52 | 52 | 6893 | 6958 | 7023 | 7088 | 7153 | 7218 | 7283 | 7348 | 7413 | 7478 | 7543 | 7608 | 7673 | 7738 | 7803 | 7868 | 7933 |
| 53 | 53 | 7181 | 7246 | 7311 | 7376 | 7441 | 7506 | 7571 | 7636 | 7701 | 7766 | 7831 | 7896 | 7961 | 8026 | 8091 | 8156 | 8221 |
| 54 | 54 | 7469 | 7534 | 7599 | 7664 | 7729 | 7794 | 7859 | 7924 | 7989 | 8054 | 8119 | 8184 | 8249 | 8314 | 8379 | 8444 | 8509 |
| 55 | 55 | 187 7757 | 7822 | 7887 | 7952 | 8017 | 8082 | 8147 | 8212 | 8277 | 8342 | 8407 | 8472 | 8537 | 8602 | 8667 | 8732 | 8797 |
| 56 | 56 | 8046 | 8111 | 8176 | 8241 | 8306 | 8371 | 8436 | 8501 | 8566 | 8631 | 8696 | 8761 | 8826 | 8891 | 8956 | 9021 | 9086 |
| 57 | 57 | 8335 | 8400 | 8465 | 8530 | 8595 | 8660 | 8725 | 8790 | 8855 | 8920 | 8985 | 9050 | 9115 | 9180 | 9245 | 9310 | 9375 |
| 58 | 58 | 8623 | 8688 | 8753 | 8818 | 8883 | 8948 | 9013 | 9078 | 9143 | 9208 | 9273 | 9338 | 9403 | 9468 | 9533 | 9598 | 9663 |
| 59 | 59 | 8912 | 8977 | 9042 | 9107 | 9172 | 9237 | 9302 | 9367 | 9432 | 9497 | 9562 | 9627 | 9692 | 9757 | 9822 | 9887 | 9952 |

| Parts for Seconds of Auxil. Argum. additive | ° A. A. & A. D 82° | Sums |
|---|---|---|
| ′ | ′ | |
| 0 | 0 | 486 0827 |
| 1 | 1 | 1115 |
| 2 | 2 | 1403 |
| 3 | 3 | 1691 |
| 4 | 4 | 1979 |
| 5 | 5 | 2267 |
| 6 | 6 | 2555 |
| 7 | 7 | 2843 |
| 8 | 8 | 3131 |
| 9 | 9 | 3419 |
| 10 | 10 | 3707 |
| 11 | 11 | 3995 |
| 12 | 12 | 4283 |
| 13 | 13 | 4571 |
| 14 | 14 | 4859 |
| 15 | 15 | 5147 |
| 16 | 16 | 543 |
| 17 | 17 | 579 |
| 18 | 18 | 6014 |
| 19 | 19 | 6302 |
| 20 | 20 | 486 6590 |
| 21 | 21 | 6878 |
| 22 | 22 | 716 |
| 23 | 23 | 7455 |
| 24 | 24 | 7744 |
| 25 | 25 | 486 8032 |
| 26 | 26 | 8320 |
| 27 | 27 | 8608 |
| 28 | 28 | 8897 |
| 29 | 29 | 9185 |
| 30 | 30 | 9474 |
| 31 | 31 | 9762 |
| 32 | 32 | 487 51 |
| 33 | 33 | 339 |
| 34 | 34 | 627 |
| 35 | 35 | 487 |
| 36 | 36 | 1204 |
| 37 | 37 | 1493 |
| 38 | 38 | 1797 |
| 39 | 39 | 2070 |
| 40 | 40 | 487 2358 |
| 41 | 41 | 2647 |
| 42 | 42 | 2935 |
| 43 | 43 | 3224 |
| 44 | 44 | 351 |
| 45 | 45 | 487 3801 |
| 46 | 46 | 4089 |
| 47 | 47 | 4378 |
| 48 | 48 | 4667 |
| 49 | 49 | 4955 |
| 50 | 50 | 487 5244 |
| 51 | 51 | 5533 |
| 52 | 52 | 5821 |
| 53 | 53 | 6110 |
| 54 | 54 | 6399 |
| 55 | 55 | 487 6687 |
| 56 | 56 | 6976 |
| 57 | 57 | 7265 |
| 58 | 58 | 7554 |
| 59 | 59 | 7843 |

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C.S.A. | C.S.A. 83° | Numbers |
|---|---|---|
| 288 | 0 | 113 8085 |
| 284 | 1 | 8397 |
| 279 | 2 | 8309 |
| 274 | 3 | 8021 |
| 269 | 4 | 7733 |
| 264 | 5 | 113 7445 |
| 260 | 6 | 7156 |
| 255 | 7 | 6868 |
| 250 | 8 | 6580 |
| 245 | 9 | 6292 |
| 241 | 10 | 113 6004 |
| 236 | 11 | 5716 |
| 231 | 12 | 5427 |
| 226 | 13 | 5139 |
| 221 | 14 | 4851 |
| 216 | 15 | 113 4563 |
| 212 | 16 | 4274 |
| 207 | 17 | 3986 |
| 202 | 18 | 3698 |
| 197 | 19 | 3410 |
| 192 | 20 | 113 3121 |
| 188 | 21 | 2833 |
| 183 | 22 | 2545 |
| 178 | 23 | 2256 |
| 173 | 24 | 1968 |
| 168 | 25 | 113 1680 |
| 163 | 26 | 1391 |
| 159 | 27 | 1103 |
| 154 | 28 | 0815 |
| 149 | 29 | 0527 |
| 144 | 30 | 113 0238 |
| 139 | 31 | 112 9950 |
| 135 | 32 | 9661 |
| 130 | 33 | 9373 |
| 125 | 34 | 9084 |
| 120 | 35 | 112 8796 |
| 115 | 36 | 8507 |
| 111 | 37 | 8219 |
| 106 | 38 | 7930 |
| 101 | 39 | 7642 |
| 96 | 40 | 112 7353 |
| 91 | 41 | 7065 |
| 87 | 42 | 6777 |
| 82 | 43 | 6488 |
| 77 | 44 | 6200 |
| 72 | 45 | 112 5911 |
| 67 | 46 | 5622 |
| 62 | 47 | 5333 |
| 58 | 48 | 5045 |
| 53 | 49 | 4757 |
| 48 | 50 | 112 4467 |
| 43 | 51 | 4179 |
| 38 | 52 | 3890 |
| 34 | 53 | 3601 |
| 29 | 54 | 3313 |
| 24 | 55 | 112 3024 |
| 19 | 56 | 2735 |
| 14 | 57 | 2447 |
| 10 | 58 | 2158 |
| 5 | 59 | 1870 |

| Parts for Seconds of Auxil. Argum. | A.S.A. & A.D. 83° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 187 5131 | 8102 | 8253 | 8315 | 8376 | 8438 | 8499 | 8561 | 8622 | 8684 | 8745 | 8807 | 8868 | 8930 | 8991 | 9053 | 9114 |
| 1 | 1 | 8411 | 8542 | 8604 | 8665 | 8727 | 8788 | 8848 | 8910 | 8971 | 9032 | 9094 | 9155 | 9216 | 9278 | 9339 | 9401 | |
| 2 | 2 | 8708 | 8769 | 8830 | 8891 | 8953 | 9014 | 9075 | 9136 | 9197 | 9258 | 9320 | 9381 | 9442 | 9503 | 9565 | 9626 | 9687 |
| 3 | 3 | 8 | 8 | 8 | 8 | 9041 | 9102 | 9163 | 9224 | 9285 | 9346 | 9407 | 9468 | 9529 | 9590 | 9651 | 9712 | 9774 |
| 4 | 4 | 187 (188)034 | 0341 | 0402 | 0463 | 0524 | 0585 | 0646 | 0707 | 0768 | 0829 | 0890 | 0951 | 1012 | 1073 | 1134 | 1195 | 1256 |
| 5 | 5 | 187 (188)0574 | 0635 | 0696 | 0757 | 0817 | 0878 | 0939 | 0999 | 1060 | 1121 | 1182 | 1242 | 1303 | 1364 | 1425 | 1486 | 1547 |
| 6 | 6 | 9863 | 9924 | 9984 | 0045 | 0105 | 0166 | 0226 | 0287 | 0348 | 0408 | 0469 | 0530 | 0590 | 0651 | 0712 | 0772 | 0833 |
| 7 | 7 | 188 - 0152 | 0212 | 0273 | 0333 | 0394 | 0454 | 0514 | 0575 | 0635 | 0696 | 0756 | 0817 | 0877 | 0938 | 0998 | 1059 | 1119 |
| 8 | 8 | 0441 | 0501 | 0561 | 0621 | 0682 | 0742 | 0802 | 0863 | 0923 | 0983 | 1044 | 1104 | 1164 | 1225 | 1285 | 1345 | 1406 |
| 9 | 9 | 0727 | 0787 | 0847 | 0907 | 0967 | 1027 | 1087 | 1147 | 1207 | 1267 | 1327 | 1387 | 1447 | 1507 | 1567 | 1627 | 1687 |
| 10 | 10 | 189 1013 | 1073 | 1133 | 1193 | 1253 | 1313 | 1373 | 1433 | 1493 | 1553 | 1613 | 1673 | 1733 | 1793 | 1853 | 1913 | 1973 |
| 11 | 11 | 1297 | 1357 | 1417 | 1477 | 1537 | 1596 | 1656 | 1716 | 1776 | 1836 | 1896 | 1956 | 2016 | 2076 | 2136 | 2196 | 2256 |
| 12 | 12 | 1580 | 1640 | 1700 | 1759 | 1819 | 1879 | 1939 | 1999 | 2059 | 2119 | 2179 | 2239 | 2299 | 2359 | 2419 | 2479 | 2539 |
| 13 | 13 | 1862 | 1922 | 1982 | 2042 | 2102 | 2162 | 2222 | 2282 | 2342 | 2402 | 2462 | 2522 | 2582 | 2642 | 2702 | 2762 | 2822 |
| 14 | 14 | 2144 | 2204 | 2264 | 2324 | 2384 | 2444 | 2504 | 2564 | 2624 | 2684 | 2744 | 2804 | 2864 | 2924 | 2984 | 3044 | 3104 |
| 15 | 15 | 190 2425 | 2485 | 2545 | 2605 | 2665 | 2725 | 2785 | 2845 | 2905 | 2965 | 3025 | 3085 | 3145 | 3205 | 3265 | 3325 | 3385 |
| 16 | 16 | 2705 | 2765 | 2825 | 2885 | 2945 | 3005 | 3065 | 3125 | 3185 | 3245 | 3305 | 3365 | 3425 | 3485 | 3545 | 3605 | 3665 |
| 17 | 17 | 2984 | 3044 | 3104 | 3164 | 3224 | 3284 | 3344 | 3404 | 3464 | 3524 | 3584 | 3644 | 3704 | 3764 | 3824 | 3884 | 3944 |
| 18 | 18 | 3263 | 3323 | 3383 | 3443 | 3503 | 3563 | 3623 | 3683 | 3743 | 3803 | 3863 | 3923 | 3983 | 4043 | 4103 | 4163 | 4223 |
| 19 | 19 | 3541 | 3601 | 3661 | 3721 | 3781 | 3841 | 3901 | 3961 | 4021 | 4081 | 4141 | 4201 | 4261 | 4321 | 4381 | 4441 | 4501 |
| 20 | 20 | 191 3819 | 3879 | 3939 | 3999 | 4059 | 4119 | 4179 | 4239 | 4299 | 4359 | 4419 | 4479 | 4539 | 4599 | 4659 | 4719 | 4779 |
| 21 | 21 | 4096 | 4156 | 4216 | 4276 | 4336 | 4396 | 4456 | 4516 | 4576 | 4636 | 4696 | 4756 | 4816 | 4876 | 4936 | 4996 | 5056 |
| 22 | 22 | 4373 | 4433 | 4493 | 4553 | 4613 | 4673 | 4733 | 4793 | 4853 | 4913 | 4973 | 5033 | 5093 | 5153 | 5213 | 5273 | 5333 |
| 23 | 23 | 4650 | 4710 | 4770 | 4830 | 4890 | 4950 | 5010 | 5070 | 5130 | 5190 | 5250 | 5310 | 5370 | 5430 | 5490 | 5550 | 5610 |
| 24 | 24 | 4926 | 4986 | 5046 | 5106 | 5166 | 5226 | 5286 | 5346 | 5406 | 5466 | 5526 | 5586 | 5646 | 5706 | 5766 | 5826 | 5886 |
| 25 | 25 | 192 5202 | 5262 | 5322 | 5382 | 5442 | 5502 | 5562 | 5622 | 5682 | 5742 | 5802 | 5862 | 5922 | 5982 | 6042 | 6102 | 6162 |
| 26 | 26 | 5478 | 5538 | 5598 | 5658 | 5718 | 5778 | 5838 | 5898 | 5958 | 6018 | 6078 | 6138 | 6198 | 6258 | 6318 | 6378 | 6438 |
| 27 | 27 | 5753 | 5813 | 5873 | 5933 | 5993 | 6053 | 6113 | 6173 | 6233 | 6293 | 6353 | 6413 | 6473 | 6533 | 6593 | 6653 | 6713 |
| 28 | 28 | 6028 | 6088 | 6148 | 6208 | 6268 | 6328 | 6388 | 6448 | 6508 | 6568 | 6628 | 6688 | 6748 | 6808 | 6868 | 6928 | 6988 |
| 29 | 29 | 6303 | 6363 | 6423 | 6483 | 6543 | 6603 | 6663 | 6723 | 6783 | 6843 | 6903 | 6963 | 7023 | 7083 | 7143 | 7203 | 7263 |
| 30 | 30 | 193 6577 | 6637 | 6697 | 6757 | 6817 | 6877 | 6937 | 6997 | 7057 | 7117 | 7177 | 7237 | 7297 | 7357 | 7417 | 7477 | 7537 |
| 31 | 31 | 6851 | 6911 | 6971 | 7031 | 7091 | 7151 | 7211 | 7271 | 7331 | 7391 | 7451 | 7511 | 7571 | 7631 | 7691 | 7751 | 7811 |
| 32 | 32 | 7125 | 7185 | 7245 | 7305 | 7365 | 7425 | 7485 | 7545 | 7605 | 7665 | 7725 | 7785 | 7845 | 7905 | 7965 | 8025 | 8085 |
| 33 | 33 | 7398 | 7458 | 7518 | 7578 | 7638 | 7698 | 7758 | 7818 | 7878 | 7938 | 7998 | 8058 | 8118 | 8178 | 8238 | 8298 | 8358 |
| 34 | 34 | 7671 | 7731 | 7791 | 7851 | 7911 | 7971 | 8031 | 8091 | 8151 | 8211 | 8271 | 8331 | 8391 | 8451 | 8511 | 8571 | 8631 |
| 35 | 35 | 194 7944 | 8004 | 8064 | 8124 | 8184 | 8244 | 8304 | 8364 | 8424 | 8484 | 8544 | 8604 | 8664 | 8724 | 8784 | 8844 | 8904 |
| 36 | 36 | 8216 | 8276 | 8336 | 8396 | 8456 | 8516 | 8576 | 8636 | 8696 | 8756 | 8816 | 8876 | 8936 | 8996 | 9056 | 9116 | 9176 |
| 37 | 37 | 8488 | 8548 | 8608 | 8668 | 8728 | 8788 | 8848 | 8908 | 8968 | 9028 | 9088 | 9148 | 9208 | 9268 | 9328 | 9388 | 9448 |
| 38 | 38 | 188 (189)8760 | 8820 | 8880 | 8940 | 9000 | 9060 | 9120 | 9180 | 9240 | 9300 | 9360 | 9420 | 9480 | 9540 | 9600 | 9660 | 9720 |
| 39 | 39 | 9032 | 9092 | 9152 | 9212 | 9272 | 9332 | 9392 | 9452 | 9512 | 9572 | 9632 | 9692 | 9752 | 9812 | 9872 | 9932 | 9992 |
| 40 | 40 | 188 (189)9303 | 9363 | 9423 | 9483 | 9543 | 9603 | 9663 | 9723 | 9783 | 9843 | 9903 | 9963 | 0023 | 0083 | 0143 | 0203 | 0263 |
| 41 | 41 | 9574 | 9634 | 9694 | 9754 | 9814 | 9874 | 9934 | 9994 | 0054 | 0114 | 0174 | 0234 | 0294 | 0354 | 0414 | 0474 | 0534 |
| 42 | 42 | 189 9844 | 9904 | 9964 | 0024 | 0084 | 0144 | 0204 | 0264 | 0324 | 0384 | 0444 | 0504 | 0564 | 0624 | 0684 | 0744 | 0804 |
| 43 | 43 | 0113 | 0173 | 0233 | 0293 | 0353 | 0413 | 0473 | 0533 | 0593 | 0653 | 0713 | 0773 | 0833 | 0893 | 0953 | 1013 | 1073 |
| 44 | 44 | 0383 | 0443 | 0503 | 0563 | 0623 | 0683 | 0743 | 0803 | 0863 | 0923 | 0983 | 1043 | 1103 | 1163 | 1223 | 1283 | 1343 |
| 45 | 45 | 189 0653 | 0713 | 0773 | 0833 | 0893 | 0953 | 1013 | 1073 | 1133 | 1193 | 1253 | 1313 | 1373 | 1433 | 1493 | 1553 | 1613 |
| 46 | 46 | 0923 | 0983 | 1043 | 1103 | 1163 | 1223 | 1283 | 1343 | 1403 | 1463 | 1523 | 1583 | 1643 | 1703 | 1763 | 1823 | 1883 |
| 47 | 47 | 1192 | 1252 | 1312 | 1372 | 1432 | 1492 | 1552 | 1612 | 1672 | 1732 | 1792 | 1852 | 1912 | 1972 | 2032 | 2092 | 2152 |
| 48 | 48 | 1461 | 1521 | 1581 | 1641 | 1701 | 1761 | 1821 | 1881 | 1941 | 2001 | 2061 | 2121 | 2181 | 2241 | 2301 | 2361 | 2421 |
| 49 | 49 | 1730 | 1790 | 1850 | 1910 | 1970 | 2030 | 2090 | 2150 | 2210 | 2270 | 2330 | 2390 | 2450 | 2510 | 2570 | 2630 | 2690 |
| 50 | 50 | 189 1998 | 2058 | 2118 | 2178 | 2238 | 2298 | 2358 | 2418 | 2478 | 2538 | 2598 | 2658 | 2718 | 2778 | 2838 | 2898 | 2958 |
| 51 | 51 | 2266 | 2326 | 2386 | 2446 | 2506 | 2566 | 2626 | 2686 | 2746 | 2806 | 2866 | 2926 | 2986 | 3046 | 3106 | 3166 | 3226 |
| 52 | 52 | 2534 | 2594 | 2654 | 2714 | 2774 | 2834 | 2894 | 2954 | 3014 | 3074 | 3134 | 3194 | 3254 | 3314 | 3374 | 3434 | 3494 |
| 53 | 53 | 2802 | 2862 | 2922 | 2982 | 3042 | 3102 | 3162 | 3222 | 3282 | 3342 | 3402 | 3462 | 3522 | 3582 | 3642 | 3702 | 3762 |
| 54 | 54 | 3070 | 3130 | 3190 | 3250 | 3310 | 3370 | 3430 | 3490 | 3550 | 3610 | 3670 | 3730 | 3790 | 3850 | 3910 | 3970 | 4030 |
| 55 | 55 | 189 3338 | 3398 | 3458 | 3518 | 3578 | 3638 | 3698 | 3758 | 3818 | 3878 | 3938 | 3998 | 4058 | 4118 | 4178 | 4238 | 4298 |
| 56 | 56 | 4314 | 4368 | 4421 | 4474 | 4527 | 4581 | 4634 | 4687 | 4741 | 4794 | 4847 | 4901 | 4954 | 5007 | 5061 | 5114 | 5167 |
| 57 | 57 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 |
| 58 | 58 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 | 5 | 5 |
| 59 | 59 | 5182 | 5235 | 5288 | 5341 | 5394 | 5448 | 5501 | 5554 | 5608 | 5661 | 5714 | 5767 | 5820 | 5874 | 5927 | 5980 | 6033 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Seconds of Apparent Alt. Additive | S.A.A. & A.D. | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | | 187 (188 | 9176 | 9237 | 9298 | 9361 | 9422 | 9484 | 9546 | 9607 | 9669 | 9731 | 9792 | 9854 | 9915 | 9977 | 0039 | 0101 |
| 1 | | | 9482 | 9544 | 9605 | 9667 | 9728 | 9790 | 9851 | 9913 | 9974 | 0036 | 0097 | 0159 | 0220 | 0282 | 0343 | 0405 |
| 2 | | | 9788 | 9849 | 9911 | 9972 | 0034 | 0095 | 0157 | 0218 | 0280 | 0341 | 0403 | 0464 | 0526 | 0587 | 0649 | 0710 |
| 3 | | 188 | 0095 | 0157 | 0218 | 0279 | 0341 | 0402 | 0464 | 0525 | 0587 | 0648 | 0710 | 0771 | 0833 | 0894 | 0956 | 1017 |
| 4 | | | 0401 | 0463 | 0524 | 0585 | 0647 | 0708 | 0770 | 0831 | 0893 | 0954 | 1016 | 1077 | 1139 | 1200 | 1262 | 1323 |
| 5 | | 188 | 0707 | 0768 | 0829 | 0891 | 0952 | 1013 | 1075 | 1136 | 1198 | 1259 | 1321 | 1382 | 1444 | 1505 | 1567 | 1628 |
| 6 | | | 0894 | 0954 | 1015 | 1077 | 1138 | 1197 | 1258 | 1319 | 1380 | 1441 | 1502 | 1563 | 1624 | 1685 | 1746 | 1807 |
| 7 | | | 1182 | 1243 | 1301 | 1362 | 1422 | 1483 | 1543 | 1604 | 1665 | 1725 | 1786 | 1847 | 1907 | 1968 | 2028 | 2089 |
| 8 | | | 1466 | 1527 | 1587 | 1647 | 1708 | 1768 | 1828 | 1888 | 1948 | 2008 | 2071 | 2131 | 2191 | 2252 | 2313 | 2373 |
| 9 | | | 1753 | 1813 | 1873 | 1933 | 1994 | 2054 | 2114 | 2175 | 2235 | 2295 | 2355 | 2416 | 2476 | 2537 | 2597 | 2657 |
| 10 | | 188 | 2039 | 2099 | 2159 | 2219 | 2279 | 2339 | 2400 | 2460 | 2520 | 2580 | 2640 | 2701 | 2761 | 2821 | 2881 | 2941 |
| 11 | | | 2325 | 2385 | 2445 | 2505 | 2565 | 2625 | 2685 | 2745 | 2805 | 2865 | 2925 | 2985 | 3045 | 3105 | 3166 | 3226 |
| 12 | | | 2612 | 2671 | 2731 | 2791 | 2851 | 2911 | 2971 | 3031 | 3091 | 3151 | 3211 | 3271 | 3331 | 3391 | 3451 | 3511 |
| 13 | | | 2898 | 2958 | 3017 | 3077 | 3137 | 3197 | 3256 | 3316 | 3376 | 3436 | 3496 | 3555 | 3615 | 3675 | 3734 | 3794 |
| 14 | | | 3184 | 3244 | 3303 | 3363 | 3422 | 3482 | 3542 | 3601 | 3661 | 3720 | 3780 | 3840 | 3899 | 3959 | 4019 | 4078 |
| 15 | | 188 | 3471 | 3530 | 3589 | 3649 | 3708 | 3768 | 3827 | 3887 | 3946 | 4006 | 4065 | 4125 | 4184 | 4244 | 4303 | 4363 |
| 16 | | | 3757 | 3816 | 3876 | 3935 | 3994 | 4053 | 4113 | 4172 | 4231 | 4291 | 4350 | 4409 | 4468 | 4528 | 4587 | 4646 |
| 17 | | | 4043 | 4102 | 4161 | 4221 | 4280 | 4339 | 4398 | 4457 | 4517 | 4576 | 4635 | 4694 | 4753 | 4813 | 4872 | 4931 |
| 18 | | | 4330 | 4389 | 4448 | 4507 | 4566 | 4625 | 4684 | 4743 | 4802 | 4861 | 4920 | 4979 | 5038 | 5097 | 5156 | 5215 |
| 19 | | | 4616 | 4675 | 4734 | 4793 | 4852 | 4910 | 4969 | 5028 | 5087 | 5146 | 5205 | 5264 | 5323 | 5382 | 5441 | 5500 |
| 20 | | 188 | 4903 | 4961 | 5020 | 5079 | 5137 | 5196 | 5255 | 5314 | 5373 | 5431 | 5490 | 5549 | 5607 | 5666 | 5725 | 5784 |
| 21 | | | 5189 | 5248 | 5306 | 5365 | 5423 | 5482 | 5541 | 5599 | 5658 | 5716 | 5775 | 5833 | 5892 | 5950 | 6009 | 6067 |
| 22 | | | 5476 | 5534 | 5592 | 5651 | 5709 | 5768 | 5826 | 5885 | 5943 | 6002 | 6060 | 6118 | 6177 | 6235 | 6294 | 6352 |
| 23 | | | 5762 | 5820 | 5879 | 5937 | 5995 | 6053 | 6112 | 6170 | 6228 | 6287 | 6345 | 6403 | 6462 | 6520 | 6578 | 6637 |
| 24 | | | 6049 | 6107 | 6165 | 6223 | 6281 | 6339 | 6397 | 6455 | 6514 | 6572 | 6630 | 6688 | 6746 | 6805 | 6863 | 6921 |
| 25 | | 188 | 6335 | 6393 | 6451 | 6509 | 6567 | 6625 | 6683 | 6741 | 6799 | 6857 | 6915 | 6973 | 7031 | 7089 | 7147 | 7205 |
| 26 | | | 6622 | 6679 | 6737 | 6795 | 6853 | 6911 | 6969 | 7027 | 7084 | 7142 | 7200 | 7258 | 7316 | 7374 | 7432 | 7490 |
| 27 | | | 6908 | 6965 | 7023 | 7081 | 7138 | 7196 | 7254 | 7312 | 7370 | 7427 | 7485 | 7543 | 7601 | 7658 | 7716 | 7774 |
| 28 | | | 7195 | 7252 | 7310 | 7367 | 7425 | 7482 | 7540 | 7598 | 7655 | 7713 | 7770 | 7828 | 7885 | 7943 | 8000 | 8058 |
| 29 | | | 7482 | 7539 | 7596 | 7653 | 7711 | 7768 | 7825 | 7883 | 7940 | 7997 | 8055 | 8112 | 8169 | 8227 | 8285 | 8342 |
| 30 | | 188 | 7768 | 7825 | 7882 | 7939 | 7997 | 8054 | 8111 | 8168 | 8226 | 8283 | 8340 | 8397 | 8455 | 8512 | 8569 | 8627 |
| 31 | | | 8054 | 8111 | 8168 | 8225 | 8282 | 8339 | 8397 | 8454 | 8511 | 8568 | 8625 | 8682 | 8739 | 8797 | 8854 | 8911 |
| 32 | | | 8341 | 8398 | 8455 | 8512 | 8569 | 8625 | 8682 | 8739 | 8796 | 8853 | 8910 | 8967 | 9024 | 9081 | 9138 | 9195 |
| 33 | | | 8627 | 8684 | 8741 | 8798 | 8855 | 8911 | 8968 | 9025 | 9082 | 9139 | 9196 | 9253 | 9310 | 9367 | 9424 | 9481 |
| 34 | | | 8914 | 8971 | 9028 | 9084 | 9141 | 9197 | 9254 | 9311 | 9368 | 9425 | 9482 | 9539 | 9596 | 9653 | 9710 | 9767 |
| 35 | | 188 (189 | 9201 | 9257 | 9314 | 9370 | 9427 | 9484 | 9540 | 9597 | 9654 | 9711 | 9768 | 9825 | 9882 | 9939 | 9996 | 0053 |
| 36 | | | 9487 | 9543 | 9600 | 9656 | 9713 | 9769 | 9826 | 9883 | 9940 | 9997 | 0054 | 0111 | 0168 | 0225 | 0282 | 0339 |
| 37 | 37 | | 9774 | 9830 | 9886 | 9942 | 9998 | 0055 | 0111 | 0167 | 0223 | 0280 | 0336 | 0392 | 0448 | 0505 | 0561 | 0617 |
| 38 | 38 | 189 | 0060 | 0116 | 0172 | 0228 | 0285 | 0341 | 0397 | 0453 | 0509 | 0565 | 0621 | 0677 | 0733 | 0789 | 0846 | 0902 |
| 39 | | | 0347 | 0403 | 0459 | 0515 | 0571 | 0626 | 0682 | 0738 | 0794 | 0850 | 0906 | 0962 | 1018 | 1074 | 1130 | 1186 |
| 40 | | 189 | 0634 | 0690 | 0745 | 0801 | 0857 | 0913 | 0969 | 1024 | 1080 | 1136 | 1191 | 1247 | 1303 | 1358 | 1414 | 1470 |
| 41 | | | 0922 | 0977 | 1033 | 1088 | 1144 | 1199 | 1254 | 1310 | 1365 | 1421 | 1477 | 1532 | 1588 | 1643 | 1699 | 1754 |
| 42 | | | 1207 | 1262 | 1318 | 1373 | 1429 | 1484 | 1539 | 1595 | 1651 | 1707 | 1762 | 1817 | 1873 | 1928 | 1984 | 2039 |
| 43 | 43 | | 1494 | 1549 | 1604 | 1659 | 1715 | 1770 | 1825 | 1881 | 1936 | 1992 | 2047 | 2102 | 2158 | 2213 | 2269 | 2324 |
| 44 | | | 1780 | 1835 | 1890 | 1945 | 2000 | 2056 | 2111 | 2166 | 2222 | 2277 | 2332 | 2388 | 2443 | 2498 | 2554 | 2609 |
| 45 | | 189 | 2065 | 2120 | 2175 | 2230 | 2285 | 2341 | 2396 | 2451 | 2506 | 2561 | 2617 | 2672 | 2727 | 2782 | 2838 | 2893 |
| 46 | | | 2354 | 2409 | 2464 | 2519 | 2574 | 2629 | 2684 | 2739 | 2794 | 2849 | 2904 | 2959 | 3014 | 3069 | 3124 | 3180 |
| 47 | | | 2644 | 2699 | 2754 | 2809 | 2864 | 2919 | 2974 | 3029 | 3084 | 3139 | 3194 | 3249 | 3304 | 3359 | 3414 | 3469 |
| 48 | | | 2934 | 2989 | 3044 | 3099 | 3154 | 3209 | 3264 | 3319 | 3374 | 3429 | 3484 | 3539 | 3594 | 3649 | 3704 | 3759 |
| 49 | | | 3225 | 3280 | 3335 | 3390 | 3445 | 3500 | 3555 | 3610 | 3665 | 3720 | 3775 | 3830 | 3885 | 3940 | 3995 | 4050 |
| 50 | | 189 | 3517 | 3572 | 3627 | 3682 | 3737 | 3792 | 3847 | 3902 | 3957 | 4012 | 4067 | 4122 | 4177 | 4232 | 4287 | 4342 |
| 51 | | | 3810 | 3865 | 3920 | 3975 | 4030 | 4085 | 4140 | 4195 | 4250 | 4305 | 4360 | 4415 | 4470 | 4525 | 4580 | 4635 |
| 52 | | | 4104 | 4159 | 4214 | 4269 | 4324 | 4379 | 4434 | 4489 | 4544 | 4599 | 4654 | 4709 | 4764 | 4819 | 4874 | 4929 |
| 53 | | | 4399 | 4454 | 4509 | 4564 | 4619 | 4674 | 4729 | 4784 | 4839 | 4894 | 4949 | 5004 | 5059 | 5114 | 5169 | 5224 |
| 54 | | | 4694 | 4749 | 4804 | 4859 | 4914 | 4969 | 5024 | 5079 | 5134 | 5189 | 5244 | 5299 | 5354 | 5409 | 5464 | 5519 |
| 55 | | 189 | 4989 | 5044 | 5099 | 5154 | 5209 | 5264 | 5319 | 5374 | 5429 | 5484 | 5539 | 5594 | 5649 | 5704 | 5759 | 5814 |
| 56 | | | 5285 | 5340 | 5395 | 5450 | 5505 | 5560 | 5615 | 5670 | 5725 | 5780 | 5835 | 5890 | 5945 | 6000 | 6055 | 6110 |
| 57 | | | 5582 | 5637 | 5692 | 5747 | 5802 | 5857 | 5912 | 5967 | 6022 | 6077 | 6132 | 6187 | 6242 | 6297 | 6352 | 6407 |
| 58 | | | 5879 | 5934 | 5989 | 6044 | 6099 | 6154 | 6209 | 6264 | 6319 | 6374 | 6429 | 6484 | 6539 | 6594 | 6649 | 6704 |
| 59 | | | 6177 | 6232 | 6287 | 6342 | 6397 | 6452 | 6507 | 6562 | 6617 | 6672 | 6727 | 6782 | 6837 | 6892 | 6947 | 7002 |

Sums for finding the Corrected Distances.

| Parts for Seconds of C. D. Additive | ′ | 83′ | Sums |
|---|---|---|---|
| 0 | 0 | 487 | 8131 |
| 1 | 1 | | 8419 |
| 2 | 2 | | 8708 |
| 3 | 3 | | 8997 |
| 4 | 4 | | 9286 |
| 5 | 5 | 487 | 9574 |
| 6 | 6 | | 9863 |
| 7 | 7 | 488 | 0152 |
| 8 | 8 | | 0441 |
| 9 | 9 | | 0730 |
| 10 | 10 | 488 | 1018 |
| 11 | 11 | | 1307 |
| 12 | 12 | | 1596 |
| 13 | 13 | | 1885 |
| 14 | 14 | | 2174 |
| 15 | 15 | 488 | 2463 |
| 16 | 16 | | 2751 |
| 17 | 17 | | 3040 |
| 18 | 18 | | 3329 |
| 19 | 19 | | 3618 |
| 20 | 20 | 488 | 3907 |
| 21 | 21 | | 4196 |
| 22 | 22 | | 4485 |
| 23 | 23 | | 4774 |
| 24 | 24 | | 5063 |
| 25 | 25 | 488 | 5352 |
| 26 | 26 | | 5641 |
| 27 | 27 | | 5930 |
| 28 | 28 | | 6219 |
| 29 | 29 | | 6508 |
| 30 | 30 | 488 | 6797 |
| 31 | 31 | | 7086 |
| 32 | 32 | | 7375 |
| 33 | 33 | | 7664 |
| 34 | 34 | | 7953 |
| 35 | 35 | 488 | 8241 |
| 36 | 36 | | 8531 |
| 37 | 37 | | 8820 |
| 38 | 38 | | 9109 |
| 39 | 39 | | 9398 |
| 40 | 40 | 488 | 9687 |
| 41 | 41 | | 9977 |
| 42 | 42 | 489 | 0266 |
| 43 | 43 | | 0555 |
| 44 | 44 | | 0844 |
| 45 | 45 | 489 | 1133 |
| 46 | 46 | | 1422 |
| 47 | 47 | | 1711 |
| 48 | 48 | | 2000 |
| 49 | 49 | | 2289 |
| 50 | 50 | 489 | 2579 |
| 51 | 51 | | 2868 |
| 52 | 52 | | 3157 |
| 53 | 53 | | 3447 |
| 54 | 54 | | 3736 |
| 55 | 55 | 489 | 4025 |
| 56 | 56 | | 4315 |
| 57 | 57 | | 4604 |
| 58 | 58 | | 4894 |
| 59 | 59 | | 5183 |

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C. S. addit. | C. S. A. 84° | Numbers |
|---|---|---|
| 289 | 0′ | 112 1581 |
| | 1 | |
| | 2 | |
| | 3 | 0714 |
| | 4 | |
| | 5 | 111 0137 |
| | 6 | 111 0048 |
| | 7 | 0351 |
| | 8 | |
| | 9 | |
| | 10 | 111 8793 |
| | 11 | 8404 |
| | 12 | 8115 |
| | 13 | 7826 |
| | 14 | 7537 |
| | 15 | 111 7248 |
| | 16 | |
| | 17 | 6771 |
| | 18 | 6382 |
| | 19 | |
| | 20 | 111 5704 |
| | 21 | 5615 |
| | 22 | 5326 |
| | 23 | 4937 |
| | 24 | 4648 |
| | 25 | 111 4359 |
| | 26 | 4170 |
| | 27 | 3781 |
| | 28 | 3492 |
| | 29 | 3103 |
| | 30 | 111 2714 |
| | 31 | 2025 |
| | 32 | 2336 |
| | 33 | 2047 |
| | 34 | 1758 |
| | 35 | 111 1469 |
| | 36 | 1180 |
| | 37 | 0891 |
| | 38 | 0602 |
| | 39 | 0313 |
| | 40 | 111 0024 |
| | 41 | 110 9735 |
| | 42 | 9446 |
| | 43 | 9157 |
| | 44 | 8868 |
| | 45 | 110 8579 |
| | 46 | 8290 |
| | 47 | |
| | 48 | 7712 |
| | 49 | 7423 |
| | 50 | 110 7134 |
| | 51 | 6845 |
| | 52 | 6556 |
| | 53 | 6267 |
| | 54 | 5978 |
| | 55 | 110 5689 |
| | 56 | 5396 |
| | 57 | 5107 |
| | 58 | 4818 |
| | 59 | 4529 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments,
and Numbers III. for Apparent Distances ------ }

| Parts for Seconds of Auxil. additive | A. A. & A. D. 84° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0′ | 189 5471 | 5524 | 5577 | 5629 | 5682 | 5735 | 5788 | 5840 | 5893 | 5946 | 5999 | 6051 | 6104 | 6157 | 6210 | 6262 | 6315 |
| 1 | 1 | | | | | | | | | | | | | | | | | |
| 2 | 2 | | | | | | | | | | | | | | | | | |
| 3 | 3 | | | | | | | | | | | | | | | | | |
| 4 | 4 | | | | | | | | | | | | | | | | | |
| 5 | 5 | 189 | | | | | | | | | | | | | | | | |
| 6 | 6 | | | | | | | | | | | | | | | | | |
| 7 | 7 | | | | | | | | | | | | | | | | | |
| 8 | 8 | | | | | | | | | | | | | | | | | |
| 9 | 9 | | | | | | | | | | | | | | | | | |
| 10 | 10 | 189 | | | | | | | | | | | | | | | | |
| 11 | 11 | | | | | | | | | | | | | | | | | |
| 12 | 12 | | | | | | | | | | | | | | | | | |
| 13 | 13 | | | | | | | | | | | | | | | | | |
| 14 | 14 | | | | | | | | | | | | | | | | | |
| 15 | 15 | 189 | | | | | | | | | | | | | | | | |
| 16 | 16 | 189 | | | | | | | | | | | | | | | | |
| 17 | 17 | | | | | | | | | | | | | | | | | |
| 18 | 18 | | | | | | | | | | | | | | | | | |
| 19 | 19 | | | | | | | | | | | | | | | | | |
| 20 | 20 | 189 | | | | | | | | | | | | | | | | |
| 21 | 21 | | | | | | | | | | | | | | | | | |
| 22 | 22 | | | | | | | | | | | | | | | | | |
| 23 | 23 | | | | | | | | | | | | | | | | | |
| 24 | 24 | | | | | | | | | | | | | | | | | |
| 25 | 25 | 189 | | | | | | | | | | | | | | | | |
| 26 | 26 | | | | | | | | | | | | | | | | | |
| 27 | 27 | | | | | | | | | | | | | | | | | |
| 28 | 28 | | | | | | | | | | | | | | | | | |
| 29 | 29 | | | | | | | | | | | | | | | | | |
| 30 | 30 | 189 | | | | | | | | | | | | | | | | |
| 31 | 31 | | | | | | | | | | | | | | | | | |
| 32 | 32 | | | | | | | | | | | | | | | | | |
| 33 | 33 | | | | | | | | | | | | | | | | | |
| 34 | 34 | | | | | | | | | | | | | | | | | |
| 35 | 35 | 189 | | | | | | | | | | | | | | | | |
| 36 | 36 | | | | | | | | | | | | | | | | | |
| 37 | 37 | | | | | | | | | | | | | | | | | |
| 38 | 38 | | | | | | | | | | | | | | | | | |
| 39 | 39 | | | | | | | | | | | | | | | | | |
| 40 | 40 | 189 | | | | | | | | | | | | | | | | |
| 41 | 41 | | | | | | | | | | | | | | | | | |
| 42 | 42 | | | | | | | | | | | | | | | | | |
| 43 | 43 | | | | | | | | | | | | | | | | | |
| 44 | 44 | | | | | | | | | | | | | | | | | |
| 45 | 45 | | | | | | | | | | | | | | | | | |
| 46 | 46 | | | | | | | | | | | | | | | | | |
| 47 | 47 | | | | | | | | | | | | | | | | | |
| 48 | 48 | | | | | | | | | | | | | | | | | |
| 49 | 49 | | | | | | | | | | | | | | | | | |
| 50 | 50 | | | | | | | | | | | | | | | | | |
| 51 | 51 | | | | | | | | | | | | | | | | | |
| 52 | 52 | | | | | | | | | | | | | | | | | |
| 53 | 53 | | | | | | | | | | | | | | | | | |
| 54 | 54 | | | | | | | | | | | | | | | | | |
| 55 | 55 | | | | | | | | | | | | | | | | | |
| 56 | 56 | | | | | | | | | | | | | | | | | |
| 57 | 57 | 1975 | 2019 | 2064 | 2108 | 2152 | 2197 | 2241 | 2286 | 2330 | 2374 | 2419 | 2463 | | | | | |
| 58 | 58 | 2265 | 2309 | 2353 | 2397 | 2442 | 2486 | 2530 | 2574 | 2619 | 2663 | 2707 | 2751 | 2796 | | | | |
| 59 | 59 | | | | | | | 75 | 2819 | 2863 | 2907 | 2951 | 2995 | 3039 | 3084 | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Page | A. M. & A. D. 84 | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| C | 0 | 189 | 6368 | 6421 | 6474 | 6527 | 6579 | 6632 | 6685 | 6738 | 6791 | 6844 | 6897 | 6950 | 7003 | 7055 | 7108 | 7161 | 7214 |
| 1 | 1 | | 6555 | 6608 | 6661 | 6713 | 6766 | 6819 | 6871 | 6924 | 6977 | 7029 | 7082 | 7135 | 7187 | 7240 | 7293 | 7345 | 7398 |
| 2 | 2 | | 6744 | 6796 | 6849 | 6902 | 6954 | 7007 | 7060 | 7112 | 7165 | 7218 | 7270 | 7323 | 7376 | 7428 | 7481 | 7534 | 7586 |
| 3 | 3 | | 6933 | 6985 | 7038 | 7091 | 7143 | 7196 | 7249 | 7301 | 7354 | 7407 | 7459 | 7512 | 7565 | 7617 | 7670 | 7723 | 7775 |
| 4 | 4 | | 7121 | 7174 | 7227 | 7279 | 7332 | 7385 | 7437 | 7490 | 7543 | 7595 | 7648 | 7701 | 7753 | 7806 | 7859 | 7911 | 7964 |
| 4 | 5 | 189 | 7309 | 7362 | 7414 | 7467 | 7520 | 7572 | 7625 | 7678 | 7730 | 7783 | 7836 | 7888 | 7941 | 7994 | 8046 | 8099 | 8152 |
| 5 | 6 | | 7498 | 7551 | 7603 | 7656 | 7709 | 7761 | 7814 | 7867 | 7919 | 7972 | 8025 | 8077 | 8130 | 8183 | 8235 | 8288 | 8341 |
| 6 | 7 | | 7687 | 7740 | 7792 | 7845 | 7898 | 7950 | 8003 | 8056 | 8108 | 8161 | 8214 | 8266 | 8319 | 8372 | 8424 | 8477 | 8530 |
| 6 | 8 | | 7876 | 7929 | 7981 | 8034 | 8087 | 8139 | 8192 | 8245 | 8297 | 8350 | 8403 | 8455 | 8508 | 8561 | 8613 | 8666 | 8719 |
| 7 | 9 | | 8065 | 8118 | 8170 | 8223 | 8276 | 8328 | 8381 | 8434 | 8486 | 8539 | 8592 | 8644 | 8697 | 8750 | 8802 | 8855 | 8908 |
| 8 | 10 | 189 (190 | 8254 | 8307 | 8360 | 8412 | 8465 | 8518 | 8570 | 8623 | 8676 | 8728 | 8781 | 8834 | 8886 | 8939 | 8992 | 9044 | 9097 |
| 9 | 11 | | 8444 | 8496 | 8549 | 8602 | 8654 | 8707 | 8760 | 8812 | 8865 | 8918 | 8970 | 9023 | 9076 | 9128 | 9181 | 9234 | 9286 |
| 10 | 12 | | 8633 | 8686 | 8738 | 8791 | 8844 | 8896 | 8949 | 9002 | 9054 | 9107 | 9160 | 9212 | 9265 | 9318 | 9370 | 9423 | 9476 |
| 11 | 13 | 190 | 8823 | 8875 | 8928 | 8981 | 9033 | 9086 | 9139 | 9191 | 9244 | 9297 | 9349 | 9402 | 9455 | 9507 | 9560 | 9613 | 9665 |
| 11 | 14 | | 9012 | 9065 | 9117 | 9170 | 9223 | 9275 | 9328 | 9381 | 9433 | 9486 | 9539 | 9591 | 9644 | 9697 | 9749 | 9802 | 9855 |
| 12 | 15 | 190 | 9202 | 9254 | 9307 | 9360 | 9412 | 9465 | 9518 | 9570 | 9623 | 9676 | 9728 | 9781 | 9834 | 9886 | 9939 | 9992 | 0044 |
| 13 | 16 | | 9391 | 9444 | 9496 | 9549 | 9602 | 9654 | 9707 | 9760 | 9812 | 9865 | 9918 | 9970 | 0023 | 0076 | 0128 | 0181 | 0234 |
| 14 | 17 | | 9581 | 9633 | 9686 | 9739 | 9791 | 9844 | 9897 | 9949 | 0002 | 0055 | 0107 | 0160 | 0213 | 0265 | 0318 | 0371 | 0423 |
| 15 | 18 | | 9770 | 9823 | 9875 | 9928 | 9981 | 0033 | 0086 | 0139 | 0191 | 0244 | 0297 | 0349 | 0402 | 0455 | 0507 | 0560 | 0613 |
| 15 | 19 | | 9960 | 0012 | 0065 | 0118 | 0170 | 0223 | 0276 | 0328 | 0381 | 0434 | 0486 | 0539 | 0592 | 0644 | 0697 | 0750 | 0802 |
| 16 | 20 | 190 | 0149 | 0202 | 0255 | 0307 | 0360 | 0413 | 0465 | 0518 | 0571 | 0623 | 0676 | 0729 | 0781 | 0834 | 0887 | 0939 | 0992 |
| 17 | 21 | | 0339 | 0391 | 0444 | 0497 | 0549 | 0602 | 0655 | 0707 | 0760 | 0813 | 0865 | 0918 | 0971 | 1023 | 1076 | 1129 | 1181 |
| 18 | 22 | | 0528 | 0581 | 0633 | 0686 | 0739 | 0791 | 0844 | 0897 | 0949 | 1002 | 1055 | 1107 | 1160 | 1213 | 1265 | 1318 | 1371 |
| 19 | 23 | | 0718 | 0770 | 0823 | 0876 | 0928 | 0981 | 1034 | 1086 | 1139 | 1192 | 1244 | 1297 | 1350 | 1402 | 1455 | 1508 | 1560 |
| 19 | 24 | | 0907 | 0960 | 1013 | 1065 | 1118 | 1171 | 1223 | 1276 | 1329 | 1381 | 1434 | 1487 | 1539 | 1592 | 1645 | 1697 | 1750 |
| 20 | 25 | 190 | 1097 | 1150 | 1202 | 1255 | 1308 | 1360 | 1413 | 1466 | 1518 | 1571 | 1624 | 1676 | 1729 | 1782 | 1834 | 1887 | 1940 |
| 21 | 26 | | 1287 | 1339 | 1392 | 1445 | 1497 | 1550 | 1603 | 1655 | 1708 | 1761 | 1813 | 1866 | 1919 | 1971 | 2024 | 2077 | 2129 |
| 22 | 27 | | 1476 | 1529 | 1581 | 1634 | 1687 | 1739 | 1792 | 1845 | 1897 | 1950 | 2003 | 2055 | 2108 | 2161 | 2213 | 2266 | 2319 |
| 23 | 28 | | 1666 | 1718 | 1771 | 1824 | 1876 | 1929 | 1982 | 2034 | 2087 | 2140 | 2192 | 2245 | 2298 | 2350 | 2403 | 2456 | 2508 |
| 23 | 29 | | 1855 | 1908 | 1960 | 2013 | 2066 | 2118 | 2171 | 2224 | 2276 | 2329 | 2382 | 2434 | 2487 | 2540 | 2592 | 2645 | 2698 |
| 24 | 30 | 190 | 2045 | 2097 | 2150 | 2203 | 2255 | 2308 | 2361 | 2413 | 2466 | 2519 | 2571 | 2624 | 2677 | 2729 | 2782 | 2835 | 2887 |
| 25 | 31 | | 2234 | 2287 | 2339 | 2392 | 2445 | 2497 | 2550 | 2603 | 2655 | 2708 | 2761 | 2813 | 2866 | 2919 | 2971 | 3024 | 3077 |
| 26 | 32 | | 2424 | 2476 | 2529 | 2582 | 2634 | 2687 | 2740 | 2792 | 2845 | 2898 | 2950 | 3003 | 3056 | 3108 | 3161 | 3214 | 3266 |
| 27 | 33 | | 2613 | 2666 | 2718 | 2771 | 2824 | 2876 | 2929 | 2982 | 3034 | 3087 | 3140 | 3192 | 3245 | 3298 | 3350 | 3403 | 3456 |
| 27 | 34 | | 2803 | 2855 | 2908 | 2961 | 3013 | 3066 | 3119 | 3171 | 3224 | 3277 | 3329 | 3382 | 3435 | 3487 | 3540 | 3593 | 3645 |
| 28 | 35 | 190 | 2992 | 3045 | 3097 | 3150 | 3203 | 3255 | 3308 | 3361 | 3413 | 3466 | 3519 | 3571 | 3624 | 3677 | 3729 | 3782 | 3835 |
| 29 | 36 | | 3182 | 3234 | 3287 | 3340 | 3392 | 3445 | 3498 | 3550 | 3603 | 3656 | 3708 | 3761 | 3814 | 3866 | 3919 | 3972 | 4024 |
| 30 | 37 | | 3371 | 3424 | 3476 | 3529 | 3582 | 3634 | 3687 | 3740 | 3792 | 3845 | 3898 | 3950 | 4003 | 4056 | 4108 | 4161 | 4214 |
| 31 | 38 | | 3561 | 3613 | 3666 | 3719 | 3771 | 3824 | 3877 | 3929 | 3982 | 4035 | 4087 | 4140 | 4193 | 4245 | 4298 | 4351 | 4403 |
| 32 | 39 | | 3750 | 3803 | 3855 | 3908 | 3961 | 4013 | 4066 | 4119 | 4171 | 4224 | 4277 | 4329 | 4382 | 4435 | 4487 | 4540 | 4593 |
| 32 | 40 | 190 | 3940 | 3992 | 4045 | 4098 | 4150 | 4203 | 4256 | 4308 | 4361 | 4414 | 4466 | 4519 | 4572 | 4624 | 4677 | 4730 | 4782 |
| 33 | 41 | | 4129 | 4182 | 4234 | 4287 | 4340 | 4392 | 4445 | 4498 | 4550 | 4603 | 4656 | 4708 | 4761 | 4814 | 4866 | 4919 | 4972 |
| 34 | 42 | | 4319 | 4371 | 4424 | 4477 | 4529 | 4582 | 4635 | 4687 | 4740 | 4793 | 4845 | 4898 | 4951 | 5003 | 5056 | 5109 | 5161 |
| 35 | 43 | | 4508 | 4561 | 4613 | 4666 | 4719 | 4771 | 4824 | 4877 | 4929 | 4982 | 5035 | 5087 | 5140 | 5193 | 5245 | 5298 | 5351 |
| 36 | 44 | | 4698 | 4750 | 4803 | 4856 | 4908 | 4961 | 5014 | 5066 | 5119 | 5172 | 5224 | 5277 | 5330 | 5382 | 5435 | 5488 | 5540 |
| 36 | 45 | 190 (191 | 4887 | 4940 | 4992 | 5045 | 5098 | 5150 | 5203 | 5256 | 5308 | 5361 | 5414 | 5466 | 5519 | 5572 | 5624 | 5677 | 5730 |
| 37 | 46 | | 5077 | 5129 | 5182 | 5235 | 5287 | 5340 | 5393 | 5445 | 5498 | 5551 | 5603 | 5656 | 5709 | 5761 | 5814 | 5867 | 5919 |
| 38 | 47 | | 5266 | 5319 | 5371 | 5424 | 5477 | 5529 | 5582 | 5635 | 5687 | 5740 | 5793 | 5845 | 5898 | 5951 | 6003 | 6056 | 6109 |
| 39 | 48 | 191 | 5456 | 5508 | 5561 | 5614 | 5666 | 5719 | 5772 | 5824 | 5877 | 5930 | 5982 | 6035 | 6088 | 6140 | 6193 | 6246 | 6298 |
| 40 | 49 | | 5645 | 5698 | 5750 | 5803 | 5856 | 5908 | 5961 | 6014 | 6066 | 6119 | 6172 | 6224 | 6277 | 6330 | 6382 | 6435 | 6488 |
| 40 | 50 | 191 | 5835 | 5887 | 5940 | 5993 | 6045 | 6098 | 6151 | 6203 | 6256 | 6309 | 6361 | 6414 | 6467 | 6519 | 6572 | 6625 | 6677 |
| 41 | 51 | | 1006 | 1052 | 1097 | 1143 | 1188 | 1233 | 1279 | 1324 | 1369 | 1415 | 1460 | 1506 | 1551 | 1597 | 1642 | 1688 | 1733 |
| 42 | 52 | | 1204 | 1250 | 1296 | 1342 | 1388 | 1434 | 1480 | 1526 | 1572 | 1618 | 1664 | 1710 | 1756 | 1802 | 1848 | 1894 | 1940 |
| 43 | 53 | | 1403 | 1450 | 1496 | 1542 | 1589 | 1635 | 1681 | 1728 | 1774 | 1820 | 1867 | 1913 | 1959 | 2006 | 2052 | 2098 | 2145 |
| 44 | 54 | | 1602 | 1649 | 1696 | 1743 | 1789 | 1836 | 1883 | 1930 | 1976 | 2023 | 2070 | 2117 | 2163 | 2210 | 2257 | 2304 | 2350 |
| 44 | 55 | 191 | 1802 | 1849 | 1896 | 1943 | 1990 | 2037 | 2084 | 2131 | 2178 | 2225 | 2272 | 2319 | 2366 | 2413 | 2460 | 2507 | 2554 |
| 45 | 56 | | 2003 | 2050 | 2097 | 2145 | 2192 | 2239 | 2286 | 2334 | 2381 | 2428 | 2476 | 2523 | 2570 | 2618 | 2665 | 2712 | 2760 |
| 46 | 57 | | 2204 | 2252 | 2300 | 2348 | 2396 | 2444 | 2492 | 2540 | 2588 | 2636 | 2684 | 2732 | 2780 | 2828 | 2876 | 2924 | 2972 |
| 47 | 58 | | 2406 | 2455 | 2504 | 2553 | 2602 | 2651 | 2700 | 2749 | 2798 | 2847 | 2896 | 2945 | 2994 | 3043 | 3092 | 3141 | 3190 |
| 48 | 59 | | 2609 | 2659 | 2709 | 2759 | 2809 | 2859 | 2909 | 2959 | 3009 | 3059 | 3109 | 3159 | 3209 | 3259 | 3309 | 3359 | 3409 |

| Page | A. M. & A. D. 84 | Sums | |
|---|---|---|---|
| C | 0 | 489 | 5472 |
| 1 | 1 | | 5701 |
| 10 | 2 | | 5930 |
| 14 | 3 | | 6159 |
| 19 | 4 | | 6388 |
| 24 | 5 | 489 | 6618 |
| 29 | 6 | | 7047 |
| 34 | 7 | | 7476 |
| 39 | 8 | | 7705 |
| 43 | 9 | | 7934 |
| 48 | 10 | 489 | 8163 |
| 53 | 11 | | 8392 |
| 58 | 12 | | 8621 |
| 63 | 13 | | 8850 |
| 68 | 14 | | 9079 |
| 72 | 15 | 489 | 9308 |
| 77 | 16 | 490 | 9537 |
| 82 | 17 | | 9766 |
| 87 | 18 | | 9995 |
| 92 | 19 | | 0225 |
| 96 | 20 | 490 | 0454 |
| 101 | 21 | | 0683 |
| 106 | 22 | | 0912 |
| 111 | 23 | | 1141 |
| 116 | 24 | | 1370 |
| 121 | 25 | 490 | 1599 |
| 125 | 26 | | 1828 |
| 130 | 27 | | 2057 |
| 135 | 28 | | 2286 |
| 140 | 29 | | 2515 |
| 145 | 30 | 490 | 2744 |
| 150 | 31 | | 2973 |
| 154 | 32 | | 3202 |
| 159 | 33 | | 3431 |
| 164 | 34 | | 3660 |
| 169 | 35 | 490 | 3889 |
| 174 | 36 | | 4118 |
| 178 | 37 | | 4347 |
| 183 | 38 | | 4576 |
| 188 | 39 | | 4805 |
| 193 | 40 | 490 | 5034 |
| 198 | 41 | | 5263 |
| 203 | 42 | | 5492 |
| 207 | 43 | | 5721 |
| 212 | 44 | | 5950 |
| 217 | 45 | 490 | 6179 |
| 222 | 46 | | 6408 |
| 227 | 47 | | 6637 |
| 231 | 48 | | 6867 |
| 236 | 49 | | 7096 |
| 241 | 50 | 490 | 7325 |
| 246 | 51 | 491 | 0237 |
| 251 | 52 | | 0466 |
| 256 | 53 | | 0816 |
| 261 | 54 | | 1145 |
| 265 | 55 | 491 | 1605 |
| 270 | 56 | | 1834 |
| 275 | 57 | | 2063 |
| 280 | 58 | | 2292 |
| 285 | 59 | | 2521 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. of C. S. A. Addit. | C. S. A. 85° | Numbers |
|---|---|---|
| 289 | 0 | 110 4239 |
| 285 | 1 | 3950 |
| 280 | 2 | 3661 |
| 275 | 3 | 3371 |
| 27 | 4 | 3 |
| 265 | 5 | 110 2793 |
| 261 | 6 | 2503 |
| 256 | 7 | 2214 |
| 251 | 8 | 1924 |
| 246 | 9 | 1635 |
| 241 | 10 | 110 1345 |
| 236 | 11 | 1056 |
| 232 | 12 | 0767 |
| 227 | 13 | 0477 |
| 222 | 14 | 0188 |
| 217 | 15 | 109 9898 |
| 211 | 16 | 9609 |
| 207 | 17 | 9320 |
| 202 | 18 | 9030 |
| 197 | 19 | 8741 |
| 193 | 20 | 108 8451 |
| 188 | 21 | 8162 |
| 183 | 22 | 7873 |
| 178 | 23 | 7583 |
| 174 | 24 | 7294 |
| 169 | 25 | 107 7004 |
| 164 | 26 | 6715 |
| 159 | 27 | 6425 |
| 154 | 28 | 6136 |
| 150 | 29 | 5846 |
| 145 | 30 | 105 5557 |
| 140 | 31 | 5267 |
| 135 | 32 | 4978 |
| 131 | 33 | 4687 |
| 126 | 34 | 4399 |
| 121 | 35 | 104 4109 |
| 116 | 36 | 3820 |
| 111 | 37 | 3530 |
| 107 | 38 | 3241 |
| 102 | 39 | 2951 |
| 97 | 40 | 103 2662 |
| 92 | 41 | 2372 |
| 87 | 42 | 2083 |
| 83 | 43 | 1793 |
| 78 | 44 | 1504 |
| 73 | 45 | 1214 |
| 68 | 46 | 102 0925 |
| 64 | 47 | 0635 |
| 59 | 48 | 0346 |
| 54 | 49 | 101 9056 |
| 49 | 50 | 8767 |
| 45 | 51 | 8477 |
| 40 | 52 | 8188 |
| 35 | 53 | 7898 |
| 30 | 54 | 7609 |
| 26 | 55 | 7319 |
| 21 | 56 | 7030 |
| 16 | 57 | 6740 |
| 11 | 58 | 6451 |
| 7 | 59 | 6161 |
| 2 | 60 | 5872 |

| Parts for Seconds of Auxil. Arguments additive | A. A. & A. D. 85° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0′ | 191 2844 | 2888 | 2932 | 2976 | 3020 | 3064 | 3108 | 3152 | 3196 | 3240 | 3284 | 3328 | 3372 | 3416 | 3460 | 3504 | 3548 |
| 1 | 1 | 3134 | 3178 | 3222 | 3265 | 3309 | 3353 | 3397 | 3441 | 3484 | 3528 | 3572 | 3616 | 3660 | 3704 | 3747 | 3791 | 3835 |
| 1 | 2 | 3424 | 3467 | 3511 | 3555 | 3598 | 3642 | 3686 | 3729 | 3773 | 3817 | 3860 | 3904 | 3948 | 3991 | 4035 | 4079 | 4123 |
| 2 | 3 | 3714 | 3757 | 3801 | 3844 | 3888 | 3931 | 3975 | 4018 | 4062 | 4105 | 4149 | 4192 | 4236 | 4279 | 4323 | 4366 | 441 |
| 3 | 4 | 4003 | 4047 | 4090 | 4134 | 4177 | 4221 | 4264 | 4307 | 4351 | 4394 | 4437 | 4481 | 4524 | 4567 | 4611 | 4654 | 469 |
| 3 | 5 | 191 4293 | 4336 | 4380 | 4423 | 4466 | 4509 | 4552 | 4596 | 4639 | 4682 | 4725 | 4768 | 4812 | 4855 | 4898 | 4941 | 4985 |
| 4 | 6 | 4583 | 4626 | 4669 | 4712 | 4755 | 4798 | 4843 | 4884 | 4928 | 4971 | 5014 | 5057 | 5100 | 5143 | 5186 | 5229 | 5273 |
| 5 | 7 | 4873 | 4916 | 4959 | 5002 | 5045 | 5087 | 5130 | 5173 | 5216 | 5259 | 5302 | 5345 | 5388 | 5431 | 5474 | 5517 | 556 |
| 5 | 8 | 5163 | 5206 | 5248 | 5291 | 5334 | 5377 | 5420 | 5462 | 5505 | 5548 | 5590 | 5633 | 5676 | 5719 | 5762 | 5805 | 5848 |
| 6 | 9 | 5453 | 5496 | 5538 | 5581 | 5624 | 5667 | 5710 | 5751 | 5794 | 5836 | 5879 | 5922 | 5965 | 6008 | 6051 | 6094 | 136 |
| 7 | 10 | 191 5743 | 5786 | 5827 | 5871 | 5914 | 5957 | 6000 | 6043 | 6085 | 6128 | 6171 | 6214 | 6257 | 6300 | 6343 | 6386 | 6429 |
| 7 | 11 | 6033 | 6075 | 6117 | 6159 | 6201 | 6244 | 6287 | 6329 | 6371 | 6413 | 6456 | 6499 | 6542 | 6585 | 6628 | 6671 | 714 |
| 8 | 12 | 6322 | 6364 | 6406 | 6449 | 6491 | 6533 | 6576 | 6617 | 6660 | 6702 | 6744 | 6787 | 6830 | 6873 | 6916 | 6959 | 7002 |
| 9 | 13 | 6612 | 6654 | 6696 | 6738 | 6780 | 6822 | 6864 | 6906 | 6948 | 6990 | 7033 | 7075 | 7117 | 7160 | 7203 | 7246 | 7289 |
| 9 | 14 | 6902 | 6944 | 6986 | 7027 | 7069 | 7111 | 7153 | 7195 | 7237 | 7279 | 7321 | 7363 | 7405 | 7447 | 7490 | 7533 | 7576 |
| 10 | 15 | 191 7192 | 7233 | 7275 | 7317 | 7359 | 7400 | 7442 | 7484 | 7526 | 7568 | 7610 | 7651 | 7693 | 7735 | 7777 | 7818 | 7863 |
| 11 | 16 | 7482 | 7523 | 7565 | 7606 | 7648 | 7690 | 7731 | 7773 | 7814 | 7856 | 7898 | 7939 | 7981 | 8023 | 8064 | 8106 | 8148 |
| 11 | 17 | 7772 | 7813 | 7854 | 7896 | 7937 | 7979 | 8020 | 8062 | 8103 | 8145 | 8186 | 8228 | 8269 | 8311 | 8352 | 8394 | 8435 |
| 12 | 18 | 8061 | 8102 | 8144 | 8185 | 8227 | 8268 | 8309 | 8351 | 8392 | 8433 | 8475 | 8516 | 8557 | 8599 | 8640 | 8682 | 8723 |
| 13 | 19 | 8351 | 8392 | 8433 | 8475 | 8516 | 8557 | 8598 | 8639 | 8681 | 8722 | 8763 | 8805 | 8846 | 8887 | 8928 | 8969 | 9010 |
| 13 | 20 | 191 8641 | 8682 | 8723 | 8764 | 8805 | 8846 | 8887 | 8928 | 8969 | 9010 | 9052 | 9093 | 9134 | 9175 | 9216 | 9257 | 92 |
| 14 | 21 | 8931 | 8972 | 9013 | 9054 | 9095 | 9136 | 9176 | 9217 | 9258 | 9299 | 9340 | 9381 | 9422 | 9463 | 9504 | 9545 | 9586 |
| 15 | 22 | 9221 | 9262 | 9303 | 9343 | 9384 | 9425 | 9465 | 9506 | 9547 | 9588 | 9628 | 9669 | 9710 | 9751 | 9792 | 9832 | 9873 |
| 15 | 23 | 191 (192) 9511 | 9552 | 9592 | 9633 | 9673 | 9714 | 9755 | 9795 | 9836 | 9876 | 9917 | 9958 | 30 | 71 | 111 | 152 | 193 |
| 16 | 24 | 9801 | 9841 | 9882 | 9922 | 9963 | 0003 | 0044 | 0084 | 0125 | 0165 | 0205 | 0246 | 0287 | 0327 | 0368 | 0409 | 0449 |
| 17 | 25 | 192 0090 | 0131 | 0172 | 0212 | 025 | | | | | | | | | | | | |
| 17 | 26 | 0380 | 0421 | 0461 | | | | | | | | | | | | | | |
| 18 | 27 | | | | | | | | | | | | | | | | | |
| 19 | 28 | | | | | | | | | | | | | | | | | |
| 19 | 29 | 1251 | 1291 | 1330 | 1370 | 1410 | 1449 | 1489 | 1529 | 1568 | 1608 | 1648 | | | | | | |
| 145 | 30 | 192 1541 | 1580 | 1620 | 1660 | 1699 | 1739 | 1778 | 1818 | 1857 | 1897 | 1936 | 1976 | 20 | | | | |
| 140 | 31 | 1831 | 1870 | 1910 | 1949 | 1988 | 2028 | 2067 | 2107 | 2146 | 2186 | 2225 | | | | | | |
| 135 | 32 | | | | | | | | | | | | | | | | | |
| 131 | 33 | | | | | | | | | | | | | | | | | |
| 126 | 34 | | | | | | | | | | | | | | | | | |
| 121 | 35 | | | | | | | | | | | | | | | | | |
| 116 | 36 | | | | | | | | | | | | 3029 | 3068 | | | | |
| 111 | 37 | | | | | | | | | | | 3918 | 3956 | 3995 | | | | |
| 1 | 38 | | | | | | | | | | | | | | | | | |
| 1 | 39 | | | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | | | |
| 92 | 41 | | | | | | | | | | | | | | | | | |
| 87 | 42 | | | | | | | | | | | | | | | | | |
| 82 | 43 | | | | | | | | | | | | | | | | | |
| 77 | 44 | | | | | | | | | | | | | | | | | |
| 73 | 45 | | | | | | | | | | | | | | | | | |
| 68 | 46 | | | | | | | | | | | | | | | | | |
| 63 | 47 | | | | | | | | | | | | | | | | | |
| 58 | 48 | | | | | | | | | | | | | | | | | |
| 53 | 49 | | | | | | | | | | | | | | | | | |
| 48 | 50 | | | | | | | | | | | | | | | | | |
| 43 | 51 | | | | | | | | | | | | | | | | | |
| 39 | 52 | | | | | | | | | | | | | | | | | |
| 34 | 53 | | | | | | | | | | | | | | | | | |
| 29 | 54 | | | | | | | | | | | | | | | | | |
| 24 | 55 | | | | | | | | | | | | | | | | | |
| 19 | 56 | | | | | | | | | | | | | | | | | |
| 15 | 57 | | | | | | | | | | | | | | | | | |
| 10 | 58 | | | | | | | | | | | | | | | | | |
| 5 | 59 | | | | | | | | | | | | | | | | | |
| 0 | 60 | 192 | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

Parts for Seconds of Apparent Additive

Auxiliary Arguments.

| ′ & A. D. 85° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 191 | 3592 | 3636 | 3680 | 3724 | 3768 | 3812 | 3856 | 3900 | 3944 | 3988 | 4032 | 4077 | 4121 | 4165 | 4209 | 4253 |
| 1 | | 3770 | 3723 | 3677 | 4111 | 4155 | 4200 | 4243 | 4287 | 4331 | 4374 | 4418 | 4462 | 4506 | 4550 | 4594 | 4638 |
| 2 | | 4106 | 4150 | 4194 | 4238 | 4282 | 4326 | 4370 | 4414 | 4458 | 4502 | 4546 | 4590 | 4634 | 4678 | 4722 | 4766 |
| 3 | | 4454 | 4497 | 4541 | 4585 | 4628 | 4672 | 4715 | 4759 | 4803 | 4846 | 4890 | 4934 | 4977 | 5021 | 5065 | 5108 | 5152 |
| 4 | | 4741 | 4784 | 4828 | 4871 | 4915 | 4958 | 5002 | 5045 | 5089 | 5132 | 5176 | 5219 | 5263 | 5307 | 5350 | 5394 | 5437 |
| 5 | 191 | 5028 | 5072 | 5115 | 5158 | 5202 | 5245 | 5288 | 5332 | 5375 | 5418 | 5462 | 5505 | 5549 | 5592 | 5635 | 5679 | 5722 |
| 6 | | 5316 | 5359 | 5402 | 5445 | 5488 | 5532 | 5575 | 5618 | 5661 | 5704 | 5748 | 5791 | 5834 | 5877 | 5921 | 5964 | 6007 |
| 7 | | 5603 | 5646 | 5689 | 5732 | 5775 | 5818 | 5861 | 5904 | 5947 | 5990 | 6034 | 6077 | 6120 | 6163 | 6206 | 6249 | 6293 |
| 8 | | 5890 | 5933 | 5976 | 6019 | 6062 | 6105 | 6148 | 6191 | 6234 | 6277 | 6320 | 6362 | 6405 | 6448 | 6491 | 6534 | 6577 |
| 9 | | 6177 | 6220 | 6263 | 6306 | 6348 | 6391 | 6434 | 6477 | 6520 | 6562 | 6605 | 6648 | 6691 | 6734 | 6777 | 6820 | 6863 |
| 10 | 191 | 6465 | 6508 | 6551 | 6593 | 6636 | 6679 | 6721 | 6764 | 6807 | 6849 | 6892 | 6934 | 6977 | 7019 | 7062 | 7104 | 7147 |
| 11 | | 6754 | 6795 | 6837 | 6880 | 6922 | 6965 | 7007 | 7050 | 7092 | 7135 | 7177 | 7220 | 7262 | 7305 | 7347 | 7390 | 7432 |
| 12 | | 7044 | 7087 | 7129 | 7171 | 7214 | 7256 | 7298 | 7341 | 7383 | 7425 | 7468 | 7510 | 7552 | 7595 | 7637 | 7679 | 7722 |
| 13 | | 7327 | 7369 | 7412 | 7454 | 7496 | 7538 | 7580 | 7622 | 7664 | 7707 | 7749 | 7791 | 7833 | 7876 | 7918 | 7960 | 8002 |
| 14 | | 7605 | 7647 | 7689 | 7731 | 7773 | 7815 | 7857 | 7899 | 7941 | 7983 | 8025 | 8067 | 8109 | 8151 | 8193 | 8235 | 8277 |
| 15 | 191 | 7882 | 7924 | 7966 | 8008 | 8050 | 8092 | 8134 | 8176 | 8218 | 8260 | 8302 | 8343 | 8385 | 8427 | 8469 | 8511 | 8553 |
| 16 | | 8158 | 8200 | 8242 | 8284 | 8326 | 8368 | 8410 | 8451 | 8493 | 8535 | 8577 | 8619 | 8661 | 8702 | 8744 | 8786 | 8828 |
| 17 | | 8435 | 8477 | 8519 | 8560 | 8602 | 8644 | 8686 | 8727 | 8769 | 8811 | 8853 | 8894 | 8936 | 8978 | 9019 | 9061 | 9103 |
| 18 | | 8712 | 8754 | 8795 | 8837 | 8879 | 8920 | 8962 | 9004 | 9045 | 9087 | 9129 | 9170 | 9212 | 9253 | 9295 | 9337 | 9378 |
| 19 | | 8989 | 9031 | 9072 | 9114 | 9155 | 9197 | 9239 | 9280 | 9322 | 9363 | 9405 | 9446 | 9488 | 9529 | 9571 | 9612 | 9654 |
| 20 | 191 | 9265 | 9307 | 9348 | 9390 | 9431 | 9473 | 9514 | 9556 | 9597 | 9639 | 9680 | 9722 | 9763 | 9805 | 9846 | 9888 | 9929 |
| 21 | 191 (192) | 9541 | 9582 | 9624 | 9665 | 9707 | 9748 | 9790 | 9831 | 9872 | 9913 | 9954 | 9995 | 0037 | 0077 | 0119 | 0160 | 0201 | 0242 | 0283 |
| 22 | | 9814 | 9855 | 9896 | 9938 | 9979 | 0020 | 0061 | 0102 | 0143 | 0184 | 0225 | 0266 | 0307 | 0348 | 0389 | 0430 | 0471 | 0512 | 0553 |
| 23 | 192 | 0086 | 0127 | 0168 | 0209 | 0250 | 0291 | 0332 | 0373 | 0414 | 0455 | 0496 | 0537 | 0578 | 0619 | 0660 | 0701 | 0742 | 0783 | 0824 |
| 24 | | 0359 | 0400 | 0441 | 0482 | 0523 | 0564 | 0605 | 0646 | 0686 | 0727 | 0768 | 0809 | 0850 | 0891 | 0932 | 0973 | 1014 | 1055 | 1096 |
| 25 | 192 | 0631 | 0672 | 0713 | 0754 | 0795 | 0836 | 0877 | 0918 | 0959 | 1000 | 1041 | 1082 | 1123 | 1164 | 1205 | 1246 | 1287 | 1328 | 1369 |
| 26 | | 0902 | 0943 | 0984 | 1025 | 1066 | 1107 | 1148 | 1189 | 1230 | 1271 | 1312 | 1353 | 1394 | 1435 | 1476 | 1517 | 1558 | 1599 | 1640 |
| 27 | | 1173 | 1214 | 1255 | 1296 | 1337 | 1378 | 1419 | 1460 | 1501 | 1542 | 1583 | 1624 | 1665 | 1706 | 1747 | 1788 | 1829 | 1870 | 1911 |
| 28 | | 1444 | 1485 | 1526 | 1567 | 1608 | 1649 | 1690 | 1731 | 1772 | 1813 | 1854 | 1895 | 1936 | 1977 | 2018 | 2059 | 2100 | 2141 | 2182 |
| 29 | | 1715 | 1756 | 1797 | 1838 | 1879 | 1920 | 1961 | 2002 | 2043 | 2084 | 2125 | 2166 | 2207 | 2248 | 2289 | 2330 | 2371 | 2412 | 2453 |
| 30 | 192 | 1986 | 2027 | 2068 | 2109 | 2150 | 2191 | 2232 | 2273 | 2314 | 2355 | 2396 | 2437 | 2478 | 2519 | 2560 | 2601 | 2642 | 2683 | 2724 |
| 31 | | 2257 | 2298 | 2339 | 2380 | 2421 | 2462 | 2503 | 2544 | 2585 | 2626 | 2667 | 2708 | 2749 | 2790 | 2831 | 2872 | 2913 | 2954 | 2995 |
| 32 | | 2528 | 2569 | 2610 | 2651 | 2692 | 2733 | 2774 | 2815 | 2856 | 2897 | 2938 | 2979 | 3020 | 3061 | 3102 | 3143 | 3184 | 3225 | 3266 |
| 33 | | 2799 | 2840 | 2881 | 2922 | 2963 | 3004 | 3045 | 3086 | 3127 | 3168 | 3209 | 3250 | 3291 | 3332 | 3373 | 3414 | 3455 | 3496 | 3537 |
| 34 | | 3070 | 3111 | 3152 | 3193 | 3234 | 3275 | 3316 | 3357 | 3398 | 3439 | 3480 | 3521 | 3562 | 3603 | 3644 | 3685 | 3726 | 3767 | 3808 |
| 35 | 192 | 3341 | 3382 | 3423 | 3464 | 3505 | 3546 | 3587 | 3628 | 3669 | 3710 | 3751 | 3792 | 3833 | 3874 | 3915 | 3956 | 3997 | 4038 | 4079 |
| 36 | | 3611 | 3652 | 3693 | 3734 | 3775 | 3816 | 3857 | 3898 | 3939 | 3980 | 4021 | 4062 | 4103 | 4144 | 4185 | 4226 | 4267 | 4308 | 4349 |
| 37 | | 3881 | 3922 | 3963 | 4004 | 4045 | 4086 | 4127 | 4168 | 4209 | 4250 | 4291 | 4332 | 4373 | 4414 | 4455 | 4496 | 4537 | 4578 | 4619 |
| 38 | | 4151 | 4192 | 4233 | 4274 | 4315 | 4356 | 4397 | 4438 | 4479 | 4520 | 4561 | 4602 | 4643 | 4684 | 4725 | 4766 | 4807 | 4848 | 4889 |
| 39 | | 4421 | 4462 | 4503 | 4544 | 4585 | 4626 | 4667 | 4708 | 4749 | 4790 | 4831 | 4872 | 4913 | 4954 | 4995 | 5036 | 5077 | 5118 | 5159 |
| 40 | 192 | 4691 | 4732 | 4773 | 4814 | 4855 | 4896 | 4937 | 4978 | 5019 | 5060 | 5101 | 5142 | 5183 | 5224 | 5265 | 5306 | 5347 | 5388 | 5429 |
| 41 | | 4961 | 5002 | 5043 | 5084 | 5125 | 5166 | 5207 | 5248 | 5289 | 5330 | 5371 | 5412 | 5453 | 5494 | 5535 | 5576 | 5617 | 5658 | 5699 |
| 42 | | 5231 | 5272 | 5313 | 5354 | 5395 | 5436 | 5477 | 5518 | 5559 | 5600 | 5641 | 5682 | 5723 | 5764 | 5805 | 5846 | 5887 | 5928 | 5969 |
| 43 | | 5501 | 5542 | 5583 | 5624 | 5665 | 5706 | 5747 | 5788 | 5829 | 5870 | 5911 | 5952 | 5993 | 6034 | 6075 | 6116 | 6157 | 6198 | 6239 |
| 44 | | 5771 | 5812 | 5853 | 5894 | 5935 | 5976 | 6017 | 6058 | 6099 | 6140 | 6181 | 6222 | 6263 | 6304 | 6345 | 6386 | 6427 | 6468 | 6509 |
| 45 | 192 | 6041 | 6082 | 6123 | 6164 | 6205 | 6246 | 6287 | 6328 | 6369 | 6410 | 6451 | 6492 | 6533 | 6574 | 6615 | 6656 | 6697 | 6738 | 6779 |
| 46 | | 6311 | 6352 | 6393 | 6434 | 6475 | 6516 | 6557 | 6598 | 6639 | 6680 | 6721 | 6762 | 6803 | 6844 | 6885 | 6926 | 6967 | 7008 | 7049 |
| 47 | | 6581 | 6622 | 6663 | 6704 | 6745 | 6786 | 6827 | 6868 | 6909 | 6950 | 6991 | 7032 | 7073 | 7114 | 7155 | 7196 | 7237 | 7278 | 7319 |
| 48 | | 6851 | 6892 | 6933 | 6974 | 7015 | 7056 | 7097 | 7138 | 7179 | 7220 | 7261 | 7302 | 7343 | 7384 | 7425 | 7466 | 7507 | 7548 | 7589 |
| 49 | | 7121 | 7162 | 7203 | 7244 | 7285 | 7326 | 7367 | 7408 | 7449 | 7490 | 7531 | 7572 | 7613 | 7654 | 7695 | 7736 | 7777 | 7818 | 7859 |
| 50 | 192 | 7391 | 7432 | 7473 | 7514 | 7555 | 7596 | 7637 | 7678 | 7719 | 7760 | 7801 | 7842 | 7883 | 7924 | 7965 | 8006 | 8047 | 8088 | 8129 |
| 51 | | 7661 | 7702 | 7743 | 7784 | 7825 | 7866 | 7907 | 7948 | 7989 | 8030 | 8071 | 8112 | 8153 | 8194 | 8235 | 8276 | 8317 | 8358 | 8399 |
| 52 | | 7931 | 7972 | 8013 | 8054 | 8095 | 8136 | 8177 | 8218 | 8259 | 8300 | 8341 | 8382 | 8423 | 8464 | 8505 | 8546 | 8587 | 8628 | 8669 |
| 53 | | 8201 | 8242 | 8283 | 8324 | 8365 | 8406 | 8447 | 8488 | 8529 | 8570 | 8611 | 8652 | 8693 | 8734 | 8775 | 8816 | 8857 | 8898 | 8939 |
| 54 | | 8471 | 8512 | 8553 | 8594 | 8635 | 8676 | 8717 | 8758 | 8799 | 8840 | 8881 | 8922 | 8963 | 9004 | 9045 | 9086 | 9127 | 9168 | 9209 |
| 55 | | 8741 | 8782 | 8823 | 8864 | 8905 | 8946 | 8987 | 9028 | 9069 | 9110 | 9151 | 9192 | 9233 | 9274 | 9315 | 9356 | 9397 | 9438 | 9479 |
| 56 | | 9011 | 9052 | 9093 | 9134 | 9175 | 9216 | 9257 | 9298 | 9339 | 9380 | 9421 | 9462 | 9503 | 9544 | 9585 | 9626 | 9667 | 9708 | 9749 |
| 57 | | 9281 | 9322 | 9363 | 9404 | 9445 | 9486 | 9527 | 9568 | 9609 | 9650 | 9691 | 9732 | 9773 | 9814 | 9855 | 9896 | 9937 | 9978 | 0019 |
| 58 | | 9551 | 9592 | 9633 | 9674 | 9715 | 9756 | 9797 | 9838 | 9879 | 9920 | 9961 | 0002 | 0043 | 0084 | 0125 | 0166 | 0207 | 0248 | 0289 |
| 59 | | 9821 | 9862 | 9903 | 9944 | 9985 | 0026 | 0067 | 0108 | 0149 | 0190 | 0231 | 0272 | 0313 | 0354 | 0395 | 0436 | 0477 | 0518 | 0559 |
| 60 | 193 | 0091 | 0132 | 0173 | 0214 | 0255 | 0296 | 0337 | 0378 | 0419 | 0460 | 0501 | 0542 | 0583 | 0624 | 0665 | 0706 | 0747 | 0788 | 0829 |

| Sec. | ′ | Sums |
|---|---|---|
| additt. | ′ | |
| | 0 | 191 2841 |
| | 1 | 3114 |
| | 2 | 3387 |
| 14 | 3 | 3714 |
| 19 | 4 | 4003 |
| 24 | 5 | 491 4293 |
| 29 | 6 | 4585 |
| 34 | 7 | 4878 |
| 39 | 8 | 5170 |
| 43 | 9 | 5463 |
| 48 | 10 | 5755 |
| 53 | 11 | 6032 |
| 58 | 12 | 6322 |
| 63 | 13 | 6612 |
| 68 | 14 | 6902 |
| 72 | 15 | 491 7192 |
| 77 | 16 | 7482 |
| 82 | 17 | 7771 |
| 87 | 18 | 8061 |
| 92 | 19 | 8351 |
| 97 | 20 | 8641 |
| 101 | 21 | 8931 |
| 106 | 22 | 9221 |
| 111 | 23 | 9511 |
| 116 | 24 | 9801 |
| 121 | 25 | 492 0091 |
| 126 | 26 | 0381 |
| 130 | 27 | 0671 |
| 135 | 28 | 0961 |
| 140 | 29 | 1251 |
| 145 | 30 | 492 1541 |
| 150 | 31 | 1831 |
| 155 | 32 | 2121 |
| 159 | 33 | 2411 |
| 164 | 34 | 2701 |
| 169 | 35 | 492 2991 |
| 174 | 36 | 3281 |
| 179 | 37 | 3571 |
| 184 | 38 | 3861 |
| 188 | 39 | 4151 |
| 193 | 40 | 492 4441 |
| 198 | 41 | 4731 |
| 202 | 42 | 5021 |
| 207 | 43 | 5311 |
| | | |
| | 49 | 6471 |
| | 50 | 6761 |
| | 51 | 7051 |
| | 52 | 7341 |
| | 53 | 7631 |
| | 54 | 7921 |
| | 55 | 8211 |
| | 56 | 8501 |
| | 57 | 8791 |
| | 58 | 9081 |
| | 59 | 9371 |
| | 60 | 9661 |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C.S.A. addit. | C.S.A. 86° | Numbers |
|---|---|---|
| 290 | 0 | 108 6866 |
| 285 | 1 | [illegible] |
| 280 | 2 | 6286 |
| 275 | 3 | 5997 |
| 271 | 4 | [illegible] |
| 266 | 5 | 5417 |
| 261 | 6 | 5127 |
| 256 | 7 | 4837 |
| 251 | 8 | 4547 |
| 246 | 9 | 4255 |
| 242 | 10 | [illegible] |
| 237 | 11 | [illegible] |
| 232 | 12 | [illegible] |
| 227 | 13 | 3098 |
| 222 | 14 | [illegible] |
| 217 | 15 | 2518 |
| 213 | 16 | 2228 |
| 208 | 17 | 1939 |
| 203 | 18 | 1649 |
| 198 | 19 | 1359 |
| 193 | 20 | 1069 |
| 188 | 21 | 0779 |
| 184 | 22 | 0490 |
| 179 | 23 | 0200 |
| 174 | 24 | 107 9910 |
| 169 | 25 | 107 9620 |
| 164 | 26 | 9330 |
| 159 | 27 | 9040 |
| 155 | 28 | 8749 |
| 150 | 29 | 8459 |
| 145 | 30 | 107 8169 |
| 140 | 31 | 7879 |
| 135 | 32 | 7589 |
| 131 | 33 | 7299 |
| 126 | 34 | 7009 |
| 121 | 35 | 107 6719 |
| 116 | 36 | [illegible] |
| 111 | 37 | 6139 |
| 107 | 38 | 5849 |
| 102 | 39 | 5559 |
| 97 | 40 | 107 5269 |
| 92 | 41 | [illegible] |
| 87 | 42 | 4689 |
| 82 | 43 | [illegible] |
| 77 | 44 | [illegible] |
| 73 | 45 | 107 3818 |
| 68 | 46 | 3528 |
| 63 | 47 | [illegible] |
| 58 | 48 | [illegible] |
| 53 | 49 | [illegible] |
| 48 | 50 | 107 [illegible] |
| 43 | 51 | 2078 |
| 38 | 52 | [illegible] |
| 34 | 53 | [illegible] |
| 29 | 54 | [illegible] |
| 24 | 55 | 107 [illegible] |
| 19 | 56 | [illegible] |
| 14 | 57 | [illegible] |
| 10 | 58 | [illegible] |
| 5 | 59 | 106 [illegible] |

| Parts for Seconds of Auxil. Argum. additive | C.A.C. & A. D. 86° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 193 | 0244 | 0279 | 0314 | 0349 | 0384 | 0419 | 0454 | 0490 | 0525 | 0560 | 0595 | 0630 | 0666 | 0701 | 0736 | 0771 | 0807 |
| 1 | | 0534 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | | 0824 | 0859 | 0894 | 0928 | 0963 | 0998 | 1033 | 1068 | 1103 | 1138 | 1173 | 1208 | 1243 | 1277 | 1312 | 1347 | 1382 |
| 2 | | 1114 | 1149 | 1183 | 1218 | 1253 | 1288 | 1322 | 1357 | 1392 | 1427 | 1461 | 1496 | 1531 | 1566 | 1601 | 1635 | 1670 |
| 2 | | 1404 | 1439 | 1473 | 1508 | 1543 | 1577 | 1612 | 1646 | 1681 | 1716 | 1750 | 1785 | 1819 | 1854 | 1889 | 1923 | 1958 |
| 3 | 193 | 1694 | 1728 | 1763 | 1798 | 1832 | 1867 | 1901 | 1936 | 1970 | 2004 | 2039 | 2073 | 2108 | 2142 | 2177 | 2211 | 2246 |
| 3 | | 1985 | 2019 | 2053 | 2087 | 2122 | 2156 | 2191 | 2225 | 2259 | 2293 | 2328 | 2362 | 2396 | 2431 | 2465 | 2499 | 2534 |
| 4 | | 2275 | 2309 | 2343 | 2377 | 2411 | 2446 | 2480 | 2514 | 2548 | 2582 | 2616 | 2651 | 2685 | 2719 | 2753 | 2787 | 2822 |
| 4 | | 2565 | 2599 | 2633 | 2667 | 2701 | 2735 | 2769 | 2803 | 2837 | 2871 | 2905 | 2939 | 2973 | 3007 | 3041 | 3075 | 3109 |
| 5 | | 2855 | 2889 | 2923 | 2957 | 2991 | 3025 | 3058 | 3092 | 3126 | 3160 | 3194 | 3228 | 3262 | 3296 | 3329 | 3363 | 3397 |
| 5 | 193 | 3140 | 3174 | 3213 | 3247 | 3282 | 3314 | 3348 | 3381 | 3415 | 3449 | 3483 | 3517 | 3550 | 3584 | 3618 | 3651 | 3685 |
| 6 | | 3426 | 3460 | 3493 | 3526 | 3560 | 3593 | 3627 | 3660 | 3694 | 3727 | 3761 | 3794 | 3828 | 3861 | 3895 | 3928 | 3962 |
| 6 | | 3711 | 3744 | 3778 | 3811 | 3844 | 3878 | 3911 | 3944 | 3977 | 4011 | 4044 | 4077 | 4110 | 4144 | 4177 | 4210 | 4243 |
| 7 | | 3995 | 4028 | 4061 | 4094 | 4127 | 4160 | 4193 | 4226 | 4259 | 4292 | 4325 | 4358 | 4391 | 4424 | 4457 | 4490 | 4523 |
| 7 | | 4278 | 4311 | 4344 | 4377 | 4410 | 4442 | 4475 | 4508 | 4541 | 4574 | 4607 | 4639 | 4672 | 4705 | 4738 | 4771 | 4804 |
| 8 | | 4560 | 4593 | 4626 | 4658 | 4691 | 4724 | 4756 | 4789 | 4822 | 4854 | 4887 | 4920 | 4952 | 4985 | 5018 | 5050 | 5083 |
| 8 | 193 | 4843 | 4876 | 4908 | 4941 | 4973 | 5006 | 5038 | 5071 | 5103 | 5136 | 5168 | 5201 | 5233 | 5266 | 5298 | 5331 | 5363 |
| 9 | | 5125 | 5157 | 5190 | 5222 | 5254 | 5287 | 5319 | 5351 | 5384 | 5416 | 5448 | 5481 | 5513 | 5545 | 5578 | 5610 | 5642 |
| 9 | | 5406 | 5438 | 5470 | 5502 | 5534 | 5566 | 5598 | 5630 | 5662 | 5695 | 5727 | 5759 | 5791 | 5823 | 5855 | 5887 | 5919 |
| 10 | | 5686 | 5718 | 5750 | 5782 | 5814 | 5845 | 5877 | 5909 | 5941 | 5973 | 6005 | 6037 | 6069 | 6101 | 6133 | 6165 | 6197 |
| 10 | 193 | 5966 | 5998 | 6030 | 6061 | 6093 | 6125 | 6157 | 6189 | 6220 | 6252 | 6284 | 6316 | 6348 | 6379 | 6411 | 6443 | 6475 |
| 11 | | 6245 | 6277 | 6308 | 6340 | 6372 | 6403 | 6435 | 6466 | 6498 | 6530 | 6561 | 6593 | 6624 | 6656 | 6688 | 6719 | 6751 |
| 11 | | 6524 | 6555 | 6587 | 6618 | 6650 | 6681 | 6713 | 6744 | 6776 | 6807 | 6839 | 6870 | 6902 | 6933 | 6965 | 6996 | 7028 |
| 12 | | 6802 | 6833 | 6865 | 6896 | 6927 | 6959 | 6990 | 7021 | 7053 | 7084 | 7115 | 7147 | 7178 | 7209 | 7241 | 7272 | 7303 |
| 12 | | 7080 | 7111 | 7142 | 7173 | 7205 | 7236 | 7267 | 7298 | 7329 | 7361 | 7392 | 7423 | 7454 | 7485 | 7516 | 7548 | 7579 |
| 13 | 193 | 7358 | 7389 | 7420 | 7451 | 7482 | 7513 | 7544 | 7575 | 7606 | 7637 | 7668 | 7699 | 7730 | 7761 | 7792 | 7823 | 7854 |
| 13 | | 7635 | 7666 | 7697 | 7728 | 7759 | 7790 | 7821 | 7852 | 7883 | 7914 | 7945 | 7976 | 8007 | 8038 | 8069 | 8100 | 8131 |
| 14 | | 7912 | 7943 | 7974 | 8005 | 8036 | 8067 | 8098 | 8129 | 8159 | 8190 | 8221 | 8252 | 8283 | 8314 | 8345 | 8376 | 8407 |
| 14 | | 8189 | 8220 | 8251 | 8282 | 8313 | 8343 | 8374 | 8405 | 8436 | 8467 | 8498 | 8528 | 8559 | 8590 | 8621 | 8652 | 8683 |
| 15 | | 8466 | 8497 | 8528 | 8559 | 8589 | 8620 | 8651 | 8682 | 8712 | 8743 | 8774 | 8805 | 8835 | 8866 | 8897 | 8928 | 8958 |
| 15 | 193 | 8743 | 8774 | 8805 | 8835 | 8866 | 8897 | 8927 | 8958 | 8989 | 9019 | 9050 | 9081 | 9111 | 9142 | 9173 | 9203 | 9234 |
| 16 | | 9020 | 9051 | 9081 | 9112 | 9142 | 9173 | 9204 | 9234 | 9265 | 9295 | 9326 | 9356 | 9387 | 9417 | 9448 | 9479 | 9509 |
| 16 | | 9297 | 9327 | 9358 | 9388 | 9419 | 9449 | 9480 | 9510 | 9541 | 9571 | 9602 | 9632 | 9663 | 9693 | 9724 | 9754 | 9785 |
| 17 | | 9573 | 9604 | 9634 | 9665 | 9695 | 9725 | 9756 | 9786 | 9817 | 9847 | 9877 | 9908 | 9938 | 9969 | 9999 | 0029 | 0060 |
| 17 | | 9850 | 9880 | 9911 | 9941 | 9971 | 0002 | 0032 | 0063 | 0093 | 0123 | 0154 | 0184 | 0214 | 0245 | 0275 | 0305 | 0336 |
| 18 | 194 | 0126 | 0156 | 0187 | 0217 | 0247 | 0278 | 0308 | 0338 | 0369 | 0399 | 0429 | 0459 | 0490 | 0520 | 0550 | 0581 | 0611 |
| 18 | | 0403 | 0433 | 0463 | 0494 | 0524 | 0554 | 0585 | 0615 | 0645 | 0675 | 0706 | 0736 | 0766 | 0796 | 0827 | 0857 | 0887 |
| 19 | | 0679 | 0709 | 0739 | 0770 | 0800 | 0830 | 0860 | 0890 | 0921 | 0951 | 0981 | 1011 | 1041 | 1071 | 1102 | 1132 | 1162 |
| 19 | | 0955 | 0985 | 1015 | 1045 | 1075 | 1105 | 1135 | 1165 | 1196 | 1226 | 1256 | 1286 | 1316 | 1346 | 1376 | 1406 | 1436 |
| 20 | | 1231 | 1261 | 1291 | 1321 | 1351 | 1381 | 1411 | 1441 | 1471 | 1501 | 1531 | 1561 | 1591 | 1621 | 1651 | 1681 | 1711 |
| 20 | | 1507 | 1537 | 1567 | 1597 | 1627 | 1657 | 1687 | 1717 | 1747 | 1777 | 1807 | 1837 | 1867 | 1897 | 1927 | 1957 | 1987 |
| 21 | 194 | 1783 | 1813 | 1843 | 1873 | 1903 | 1933 | 1963 | 1993 | 2023 | 2053 | 2083 | 2113 | 2143 | 2173 | 2203 | 2233 | 2263 |
| 21 | | 2059 | 2089 | 2119 | 2149 | 2179 | 2209 | 2239 | 2269 | 2299 | 2329 | 2359 | 2389 | 2419 | 2449 | 2479 | 2509 | 2539 |
| 22 | | 2335 | 2365 | 2395 | 2425 | 2455 | 2485 | 2515 | 2545 | 2575 | 2605 | 2635 | 2665 | 2695 | 2725 | 2755 | 2785 | 2815 |
| 22 | | 2611 | 2641 | 2671 | 2701 | 2731 | 2761 | 2791 | 2821 | 2851 | 2881 | 2911 | 2941 | 2971 | 3001 | 3031 | 3061 | 3091 |
| 23 | | 2887 | 2917 | 2947 | 2977 | 3007 | 3037 | 3067 | 3097 | 3127 | 3157 | 3187 | 3217 | 3247 | 3277 | 3307 | 3337 | 3367 |
| 23 | | 3163 | 3193 | 3223 | 3253 | 3283 | 3313 | 3343 | 3373 | 3403 | 3433 | 3463 | 3493 | 3523 | 3553 | 3583 | 3613 | 3643 |
| 24 | 194 | 3439 | 3469 | 3499 | 3529 | 3559 | 3589 | 3619 | 3649 | 3679 | 3709 | 3739 | 3769 | 3799 | 3829 | 3859 | 3889 | 3919 |
| 24 | | 3715 | 3745 | 3775 | 3805 | 3835 | 3865 | 3895 | 3925 | 3955 | 3985 | 4015 | 4045 | 4075 | 4105 | 4135 | 4165 | 4195 |
| 25 | | 3991 | 4021 | 4051 | 4081 | 4111 | 4141 | 4171 | 4201 | 4231 | 4261 | 4291 | 4321 | 4351 | 4381 | 4411 | 4441 | 4471 |
| 25 | | 4267 | 4297 | 4327 | 4357 | 4387 | 4417 | 4447 | 4477 | 4507 | 4537 | 4567 | 4597 | 4627 | 4657 | 4687 | 4717 | 4747 |
| 26 | 194 | 4543 | 4573 | 4603 | 4633 | 4663 | 4693 | 4723 | 4753 | 4783 | 4813 | 4843 | 4873 | 4903 | 4933 | 4963 | 4993 | 5023 |
| 26 | | 4819 | 4849 | 4879 | 4909 | 4939 | 4969 | 4999 | 5029 | 5059 | 5089 | 5119 | 5149 | 5179 | 5209 | 5239 | 5269 | 5299 |
| 27 | | 5095 | 5125 | 5155 | 5185 | 5215 | 5245 | 5275 | 5305 | 5335 | 5365 | 5395 | 5425 | 5455 | 5485 | 5515 | 5545 | 5575 |
| 27 | | 5371 | 5401 | 5431 | 5461 | 5491 | 5521 | 5551 | 5581 | 5611 | 5641 | 5671 | 5701 | 5731 | 5761 | 5791 | 5821 | 5851 |
| 28 | | 5647 | 5677 | 5707 | 5737 | 5767 | 5797 | 5827 | 5857 | 5887 | 5917 | 5947 | 5977 | 6007 | 6037 | 6067 | 6097 | 6127 |
| 28 | 194 | 5923 | 5953 | 5983 | 6013 | 6043 | 6073 | 6103 | 6133 | 6163 | 6193 | 6223 | 6253 | 6283 | 6313 | 6343 | 6373 | 6403 |
| 29 | | 6199 | 6229 | 6259 | 6289 | 6319 | 6349 | 6379 | 6409 | 6439 | 6469 | 6499 | 6529 | 6559 | 6589 | 6619 | 6649 | 6679 |
| 29 | | 6475 | 6505 | 6535 | 6565 | 6595 | 6625 | 6655 | 6685 | 6715 | 6745 | 6775 | 6805 | 6835 | 6865 | 6895 | 6925 | 6955 |
| 30 | | 6751 | 6781 | 6811 | 6841 | 6871 | 6901 | 6931 | 6961 | 6991 | 7021 | 7051 | 7081 | 7111 | 7141 | 7171 | 7201 | 7231 |
| 30 | | 7027 | 7057 | 7087 | 7117 | 7147 | 7177 | 7207 | 7237 | 7267 | 7297 | 7327 | 7357 | 7387 | 7417 | 7447 | 7477 | 7507 |
| 31 | | 7303 | 7333 | 7363 | 7393 | 7423 | 7453 | 7483 | 7513 | 7543 | 7573 | 7603 | 7633 | 7663 | 7693 | 7723 | 7753 | 7783 |
| 31 | | 7579 | 7609 | 7639 | 7669 | 7699 | 7729 | 7759 | 7789 | 7819 | 7849 | 7879 | 7909 | 7939 | 7969 | 7999 | 8029 | 8059 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Page for Second. of Auxil. Argum. additive | Arg. & A.D. 86° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| | 0 | 193 | | | | | | | | | | | | | | | | |
| | 1 | | 1129 | 1165 | 1200 | 1235 | 1270 | 1305 | 1340 | 1375 | 1410 | 1446 | 1481 | 1516 | 1551 | 1586 | 1621 | 1657 | 1692 |
| | 2 | | 1417 | 1452 | 1487 | 1522 | 1557 | 1592 | 1627 | 1662 | 1697 | 1732 | 1767 | 1802 | 1837 | 1872 | 1907 | 1942 | 1977 |
| | 3 | | | | | | | | | | | | | | | | | | |
| | 4 | | 1993 | 2027 | 2062 | 2097 | 2131 | 2166 | 2201 | 2235 | 2270 | 2305 | 2339 | 2374 | 2409 | 2444 | 24 | 2513 | |
| | 5 | 193 | 2280 | 2315 | 2349 | 2384 | 2418 | 2453 | 2488 | 2522 | 2557 | 2591 | 2626 | 2 | | | | | |
| | 6 | | | | | | | | | | | | | | | | | | |
| | 7 | | 2856 | 2890 | 2924 | 2958 | 2993 | 3027 | 3061 | 3095 | 3130 | 3164 | 3198 | 3233 | 3267 | 3301 | 3335 | 3370 | 3404 |
| | 8 | | 3144 | 3178 | 3212 | 3246 | 3280 | 3314 | 3348 | 3382 | 3416 | 3450 | 3485 | 3519 | 3553 | 3587 | 3621 | 3655 | 3689 |
| | 9 | | | | | | | | | | | | | | | | | | |
| | 10 | 193 | | | | | | | | | | | | | | | | | |
| | 11 | | | | | | | | | | | | | | | | | | |
| | 12 | | | | | | | | | | | | | | | | | | |
| | 13 | | | | | | | | | | | | | | | | | | |
| | 14 | | | | | | | | | | | | | | | | | | |
| | 15 | 193 | 5158 | 5191 | 5224 | 5257 | 5290 | 5323 | 5356 | 5390 | 5423 | 5456 | 5489 | 5522 | 5555 | 5588 | 5621 | 5654 | 5687 |
| | 16 | | | | | | | | | | | | | | | | | | |
| | 17 | | | | | | | | | | | | | | | | | | |
| | 18 | | | | | | | | | | | | | | | | | | |
| | 19 | | | | | | | | | | | | | | | | | | |
| | 20 | 193 | | | | | | | | | | | | | | | | | |
| | 21 | | | | | | | | | | | | | | | | | | |
| | 22 | | | | | | | | | | | | | | | | | | |
| | 23 | | 7460 | 7492 | 7524 | 7556 | 7588 | 7620 | 7652 | 7683 | 7715 | 7747 | 7779 | 7811 | 7843 | 7875 | 7907 | 7939 | 7971 |
| | 24 | | | | | | | | | | | | | | | | | | |
| | 25 | 193 | | | | | | | | | | | | | | | | | |
| | 26 | | | | | | | | | | | | | | | | | | |
| | 27 | | | | | | | | | | | | | | | | | | |
| | 28 | | | | | | | | | | | | | | | | | | |
| | 29 | | | | | | | | | | | | | | | | | | |
| | 30 | 193 | | | | | | | | | | | | | | | | | |
| | 31 | 193 (194 | | | | | | | | | | | | | | | | | |
| | 32 | 194 | | | | | | | | | | | | | | | | | |
| | 33 | | | | | | | | | | | | | | | | | | |
| | 34 | | | | | | | | | | | | | | | | | | |
| | 35 | 194 | | | | | | | | | | | | | | | | | |
| | 36 | | | | | | | | | | | | | | | | | | |
| | 37 | | | | | | | | | | | | | | | | | | |
| | 38 | | | | | | | | | | | | | | | | | | |
| | 39 | | | | | | | | | | | | | | | | | | |
| | 40 | 194 | | | | | | | | | | | | | | | | | |
| 21 | 41 | | 2642 | 2671 | 2700 | 2730 | 2759 | 2788 | 2817 | 2846 | 2876 | 2905 | 2934 | 2964 | 2993 | 3022 | 3051 | 3081 | 3110 |
| | 42 | | | | | | | | | | | | | | | | | | |
| | 43 | | | | | | | | | | | | | | | | | | |
| | 44 | | | | | | | | | | | | | | | | | | |
| 23 | 45 | 194 | 3793 | 3822 | 3851 | 3879 | 3908 | 3937 | 3965 | 3994 | 4023 | 4051 | 4080 | 4109 | 4138 | 4166 | 4195 | 4224 | 4252 |
| 24 | 46 | | 4081 | 4110 | 4138 | 4167 | 4195 | 4224 | 4252 | 4281 | 4310 | 4338 | 4367 | 4395 | 4424 | 4452 | 4481 | 4509 | 4538 |
| 24 | 47 | | 4369 | 4398 | 4426 | 4454 | 4483 | 4511 | 4539 | 4568 | 4596 | 4625 | 4653 | 4681 | 4710 | 4738 | 4767 | 4795 | 4823 |
| | 48 | | | | | | | | | | | | | | | | | | |
| | 49 | | | | | | | | | | | | | | | | | | |
| 26 | 50 | 194 | 5233 | 5261 | 5289 | 5317 | 5345 | 5373 | 5401 | 5429 | 5457 | 5484 | 5512 | 5540 | 5568 | 5596 | 5624 | 5652 | 5680 |
| | 51 | | | | | | | | | | | | | | | | | | |
| 27 | 52 | | 5809 | 5837 | 5864 | 5892 | 5920 | 5947 | 5975 | 6002 | 6030 | 6058 | 6085 | 6113 | 6141 | 6168 | 6196 | 6224 | 6252 |
| | 53 | | | | | | | | | | | | | | | | | | |
| | 54 | | | | | | | | | | | | | | | | | | |
| | 55 | 194 | | | | | | | | | | | | | | | | | |
| | 56 | | | | | | | | | | | | | | | | | | |
| | 57 | | | | | | | | | | | | | | | | | | |
| | 58 | | | | | | | | | | | | | | | | | | |
| 31 | 59 | | 7825 | 7851 | 7878 | 7905 | 7931 | 7958 | 7985 | 8011 | 8038 | 8064 | 8091 | 8118 | 8144 | 8171 | 8198 | 8224 | 8251 |

| Page | ′ | Sums |
|---|---|---|
| 21 | 40 | |
| | 41 | 193 |
| | 42 | |
| | 43 | |
| | 44 | |
| 23 | 45 | 193 |
| | 46 | |
| 24 | 47 | |
| | 48 | |
| | 49 | |
| 26 | 50 | 193 |
| | 51 | |
| 27 | 52 | |
| | 53 | |
| | 54 | |
| | 55 | 194 |
| | 56 | |
| | 57 | |
| | 58 | |
| 31 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Page & S. D | No. | Numbers |
|---|---|---|
| 271 | 3 | |
| 218 | 15 | 106 5113 |
| 213 | 16 | 4[illegible] |
| 208 | 17 | 453[illegible] |
| 203 | 18 | 4144 |
| 199 | 19 | 3[illegible] |
| 194 | 20 | 106 [illegible] |
| 189 | 21 | 3871 |
| 184 | 22 | [illegible] |
| 179 | 23 | 3[illegible] |
| 174 | 24 | [illegible] |
| [illegible] | 25 | 106 [illegible] |
| [illegible] | 26 | [illegible] |
| [illegible] | 27 | [illegible] |
| [illegible] | 28 | [illegible] |
| [illegible] | 29 | [illegible] |
| 145 | 30 | 106 0758 |
| 140 | 31 | 0468 |
| 136 | 32 | 0177 |
| 131 | 33 | 105 9887 |
| 126 | 34 | 9597 |
| 121 | 35 | 105 9300 |
| 116 | 36 | [illegible] |
| 111 | 37 | 8726 |
| 106 | 38 | 8435 |
| 102 | 39 | 8145 |
| 97 | 40 | 105 7854 |
| 92 | 41 | 7564 |
| 87 | 42 | 7274 |
| 82 | 43 | [illegible] |
| 77 | 44 | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | 50 | [illegible] |
| [illegible] | 51 | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible]

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Min. | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 194 8113 | 8139 | 8166 | 8192 | 8219 | 8245 | 8272 | 8298 | 8325 | 8351 | 8378 | 84 | | | | | |
| 1 | 8401 | 8427 | 8453 | 8480 | 8506 | 8532 | 8559 | 8585 | 8611 | 8638 | 8664 | 869 | | | | | |
| 2 | | | 715 | 741 | | | | | | | | | | | | | |
| 3 | 8977 | 9003 | 9029 | 9055 | 9081 | 9107 | 9133 | 9159 | 9185 | 9211 | 9237 | 9263 | 928 | | 331 | | |
| 4 | 9265 | 9291 | 9317 | 9343 | 9368 | 9394 | 9420 | 9446 | 9472 | 9498 | 9524 | 955 | | | | | |
| 5 | 194 9553 | 9579 | 9604 | 9630 | 9656 | 9682 | 9707 | 9733 | | | | | | | | | |
| 6 | 194 (195) 9841 | 9867 | 9892 | 9918 | 9943 | 9969 | 9994 | 0020 | 0046 | 0071 | 0097 | 0122 | 0148 | 0174 | 0199 | 0225 | 0251 |
| 7 | 195 0129 | 0154 | 0180 | 0205 | 0231 | 0256 | 0282 | 0307 | 0332 | 0358 | 0383 | 0409 | 0434 | 0460 | 0485 | 0511 | 0536 |
| 8 | 0417 | 0442 | 0468 | 0493 | 0518 | 0543 | 0569 | 0594 | 0619 | 0645 | 0670 | 0695 | 0721 | 0746 | 0771 | 0797 | 0822 |
| 9 | 0705 | 0730 | 0755 | 0780 | 0806 | 0831 | 0856 | 0881 | 0906 | 0931 | 0956 | 0982 | 1007 | 1032 | 1057 | 1082 | 1108 |
| 10 | 195 | | | | | | | | | | | | | | | | |
| 11 | 1251 | | | | | | | | | | | | | | | | |
| 12 | 15 | | | | | | | 1742 | | | | | | | | | |
| 13 | 1857 | 1882 | 1906 | 1931 | 1955 | 1980 | 2004 | 2029 | 2054 | 2078 | 2103 | 2127 | 2152 | 2177 | 2201 | 2226 | 2250 |
| 14 | 21 | | | | | | | | | | | | | | | | |
| 15 | 195 | | | | | | | | | | | | | | | | |
| 16 | 2721 | | | | | | | | | | | | | | | | |
| 17 | 3010 | 3033 | 3057 | 3081 | 3105 | 3129 | 3153 | 3177 | 3201 | 3225 | 3249 | 3273 | 3297 | 3321 | 3345 | 3369 | 3393 |
| 18 | 3298 | 3321 | 3345 | 3369 | 3393 | 3417 | 3440 | 3464 | 3488 | 3512 | 3536 | 3560 | 3583 | 3607 | 3631 | 3655 | 3679 |
| 19 | 3586 | 3609 | 3633 | 3657 | 3680 | 3704 | 3728 | 3751 | 3775 | 3799 | 3822 | 3846 | 3870 | 3893 | 3917 | 3941 | 3965 |
| 20 | 195 3874 | 3897 | 3921 | 3944 | 3968 | 3991 | 4015 | 4038 | 4062 | 4085 | 4109 | 4133 | 4156 | 4180 | 4203 | 4227 | 4250 |
| 21 | 4162 | 4185 | 4208 | 4232 | 4255 | 4279 | 4302 | 4325 | 4349 | 4372 | 4396 | 4419 | 4442 | 4466 | 4489 | 4513 | 4536 |
| 22 | 44 | | | | | | | | | | | | | | | | |
| 23 | 4738 | 4761 | 4784 | 4807 | 4830 | 4853 | 4876 | 4900 | 4923 | 4946 | 4969 | 4992 | 5015 | 5038 | 5061 | 5084 | 5107 |
| 24 | 5026 | 5049 | 5072 | 5095 | 5118 | 5141 | 5164 | 5187 | 5210 | 5232 | 5255 | 5278 | 5301 | 5324 | 5347 | 5370 | 5393 |
| 25 | 195 5314 | 5337 | 5360 | 5382 | 5405 | 5428 | 5451 | 5474 | 5496 | 5519 | 5542 | 5565 | 5588 | 5611 | 5633 | 5656 | 5679 |
| 26 | 5602 | 5625 | 5647 | 5670 | 5693 | 5715 | 5738 | 5761 | 5783 | 5806 | 5829 | 5851 | 5874 | 5897 | 5919 | 5942 | 5965 |
| 27 | 5890 | 5913 | 5935 | 5958 | 5980 | 6003 | 6025 | 6048 | 6070 | 6093 | 6115 | 6138 | 6160 | 6183 | 6205 | 6228 | 6251 |
| 28 | 6178 | 6201 | 6223 | 6246 | 6268 | 6290 | 6313 | 6335 | 6357 | 6380 | 6402 | 6424 | 6447 | 6469 | 6491 | 6514 | 6536 |
| 29 | 6467 | 6489 | 6511 | 6533 | 6555 | 6578 | 6600 | 6622 | 6645 | 6666 | 6689 | 6711 | 6733 | 6755 | 6778 | 6800 | 6822 |
| 30 | 195 | | | | | | | | | | | | | | | | |
| 31 | 7 | | | | | | | | | | | | | | | | |
| 32 | 7331 | | | | | | | | | | | | | | | | |
| 33 | 7619 | 7641 | 7662 | 7684 | 7705 | 7727 | 7749 | 7770 | 7792 | 7814 | 7835 | 7857 | 7878 | 7900 | 7922 | 7943 | 7965 |
| 34 | 7907 | 7929 | 7950 | 7972 | 7993 | 8014 | 8036 | 8057 | 8079 | 8100 | 8122 | 8143 | 8165 | 8186 | 8208 | 8229 | 8251 |
| 35 | 195 | 81 | | | | | | | | | | | | | | | |
| 36 | 8483 | 8505 | 8526 | 8547 | 8568 | 8589 | 8610 | 8632 | 8653 | 8674 | 8695 | 8716 | 8738 | 8759 | 8780 | 8801 | 8822 |
| 37 | 8772 | 8793 | 8814 | 8835 | 8856 | 8877 | 8898 | 8919 | 8940 | 8961 | 8982 | 9003 | 9024 | 9045 | 9066 | 9087 | 9108 |
| 38 | 9060 | 9081 | 9101 | 9122 | 9143 | 9164 | 9185 | 9206 | 9227 | 9248 | 9269 | 9289 | 9310 | 9331 | 9352 | 9373 | 9394 |
| 39 | 9348 | 9369 | 9389 | 9410 | 9431 | 9452 | 9472 | 9493 | 9514 | 9534 | 9555 | 9576 | 9597 | 9618 | 9638 | 9659 | 9680 |
| 40 | 196 | | | | | | | | | | | | | | | | |
| 41 | 196 | | | | | | | | | | | | | | | | |
| 42 | 196 | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | |
| 45 | 196 | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | | | |
| 50 | 196 | | | | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | | |
| 55 | | | | | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | | | |
| 59 | 196 | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | | |

Sums for finding the Corrected Distances.

| Min. | 87′ | Sums |
|---|---|---|
| | | |
| 0 | 0 | 494 7 |
| 1 | 1 | 7 |
| 2 | 2 | 8 |
| 3 | 3 | 8 |
| 4 | 4 | 8 |
| 5 | 5 | 494 9 |
| 6 | 6 | 9 |
| 7 | 7 | 9 |
| 8 | 8 | 9 |
| 9 | 9 | 9 |
| 10 | 10 | 495 0 |
| 11 | 11 | 0 |
| 12 | 12 | 1 |
| 13 | 13 | 1 |
| 14 | 14 | 1 |
| 15 | 15 | 2 |
| 16 | 16 | 2 |
| 17 | 17 | 3 |
| 18 | 18 | 3 |
| 19 | 19 | 3 |
| 20 | 20 | 495 4 |
| 21 | 21 | 4 |
| 22 | 22 | 4 |
| 23 | 23 | 5 |
| 24 | 24 | 5 |
| 25 | 25 | 5 |
| 26 | 26 | 6 |
| 27 | 27 | 6 |
| 28 | 28 | 6 |
| 29 | 29 | 7 |
| 30 | 30 | 7 |
| 31 | 31 | 7 |
| 32 | 32 | 8 |
| 33 | 33 | 7 |
| 34 | 34 | 754 |
| 35 | 35 | 8 |
| 36 | 36 | 8124 |
| 37 | 37 | 8415 |
| 38 | 38 | 8706 |
| 39 | 39 | 8997 |
| 40 | 40 | 9288 |
| 41 | 41 | 9579 |
| 42 | 42 | 9870 |
| 43 | 43 | 496 161 |
| 44 | 44 | 452 |
| 45 | 45 | 743 |
| 46 | 46 | 1034 |
| 47 | 47 | 1325 |
| 48 | 48 | 1616 |
| 49 | 49 | 1907 |
| 50 | 50 | 2198 |
| 51 | 51 | 2489 |
| 52 | 52 | 2780 |
| 53 | 53 | 3071 |
| 54 | 54 | 3362 |
| 55 | 55 | 3653 |
| 56 | 56 | 3944 |
| 57 | 57 | 4235 |
| 58 | 58 | 4526 |
| 59 | 59 | 4817 |
| 60 | 60 | 5108 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| Year A. D. 88 | Numbers |
|---|---|
| 0 | 0 |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| 8 | 104 9711 |
| 9 | 9 |
| 10 | 10 |
| 11 | 11 |
| 12 | 12 |
| 13 | 13 |
| 14 | 14 |
| 15 | 15 |
| 16 | 16 |
| 17 | 17 |
| 18 | 18 |
| 19 | 19 |
| 20 | 20 |
| 21 | 21 |
| 22 | 22 |
| 23 | 23 |
| 24 | 24 |
| 25 | 25 |
| 26 | 26 4491 |
| 27 | 27 4201 |
| 28 | 28 3910 |
| 29 | 29 3620 |
| 30 | 30 |
| 31 | 31 3038 |
| 32 | 32 2748 |
| 33 | 33 2457 |
| 34 | 34 2166 |
| 35 | 35 104 1876 |
| 36 | 36 1585 |
| 37 | 37 |
| 38 | 38 |
| 39 | 39 |
| 40 | 40 104 0422 |
| 41 | 41 0132 |
| 42 | 42 |
| 43 | 43 |
| 44 | 44 |
| 45 | 45 |
| 46 | 46 |
| 47 | 47 |
| 48 | 48 |
| 49 | 49 |
| 50 | 50 |
| 51 | 51 7245 |
| 52 | 52 |
| 53 | 53 |
| 54 | 54 6353 |
| 55 | 55 103 6062 |
| 56 | 56 5772 |
| 57 | 57 5481 |
| 58 | 58 5190 |
| 59 | 59 |

| Year A. D. 88 | Days for Seconds Aux. | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 190 | 5100 | 5117 | 5134 | 5151 | 5168 | 5185 | 5202 | 5219 | 5236 | 5253 | 5270 | 5287 | 5304 | 5321 | 5338 | 5355 | 5372 |
| 1 | | 5391 | 5408 | 5425 | 5442 | 5459 | 5476 | 5493 | 5510 | 5527 | 5544 | 5561 | 5578 | 5595 | 5612 | 5629 | 5646 | 5663 |
| 2 | | 5682 | 5699 | 5716 | 5734 | 5751 | 5768 | 5786 | | | | | | | | | | |
| 3 | | 5973 | 5990 | 6007 | 6024 | 6041 | 6058 | 6076 | | | | | | | | | | |
| 4 | | 6263 | 6280 | 6297 | 6314 | 6331 | 6348 | 6365 | 6 | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | 6845 | 6862 | 6878 | 6895 | 6912 | 6928 | 6945 | 6 | | | | | | | | | |
| 7 | | 7136 | 7152 | 7169 | 7185 | 7202 | 7218 | 7235 | 7 | | | | | | | | | |
| 8 | | 7426 | | | | | | | | | | | | | | | | |
| 9 | | 7717 | 7733 | 7750 | 7766 | 7782 | 7798 | 7815 | 7 | | | | | | | | | |
| 10 | 196 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | |
| 12 | | 8589 | 8605 | 8621 | 8637 | 8653 | 8668 | 8684 | 8700 | 8716 | 8732 | 8748 | 8763 | 8779 | 8795 | 8811 | 8827 | 8843 |
| 13 | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | |
| 15 | 196 | | | | | | | | | | | | | | | | | |
| 16 | | 9752 | | | | | | | | | | | | | | | | |
| 17 | 197 | 0043 | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | |
| 20 | 197 | | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | |
| 25 | 197 | | | | | | | | | | | | | | | | | |
| 26 | | 2660 | 2674 | 2687 | 2701 | 2715 | 2729 | 2743 | 2756 | 2770 | 2784 | 2798 | 2812 | 2825 | 2839 | | | |
| 27 | | 2951 | 2964 | 2978 | 2992 | 3005 | 3019 | 3032 | 3046 | 3060 | 3073 | 3087 | 3101 | 3114 | 3128 | | | |
| 28 | | 3241 | 3255 | 3268 | 3282 | 3295 | 3309 | 3322 | 3336 | 3349 | 3363 | 3376 | 3390 | 3403 | 3417 | | | |
| 29 | | | | | | | | | | | | | | | | | | |
| 30 | 197 | | | | | | | | | | | | | | | | | |
| 31 | | 4114 | 4127 | 4140 | 4153 | 4166 | 4179 | 4192 | 4205 | 4218 | 4231 | | | | | | | |
| 32 | | 4405 | 4417 | 4430 | 4443 | 4456 | 4469 | 4482 | 4495 | 4508 | 4521 | | | | | | | |
| 33 | | | | | | | | | | | | | | | | | | |
| 34 | | 4986 | 4999 | 5011 | 5024 | 5037 | 5049 | 5062 | 5074 | 5087 | 5100 | | | | | | | |
| 35 | 197 | 5277 | 5289 | 5302 | 5314 | 5327 | 5339 | 5352 | 5364 | 5377 | 5389 | | | | | | | |
| 36 | | 5568 | 5580 | 5592 | 5605 | 5617 | 5629 | 5642 | 5654 | 5666 | 5679 | 5691 | 5703 | 5716 | 5728 | 5740 | 575 | |
| 37 | | | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | | | |
| 40 | 197 | 6731 | 6743 | 6754 | 6766 | 6778 | 6790 | 6801 | 6813 | 6825 | 6837 | 6848 | 6860 | 6872 | | | | |
| 41 | | 7022 | 7033 | 7045 | 7057 | 7068 | 7080 | 7091 | 7103 | 7114 | 7126 | 7138 | 7149 | 7161 | | | | |
| 42 | | | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | | |
| 45 | 197 | | | | | | | | | | | | | | | | | |
| 46 | | 8476 | 8487 | 8498 | 8508 | 8519 | 8530 | 8541 | 8552 | 8563 | 8574 | 8584 | 8595 | 8606 | 861 | | | |
| 47 | | 8767 | 8777 | 8788 | 8799 | 8810 | 8820 | 8831 | 8842 | 8852 | 8863 | 8874 | 8884 | 8895 | 89 | | | |
| 48 | | | | | | | | | | | | | | | | | | |
| 49 | | 9348 | 9359 | 9369 | 9380 | 9390 | 9400 | 9411 | 9421 | 9432 | 9442 | 9452 | 9463 | 9473 | 9484 | 9494 | 9505 | |
| 50 | 197 | 9639 | 9649 | 9660 | 9670 | 9680 | 9690 | 9701 | 9711 | 9721 | 9732 | 9742 | 9752 | 9762 | 9773 | 9783 | 9793 | 9804 |
| 51 | 197 (198) | 9930 | 9940 | 9950 | 9960 | 9970 | 9981 | 9991 | 0001 | 0011 | 0021 | 0031 | 0041 | 0051 | 0062 | 0072 | 0082 | 0092 |
| 52 | 198 | 0221 | 0231 | 0241 | 0251 | 0261 | 0271 | 0281 | 0291 | 0301 | | | | | | | | |
| 53 | | 0512 | 0522 | 0531 | 0541 | 0551 | 0561 | 0571 | 0580 | 0590 | | | | 0630 | 0639 | 0649 | 0659 | 0669 |
| 54 | | 0803 | 0812 | 0822 | 0832 | 0841 | 0851 | 0861 | 0870 | 0880 | 0890 | 0899 | 0909 | 0919 | 0928 | 0938 | 0948 | 0958 |
| 55 | 198 | 1093 | 1103 | | | | | | | | | | | | | | | 1246 |
| 56 | | 1384 | 1394 | | | | | | | | | | | 1407 | 1506 | 1516 | 1525 | 1535 |
| 57 | | 1675 | | 1693 | 1703 | 1712 | 1721 | 1730 | 1740 | | | | | | | 1804 | 1814 | 1823 |
| 58 | | | | 1984 | 1993 | 2002 | 2011 | 2020 | 2030 | | | | | | | | | |
| 59 | | | | | | | 2301 | 2310 | 2319 | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Parts for Seconds of Auxil. Argum. *additive*

| A. A. & A. D. 88° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 196 | 5400 | 5417 | 5435 | 5453 | 5470 | 5488 | 5506 | 5523 | 5541 | 5559 | 5576 | 5594 | 5612 | 5629 | 5647 | 5665 | 5682 |
| 0 | | 5688 | 5705 | 5723 | 5741 | 5758 | 5776 | 5793 | 5810 | 5828 | 5846 | 5863 | 5881 | 5898 | 5916 | 5933 | 5951 | 5968 |
| 0 | | 5976 | 5994 | 6011 | 6028 | 6046 | 6063 | 6080 | 6098 | 6115 | 6132 | 6150 | 6167 | 6185 | 6202 | 6220 | 6237 | 6254 |
| 1 | | 6264 | 6282 | 6299 | 6316 | 6333 | 6350 | 6368 | 6385 | 6402 | 6419 | 6437 | 6454 | 6471 | 6488 | 6505 | 6523 | 6540 |
| 1 | | 6553 | 6571 | 6587 | 6604 | 6621 | 6638 | 6655 | 6672 | 6688 | 6705 | 6723 | 6740 | 6757 | 6774 | 6791 | 6809 | 6826 |
| 1 | 196 | 6843 | 6858 | 6875 | 6892 | 6909 | 6925 | 6942 | 6959 | 6976 | 6993 | 7010 | 7027 | 7044 | 7061 | 7078 | 7095 | 7112 |
| 1 | | 7129 | 7146 | 7163 | 7179 | 7196 | 7213 | 7230 | 7247 | 7263 | 7280 | 7297 | 7314 | 7330 | 7347 | 7364 | 7381 | 7398 |
| 2 | | 7417 | 7434 | 7451 | 7467 | 7484 | 7500 | 7517 | 7534 | 7550 | 7567 | 7584 | 7600 | 7617 | 7633 | 7650 | 7667 | 7683 |
| 2 | | 7700 | 7717 | 7734 | 7750 | 7767 | 7783 | 7800 | 7817 | 7833 | 7850 | 7867 | 7883 | 7900 | 7917 | 7933 | 7950 | 7966 |
| 2 | | 7984 | 8001 | 8017 | 8034 | 8050 | 8067 | 8084 | 8100 | 8117 | 8134 | 8150 | 8167 | 8184 | 8200 | 8217 | 8234 | 8250 |
| 2 | 196 | 8267 | 8284 | 8300 | 8317 | 8334 | 8350 | 8367 | 8384 | 8400 | 8417 | 8434 | 8450 | 8467 | 8484 | 8500 | 8517 | 8534 |
| 2 | | 8550 | 8567 | 8584 | 8600 | 8617 | 8634 | 8650 | 8667 | 8684 | 8700 | 8717 | 8734 | 8750 | 8767 | 8784 | 8800 | 8817 |
| 3 | | 8834 | 8850 | 8867 | 8884 | 8900 | 8917 | 8934 | 8950 | 8967 | 8984 | 9000 | 9017 | 9034 | 9050 | 9067 | 9084 | 9100 |
| 3 | | 9117 | 9134 | 9150 | 9167 | 9184 | 9200 | 9217 | 9234 | 9250 | 9267 | 9284 | 9300 | 9317 | 9334 | 9350 | 9367 | 9384 |
| 3 | | 9400 | 9417 | 9434 | 9450 | 9467 | 9484 | 9500 | 9517 | 9534 | 9550 | 9567 | 9584 | 9600 | 9617 | 9634 | 9650 | 9667 |
| 3 | 196 | 9684 | 9700 | 9717 | 9734 | 9750 | 9767 | 9784 | 9800 | 9817 | 9834 | 9850 | 9867 | 9884 | 9900 | 9917 | 9934 | 9950 |
| 3 | | 9967 | 9984 | 0000 | 0017 | 0034 | 0050 | 0067 | 0084 | 0100 | 0117 | 0134 | 0150 | 0167 | 0184 | 0200 | 0217 | 0234 |
| 4 | 197 | 0250 | 0267 | 0284 | 0300 | 0317 | 0334 | 0350 | 0367 | 0384 | 0400 | 0417 | 0434 | 0450 | 0467 | 0484 | 0500 | 0517 |
| 4 | | 0534 | 0550 | 0567 | 0584 | 0600 | 0617 | 0634 | 0650 | 0667 | 0684 | 0700 | 0717 | 0734 | 0750 | 0767 | 0784 | 0800 |
| 4 | | 0817 | 0834 | 0850 | 0867 | 0884 | 0900 | 0917 | 0934 | 0950 | 0967 | 0984 | 1000 | 1017 | 1034 | 1050 | 1067 | 1084 |
| 4 | | 1100 | 1117 | 1134 | 1150 | 1167 | 1184 | 1200 | 1217 | 1234 | 1250 | 1267 | 1284 | 1300 | 1317 | 1334 | 1350 | 1367 |
| 5 | 197 | 1384 | 1400 | 1417 | 1434 | 1450 | 1467 | 1484 | 1500 | 1517 | 1534 | 1550 | 1567 | 1584 | 1600 | 1617 | 1634 | 1650 |
| 5 | | 1667 | 1684 | 1700 | 1717 | 1734 | 1750 | 1767 | 1784 | 1800 | 1817 | 1834 | 1850 | 1867 | 1884 | 1900 | 1917 | 1934 |
| 5 | | 1950 | 1967 | 1984 | 2000 | 2017 | 2034 | 2050 | 2067 | 2084 | 2100 | 2117 | 2134 | 2150 | 2167 | 2184 | 2200 | 2217 |
| 5 | | 2234 | 2250 | 2267 | 2284 | 2300 | 2317 | 2334 | 2350 | 2367 | 2384 | 2400 | 2417 | 2434 | 2450 | 2467 | 2484 | 2500 |
| 6 | 197 | 2517 | 2534 | 2550 | 2567 | 2584 | 2600 | 2617 | 2634 | 2650 | 2667 | 2684 | 2700 | 2717 | 2734 | 2750 | 2767 | 2784 |
| 6 | | 2800 | 2817 | 2834 | 2850 | 2867 | 2884 | 2900 | 2917 | 2934 | 2950 | 2967 | 2984 | 3000 | 3017 | 3034 | 3050 | 3067 |
| 6 | | 3084 | 3100 | 3117 | 3134 | 3150 | 3167 | 3184 | 3200 | 3217 | 3234 | 3250 | 3267 | 3284 | 3300 | 3317 | 3334 | 3350 |
| 6 | | 3367 | 3384 | 3400 | 3417 | 3434 | 3450 | 3467 | 3484 | 3500 | 3517 | 3534 | 3550 | 3567 | 3584 | 3600 | 3617 | 3634 |
| 7 | | 3650 | 3667 | 3684 | 3700 | 3717 | 3734 | 3750 | 3767 | 3784 | 3800 | 3817 | 3834 | 3850 | 3867 | 3884 | 3900 | 3917 |
| 7 | 197 | 3934 | 3950 | 3967 | 3984 | 4000 | 4017 | 4034 | 4050 | 4067 | 4084 | 4100 | 4117 | 4134 | 4150 | 4167 | 4184 | 4200 |
| 7 | | 4217 | 4234 | 4250 | 4267 | 4284 | 4300 | 4317 | 4334 | 4350 | 4367 | 4384 | 4400 | 4417 | 4434 | 4450 | 4467 | 4484 |
| 7 | | 4500 | 4517 | 4534 | 4550 | 4567 | 4584 | 4600 | 4617 | 4634 | 4650 | 4667 | 4684 | 4700 | 4717 | 4734 | 4750 | 4767 |
| 7 | | 4784 | 4800 | 4817 | 4834 | 4850 | 4867 | 4884 | 4900 | 4917 | 4934 | 4950 | 4967 | 4984 | 5000 | 5017 | 5034 | 5050 |
| 8 | 197 | 5067 | 5084 | 5100 | 5117 | 5134 | 5150 | 5167 | 5184 | 5200 | 5217 | 5234 | 5250 | 5267 | 5284 | 5300 | 5317 | 5334 |
| 8 | | 5350 | 5367 | 5384 | 5400 | 5417 | 5434 | 5450 | 5467 | 5484 | 5500 | 5517 | 5534 | 5550 | 5567 | 5584 | 5600 | 5617 |
| 8 | | 5634 | 5650 | 5667 | 5684 | 5700 | 5717 | 5734 | 5750 | 5767 | 5784 | 5800 | 5817 | 5834 | 5850 | 5867 | 5884 | 5900 |
| 8 | | 5917 | 5934 | 5950 | 5967 | 5984 | 6000 | 6017 | 6034 | 6050 | 6067 | 6084 | 6100 | 6117 | 6134 | 6150 | 6167 | 6184 |
| 9 | 197 | 6200 | 6217 | 6234 | 6250 | 6267 | 6284 | 6300 | 6317 | 6334 | 6350 | 6367 | 6384 | 6400 | 6417 | 6434 | 6450 | 6467 |
| 9 | | 6484 | 6500 | 6517 | 6534 | 6550 | 6567 | 6584 | 6600 | 6617 | 6634 | 6650 | 6667 | 6684 | 6700 | 6717 | 6734 | 6750 |
| 9 | | 6767 | 6784 | 6800 | 6817 | 6834 | 6850 | 6867 | 6884 | 6900 | 6917 | 6934 | 6950 | 6967 | 6984 | 7000 | 7017 | 7034 |
| 10 | | 7050 | 7067 | 7084 | 7100 | 7117 | 7134 | 7150 | 7167 | 7184 | 7200 | 7217 | 7234 | 7250 | 7267 | 7284 | 7300 | 7317 |
| 10 | | 7334 | 7350 | 7367 | 7384 | 7400 | 7417 | 7434 | 7450 | 7467 | 7484 | 7500 | 7517 | 7534 | 7550 | 7567 | 7584 | 7600 |
| 10 | | 7617 | 7634 | 7650 | 7667 | 7684 | 7700 | 7717 | 7734 | 7750 | 7767 | 7784 | 7800 | 7817 | 7834 | 7850 | 7867 | 7884 |
| 10 | | 7900 | 7917 | 7934 | 7950 | 7967 | 7984 | 8000 | 8017 | 8034 | 8050 | 8067 | 8084 | 8100 | 8117 | 8134 | 8150 | 8167 |
| 10 | 197 | 8184 | 8200 | 8217 | 8234 | 8250 | 8267 | 8284 | 8300 | 8317 | 8334 | 8350 | 8367 | 8384 | 8400 | 8417 | 8434 | 8450 |
| 10 | | 8467 | 8484 | 8500 | 8517 | 8534 | 8550 | 8567 | 8584 | 8600 | 8617 | 8634 | 8650 | 8667 | 8684 | 8700 | 8717 | 8734 |
| 11 | | 8750 | 8767 | 8784 | 8800 | 8817 | 8834 | 8850 | 8867 | 8884 | 8900 | 8917 | 8934 | 8950 | 8967 | 8984 | 9000 | 9017 |
| 11 | | 9034 | 9050 | 9067 | 9084 | 9100 | 9117 | 9134 | 9150 | 9167 | 9184 | 9200 | 9217 | 9234 | 9250 | 9267 | 9284 | 9300 |
| 11 | | 9317 | 9334 | 9350 | 9367 | 9384 | 9400 | 9417 | 9434 | 9450 | 9467 | 9484 | 9500 | 9517 | 9534 | 9550 | 9567 | 9584 |
| 11 | | 9600 | 9617 | 9634 | 9650 | 9667 | 9684 | 9700 | 9717 | 9734 | 9750 | 9767 | 9784 | 9800 | 9817 | 9834 | 9850 | 9867 |
| 12 | 197 | 9884 | 9900 | 9917 | 9934 | 9950 | 9967 | 9984 | 0000 | 0017 | 0034 | 0050 | 0067 | 0084 | 0100 | 0117 | 0134 | 0150 |
| 12 | 198 | 0167 | 0184 | 0200 | 0217 | 0234 | 0250 | 0267 | 0284 | 0300 | 0317 | 0334 | 0350 | 0367 | 0384 | 0400 | 0417 | 0434 |
| 12 | | 0450 | 0467 | 0484 | 0500 | 0517 | 0534 | 0550 | 0567 | 0584 | 0600 | 0617 | 0634 | 0650 | 0667 | 0684 | 0700 | 0717 |
| 12 | | 0734 | 0750 | 0767 | 0784 | 0800 | 0817 | 0834 | 0850 | 0867 | 0884 | 0900 | 0917 | 0934 | 0950 | 0967 | 0984 | 1000 |
| 12 | | 1017 | 1034 | 1050 | 1067 | 1084 | 1100 | 1117 | 1134 | 1150 | 1167 | 1184 | 1200 | 1217 | 1234 | 1250 | 1267 | 1284 |
| 13 | | 1300 | 1317 | 1334 | 1350 | 1367 | 1384 | 1400 | 1417 | 1434 | 1450 | 1467 | 1484 | 1500 | 1517 | 1534 | 1550 | 1567 |
| 13 | | 1584 | 1600 | 1617 | 1634 | 1650 | 1667 | 1684 | 1700 | 1717 | 1734 | 1750 | 1767 | 1784 | 1800 | 1817 | 1834 | 1850 |
| 13 | | 1867 | 1884 | 1900 | 1917 | 1934 | 1950 | 1967 | 1984 | 2000 | 2017 | 2034 | 2050 | 2067 | 2084 | 2100 | 2117 | 2134 |
| 13 | | 2150 | 2167 | 2184 | 2200 | 2217 | 2234 | 2250 | 2267 | 2284 | 2300 | 2317 | 2334 | 2350 | 2367 | 2384 | 2400 | 2417 |
| 14 | | 2434 | 2450 | 2467 | 2484 | 2500 | 2517 | 2534 | 2550 | 2567 | 2584 | 2600 | 2617 | 2634 | 2650 | 2667 | 2684 | 2700 |

Sums for finding the Corrected Distances.

Parts for Sec. of C. D. *addit.*

| ° ′ 88° | Sums |
|---|---|
| ′ | |
| 0 | 496 5101 |
| 1 | 5391 |
| 2 | 5682 |
| 3 | 5973 |
| 4 | 6263 |
| 5 | 496 6554 |
| 6 | 6845 |
| 7 | 7136 |
| 8 | 7426 |
| 9 | 7717 |
| 10 | 496 8008 |
| 11 | 8298 |
| 12 | 8589 |
| 13 | 8880 |
| 14 | 9171 |
| 15 | 496 9461 |
| 16 | 9754 |
| 17 | 497 0043 |
| 18 | 0334 |
| 19 | 0625 |
| 20 | 497 0915 |
| 21 | 1206 |
| 22 | 1497 |
| 23 | 1788 |
| 24 | 2078 |
| 25 | 497 2369 |
| 26 | 2660 |
| 27 | 2951 |
| 28 | 3241 |
| 29 | 3532 |
| 30 | 497 3823 |
| 31 | 4114 |
| 32 | 4405 |
| 33 | 4695 |
| 34 | 4986 |
| 35 | 497 5277 |
| 36 | 5568 |
| 37 | 5859 |
| 38 | 6149 |
| 39 | 6440 |
| 40 | 497 6731 |
| 41 | 7022 |
| 42 | 7313 |
| 43 | 7603 |
| 44 | 7894 |
| 45 | 497 8185 |
| 46 | 8476 |
| 47 | 8767 |
| 48 | 9057 |
| 49 | 9348 |
| 50 | 497 9639 |
| 51 | 9930 |
| 52 | 498 0221 |
| 53 | 0512 |
| 54 | 0803 |
| 55 | 498 1093 |
| 56 | 1384 |
| 57 | 1675 |
| 58 | 1966 |
| 59 | 2257 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. of C.S.A. addit. | C.S.A. 89° | Numbers |
|---|---|---|
| 296 | 0 | 103 4024 |
| 287 | 1 | 431 |
| 281 | 2 | 4027 |
| 274 | 3 | 3737 |
| 271 | 4 | 3446 |
| 266 | 5 | 103 3155 |
| 261 | 6 | 2864 |
| 257 | 7 | 2574 |
| 252 | 8 | 2283 |
| 247 | 9 | 1992 |
| 242 | 10 | 103 1702 |
| 237 | 11 | 1411 |
| 232 | 12 | 1120 |
| 228 | 13 | 0829 |
| 223 | 14 | 0539 |
| 218 | 15 | 103 0248 |
| 213 | 16 | 102 9957 |
| 208 | 17 | 9666 |
| 203 | 18 | 9375 |
| 199 | 19 | 9085 |
| 194 | 20 | 102 8794 |
| 189 | 21 | 8503 |
| 184 | 22 | 8212 |
| 179 | 23 | 7922 |
| 174 | 24 | 7631 |
| 169 | 25 | 102 7340 |
| 165 | 26 | 7049 |
| 160 | 27 | 6759 |
| 155 | 28 | 6468 |
| 150 | 29 | 6177 |
| 145 | 30 | 102 5886 |
| 142 | 31 | 5595 |
| 136 | 32 | 5305 |
| 131 | 33 | 5014 |
| 126 | 34 | 4723 |
| 121 | 35 | 102 4432 |
| 116 | 36 | 4141 |
| 111 | 37 | 3851 |
| 106 | 38 | 3560 |
| 102 | 39 | 3269 |
| 97 | 40 | 102 2978 |
| 92 | 41 | 2687 |
| 87 | 42 | 2397 |
| 82 | 43 | 2106 |
| 77 | 44 | 1815 |
| 73 | 45 | 102 1524 |
| 68 | 46 | 1233 |
| 63 | 47 | 0942 |
| 58 | 48 | 0652 |
| 53 | 49 | 0361 |
| 48 | 50 | 102 0070 |
| 44 | 51 | 101 9779 |
| 39 | 52 | 9488 |
| 34 | 53 | 9197 |
| 29 | 54 | 8907 |
| 24 | 55 | 101 8616 |
| 19 | 56 | 8325 |
| 15 | 57 | 8034 |
| 10 | 58 | 7743 |
| 5 | 59 | 7452 |

| Parts for Seconds of Auxil. Argum. | S.A.A. & A.D. 89° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 198 2548 | 2556 | 2565 | 2574 | 2583 | 2592 | 2600 | 2609 | 2618 | 2627 | 2636 | 2644 | 2653 | 2662 | 2671 | 2680 | 2688 |
| 0 | 1 | 2838 | 2847 | 2856 | 2864 | 2873 | 2882 | 2890 | 2899 | 2908 | 2916 | 2925 | 2934 | 2942 | 2951 | 2960 | 2968 | 2977 |
| 0 | 2 | 3129 | 3138 | 3146 | 3155 | 3163 | 3172 | 3180 | 3189 | 3197 | 3206 | 3214 | 3223 | 3231 | 3240 | 3248 | 3257 | 3265 |
| 0 | 3 | 3420 | 3428 | 3437 | 3445 | 3454 | 3462 | 3470 | 3479 | 3487 | 3495 | 3504 | 3512 | 3520 | 3529 | 3537 | 3545 | 3554 |
| 0 | 4 | 3711 | 3719 | 3727 | 3736 | 3744 | 3752 | 3760 | 3768 | 3777 | 3785 | 3793 | 3801 | 3810 | 3818 | 3826 | 3834 | 3842 |
| 0 | 5 | 198 4002 | 4010 | 4018 | 4026 | 4034 | 4042 | 4050 | 4058 | 4066 | 4074 | 4082 | 4091 | 4099 | 4107 | 4115 | 4123 | 4131 |
| 0 | 6 | 4293 | 4301 | 4309 | 4317 | 4325 | 4333 | 4341 | 4349 | 4357 | 4364 | 4372 | 4380 | 4388 | 4396 | 4404 | 4412 | 4419 |
| 1 | 7 | 4584 | 4591 | 4599 | 4607 | 4615 | 4622 | 4630 | 4638 | 4646 | 4653 | 4661 | 4669 | 4677 | 4685 | 4692 | 4700 | 4708 |
| 1 | 8 | 4874 | 4882 | 4890 | 4897 | 4905 | 4913 | 4920 | 4928 | 4935 | 4943 | 4951 | 4958 | 4966 | 4974 | 4981 | 4989 | 4997 |
| 1 | 9 | 5165 | 5173 | 5181 | 5188 | 5196 | 5203 | 5211 | 5218 | 5226 | 5233 | 5241 | 5248 | 5256 | 5263 | 5271 | 5278 | 5286 |
| 1 | 10 | 198 5456 | 5463 | 5471 | 5478 | 5486 | 5493 | 5501 | 5508 | 5516 | 5523 | 5531 | 5538 | 5546 | 5553 | 5561 | 5568 | 5576 |
| 1 | 11 | 5747 | 5754 | 5761 | 5769 | 5776 | 5783 | 5791 | 5798 | 5805 | 5813 | 5820 | 5828 | 5835 | 5843 | 5850 | 5858 | 5865 |
| 1 | 12 | 6038 | 6045 | 6052 | 6060 | 6067 | 6074 | 6082 | 6089 | 6096 | 6104 | 6111 | 6118 | 6126 | 6133 | 6141 | 6148 | 6156 |
| 1 | 13 | 6329 | 6336 | 6343 | 6351 | 6358 | 6365 | 6373 | 6380 | 6387 | 6395 | 6402 | 6409 | 6417 | 6424 | 6432 | 6439 | 6447 |
| 1 | 14 | 6619 | 6626 | 6633 | 6641 | 6648 | 6655 | 6663 | 6670 | 6677 | 6685 | 6692 | 6699 | 6707 | 6714 | 6721 | 6729 | 6736 |
| 1 | 15 | 198 6910 | 6917 | 6924 | 6931 | 6939 | 6946 | 6953 | 6960 | 6967 | 6975 | 6982 | 6989 | 6996 | 7004 | 7011 | 7018 | 7025 |
| 1 | 16 | 7201 | 7208 | 7214 | 7221 | 7227 | 7233 | 7240 | 7246 | 7253 | 7259 | 7266 | 7272 | 7279 | 7285 | 7292 | 7298 | 7305 |
| 1 | 17 | 7492 | 7498 | 7505 | 7511 | 7517 | 7524 | 7530 | 7536 | 7543 | 7549 | 7555 | 7561 | 7568 | 7574 | 7581 | 7587 | 7593 |
| 1 | 18 | 7783 | 7789 | 7795 | 7801 | 7808 | 7814 | 7820 | 7826 | 7832 | 7838 | 7845 | 7851 | 7857 | 7863 | 7869 | 7875 | 7882 |
| 1 | 19 | 8074 | 8080 | 8086 | 8092 | 8098 | 8104 | 8110 | 8116 | 8122 | 8128 | 8134 | 8140 | 8146 | 8152 | 8158 | 8164 | 8170 |
| 1 | 20 | 198 8365 | 8371 | 8377 | 8382 | 8388 | 8394 | 8400 | 8406 | 8412 | 8417 | 8423 | 8429 | 8435 | 8441 | 8447 | 8453 | 8459 |
| 2 | 21 | 8656 | 8661 | 8667 | 8673 | 8678 | 8684 | 8690 | 8696 | 8701 | 8707 | 8713 | 8718 | 8724 | 8730 | 8736 | 8741 | 8747 |
| 2 | 22 | 8946 | 8952 | 8958 | 8963 | 8969 | 8974 | 8980 | 8985 | 8991 | 8997 | 9002 | 9008 | 9013 | 9019 | 9025 | 9030 | 9036 |
| 2 | 23 | 9237 | 9243 | 9248 | 9254 | 9259 | 9264 | 9270 | 9275 | 9281 | 9286 | 9292 | 9297 | 9302 | 9308 | 9313 | 9319 | 9324 |
| 2 | 24 | 9528 | 9533 | 9538 | 9544 | 9549 | 9555 | 9560 | 9565 | 9571 | 9576 | 9581 | 9586 | 9592 | 9597 | 9602 | 9607 | 9613 |
| 2 | 25 | 198 9819 | 9824 | 9829 | 9834 | 9840 | 9845 | 9850 | 9855 | 9860 | 9865 | 9870 | 9876 | 9881 | 9886 | 9891 | 9896 | 9901 |
| 2 | 26 | 199 0110 | 0115 | 0120 | 0125 | 0130 | 0135 | 0140 | 0145 | 0150 | 0155 | 0160 | 0165 | 0170 | 0175 | 0180 | 0185 | 0190 |
| 2 | 27 | 0401 | 0406 | 0411 | 0415 | 0420 | 0425 | 0430 | 0435 | 0440 | 0445 | 0450 | 0455 | 0460 | 0465 | 0470 | 0475 | 0480 |
| 2 | 28 | 0692 | 0696 | 0701 | 0706 | 0710 | 0715 | 0720 | 0725 | 0730 | 0734 | 0739 | 0744 | 0748 | 0753 | 0757 | 0762 | 0767 |
| 2 | 29 | 0983 | 0987 | 0992 | 0996 | 1001 | 1005 | 1010 | 1014 | 1019 | 1023 | 1028 | 1033 | 1037 | 1042 | 1046 | 1051 | 1055 |
| 2 | 30 | 199 1273 | 1278 | 1282 | 1287 | 1291 | 1296 | 1300 | 1304 | 1309 | 1313 | 1317 | 1322 | 1326 | 1331 | 1335 | 1339 | 1344 |
| 2 | 31 | 1564 | 1568 | 1573 | 1577 | 1581 | 1586 | 1590 | 1594 | 1598 | 1603 | 1607 | 1611 | 1615 | 1620 | 1624 | 1628 | 1633 |
| 2 | 32 | 1855 | 1859 | 1863 | 1867 | 1872 | 1876 | 1880 | 1884 | 1888 | 1892 | 1896 | 1900 | 1904 | 1909 | 1913 | 1917 | 1921 |
| 3 | 33 | 2146 | 2150 | 2154 | 2158 | 2162 | 2166 | 2170 | 2174 | 2178 | 2182 | 2186 | 2190 | 2194 | 2198 | 2201 | 2205 | 2209 |
| 3 | 34 | 2437 | 2441 | 2445 | 2448 | 2452 | 2456 | 2460 | 2464 | 2467 | 2471 | 2475 | 2479 | 2483 | 2486 | 2490 | 2494 | 2498 |
| 3 | 35 | 199 2728 | 2731 | 2735 | 2739 | 2742 | 2746 | 2750 | 2754 | 2757 | 2761 | 2764 | 2768 | 2772 | 2775 | 2779 | 2783 | 2786 |
| 3 | 36 | 3019 | 3022 | 3026 | 3029 | 3033 | 3037 | 3040 | 3044 | 3047 | 3050 | 3054 | 3057 | 3061 | 3064 | 3068 | 3071 | 3075 |
| 3 | 37 | 3310 | 3313 | 3317 | 3320 | 3323 | 3327 | 3330 | 3333 | 3337 | 3340 | 3343 | 3347 | 3350 | 3353 | 3357 | 3360 | 3364 |
| 3 | 38 | 3600 | 3604 | 3607 | 3610 | 3613 | 3617 | 3620 | 3623 | 3626 | 3629 | 3633 | 3636 | 3640 | 3642 | 3646 | 3649 | 3652 |
| 3 | 39 | 3891 | 3894 | 3898 | 3901 | 3904 | 3907 | 3911 | 3914 | 3917 | 3920 | 3923 | 3927 | 3930 | 3934 | 3938 | 3941 | 3944 |
| 3 | 40 | 199 4182 | 4185 | 4188 | 4191 | 4194 | 4197 | 4200 | 4203 | 4206 | 4209 | 4212 | 4214 | 4217 | 4220 | 4223 | 4226 | 4229 |
| 3 | 41 | 4473 | 4476 | 4479 | 4481 | 4484 | 4487 | 4490 | 4493 | 4496 | 4498 | 4501 | 4504 | 4507 | 4509 | 4512 | 4515 | 4518 |
| 3 | 42 | 4764 | 4767 | 4770 | 4773 | 4775 | 4778 | 4781 | 4784 | 4787 | 4790 | 4792 | 4795 | 4798 | 4801 | 4804 | 4806 | 4809 |
| 3 | 43 | 5055 | 5057 | 5060 | 5062 | 5065 | 5067 | 5070 | 5072 | 5075 | 5077 | 5080 | 5083 | 5085 | 5088 | 5090 | 5093 | 5095 |
| 3 | 44 | 5346 | 5348 | 5350 | 5353 | 5355 | 5357 | 5360 | 5362 | 5365 | 5367 | 5369 | 5372 | 5374 | 5376 | 5379 | 5381 | 5383 |
| 3 | 45 | 199 5637 | 5639 | 5641 | 5643 | 5646 | 5648 | 5650 | 5652 | 5654 | 5656 | 5658 | 5661 | 5663 | 5665 | 5667 | 5669 | 5671 |
| 3 | 46 | 5928 | 5930 | 5932 | 5934 | 5936 | 5938 | 5940 | 5941 | 5943 | 5945 | 5947 | 5949 | 5952 | 5954 | 5956 | 5958 | 5960 |
| 4 | 47 | 6218 | 6220 | 6222 | 6224 | 6226 | 6228 | 6230 | 6232 | 6234 | 6236 | 6237 | 6239 | 6241 | 6243 | 6245 | 6247 | 6249 |
| 4 | 48 | 6509 | 6511 | 6513 | 6515 | 6516 | 6518 | 6520 | 6522 | 6523 | 6525 | 6527 | 6529 | 6530 | 6532 | 6534 | 6536 | 6537 |
| 4 | 49 | 6800 | 6802 | 6804 | 6805 | 6807 | 6809 | 6810 | 6811 | 6813 | 6815 | 6816 | 6818 | 6820 | 6821 | 6823 | 6825 | 6826 |
| 4 | 50 | 199 7091 | 7093 | 7095 | 7096 | 7098 | 7099 | 7101 | 7102 | 7104 | 7105 | 7107 | 7109 | 7110 | 7112 | 7113 | 7115 | 7116 |
| 4 | 51 | 7382 | 7384 | 7385 | 7387 | 7388 | 7389 | 7391 | 7392 | 7393 | 7395 | 7396 | 7398 | 7399 | 7401 | 7402 | 7404 | 7405 |
| 4 | 52 | 7673 | 7674 | 7676 | 7677 | 7678 | 7679 | 7681 | 7682 | 7683 | 7685 | 7686 | 7687 | 7688 | 7690 | 7691 | 7692 | 7694 |
| 4 | 53 | 7964 | 7965 | 7966 | 7967 | 7968 | 7970 | 7971 | 7972 | 7973 | 7974 | 7975 | 7977 | 7978 | 7979 | 7980 | 7981 | 7983 |
| 4 | 54 | 8255 | 8256 | 8257 | 8258 | 8259 | 8260 | 8261 | 8262 | 8263 | 8264 | 8265 | 8266 | 8267 | 8268 | 8269 | 8270 | 8272 |
| 4 | 55 | 199 8546 | 8547 | 8548 | 8549 | 8550 | 8551 | 8552 | 8553 | 8554 | 8555 | 8556 | 8556 | 8557 | 8558 | 8559 | 8560 | 8561 |
| 4 | 56 | 8837 | 8838 | 8839 | 8840 | 8841 | 8842 | 8843 | 8844 | 8844 | 8845 | 8846 | 8847 | 8848 | 8849 | 8850 | 8851 | 8851 |
| 4 | 57 | 9128 | 9129 | 9130 | 9131 | 9131 | 9132 | 9133 | 9134 | 9135 | 9135 | 9136 | 9137 | 9138 | 9139 | 9139 | 9140 | 9141 |
| 4 | 58 | 9419 | 9420 | 9421 | 9421 | 9422 | 9423 | 9424 | 9424 | 9425 | 9426 | 9426 | 9427 | 9428 | 9428 | 9429 | 9430 | 9430 |
| 4 | 59 | 9709 | 9710 | 9711 | 9711 | 9712 | 9713 | 9713 | 9714 | 9715 | 9715 | 9716 | 9717 | 9717 | 9718 | 9719 | 9719 | 9720 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. additive | S.A.A & A.D. 89° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 198 | 2697 | 2706 | 2715 | 2724 | 2733 | 2741 | 2750 | 2759 | 2768 | 2777 | 2785 | 2794 | [illegible] | 2812 | 2821 | 2830 | 2838 |
| 0 | 1 | | 2786 | 2794 | 2803 | 2812 | 2821 | 2829 | 2838 | 2847 | 2855 | 2864 | 2873 | 2881 | 2890 | 2899 | 2907 | 2916 | 2924 |
| 0 | 2 | | 2874 | 2883 | 2891 | 2900 | 2908 | 2917 | 2925 | 2934 | 2942 | 2951 | 2959 | 2968 | 2976 | 2985 | 2993 | 3002 | 3010 |
| 0 | 3 | | 2562 | 3571 | 3579 | 3587 | 3596 | 3604 | 3613 | 3621 | 3629 | 3638 | 3646 | 3655 | 3663 | 3671 | 3680 | 3688 | 3696 |
| 0 | 4 | | 3851 | 3859 | 3867 | 3875 | 3884 | 3892 | 3900 | 3908 | 3917 | 3925 | 3933 | 3941 | 3949 | 3958 | 3966 | 3974 | 3982 |
| 0 | 5 | 198 | 4139 | 4147 | 4155 | 4163 | 4171 | 4179 | 4187 | 4195 | 4204 | 4212 | 4220 | 4228 | 4236 | 4244 | 4252 | 4260 | 4268 |
| 0 | 6 | | 4427 | 4435 | 4443 | 4451 | 4459 | 4467 | 4475 | 4483 | 4491 | 4499 | 4507 | 4515 | 4523 | 4531 | 4539 | 4547 | 4554 |
| 1 | 7 | | 4716 | 4724 | 4731 | 4739 | 4747 | 4755 | 4763 | 4771 | 4778 | 4786 | 4794 | 4802 | 4810 | 4818 | 4825 | 4833 | 4841 |
| 1 | 8 | | 5004 | 5012 | 5019 | 5027 | 5035 | 5042 | 5050 | 5058 | 5065 | 5073 | 5081 | 5088 | 5096 | 5104 | 5111 | 5119 | 5127 |
| 1 | 9 | | 5292 | 5300 | 5307 | 5315 | 5322 | 5330 | 5337 | 5345 | 5352 | 5360 | 5367 | 5375 | 5382 | 5390 | 5398 | 5405 | 5413 |
| 1 | 10 | 198 | 5581 | 5588 | 5596 | 5603 | 5611 | 5618 | 5625 | 5633 | 5640 | 5647 | 5654 | 5662 | 5669 | 5676 | 5684 | 5691 | 5698 |
| 1 | 11 | | 5870 | 5877 | 5884 | 5891 | 5899 | 5906 | 5913 | 5920 | 5927 | 5934 | 5941 | 5948 | 5955 | 5963 | 5970 | 5977 | 5984 |
| 1 | 12 | | 6158 | 6165 | 6172 | 6179 | 6186 | 6193 | 6200 | 6207 | 6214 | 6221 | 6228 | 6235 | 6242 | 6249 | 6256 | 6263 | 6271 |
| 1 | 13 | | 6446 | 6453 | 6460 | 6467 | 6474 | 6481 | 6487 | 6494 | 6501 | 6508 | 6515 | 6522 | 6529 | 6536 | 6543 | 6550 | 6557 |
| 1 | 14 | | 6734 | 6741 | 6748 | 6755 | 6761 | 6768 | 6775 | 6782 | 6789 | 6795 | 6802 | 6809 | 6816 | 6822 | 6829 | 6836 | 6843 |
| 1 | 15 | 198 | 7022 | 7029 | 7036 | 7042 | 7049 | 7056 | 7062 | 7069 | 7076 | 7082 | 7089 | 7096 | 7102 | 7109 | 7115 | 7122 | 7129 |
| 1 | 16 | | 7311 | 7317 | 7324 | 7330 | 7337 | 7343 | 7350 | 7356 | 7363 | 7370 | 7376 | 7383 | 7389 | 7396 | 7402 | 7409 | 7415 |
| 1 | 17 | | 7599 | 7605 | 7611 | 7618 | 7624 | 7631 | 7637 | 7644 | 7650 | 7656 | 7663 | 7669 | 7676 | 7682 | 7689 | 7695 | 7702 |
| 1 | 18 | | 7887 | 7893 | 7899 | 7906 | 7912 | 7918 | 7925 | 7931 | 7937 | 7943 | 7950 | 7956 | 7962 | 7969 | 7975 | 7981 | 7988 |
| 1 | 19 | | 8176 | 8182 | 8188 | 8194 | 8200 | 8206 | 8212 | 8218 | 8224 | 8230 | 8236 | 8243 | 8249 | 8255 | 8261 | 8267 | 8273 |
| 2 | 20 | 198 | 8464 | 8470 | 8476 | 8482 | 8488 | 8494 | 8500 | 8506 | 8512 | 8518 | 8524 | 8530 | 8536 | 8541 | 8547 | 8553 | 8559 |
| 2 | 21 | | 8753 | 8759 | 8764 | 8770 | 8776 | 8782 | 8788 | 8793 | 8799 | 8805 | 8811 | 8817 | 8822 | 8828 | 8834 | 8840 | 8845 |
| 2 | 22 | | 9041 | 9047 | 9052 | 9058 | 9064 | 9069 | 9075 | 9081 | 9086 | 9092 | 9098 | 9103 | 9109 | 9114 | 9120 | 9126 | 9131 |
| 2 | 23 | | 9330 | 9335 | 9341 | 9346 | 9352 | 9357 | 9363 | 9368 | 9374 | 9379 | 9385 | 9390 | 9396 | 9401 | 9407 | 9412 | 9417 |
| 2 | 24 | | 9618 | 9623 | 9629 | 9634 | 9639 | 9645 | 9650 | 9655 | 9661 | 9666 | 9671 | 9677 | 9682 | 9687 | 9693 | 9698 | 9703 |
| 2 | 25 | 198 | 9907 | 9912 | 9917 | 9922 | 9927 | 9932 | 9937 | 9942 | 9947 | 9953 | 9958 | 9963 | 9968 | 9973 | 9978 | 9983 | 9988 |
| 2 | 26 | 199 | 0195 | 0200 | 0205 | 0210 | 0215 | 0220 | 0225 | 0230 | 0235 | 0240 | 0245 | 0250 | 0255 | 0260 | 0265 | 0270 | 0275 |
| 2 | 27 | | 0483 | 0488 | 0493 | 0498 | 0503 | 0508 | 0512 | 0517 | 0522 | 0527 | 0532 | 0537 | 0541 | 0546 | 0551 | 0556 | 0561 |
| 2 | 28 | | 0771 | 0776 | 0781 | 0786 | 0790 | 0795 | 0800 | 0805 | 0809 | 0814 | 0819 | 0823 | 0828 | 0833 | 0838 | 0842 | 0847 |
| 2 | 29 | | 1060 | 1064 | 1069 | 1074 | 1078 | 1083 | 1088 | 1092 | 1097 | 1101 | 1106 | 1111 | 1115 | 1120 | 1124 | 1129 | 1134 |
| 3 | 30 | 199 | 1348 | 1353 | 1357 | 1362 | 1366 | 1371 | 1375 | 1380 | 1384 | 1389 | 1393 | 1398 | 1402 | 1407 | 1412 | 1416 | 1421 |
| 3 | 31 | | 1637 | 1641 | 1645 | 1650 | 1654 | 1659 | 1663 | 1667 | 1672 | 1676 | 1680 | 1685 | 1689 | 1693 | 1698 | 1702 | 1707 |
| 3 | 32 | | 1925 | 1930 | 1934 | 1938 | 1943 | 1947 | 1951 | 1955 | 1960 | 1964 | 1968 | 1972 | 1977 | 1981 | 1985 | 1990 | 1994 |
| 3 | 33 | | 2213 | 2217 | 2222 | 2226 | 2230 | 2234 | 2238 | 2243 | 2247 | 2251 | 2255 | 2259 | 2264 | 2268 | 2272 | 2276 | 2281 |
| 3 | 34 | | 2501 | 2505 | 2509 | 2513 | 2517 | 2521 | 2526 | 2530 | 2534 | 2538 | 2542 | 2546 | 2550 | 2555 | 2559 | 2563 | 2567 |
| 3 | 35 | 199 | 2789 | 2793 | 2797 | 2801 | 2805 | 2809 | 2813 | 2817 | 2821 | 2825 | 2829 | 2833 | 2837 | 2841 | 2845 | 2849 | 2853 |
| 3 | 36 | | 3076 | 3080 | 3084 | 3088 | 3092 | 3096 | 3100 | 3104 | 3108 | 3112 | 3116 | 3120 | 3124 | 3128 | 3132 | 3136 | 3140 |
| 3 | 37 | | 3364 | 3368 | 3372 | 3376 | 3380 | 3383 | 3387 | 3391 | 3395 | 3399 | 3403 | 3407 | 3411 | 3414 | 3418 | 3422 | 3426 |
| 3 | 38 | | 3652 | 3655 | 3659 | 3663 | 3667 | 3671 | 3674 | 3678 | 3682 | 3686 | 3690 | 3693 | 3697 | 3701 | 3705 | 3708 | 3712 |
| 3 | 39 | | 3939 | 3943 | 3947 | 3950 | 3954 | 3958 | 3962 | 3965 | 3969 | 3973 | 3977 | 3980 | 3984 | 3988 | 3991 | 3995 | 3999 |
| 4 | 40 | 199 | 4226 | 4230 | 4234 | 4237 | 4241 | 4244 | 4248 | 4252 | 4255 | 4259 | 4262 | 4266 | 4270 | 4273 | 4277 | 4280 | 4284 |
| 4 | 41 | | 4513 | 4516 | 4520 | 4523 | 4527 | 4530 | 4534 | 4537 | 4541 | 4544 | 4548 | 4551 | 4554 | 4558 | 4561 | 4565 | 4568 |
| 4 | 42 | | 4800 | 4803 | 4807 | 4810 | 4813 | 4817 | 4820 | 4823 | 4827 | 4830 | 4833 | 4837 | 4840 | 4843 | 4847 | 4850 | 4853 |
| 4 | 43 | | 5087 | 5090 | 5093 | 5097 | 5100 | 5103 | 5106 | 5110 | 5113 | 5116 | 5119 | 5122 | 5126 | 5129 | 5132 | 5135 | 5138 |
| 4 | 44 | | 5373 | 5376 | 5379 | 5382 | 5385 | 5388 | 5391 | 5394 | 5397 | 5400 | 5403 | 5406 | 5409 | 5412 | 5415 | 5418 | 5421 |
| 4 | 45 | 199 | 5659 | 5662 | 5665 | 5668 | 5671 | 5674 | 5677 | 5680 | 5683 | 5686 | 5689 | 5692 | 5695 | 5697 | 5700 | 5703 | 5706 |
| 4 | 46 | | 5945 | 5948 | 5951 | 5954 | 5957 | 5959 | 5962 | 5965 | 5968 | 5971 | 5973 | 5976 | 5979 | 5982 | 5985 | 5987 | 5990 |
| 4 | 47 | | 6231 | 6234 | 6237 | 6239 | 6242 | 6245 | 6247 | 6250 | 6253 | 6255 | 6258 | 6261 | 6263 | 6266 | 6269 | 6271 | 6274 |
| 4 | 48 | | 6517 | 6520 | 6522 | 6525 | 6527 | 6530 | 6533 | 6535 | 6538 | 6540 | 6543 | 6545 | 6548 | 6550 | 6553 | 6555 | 6558 |
| 4 | 49 | | 6803 | 6805 | 6808 | 6810 | 6813 | 6815 | 6817 | 6820 | 6822 | 6825 | 6827 | 6829 | 6832 | 6834 | 6836 | 6839 | 6841 |
| 4 | 50 | 199 | 7088 | 7090 | 7093 | 7095 | 7097 | 7100 | 7102 | 7104 | 7107 | 7109 | 7111 | 7113 | 7116 | 7118 | 7120 | 7122 | 7125 |
| 4 | 51 | | 7404 | 7406 | 7407 | 7408 | 7410 | 7411 | 7412 | 7414 | 7415 | 7416 | 7418 | 7419 | 7420 | 7422 | 7423 | 7424 | 7426 |
| 4 | 52 | | 7658 | 7659 | 7661 | 7662 | 7663 | 7665 | 7666 | 7667 | 7668 | 7670 | 7671 | 7672 | 7673 | 7674 | 7676 | 7677 | 7678 |
| 4 | 53 | | 7912 | 7913 | 7914 | 7915 | 7916 | 7917 | 7918 | 7919 | 7920 | 7921 | 7922 | 7923 | 7924 | 7925 | 7926 | 7927 | 7928 |
| 4 | 54 | | 8165 | 8166 | 8167 | 8168 | 8169 | 8170 | 8171 | 8172 | 8173 | 8174 | 8174 | 8175 | 8176 | 8177 | 8178 | 8179 | 8180 |
| 4 | 55 | 199 | 8418 | 8419 | 8420 | 8421 | 8422 | 8423 | 8424 | 8425 | 8426 | 8427 | 8428 | 8429 | 8430 | 8431 | 8432 | 8433 | 8434 |
| 4 | 56 | | 8671 | 8672 | 8673 | 8674 | 8675 | 8676 | 8677 | 8678 | 8679 | 8680 | 8681 | 8682 | 8683 | 8684 | 8685 | 8686 | 8687 |
| 4 | 57 | | 8924 | 8925 | 8926 | 8927 | 8928 | 8929 | 8930 | 8931 | 8932 | 8933 | 8934 | 8935 | 8936 | 8937 | 8938 | 8939 | 8940 |
| 4 | 58 | | 9177 | 9178 | 9179 | 9180 | 9181 | 9182 | 9183 | 9184 | 9185 | 9186 | 9187 | 9188 | 9189 | 9190 | 9191 | 9192 | 9193 |
| 4 | 59 | | 9430 | 9431 | 9432 | 9433 | 9434 | 9435 | 9436 | 9437 | 9438 | 9439 | 9440 | 9441 | 9442 | 9443 | 9444 | 9445 | 9446 |

| Parts for Sec. of C. D. addit. | C. D. 89° | Sums |
|---|---|---|
| ′ | ′ | |
| 0 | 0 | 498 2548 |
| 1 | 1 | 2583 |
| 2 | 2 | 3129 |
| 3 | 3 | 3424 |
| 4 | 4 | 3711 |
| 5 | 5 | 3998 |
| 6 | 6 | 4285 |
| 7 | 7 | 4571 |
| 8 | 8 | 4857 |
| 9 | 9 | 5143 |
| 10 | 10 | 5429 |
| 11 | 11 | 5715 |
| 12 | 12 | 6001 |
| 13 | 13 | 6287 |
| 14 | 14 | 6572 |
| 15 | 15 | 6858 |
| 16 | 16 | 7143 |
| 17 | 17 | 7429 |
| 18 | 18 | 7714 |
| 19 | 19 | 7999 |
| 20 | 20 | 8284 |
| 21 | 21 | 8569 |
| 22 | 22 | 8854 |
| 23 | 23 | 9139 |
| 24 | 24 | 9424 |
| 25 | 25 | 9708 |
| 26 | 26 | 9993 |
| 27 | 27 | 0277 |
| 28 | 28 | 0562 |
| 29 | 29 | 0846 |
| 30 | 30 | 1130 |
| 31 | 31 | 1414 |
| 32 | 32 | 1698 |
| 33 | 33 | 1982 |
| 34 | 34 | 2266 |
| 35 | 35 | 2550 |
| 36 | 36 | 2834 |
| 37 | 37 | 3118 |
| 38 | 38 | 3401 |
| 39 | 39 | 3685 |
| 40 | 40 | 3968 |
| 41 | 41 | 4252 |
| 42 | 42 | 4535 |
| 43 | 43 | 4818 |
| 44 | 44 | 5101 |
| 45 | 45 | 5384 |
| 46 | 46 | 5667 |
| 47 | 47 | 5950 |
| 48 | 48 | 6233 |
| 49 | 49 | 6516 |
| 50 | 50 | 6798 |
| 51 | 51 | 7081 |
| 52 | 52 | 7363 |
| 53 | 53 | 7646 |
| 54 | 54 | 7928 |
| 55 | 55 | 8210 |
| 56 | 56 | 8492 |
| 57 | 57 | 8774 |
| 58 | 58 | 9056 |
| 59 | 59 | 9338 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Parts for Sec. of S.S.A addit. | S.S.A 90° | | Numbers |
|---|---|---|---|
| | ′ | | |
| 20 | 0 | 101 | 7162 |
| 28 | 1 | | 6871 |
| 28 | 2 | | 6580 |
| 27 | 3 | | 6288 |
| 27 | 4 | | 5997 |
| 26 | 5 | 101 | 5707 |
| 26 | 6 | | 5416 |
| 25 | 7 | | 5126 |
| 25 | 8 | | 4835 |
| 24 | 9 | | 4544 |
| 24 | 10 | 101 | 4253 |
| 23 | 11 | | 3962 |
| 23 | 12 | | 3671 |
| 22 | 13 | | 3380 |
| 22 | 14 | | 3090 |
| 21 | 15 | 101 | 2799 |
| 21 | 16 | | 2508 |
| 20 | 17 | | 2217 |
| 20 | 18 | | 1926 |
| 19 | 19 | | 1635 |
| 19 | 20 | 101 | 1344 |
| 18 | 21 | | 1054 |
| 18 | 22 | | 0763 |
| 17 | 23 | | 0472 |
| 17 | 24 | | 0181 |
| 16 | 25 | 100 | 9890 |
| 16 | 26 | | 9599 |
| 15 | 27 | | 9308 |
| 15 | 28 | | 9017 |
| 15 | 29 | | 8727 |
| 14 | 30 | 100 | 8436 |
| 14 | 31 | | 8145 |
| 13 | 32 | | 7854 |
| 13 | 33 | | 7563 |
| 12 | 34 | | 7272 |
| 12 | 35 | 100 | 6981 |
| 11 | 36 | | 6690 |
| 11 | 37 | | 6399 |
| 10 | 38 | | 6108 |
| 10 | 39 | | 5818 |
| 09 | 40 | 100 | 5527 |
| 09 | 41 | | 5236 |
| 08 | 42 | | 4945 |
| 08 | 43 | | 4654 |
| 07 | 44 | | 4363 |
| 07 | 45 | 100 | 4072 |
| 06 | 46 | | 3782 |
| 06 | 47 | | 3491 |
| 05 | 48 | | 3200 |
| 05 | 49 | | 2909 |
| 04 | 50 | 100 | 2618 |
| 04 | 51 | | 2327 |
| 03 | 52 | | 2036 |
| 03 | 53 | | 1745 |
| 02 | 54 | | 1454 |
| 02 | 55 | 100 | 1164 |
| 01 | 56 | | 0873 |
| 01 | 57 | | 0582 |
| 01 | 58 | | 0291 |
| 00 | 59 | | 0000 |

| Parts for Seconds of Aux. Arg. m. minus | S.A.A & A. D. 90° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 4 | 0 | 200 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |
| 4 | 1 | | 0291 | 0291 | 0290 | 0290 | 0290 | 0290 | 0290 | 0290 | 0289 | 0289 | 0289 | 0289 | 0289 | 0288 | 0288 | 0288 |
| 4 | 2 | | 0581 | 0581 | 0581 | 0580 | 0580 | 0580 | 0580 | 0580 | 0579 | 0579 | 0579 | 0578 | 0578 | 0578 | 0577 | 0577 | 0577 |
| 4 | 3 | | 0872 | 0872 | 0871 | 0871 | 0871 | 0870 | 0870 | 0870 | 0868 | 0868 | 0868 | 0867 | 0867 | 0867 | 0866 | 0866 | 0865 |
| 4 | 4 | | 1163 | 1162 | 1162 | 1161 | 1161 | 1160 | 1160 | 1159 | 1159 | 1158 | 1157 | 1157 | 1156 | 1155 | 1155 | 1154 | 1154 |
| 4 | 5 | 200 | 1454 | 1453 | 1452 | 1451 | 1451 | 1450 | 1449 | 1448 | 1448 | 1447 | 1446 | 1446 | 1445 | 1444 | 1443 | 1443 | 1442 |
| 4 | 6 | | 1744 | 1744 | 1743 | 1742 | 1741 | 1740 | 1739 | 1738 | 1737 | 1737 | 1736 | 1735 | 1734 | 1733 | 1732 | 1731 | 1730 |
| 4 | 7 | | 2035 | 2034 | 2033 | 2032 | 2031 | 2030 | 2029 | 2028 | 2027 | 2026 | 2025 | 2024 | 2023 | 2022 | 2021 | 2020 | 2019 |
| 4 | 8 | | 2326 | 2325 | 2324 | 2323 | 2321 | 2320 | 2319 | 2318 | 2317 | 2315 | 2314 | 2313 | 2312 | 2311 | 2310 | 2308 | 2307 |
| 4 | 9 | | 2617 | 2615 | 2614 | 2613 | 2611 | 2610 | 2609 | 2608 | 2606 | 2605 | 2604 | 2602 | 2601 | 2600 | 2598 | 2597 | 2596 |
| 4 | 10 | 200 | 2908 | 2906 | 2905 | 2903 | 2902 | 2900 | 2899 | 2897 | 2896 | 2894 | 2893 | 2891 | 2890 | 2889 | 2887 | 2885 | 2884 |
| 4 | 11 | | 3198 | 3197 | 3195 | 3193 | 3192 | 3190 | 3189 | 3187 | 3185 | 3184 | 3182 | 3180 | 3179 | 3177 | 3176 | 3174 | 3173 |
| 4 | 12 | | 3489 | 3487 | 3485 | 3484 | 3482 | 3480 | 3478 | 3476 | 3475 | 3473 | 3471 | 3470 | 3468 | 3466 | 3464 | 3463 | 3461 |
| 4 | 13 | | 3779 | 3777 | 3776 | 3774 | 3772 | 3770 | 3768 | 3766 | 3764 | 3763 | 3761 | 3759 | 3757 | 3755 | 3753 | 3751 | 3749 |
| 3 | 14 | | 4070 | 4068 | 4066 | 4064 | 4062 | 4060 | 4058 | 4056 | 4054 | 4052 | 4050 | 4048 | 4046 | 4044 | 4042 | 4040 | 4038 |
| 3 | 15 | 200 | 4361 | 4359 | 4357 | 4355 | 4352 | 4350 | 4348 | 4346 | 4344 | 4341 | 4339 | 4337 | 4335 | 4333 | 4330 | 4328 | 4326 |
| 3 | 16 | | 4652 | 4650 | 4647 | 4645 | 4643 | 4640 | 4638 | 4635 | 4633 | 4631 | 4628 | 4626 | 4624 | 4621 | 4619 | 4617 | 4614 |
| 3 | 17 | | 4943 | 4940 | 4938 | 4935 | 4933 | 4930 | 4928 | 4925 | 4923 | 4920 | 4918 | 4915 | 4913 | 4910 | 4908 | 4905 | 4903 |
| 3 | 18 | | 5233 | 5231 | 5228 | 5225 | 5223 | 5220 | 5218 | 5215 | 5212 | 5210 | 5207 | 5204 | 5202 | 5199 | 5196 | 5194 | 5191 |
| 3 | 19 | | 5524 | 5521 | 5519 | 5516 | 5513 | 5510 | 5507 | 5505 | 5502 | 5499 | 5496 | 5493 | 5491 | 5488 | 5485 | 5482 | 5479 |
| 3 | 20 | 200 | 5815 | 5812 | 5809 | 5806 | 5803 | 5800 | 5797 | 5794 | 5791 | 5788 | 5786 | 5783 | 5780 | 5777 | 5774 | 5771 | 5768 |
| 3 | 21 | | 6106 | 6102 | 6099 | 6096 | 6093 | 6090 | 6087 | 6084 | 6081 | 6078 | 6075 | 6072 | 6069 | 6066 | 6062 | 6059 | 6056 |
| 3 | 22 | | 6396 | 6393 | 6390 | 6387 | 6383 | 6380 | 6377 | 6374 | 6371 | 6367 | 6364 | 6361 | 6358 | 6354 | 6351 | 6348 | 6345 |
| 3 | 23 | | 6687 | 6684 | 6680 | 6677 | 6674 | 6670 | 6667 | 6663 | 6660 | 6657 | 6653 | 6650 | 6647 | 6643 | 6640 | 6636 | 6633 |
| 3 | 24 | | 6978 | 6974 | 6971 | 6967 | 6964 | 6960 | 6957 | 6953 | 6950 | 6946 | 6943 | 6939 | 6936 | 6932 | 6929 | 6925 | 6921 |
| 3 | 25 | 200 | 7268 | 7265 | 7261 | 7258 | 7254 | 7250 | 7246 | 7243 | 7239 | 7236 | 7232 | 7228 | 7225 | 7221 | 7217 | 7214 | 7210 |
| 3 | 26 | | 7559 | 7555 | 7552 | 7548 | 7544 | 7540 | 7537 | 7533 | 7529 | 7525 | 7522 | 7518 | 7514 | 7510 | 7506 | 7502 | 7498 |
| 2 | 27 | | 7849 | 7846 | 7842 | 7838 | 7834 | 7830 | 7826 | 7822 | 7818 | 7814 | 7810 | 7806 | 7802 | 7799 | 7795 | 7791 | 7787 |
| 2 | 28 | | 8140 | 8137 | 8133 | 8128 | 8124 | 8120 | 8116 | 8112 | 8108 | 8104 | 8100 | 8096 | 8091 | 8087 | 8083 | 8079 | 8075 |
| 2 | 29 | | 8431 | 8427 | 8423 | 8419 | 8414 | 8410 | 8406 | 8402 | 8397 | 8393 | 8389 | 8385 | 8380 | 8376 | 8372 | 8368 | 8363 |
| 2 | 30 | 200 | 8722 | 8718 | 8713 | 8709 | 8705 | 8700 | 8696 | 8691 | 8687 | 8683 | 8678 | 8674 | 8669 | 8665 | 8661 | 8656 | 8652 |
| 2 | 31 | | 9013 | 9009 | 9004 | 8999 | 8995 | 8990 | 8986 | 8981 | 8977 | 8972 | 8967 | 8963 | 8958 | 8954 | 8949 | 8945 | 8940 |
| 2 | 32 | | 9304 | 9299 | 9294 | 9290 | 9285 | 9280 | 9276 | 9271 | 9266 | 9261 | 9257 | 9252 | 9247 | 9243 | 9238 | 9233 | 9229 |
| 2 | 33 | | 9594 | 9590 | 9585 | 9580 | 9575 | 9570 | 9565 | 9561 | 9556 | 9551 | 9546 | 9541 | 9536 | 9531 | 9527 | 9522 | 9517 |
| 2 | 34 | | 9885 | 9880 | 9875 | 9870 | 9865 | 9860 | 9855 | 9851 | 9845 | 9840 | 9835 | 9830 | 9825 | 9820 | 9815 | 9810 | 9805 |
| 2 | 35 | 201 | 0176 | 0171 | 0166 | 0161 | 0156 | 0151 | 0146 | 0141 | 0135 | 0130 | 0125 | 0119 | 0114 | 0109 | 0104 | 0099 | 0094 |
| 2 | 36 | | 0467 | 0461 | 0456 | 0451 | 0445 | 0440 | 0435 | 0430 | 0424 | 0419 | 0414 | 0408 | 0403 | 0398 | 0393 | 0387 | 0382 |
| 2 | 37 | | 0757 | 0752 | 0746 | 0741 | 0736 | 0730 | 0725 | 0720 | 0714 | 0709 | 0703 | 0698 | 0692 | 0687 | 0681 | 0676 | 0670 |
| 2 | 38 | | 1048 | 1042 | 1037 | 1031 | 1026 | 1020 | 1015 | 1009 | 1003 | 0998 | 0992 | 0987 | 0981 | 0975 | 0970 | 0964 | 0959 |
| 2 | 39 | | 1339 | 1333 | 1327 | 1322 | 1316 | 1310 | 1304 | 1299 | 1293 | 1287 | 1282 | 1276 | 1270 | 1264 | 1259 | 1253 | 1247 |
| 1 | 40 | 201 | 1629 | 1624 | 1618 | 1612 | 1607 | 1601 | 1595 | 1589 | 1583 | 1577 | 1571 | 1565 | 1559 | 1553 | 1547 | 1541 | 1536 |
| 1 | 41 | | 1920 | 1914 | 1908 | 1902 | 1896 | 1890 | 1884 | 1878 | 1872 | 1866 | 1860 | 1854 | 1848 | 1842 | 1836 | 1830 | 1824 |
| 1 | 42 | | 2211 | 2205 | 2199 | 2193 | 2187 | 2181 | 2174 | 2168 | 2162 | 2155 | 2149 | 2143 | 2137 | 2131 | 2125 | 2118 | 2112 |
| 1 | 43 | | 2502 | 2495 | 2489 | 2483 | 2476 | 2470 | 2464 | 2457 | 2451 | 2445 | 2439 | 2432 | 2426 | 2420 | 2413 | 2407 | 2401 |
| 1 | 44 | | 2792 | 2786 | 2779 | 2773 | 2767 | 2760 | 2754 | 2747 | 2741 | 2734 | 2728 | 2721 | 2715 | 2708 | 2702 | 2695 | 2689 |
| 1 | 45 | 201 | 3083 | 3076 | 3070 | 3063 | 3057 | 3050 | 3044 | 3037 | 3030 | 3024 | 3017 | 3010 | 3004 | 2997 | 2991 | 2984 | 2977 |
| 1 | 46 | | 3374 | 3367 | 3360 | 3354 | 3347 | 3340 | 3333 | 3327 | 3320 | 3313 | 3307 | 3300 | 3293 | 3287 | 3280 | 3273 | 3267 |
| 1 | 47 | | 3665 | 3658 | 3651 | 3644 | 3637 | 3630 | 3623 | 3616 | 3609 | 3603 | 3596 | 3589 | 3582 | 3575 | 3568 | 3561 | 3554 |
| 1 | 48 | | 3955 | 3948 | 3941 | 3934 | 3927 | 3920 | 3913 | 3906 | 3899 | 3892 | 3885 | 3878 | 3871 | 3864 | 3857 | 3850 | 3843 |
| 1 | 49 | | 4246 | 4239 | 4232 | 4224 | 4217 | 4210 | 4203 | 4196 | 4189 | 4181 | 4174 | 4167 | 4160 | 4153 | 4146 | 4138 | 4131 |
| 1 | 50 | 201 | 4537 | 4529 | 4522 | 4515 | 4508 | 4501 | 4493 | 4486 | 4479 | 4472 | 4465 | 4458 | 4451 | 4444 | 4436 | 4429 | 4422 |
| 1 | 51 | | 4827 | 4820 | 4813 | 4805 | 4798 | 4791 | 4784 | 4776 | 4769 | 4762 | 4755 | 4747 | 4740 | 4733 | 4726 | 4718 | 4711 |
| 1 | 52 | | 5118 | 5111 | 5103 | 5096 | 5089 | 5081 | 5074 | 5067 | 5059 | 5052 | 5045 | 5037 | 5030 | 5023 | 5015 | 5008 | 5001 |
| 1 | 53 | | 5409 | 5401 | 5394 | 5386 | 5379 | 5372 | 5364 | 5357 | 5349 | 5342 | 5334 | 5327 | 5319 | 5312 | 5305 | 5297 | 5290 |
| 0 | 54 | | 5699 | 5692 | 5684 | 5677 | 5669 | 5662 | 5654 | 5647 | 5639 | 5632 | 5624 | 5617 | 5609 | 5602 | 5594 | 5587 | 5579 |
| 0 | 55 | 201 | 5990 | 5982 | 5974 | 5966 | 5958 | 5950 | 5942 | 5934 | 5926 | 5918 | 5909 | 5901 | 5893 | 5885 | 5877 | 5869 | 5861 |
| 0 | 56 | | 6281 | 6273 | 6264 | 6256 | 6248 | 6240 | 6232 | 6223 | 6215 | 6207 | 6199 | 6190 | 6182 | 6174 | 6166 | 6158 | 6149 |
| 0 | 57 | | 6572 | 6563 | 6555 | 6546 | 6538 | 6530 | 6521 | 6513 | 6505 | 6496 | 6488 | 6480 | 6471 | 6463 | 6454 | 6446 | 6438 |
| 0 | 58 | | 6862 | 6854 | 6845 | 6837 | 6828 | 6820 | 6811 | 6803 | 6794 | 6786 | 6777 | 6769 | 6760 | 6752 | 6743 | 6735 | 6726 |
| 0 | 59 | | 7153 | 7144 | 7136 | 7127 | 7118 | 7110 | 7101 | 7092 | 7084 | 7075 | 7066 | 7058 | 7049 | 7041 | 7032 | 7024 | 7015 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

Auxiliary Arguments.

| Page 1st Sum or Anom. | ′ | ″ | A. D. 90° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 4 | 0 | | 200 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 | 0000 |
| 4 | 1 | | | 0288 | 0288 | 0288 | 0288 | 0288 | 0288 | 0287 | 0287 | 0287 | 0287 | 0287 | 0287 | 0287 | 0286 | 0286 | 0286 | 0286 |
| 4 | 2 | | | 0577 | 0576 | 0576 | 0576 | 0575 | 0575 | 0575 | 0574 | 0574 | 0574 | 0574 | 0573 | 0573 | 0572 | 0572 | 0572 | 0572 |
| 4 | 3 | | | 0865 | 0864 | 0864 | 0863 | [illegible] | | | | | | | | | 0859 | 0859 | 0858 | 0858 |
| 4 | 4 | | | 1153 | 1152 | 1152 | 1151 | 1151 | 1151 | 1150 | 1149 | 1149 | 1148 | 1147 | 1147 | 1146 | 1145 | 1145 | 1144 | 1144 |
| 4 | 5 | | 200 | 1441 | 1441 | 1440 | 1439 | 1438 | 1438 | 1437 | 1437 | 1436 | 1435 | 1434 | 1433 | 1432 | 1432 | 1431 | 1430 | 1430 |
| 4 | 6 | | | 1729 | 1729 | 1728 | 1727 | 1726 | 1725 | 1724 | 1723 | 1723 | 1722 | 1721 | 1720 | 1719 | 1718 | 1717 | 1716 | 1715 |
| 4 | 7 | | | 2018 | 2017 | 2016 | 2015 | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 | 2008 | 2007 | 2005 | 2004 | 2003 | 2002 | 2001 |
| 4 | 8 | | | 2306 | 2305 | 2304 | 2303 | 2301 | 2300 | 2299 | 2298 | 2297 | 2295 | 2294 | 2293 | 2292 | [illegible] | | 2288 | 2287 |
| 4 | 9 | | | 2594 | 2593 | 2592 | 2590 | 2589 | 2588 | 2587 | 2586 | [illegible] | | | | | 2577 | 2576 | 2574 | 2573 |
| 4 | 10 | | 200 | 2883 | 2881 | 2880 | 2878 | 2877 | 2876 | 2874 | 2873 | 2871 | 2869 | 2868 | 2866 | 2865 | 2863 | 2862 | 2860 | 2859 |
| 4 | 11 | | | 3171 | 3169 | 3168 | 3166 | 3164 | 3163 | 3161 | 3159 | 3158 | 3156 | 3155 | 3153 | 3151 | 3150 | 3148 | 3146 | 3145 |
| 4 | 12 | | | 3459 | 3457 | 3455 | 3454 | 3452 | 3450 | 3449 | 3447 | 3445 | 3443 | 3441 | 3440 | 3438 | 3436 | 3434 | 3432 | 3431 |
| 4 | 13 | | | 3747 | 3745 | 3743 | 3742 | 3740 | 3738 | 3736 | 3734 | 3732 | 3731 | 3729 | 3727 | 3725 | 3724 | 3722 | 3719 | 3717 |
| 3 | 14 | | | 4035 | 4033 | 4031 | 4029 | 4027 | 4025 | 4023 | 4021 | 4019 | 4017 | 4015 | 4013 | 4011 | 4009 | 4007 | 4005 | 4002 |
| 3 | 15 | | 200 | 4324 | 4322 | 4319 | 4317 | 4315 | 4313 | 4311 | 4309 | 4307 | 4305 | 4303 | 4301 | 4299 | 4297 | 4295 | 4293 | 4291 |
| 3 | 16 | | | 4612 | 4610 | 4607 | 4605 | 4603 | 4600 | 4598 | 4596 | 4593 | 4591 | 4588 | 4586 | 4584 | 4581 | 4579 | 4577 | 4574 |
| 3 | 17 | | | 4900 | 4898 | 4895 | 4893 | 4890 | 4888 | 4885 | 4883 | 4880 | 4878 | 4875 | 4873 | 4870 | 4868 | 4865 | 4863 | 4860 |
| 3 | 18 | | | 5188 | 5186 | 5183 | 5181 | 5178 | 5175 | 5173 | 5170 | 5168 | 5165 | 5163 | 5160 | 5157 | 5154 | 5151 | 5149 | 5146 |
| 3 | 19 | | | 5477 | 5474 | 5471 | 5469 | 5466 | 5463 | 5461 | 5458 | 5455 | 5452 | 5449 | 5447 | 5444 | 5441 | 5438 | 5435 | 5432 |
| 3 | 20 | | 200 | 5765 | 5762 | 5759 | 5756 | 5753 | 5750 | 5747 | 5744 | 5741 | 5738 | 5736 | 5733 | 5730 | 5727 | 5724 | 5721 | 5718 |
| 3 | 21 | | | 6053 | 6050 | 6047 | 6044 | 6041 | 6038 | 6035 | 6032 | 6028 | 6025 | 6022 | 6019 | 6016 | 6013 | 6010 | 6007 | 6004 |
| 3 | 22 | | | 6341 | 6338 | 6335 | 6332 | 6329 | 6325 | 6322 | 6319 | 6316 | 6313 | 6310 | 6307 | 6304 | 6301 | 6298 | 6295 | 6292 |
| 3 | 23 | | | 6630 | 6626 | 6623 | 6619 | 6616 | 6613 | 6609 | 6606 | 6603 | 6599 | 6596 | 6592 | [illegible] | | | | |
| 3 | 24 | | | 6918 | 6914 | 6911 | 6907 | 6904 | 6900 | 6897 | 6893 | 6890 | 6886 | 6883 | 6879 | [illegible] | | | | |
| 3 | 25 | | 200 | 7206 | 7202 | 7199 | 7195 | 7192 | 7188 | 7185 | 7181 | 7178 | 7174 | 7171 | 7167 | 7164 | 7160 | 7157 | 7153 | 7150 |
| 3 | 26 | | | 7494 | 7491 | 7487 | 7484 | 7480 | 7477 | 7473 | 7470 | 7466 | 7463 | 7459 | 7456 | 7452 | 7449 | 7445 | 7442 | 7438 |
| 2 | 27 | | | 7783 | 7779 | 7775 | 7771 | 7767 | 7763 | 7759 | 7755 | 7751 | 7747 | 7743 | 7739 | 7735 | 7731 | [illegible] | | |
| 2 | 28 | | | 8071 | 8067 | 8063 | 8059 | 8054 | 8050 | 8046 | 8042 | 8038 | 8034 | 8030 | 8026 | 8021 | 8017 | [illegible] | | |
| 2 | 29 | | | 8359 | 8355 | 8351 | 8346 | 8342 | 8338 | 8334 | 8330 | 8325 | 8321 | 8317 | 8313 | [illegible] | | | | |
| 2 | 30 | | 200 | 8647 | 8643 | 8639 | 8634 | 8630 | 8626 | 8621 | 8617 | 8613 | 8608 | 8604 | 8599 | 8594 | 8590 | 8586 | 8581 | [illegible] |
| 2 | 31 | | | 8936 | 8931 | 8926 | 8922 | 8917 | 8913 | 8908 | 8904 | 8899 | 8895 | 8890 | 8885 | 8881 | 8876 | 8872 | 8867 | 8863 |
| 2 | 32 | | | 9224 | 9219 | 9214 | 9210 | 9205 | 9200 | 9196 | 9191 | 9186 | 9181 | 9177 | 9172 | 9167 | 9163 | 9158 | 9153 | 9148 |
| 2 | 33 | | | 9512 | 9507 | 9502 | 9497 | 9493 | 9488 | 9483 | 9478 | 9473 | 9468 | 9463 | 9458 | 9454 | 9449 | 9444 | 9439 | 9434 |
| 2 | 34 | | | 9800 | 9795 | 9790 | 9785 | 9780 | 9775 | 9770 | 9765 | 9760 | 9755 | 9750 | 9745 | [illegible] | | | | |
| 2 | 35 | | 201 | 0088 | 0083 | 0078 | 0073 | [illegible] | | | | | | | | | | | | |
| 2 | 36 | | | 0377 | 0372 | 0366 | 0361 | 0356 | 0350 | 0345 | 0340 | 0334 | 0329 | 0324 | 0318 | 0313 | 0308 | 0303 | 0297 | 0292 |
| 2 | 37 | | | 0665 | 0659 | 0654 | 0649 | 0643 | 0638 | 0632 | 0627 | 0621 | 0616 | 0611 | 0605 | 0600 | 0594 | 0589 | 0583 | 0578 |
| 2 | 38 | | | 0953 | 0948 | 0942 | 0936 | 0931 | 0925 | 0920 | 0914 | 0908 | 0903 | 0897 | 0892 | [illegible] | | | | |
| 2 | 39 | | | 1241 | 1236 | 1230 | 1224 | 1218 | 1213 | 1207 | 1201 | 1196 | 1190 | 1184 | 1178 | 1173 | 1167 | 1161 | 1156 | 1150 |
| 1 | 40 | | 201 | 1530 | 1524 | 1518 | 1512 | 1506 | 1500 | 1494 | 1488 | 1482 | 1476 | 1470 | 1464 | 1458 | 1452 | 1446 | 1441 | 1435 |
| 1 | 41 | | | 1818 | 1812 | 1806 | 1800 | 1794 | 1788 | 1782 | 1776 | 1770 | 1764 | 1758 | 1752 | 1745 | 1739 | 1733 | 1727 | 1721 |
| 1 | 42 | | | 2106 | 2100 | 2094 | 2088 | 2081 | 2075 | 2069 | 2063 | 2057 | 2050 | 2044 | 2038 | 2032 | [illegible] | | | |
| 1 | 43 | | | 2394 | 2388 | 2382 | 2375 | 2369 | 2363 | 2356 | 2350 | 2344 | 2337 | 2331 | 2325 | 2318 | 2312 | 2306 | 2299 | 2293 |
| 1 | 44 | | | 2682 | 2676 | 2670 | 2663 | 2657 | 2650 | 2644 | 2637 | 2631 | 2624 | 2618 | 2611 | 2605 | [illegible] | | | |
| 1 | 45 | | 201 | 2971 | 2964 | 2958 | 2951 | 2944 | 2938 | [illegible] | | | | | | | | | | |
| 1 | 46 | | | 3259 | 3252 | 3245 | 3239 | 3232 | 3225 | 3218 | 3212 | 3205 | 3198 | 3191 | 3185 | 3178 | 3171 | [illegible] | | |
| 1 | 47 | | | [illegible] | | | | | | | | | | | | | | | | |
| 1 | 48 | | | 3835 | 3828 | 3821 | 3814 | 3807 | 3801 | 3793 | 3786 | 3779 | 3772 | 3765 | 3758 | 3751 | 3744 | [illegible] | | |
| 1 | 49 | | | [illegible] | | | | | | | | | | | | | | | | |
| 1 | 50 | | [illegible] | [illegible] | 4404 | 4397 | 4390 | 4383 | 4375 | [illegible] | 4360 | 4353 | 4346 | 4338 | 4331 | 4324 | 4316 | 4309 | [illegible] | |
| 1 | 51 | | | [illegible] | 4693 | 4685 | 4678 | 4670 | 4663 | 4655 | 4648 | 4640 | 4633 | 4625 | 4618 | 4610 | 4602 | 4595 | [illegible] | |
| [illegible] | | | | 4988 | 4981 | 4973 | 4965 | 4958 | 4950 | 4942 | 4935 | 4927 | 4919 | 4912 | 4904 | 4896 | 4889 | 4881 | [illegible] | |
| [illegible] | | | | [illegible] | | | | | | | | | 5206 | 5199 | 5191 | 5183 | 5175 | 5167 | [illegible] | |
| [illegible] | | | | [illegible] | | | | | | | | | 5493 | 5485 | 5477 | 5469 | 5461 | 5453 | [illegible] | |
| [illegible] | | | | [illegible] | | | | | | | | | [illegible] | | | | | | | |
| [illegible] | | | | [illegible] | 6125 | 6116 | 6108 | 6100 | 6092 | 6083 | 6075 | 6067 | 6059 | 6051 | 6042 | 6034 | 6026 | 6018 | [illegible] | |
| [illegible] | | | | [illegible] | 6413 | 6404 | 6396 | 6387 | 6379 | 6371 | 6362 | 6354 | 6345 | 6337 | 6329 | 6320 | 6312 | 6304 | [illegible] | |
| 58 | | | | 0716 | 0709 | 0701 | 6692 | 6683 | 6675 | 6666 | 6658 | 6649 | 6641 | 6632 | 6624 | 6615 | 6607 | 6598 | 6590 | [illegible] |
| 59 | | | | 7001 | 6997 | 6988 | 6980 | 6971 | 6962 | 6954 | 6945 | 6936 | 6928 | 6919 | 6911 | 6902 | 6893 | 6884 | 68[illegible] | |

| Page 1st Sum or Anom. | ′ | ″ | Sums |
|---|---|---|---|
| [illegible] | | | |
| 4 | 0 | 500 | 0000 |
| 5 | 1 | | [illegible] |
| 16 | 2 | | [illegible] |
| 15 | 3 | | [illegible] |
| 16 | 4 | | 1154 |
| 24 | 5 | 500 | 1454 |
| 20 | 6 | | 1745 |
| 34 | 7 | | 2036 |
| 39 | 8 | | 2327 |
| 44 | 9 | | 2618 |
| 47 | 10 | 500 | 2909 |
| 5 | 11 | | 3200 |
| 58 | 12 | | 3491 |
| 63 | 13 | | 3782 |
| 68 | 14 | | 4072 |
| 73 | 15 | 500 | 4363 |
| 77 | 16 | | 4654 |
| 82 | 17 | | [illegible] |
| 87 | 18 | | [illegible] |
| 92 | 19 | | [illegible] |
| 97 | 20 | 500 | 5818 |
| 1 | 21 | | 0109 |
| 106 | 22 | | [illegible] |
| 111 | 23 | | [illegible] |
| 116 | 24 | | [illegible] |
| 121 | 25 | | [illegible] |
| 126 | 26 | | [illegible] |
| 131 | 27 | | [illegible] |
| 136 | 28 | | [illegible] |
| 141 | 29 | | [illegible] |
| 146 | 30 | | [illegible] |
| 151 | 31 | | [illegible] |
| 156 | 32 | | [illegible] |
| 161 | 33 | | [illegible] |
| 166 | 34 | | [illegible] |
| 171 | 35 | | [illegible] |
| 176 | 36 | | [illegible] |
| 181 | 37 | | [illegible] |
| 186 | 38 | | [illegible] |
| 191 | 39 | | [illegible] |
| 196 | 40 | | [illegible] |
| 201 | 41 | | [illegible] |
| 206 | 42 | | [illegible] |
| 211 | 43 | | [illegible] |
| 216 | 44 | | [illegible] |
| 221 | 45 | | [illegible] |
| 226 | 46 | | [illegible] |
| 231 | 47 | | [illegible] |
| 236 | 48 | | [illegible] |
| 241 | 49 | | [illegible] |
| 246 | 50 | | [illegible] |
| 251 | 51 | | [illegible] |
| 256 | 52 | | [illegible] |
| 261 | 53 | | [illegible] |
| 266 | 54 | | [illegible] |
| 271 | 55 | | [illegible] |
| 276 | 56 | | [illegible] |
| 281 | 57 | | [illegible] |
| 286 | 58 | | [illegible] |
| 291 | 59 | | [illegible] |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Parts for Sec. | C. S. A. 91° | Numbers |
|---|---|---|
| 0 | 0 | 99 9744 |
| 1 | 1 | 9413 |
| 2 | 2 | 9127 |
| 3 | 3 | 8836 |
| 4 | 4 | 8540 |
| 5 | 5 | 8255 |
| 6 | 6 | 7964 |
| 7 | 7 | 7673 |
| 8 | 8 | 7382 |
| 9 | 9 | 7091 |
| 10 | 10 | 6800 |
| 11 | 11 | 6509 |
| 12 | 12 | 6218 |
| 13 | 13 | 5927 |
| 14 | 14 | 5636 |
| 15 | 15 | 5345 |
| 16 | 16 | 5055 |
| 17 | 17 | 4764 |
| 18 | 18 | 4473 |
| 19 | 19 | 4182 |
| 20 | 20 | 3891 |
| 21 | 21 | 3601 |
| 22 | 22 | 3310 |
| 23 | 23 | 3019 |
| 24 | 24 | 2728 |
| 25 | 25 | 2437 |
| 26 | 26 | 2146 |
| 27 | 27 | 1855 |
| 28 | 28 | 1565 |
| 29 | 29 | 1274 |
| 30 | 30 | 983 |
| 31 | 31 | 692 |
| 32 | 32 | 401 |
| 33 | 33 | 111 |
| 34 | 34 | 99 8820 |
| 35 | 35 | 8529 |
| 36 | 36 | 8238 |
| 37 | 37 | 7947 |
| 38 | 38 | 7656 |
| 39 | 39 | 7365 |
| 40 | 40 | 7074 |
| 41 | 41 | 6783 |
| 42 | 42 | 6492 |
| 43 | 43 | 6201 |
| 44 | 44 | 5910 |
| 45 | 45 | 5619 |
| 46 | 46 | 5328 |
| 47 | 47 | 5037 |
| 48 | 48 | 4746 |
| 49 | 49 | 4455 |
| 50 | 50 | 4165 |
| 51 | 51 | 3874 |
| 52 | 52 | 3583 |
| 53 | 53 | 3292 |
| 54 | 54 | 3001 |
| 55 | 55 | 2710 |
| 56 | 56 | 2419 |
| 57 | 57 | 2128 |
| 58 | 58 | 1837 |
| 59 | 59 | 1546 |
| 60 | 60 | 1255 |

| Parts for Seconds of Auxil. Arc. | D. M. & A. D. 91° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Seconds. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 7444 | 7435 | 7427 | 7418 | 7409 | 7401 | 7392 | 7383 | 7374 | 7366 | 7357 | 7348 | 7339 | 7331 | 7322 | 7313 | 7304 |
| 1 | 1 | 7357 | 7348 | 7340 | 7331 | 7322 | 7314 | 7305 | 7296 | 7287 | 7279 | 7270 | 7261 | 7252 | 7244 | 7235 | 7226 | 7217 |
| 2 | 2 | 8225 | 8217 | 8208 | 8199 | 8191 | 8182 | 8173 | 8164 | 8156 | 8147 | 8138 | 8129 | 8121 | 8112 | 8103 | 8094 | 8086 |
| 3 | 3 | 8311 | 8302 | 8293 | 8285 | 8276 | 8267 | 8258 | 8250 | 8241 | 8232 | 8223 | 8215 | 8206 | 8197 | 8188 | 8180 | 8171 |
| 4 | 4 | 8397 | 8388 | 8380 | 8371 | 8362 | 8353 | 8345 | 8336 | 8327 | 8318 | 8310 | 8301 | 8292 | 8283 | 8275 | 8266 | 8257 |
| 5 | 201 | 8483 | 8474 | 8466 | 8457 | 8448 | 8439 | 8431 | 8422 | 8413 | 8404 | 8396 | 8387 | 8378 | 8369 | 8361 | 8352 | 8343 |
| 6 | | 8569 | 8560 | 8552 | 8543 | 8534 | 8525 | 8517 | 8508 | 8499 | 8490 | 8482 | 8473 | 8464 | 8455 | 8447 | 8438 | 8429 |
| 7 | | 8655 | 8646 | 8638 | 8629 | 8620 | 8611 | 8603 | 8594 | 8585 | 8576 | 8568 | 8559 | 8550 | 8541 | 8533 | 8524 | 8515 |
| 8 | | 8741 | 8732 | 8724 | 8715 | 8706 | 8697 | 8689 | 8680 | 8671 | 8662 | 8654 | 8645 | 8636 | 8627 | 8619 | 8610 | 8601 |
| 9 | | 8827 | 8818 | 8810 | 8801 | 8792 | 8783 | 8775 | 8766 | 8757 | 8748 | 8740 | 8731 | 8722 | 8713 | 8705 | 8696 | 8687 |
| 10 | | 8913 | 8904 | 8896 | 8887 | 8878 | 8869 | 8861 | 8852 | 8843 | 8834 | 8826 | 8817 | 8808 | 8799 | 8791 | 8782 | 8773 |
| 11 | 202 | 8999 | 8990 | 8982 | 8973 | 8964 | 8955 | 8947 | 8938 | 8929 | 8920 | 8912 | 8903 | 8894 | 8885 | 8877 | 8868 | 8859 |
| 12 | | 9085 | 9076 | 9068 | 9059 | 9050 | 9041 | 9033 | 9024 | 9015 | 9006 | 8998 | 8989 | 8980 | 8971 | 8963 | 8954 | 8945 |
| 13 | | 9171 | 9162 | 9154 | 9145 | 9136 | 9127 | 9119 | 9110 | 9101 | 9092 | 9084 | 9075 | 9066 | 9057 | 9049 | 9040 | 9031 |
| 14 | | 9257 | 9248 | 9240 | 9231 | 9222 | 9213 | 9205 | 9196 | 9187 | 9178 | 9170 | 9161 | 9152 | 9143 | 9135 | 9126 | 9117 |
| 15 | | 9343 | 9334 | 9326 | 9317 | 9308 | 9299 | 9291 | 9282 | 9273 | 9264 | 9256 | 9247 | 9238 | 9229 | 9221 | 9212 | 9203 |
| 16 | | 9429 | 9420 | 9412 | 9403 | 9394 | 9385 | 9377 | 9368 | 9359 | 9350 | 9342 | 9333 | 9324 | 9315 | 9307 | 9298 | 9289 |
| 17 | 203 | 9515 | 9506 | 9498 | 9489 | 9480 | 9471 | 9463 | 9454 | 9445 | 9436 | 9428 | 9419 | 9410 | 9401 | 9393 | 9384 | 9375 |
| 18 | | 9601 | 9592 | 9584 | 9575 | 9566 | 9557 | 9549 | 9540 | 9531 | 9522 | 9514 | 9505 | 9496 | 9487 | 9479 | 9470 | 9461 |
| 19 | | 9687 | 9678 | 9670 | 9661 | 9652 | 9643 | 9635 | 9626 | 9617 | 9608 | 9600 | 9591 | 9582 | 9573 | 9565 | 9556 | 9547 |
| 20 | 204 | 9773 | 9764 | 9756 | 9747 | 9738 | 9729 | 9721 | 9712 | 9703 | 9694 | 9686 | 9677 | 9668 | 9659 | 9651 | 9642 | 9633 |
| 21 | | 9859 | 9850 | 9842 | 9833 | 9824 | 9815 | 9807 | 9798 | 9789 | 9780 | 9772 | 9763 | 9754 | 9745 | 9737 | 9728 | 9719 |
| 22 | | 9945 | 9936 | 9928 | 9919 | 9910 | 9901 | 9893 | 9884 | 9875 | 9866 | 9858 | 9849 | 9840 | 9831 | 9823 | 9814 | 9805 |
| 23 | | 10031 | 10022 | 10014 | 10005 | 9996 | 9987 | 9979 | 9970 | 9961 | 9952 | 9944 | 9935 | 9926 | 9917 | 9909 | 9900 | 9891 |
| 24 | | 10117 | 10108 | 10100 | 10091 | 10082 | 10073 | 10065 | 10056 | 10047 | 10038 | 10030 | 10021 | 10012 | 10003 | 9995 | 9986 | 9977 |
| 25 | 205 | 10203 | 10194 | 10186 | 10177 | 10168 | 10159 | 10151 | 10142 | 10133 | 10124 | 10116 | 10107 | 10098 | 10089 | 10081 | 10072 | 10063 |
| 26 | | 10289 | 10280 | 10272 | 10263 | 10254 | 10245 | 10237 | 10228 | 10219 | 10210 | 10202 | 10193 | 10184 | 10175 | 10167 | 10158 | 10149 |
| 27 | | 10375 | 10366 | 10358 | 10349 | 10340 | 10331 | 10323 | 10314 | 10305 | 10296 | 10288 | 10279 | 10270 | 10261 | 10253 | 10244 | 10235 |
| 28 | | 10461 | 10452 | 10444 | 10435 | 10426 | 10417 | 10409 | 10400 | 10391 | 10382 | 10374 | 10365 | 10356 | 10347 | 10339 | 10330 | 10321 |
| 29 | | 10547 | 10538 | 10530 | 10521 | 10512 | 10503 | 10495 | 10486 | 10477 | 10468 | 10460 | 10451 | 10442 | 10433 | 10425 | 10416 | 10407 |
| 30 | 206 | 10633 | 10624 | 10616 | 10607 | 10598 | 10589 | 10581 | 10572 | 10563 | 10554 | 10546 | 10537 | 10528 | 10519 | 10511 | 10502 | 10493 |
| 31 | | 10719 | 10710 | 10702 | 10693 | 10684 | 10675 | 10667 | 10658 | 10649 | 10640 | 10632 | 10623 | 10614 | 10605 | 10597 | 10588 | 10579 |
| 32 | | 10805 | 10796 | 10788 | 10779 | 10770 | 10761 | 10753 | 10744 | 10735 | 10726 | 10718 | 10709 | 10700 | 10691 | 10683 | 10674 | 10665 |
| 33 | | 10891 | 10882 | 10874 | 10865 | 10856 | 10847 | 10839 | 10830 | 10821 | 10812 | 10804 | 10795 | 10786 | 10777 | 10769 | 10760 | 10751 |
| 34 | | 10977 | 10968 | 10960 | 10951 | 10942 | 10933 | 10925 | 10916 | 10907 | 10898 | 10890 | 10881 | 10872 | 10863 | 10855 | 10846 | 10837 |
| 35 | 207 | 11063 | 11054 | 11046 | 11037 | 11028 | 11019 | 11011 | 11002 | 10993 | 10984 | 10976 | 10967 | 10958 | 10949 | 10941 | 10932 | 10923 |
| 36 | | 11149 | 11140 | 11132 | 11123 | 11114 | 11105 | 11097 | 11088 | 11079 | 11070 | 11062 | 11053 | 11044 | 11035 | 11027 | 11018 | 11009 |
| 37 | | 11235 | 11226 | 11218 | 11209 | 11200 | 11191 | 11183 | 11174 | 11165 | 11156 | 11148 | 11139 | 11130 | 11121 | 11113 | 11104 | 11095 |
| 38 | | 11321 | 11312 | 11304 | 11295 | 11286 | 11277 | 11269 | 11260 | 11251 | 11242 | 11234 | 11225 | 11216 | 11207 | 11199 | 11190 | 11181 |
| 39 | | 11407 | 11398 | 11390 | 11381 | 11372 | 11363 | 11355 | 11346 | 11337 | 11328 | 11320 | 11311 | 11302 | 11293 | 11285 | 11276 | 11267 |
| 40 | 208 | 11493 | 11484 | 11476 | 11467 | 11458 | 11449 | 11441 | 11432 | 11423 | 11414 | 11406 | 11397 | 11388 | 11379 | 11371 | 11362 | 11353 |
| 41 | | 11579 | 11570 | 11562 | 11553 | 11544 | 11535 | 11527 | 11518 | 11509 | 11500 | 11492 | 11483 | 11474 | 11465 | 11457 | 11448 | 11439 |
| 42 | | 11665 | 11656 | 11648 | 11639 | 11630 | 11621 | 11613 | 11604 | 11595 | 11586 | 11578 | 11569 | 11560 | 11551 | 11543 | 11534 | 11525 |
| 43 | | 11751 | 11742 | 11734 | 11725 | 11716 | 11707 | 11699 | 11690 | 11681 | 11672 | 11664 | 11655 | 11646 | 11637 | 11629 | 11620 | 11611 |
| 44 | | 11837 | 11828 | 11820 | 11811 | 11802 | 11793 | 11785 | 11776 | 11767 | 11758 | 11750 | 11741 | 11732 | 11723 | 11715 | 11706 | 11697 |
| 45 | 209 | 11923 | 11914 | 11906 | 11897 | 11888 | 11879 | 11871 | 11862 | 11853 | 11844 | 11836 | 11827 | 11818 | 11809 | 11801 | 11792 | 11783 |
| 46 | | 12009 | 12000 | 11992 | 11983 | 11974 | 11965 | 11957 | 11948 | 11939 | 11930 | 11922 | 11913 | 11904 | 11895 | 11887 | 11878 | 11869 |
| 47 | | 12095 | 12086 | 12078 | 12069 | 12060 | 12051 | 12043 | 12034 | 12025 | 12016 | 12008 | 11999 | 11990 | 11981 | 11973 | 11964 | 11955 |
| 48 | | 12181 | 12172 | 12164 | 12155 | 12146 | 12137 | 12129 | 12120 | 12111 | 12102 | 12094 | 12085 | 12076 | 12067 | 12059 | 12050 | 12041 |
| 49 | | 12267 | 12258 | 12250 | 12241 | 12232 | 12223 | 12215 | 12206 | 12197 | 12188 | 12180 | 12171 | 12162 | 12153 | 12145 | 12136 | 12127 |
| 50 | 210 | 12353 | 12344 | 12336 | 12327 | 12318 | 12309 | 12301 | 12292 | 12283 | 12274 | 12266 | 12257 | 12248 | 12239 | 12231 | 12222 | 12213 |
| 51 | | 12439 | 12430 | 12422 | 12413 | 12404 | 12395 | 12387 | 12378 | 12369 | 12360 | 12352 | 12343 | 12334 | 12325 | 12317 | 12308 | 12299 |
| 52 | | 12525 | 12516 | 12508 | 12499 | 12490 | 12481 | 12473 | 12464 | 12455 | 12446 | 12438 | 12429 | 12420 | 12411 | 12403 | 12394 | 12385 |
| 53 | | 12611 | 12602 | 12594 | 12585 | 12576 | 12567 | 12559 | 12550 | 12541 | 12532 | 12524 | 12515 | 12506 | 12497 | 12489 | 12480 | 12471 |
| 54 | | 12697 | 12688 | 12680 | 12671 | 12662 | 12653 | 12645 | 12636 | 12627 | 12618 | 12610 | 12601 | 12592 | 12583 | 12575 | 12566 | 12557 |
| 55 | 211 | 12783 | 12774 | 12766 | 12757 | 12748 | 12739 | 12731 | 12722 | 12713 | 12704 | 12696 | 12687 | 12678 | 12669 | 12661 | 12652 | 12643 |
| 56 | | 12869 | 12860 | 12852 | 12843 | 12834 | 12825 | 12817 | 12808 | 12799 | 12790 | 12782 | 12773 | 12764 | 12755 | 12747 | 12738 | 12729 |
| 57 | | 12955 | 12946 | 12938 | 12929 | 12920 | 12911 | 12903 | 12894 | 12885 | 12876 | 12868 | 12859 | 12850 | 12841 | 12833 | 12824 | 12815 |
| 58 | | 13041 | 13032 | 13024 | 13015 | 13006 | 12997 | 12989 | 12980 | 12971 | 12962 | 12954 | 12945 | 12936 | 12927 | 12919 | 12910 | 12901 |
| 59 | | 13127 | 13118 | 13110 | 13101 | 13092 | 13083 | 13075 | 13066 | 13057 | 13048 | 13040 | 13031 | 13022 | 13013 | 13005 | 12996 | 12987 |
| 60 | | 13213 | 13204 | 13196 | 13187 | 13178 | 13169 | 13161 | 13152 | 13143 | 13134 | 13126 | 13117 | 13108 | 13099 | 13091 | 13082 | 13073 |

C. T. XI. . Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts & Seconds of Auxil. Argum. additive | Auxiliary Arguments. | | | | | | | | | | | | | | | | | | | | Parts for Sec. of Auxil. Argum. additive | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° ′ A & A.D. 91 | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ | | | | |
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | | | | |
| 13 | 0 | 201 | 7294 | 7285 | 7276 | 7267 | 7259 | 7250 | 7241 | 7232 | 7223 | 7215 | 7200 | 7197 | 7188 | 7179 | 7170 | 7162 | 7153 | | 0 | |
| 13 | 1 | | 7582 | 7573 | 7564 | 7555 | 7546 | 7537 | 7528 | 7519 | 7510 | 7501 | 7492 | 7483 | 7474 | 7465 | 7456 | 7447 | 7439 | | 5 | |
| 13 | 2 | | 7870 | 7861 | 7852 | 7843 | 7834 | 7825 | 7816 | 7807 | 7797 | 7788 | 7779 | 7770 | 7761 | 7752 | 7743 | 7733 | 7724 | | 10 | |
| 13 | 3 | | 8159 | 8149 | 8140 | 8131 | 8122 | 8112 | 8103 | 8094 | 8084 | 8075 | 8066 | 8057 | 8047 | 8038 | 8029 | 8019 | 8010 | | 15 | |
| | 4 | | | | | | | | | | | | | | | | | | | | | |
| 12 | 5 | 201 | | | | | | | | | | | | | | | | | | | | |
| | 6 | | | | | | | | | | | | | | | | | | | | | |
| 12 | 7 | | | | | | | | | | | | | | | | | | | | | |
| 12 | 8 | | | | | | | | | | | | | | | | | | | | | |
| | 9 | | | | | | | | | | | | | | | | | | | | | |
| 11 | 10 | 202 | | | | | | | | | | | | | | | | | | | | |
| 11 | 11 | | | | | | | | | | | | | | | | | | | | | |
| 11 | 12 | | | | | | | | | | | | | | | | | | | | | |
| 11 | 13 | | | | | | | | | | | | | | | | | | | | | |
| 11 | 14 | | | | | | | | | | | | | | | | | | | | | |
| 10 | 15 | 202 | | | | | | | | | | | | | | | | | | | | |
| 10 | 16 | | | | | | | | | | | | | | | | | | | | | |
| 10 | 17 | | | | | | | | | | | | | | | | | | | | | |
| 10 | 18 | | | | | | | | | | | | | | | | | | | | | |
| 9 | 19 | | 2770 | 2758 | 2746 | 2735 | 2723 | 2711 | 2700 | 2688 | 2676 | 2665 | 2653 | 2642 | 2630 | 2618 | 2607 | 2595 | 2583 | | 92 | |
| 9 | 20 | 202 | 3058 | 3046 | 3034 | 3022 | 3011 | 2999 | 2987 | 2975 | 2964 | 2952 | 2940 | 2928 | 2916 | 2905 | 2893 | 2881 | 2869 | | 97 | |
| 9 | 21 | | 3346 | 3334 | 3322 | 3310 | 3298 | 3286 | 3275 | 3262 | 3251 | 3239 | 3227 | 3215 | 3203 | 3191 | 3179 | 3167 | 3155 | | 102 | |
| 9 | 22 | | 3634 | 3622 | 3610 | 3598 | 3586 | 3574 | 3562 | 3550 | 3538 | 3526 | 3514 | 3502 | 3490 | 3477 | 3465 | 3453 | 3441 | | 106 | |
| 8 | 23 | | 3922 | 3910 | 3898 | 3886 | 3873 | 3861 | 3849 | 3837 | 3825 | 3812 | 3800 | 3788 | 3776 | 3763 | 3751 | 3739 | 3727 | | 111 | |
| 8 | 24 | | | | | | | | | | | | | | | | | | | | | |
| 8 | 25 | 202 | | | | | | | | | | | | | | | | | | | | |
| 8 | 26 | | | | | | | | | | | | | | | | | | | | | |
| 8 | 27 | | | | | | | | | | | | | | | | | | | | | |
| 8 | 28 | | | | | | | | | | | | | | | | | | | | | |
| 7 | 29 | | | | | | | | | | | | | | | | | | | | | |
| 7 | 30 | 202 | 5939 | 5926 | 5913 | 5900 | 5886 | 5873 | 5860 | | | | | | | | | | | | | |
| 7 | 31 | | 6227 | 6214 | 6201 | 6187 | 6174 | 6161 | 6147 | 6134 | 6120 | 6108 | 6094 | 6080 | | | | | | | | |
| 6 | 32 | | 6516 | 6502 | 6488 | 6475 | 6461 | 6448 | 6434 | 6421 | 6407 | 6394 | 6380 | 6367 | 6353 | | | | | | | |
| 6 | 33 | | | | | | | | | | | | | | | | | | | | | |
| 6 | 34 | | 7092 | 7078 | 7064 | 7050 | 7036 | 7023 | 7009 | 6995 | 6981 | 6967 | 6954 | 6940 | 6926 | 6912 | 6898 | 6884 | 6870 | | | |
| 6 | 35 | 202 | | | | | | | | | | | | | | | | | | | | |
| 5 | 36 | | | | | | | | | | | | | | | | | | | | | |
| 5 | 37 | | 7950 | 7942 | 7928 | 7913 | 7899 | 7885 | 7871 | 7856 | 7842 | 7828 | 7814 | 7799 | 7785 | 7771 | 7757 | | | | | |
| 5 | 38 | | 8244 | 8230 | 8216 | 8201 | 8187 | 8172 | 8158 | 8143 | 8129 | 8115 | 8100 | 8086 | 8071 | | | | | | | |
| 5 | 39 | | 8533 | 8518 | | | | | | | | | | | | | | | | | | |
| 4 | 40 | 202 | 8821 | 8806 | 8791 | 8776 | 8762 | 8747 | 8732 | 8718 | 8703 | 8688 | 8673 | 8659 | 8644 | 8629 | | | | | | |
| 4 | 41 | | 9109 | 9094 | 9079 | 9064 | 9049 | 9035 | 9020 | 9005 | 8990 | 8975 | 8960 | 8945 | 8930 | 8916 | 8901 | 8886 | 8871 | | | |
| 4 | 42 | | | | | | | | | | | | | | | | | | | | | |
| 4 | 43 | | | | | | | | | | | | | | | | | | | | | |
| 4 | 44 | | | | | | 9054 | 9039 | 9024 | 9009 | 8994 | 8979 | 8964 | 8949 | 8933 | 8918 | | | | | | |
| 4 | 45 | | | | | | 9327 | 9312 | 9297 | 9281 | 9266 | 9251 | 9235 | 9220 | | | | | | | | |
| 3 | 46 | 203 | | | | | 0215 | 0199 | 0184 | 0169 | 0153 | 0138 | | | | | | | | | | |
| 3 | 47 | | | | | | 0503 | 0487 | 0471 | 0456 | 0440 | 0425 | 0409 | 0393 | 0378 | | | | | | | |
| 3 | 48 | | | | | | 0790 | 0774 | 0759 | 0743 | 0727 | 0712 | 0696 | 0680 | 0664 | | | | | | | |
| 3 | 49 | | | | | | 1078 | 1062 | | | | | | | | | | | | | | |
| 3 | 50 | | | | | | 1366 | 1350 | 1334 | 1317 | 1301 | 1285 | 1269 | 1253 | 1237 | 1221 | 1205 | 1189 | 1173 | | | |
| 2 | 51 | 203 | | | | | | | | 1605 | 1588 | 1572 | 1556 | 1540 | 1524 | 1508 | 1491 | 1475 | 1459 | | | |
| 2 | 52 | | | | | | | | 1892 | 1876 | 1860 | 1843 | 1827 | 1810 | 1794 | 1778 | 1761 | | | | | |
| 2 | 53 | | | | | | | | | | | | | | | | | | | | | |
| 2 | 54 | | | | | | | | | | | | | | | | | | | | | |
| 2 | 55 | | | | | | | | | | | | | | | | | | | | | |
| 2 | 56 | | | | | | | | | | | | | | | | | | | | | |
| 1 | 57 | 203 | | | | | | | | | | | | | | | | | | | | |
| 1 | 58 | | | | | | | | | | | | | | | | | | | | | |
| 1 | 59 | | | | | | | | | | | | | | | | | | | | | |
| 1 | 60 | | | | | | | | | | | | | | | | | | | | | |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for 1 Sec. of C.S.A | 92° | Numbers |
|---|---|---|
| 145 | 30 | 097 3532 |
| 140 | 31 | 3241 |
| 136 | 32 | 2951 |
| 131 | 33 | 2660 |
| 126 | 34 | 2370 |
| 121 | 35 | 097 2078 |
| 116 | 36 | 1788 |
| 111 | 37 | 1497 |
| 107 | 38 | 1207 |
| 102 | 39 | 0916 |
| 97 | 40 | 0625 |
| 92 | 41 | 0334 |
| 87 | 42 | 0044 |
| 82 | 43 | 096 9753 |
| 77 | 44 | 9462 |
| 72 | 45 | 9171 |
| 67 | 46 | 8880 |
| 62 | 47 | 8589 |
| 58 | 48 | 8298 |
| 53 | 49 | 8007 |
| 48 | 50 | 7716 |
| 43 | 51 | 7425 |
| 38 | 52 | 7134 |
| 34 | 53 | 6845 |
| 29 | 54 | 6553 |
| 24 | 55 | 6262 |
| 19 | 56 | 5971 |
| 15 | 57 | 5680 |
| 10 | 58 | 5389 |
| 5 | 59 | 5098 |
| 0 | 60 | 4807 |

| Parts for Seconds of Auxil. Argum. | Add & Sub. 92° | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 20 | 203 | 4888 | 4866 | 4847 | 4824 | 4801 | 4777 | 4754 | 4730 | 4706 | 4683 | 4659 | 4635 | 4611 | 4588 | 4564 | 4540 | 4516 |
| 20 | | 5173 | 5155 | 5136 | 5118 | 5100 | 5082 | 5063 | 5045 | 5027 | 5008 | 4990 | 4972 | 4953 | 4935 | 4917 | 4898 | 4880 |
| 21 | | 5458 | 5441 | 5424 | 5407 | 5390 | 5373 | 5356 | 5339 | 5322 | 5305 | 5288 | 5271 | 5254 | 5237 | 5220 | 5203 | 5186 |
| 21 | | 5744 | 5728 | 5713 | 5697 | 5681 | 5665 | 5650 | 5634 | 5618 | 5603 | 5587 | 5571 | 5555 | 5540 | 5524 | 5508 | 5493 |
| 21 | | 6030 | 6016 | 6002 | 5988 | 5973 | 5959 | 5945 | 5931 | 5917 | 5903 | 5888 | 5874 | 5860 | 5846 | 5832 | 5818 | 5804 |
| 21 | 203 | 0313 | 0301 | 0289 | 0277 | 0265 | 0253 | 0241 | 0229 | 0217 | 0205 | 0193 | 0181 | 0169 | 0157 | 0145 | 0133 | 0121 |
| 20 | | 0602 | 0592 | 0582 | 0572 | 0562 | 0552 | 0542 | 0532 | 0522 | 0512 | 0502 | 0492 | 0482 | 0472 | 0462 | 0452 | 0442 |
| 19 | | 0892 | 0884 | 0876 | 0868 | 0860 | 0852 | 0844 | 0836 | 0828 | 0820 | 0812 | 0804 | 0796 | 0788 | 0780 | 0772 | 0764 |
| 19 | | 1183 | 1177 | 1171 | 1165 | 1159 | 1153 | 1147 | 1141 | 1135 | 1129 | 1123 | 1117 | 1111 | 1105 | 1099 | 1093 | 1087 |
| 19 | | 1475 | 1471 | 1467 | 1463 | 1459 | 1455 | 1451 | 1447 | 1443 | 1439 | 1435 | 1431 | 1427 | 1423 | 1419 | 1415 | 1411 |
| 18 | 203 | 1768 | 1766 | 1764 | 1762 | 1760 | 1758 | 1756 | 1754 | 1752 | 1750 | 1748 | 1746 | 1744 | 1742 | 1740 | 1738 | 1736 |
| 18 | | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 | 2062 |
| 18 | | 2357 | 2359 | 2361 | 2363 | 2365 | 2367 | 2369 | 2371 | 2373 | 2375 | 2377 | 2379 | 2381 | 2383 | 2385 | 2387 | 2389 |
| 17 | | 2653 | 2657 | 2661 | 2665 | 2669 | 2673 | 2677 | 2681 | 2685 | 2689 | 2693 | 2697 | 2701 | 2705 | 2709 | 2713 | 2717 |
| 17 | | 2950 | 2956 | 2962 | 2968 | 2974 | 2980 | 2986 | 2992 | 2998 | 3004 | 3010 | 3016 | 3022 | 3028 | 3034 | 3040 | 3046 |
| 17 | 203 | 3248 | 3256 | 3264 | 3272 | 3280 | 3288 | 3296 | 3304 | 3312 | 3320 | 3328 | 3336 | 3344 | 3352 | 3360 | 3368 | 3376 |
| 16 | | 3547 | 3557 | 3567 | 3577 | 3587 | 3597 | 3607 | 3617 | 3627 | 3637 | 3647 | 3657 | 3667 | 3677 | 3687 | 3697 | 3707 |
| 16 | | 3847 | 3859 | 3871 | 3883 | 3895 | 3907 | 3919 | 3931 | 3943 | 3955 | 3967 | 3979 | 3991 | 4003 | 4015 | 4027 | 4039 |
| 16 | | 4148 | 4162 | 4176 | 4190 | 4204 | 4218 | 4232 | 4246 | 4260 | 4274 | 4288 | 4302 | 4316 | 4330 | 4344 | 4358 | 4372 |
| 15 | 203 | 4450 | 4466 | 4482 | 4498 | 4514 | 4530 | 4546 | 4562 | 4578 | 4594 | 4610 | 4626 | 4642 | 4658 | 4674 | 4690 | 4706 |
| 15 | | 4753 | 4771 | 4789 | 4807 | 4825 | 4843 | 4861 | 4879 | 4897 | 4915 | 4933 | 4951 | 4969 | 4987 | 5005 | 5023 | 5041 |
| 15 | | 5057 | 5077 | 5097 | 5117 | 5137 | 5157 | 5177 | 5197 | 5217 | 5237 | 5257 | 5277 | 5297 | 5317 | 5337 | 5357 | 5377 |
| 14 | 204 | 5362 | 5384 | 5406 | 5428 | 5450 | 5472 | 5494 | 5516 | 5538 | 5560 | 5582 | 5604 | 5626 | 5648 | 5670 | 5692 | 5714 |
| 14 | | 5669 | 5693 | 5717 | 5741 | 5765 | 5789 | 5813 | 5837 | 5861 | 5885 | 5909 | 5933 | 5957 | 5981 | 6005 | 6029 | 6053 |
| 14 | | 5977 | 6003 | 6029 | 6055 | 6081 | 6107 | 6133 | 6159 | 6185 | 6211 | 6237 | 6263 | 6289 | 6315 | 6341 | 6367 | 6393 |
| 13 | | 6286 | 6314 | 6342 | 6370 | 6398 | 6426 | 6454 | 6482 | 6510 | 6538 | 6566 | 6594 | 6622 | 6650 | 6678 | 6706 | 6734 |
| 13 | 204 | 6596 | 6626 | 6656 | 6686 | 6716 | 6746 | 6776 | 6806 | 6836 | 6866 | 6896 | 6926 | 6956 | 6986 | 7016 | 7046 | 7076 |
| 13 | | 6907 | 6939 | 6971 | 7003 | 7035 | 7067 | 7099 | 7131 | 7163 | 7195 | 7227 | 7259 | 7291 | 7323 | 7355 | 7387 | 7419 |
| 12 | | 7219 | 7253 | 7287 | 7321 | 7355 | 7389 | 7423 | 7457 | 7491 | 7525 | 7559 | 7593 | 7627 | 7661 | 7695 | 7729 | 7763 |
| 12 | | 7532 | 7568 | 7604 | 7640 | 7676 | 7712 | 7748 | 7784 | 7820 | 7856 | 7892 | 7928 | 7964 | 8000 | 8036 | 8072 | 8108 |
| 11 | 204 | 7846 | 7884 | 7922 | 7960 | 7998 | 8036 | 8074 | 8112 | 8150 | 8188 | 8226 | 8264 | 8302 | 8340 | 8378 | 8416 | 8454 |
| 11 | | 8161 | 8201 | 8241 | 8281 | 8321 | 8361 | 8401 | 8441 | 8481 | 8521 | 8561 | 8601 | 8641 | 8681 | 8721 | 8761 | 8801 |
| 10 | | 8477 | 8519 | 8561 | 8603 | 8645 | 8687 | 8729 | 8771 | 8813 | 8855 | 8897 | 8939 | 8981 | 9023 | 9065 | 9107 | 9149 |
| 10 | | 8794 | 8838 | 8882 | 8926 | 8970 | 9014 | 9058 | 9102 | 9146 | 9190 | 9234 | 9278 | 9322 | 9366 | 9410 | 9454 | 9498 |
| 9 | 204 | 9112 | 9158 | 9204 | 9250 | 9296 | 9342 | 9388 | 9434 | 9480 | 9526 | 9572 | 9618 | 9664 | 9710 | 9756 | 9802 | 9848 |
| 9 | | 9431 | 9479 | 9527 | 9575 | 9623 | 9671 | 9719 | 9767 | 9815 | 9863 | 9911 | 9959 | 0007 | 0055 | 0103 | 0151 | 0199 |
| 8 | | 9751 | 9801 | 9851 | 9901 | 9951 | 0001 | 0051 | 0101 | 0151 | 0201 | 0251 | 0301 | 0351 | 0401 | 0451 | 0501 | 0551 |
| 8 | | 0072 | 0124 | 0176 | 0228 | 0280 | 0332 | 0384 | 0436 | 0488 | 0540 | 0592 | 0644 | 0696 | 0748 | 0800 | 0852 | 0904 |
| 7 | 204 | 0394 | 0448 | 0502 | 0556 | 0610 | 0664 | 0718 | 0772 | 0826 | 0880 | 0934 | 0988 | 1042 | 1096 | 1150 | 1204 | 1258 |
| 7 | | 0717 | 0773 | 0829 | 0885 | 0941 | 0997 | 1053 | 1109 | 1165 | 1221 | 1277 | 1333 | 1389 | 1445 | 1501 | 1557 | 1613 |
| 6 | | 1041 | 1099 | 1157 | 1215 | 1273 | 1331 | 1389 | 1447 | 1505 | 1563 | 1621 | 1679 | 1737 | 1795 | 1853 | 1911 | 1969 |
| 6 | | 1366 | 1426 | 1486 | 1546 | 1606 | 1666 | 1726 | 1786 | 1846 | 1906 | 1966 | 2026 | 2086 | 2146 | 2206 | 2266 | 2326 |
| 5 | 204 | 1692 | 1754 | 1816 | 1878 | 1940 | 2002 | 2064 | 2126 | 2188 | 2250 | 2312 | 2374 | 2436 | 2498 | 2560 | 2622 | 2684 |
| 5 | | 2019 | 2083 | 2147 | 2211 | 2275 | 2339 | 2403 | 2467 | 2531 | 2595 | 2659 | 2723 | 2787 | 2851 | 2915 | 2979 | 3043 |
| 4 | | 2347 | 2413 | 2479 | 2545 | 2611 | 2677 | 2743 | 2809 | 2875 | 2941 | 3007 | 3073 | 3139 | 3205 | 3271 | 3337 | 3403 |
| 4 | | 2676 | 2744 | 2812 | 2880 | 2948 | 3016 | 3084 | 3152 | 3220 | 3288 | 3356 | 3424 | 3492 | 3560 | 3628 | 3696 | 3764 |
| 3 | 204 | 3006 | 3076 | 3146 | 3216 | 3286 | 3356 | 3426 | 3496 | 3566 | 3636 | 3706 | 3776 | 3846 | 3916 | 3986 | 4056 | 4126 |
| 3 | | 3337 | 3409 | 3481 | 3553 | 3625 | 3697 | 3769 | 3841 | 3913 | 3985 | 4057 | 4129 | 4201 | 4273 | 4345 | 4417 | 4489 |
| 2 | | 3669 | 3743 | 3817 | 3891 | 3965 | 4039 | 4113 | 4187 | 4261 | 4335 | 4409 | 4483 | 4557 | 4631 | 4705 | 4779 | 4853 |
| 2 | | 4002 | 4078 | 4154 | 4230 | 4306 | 4382 | 4458 | 4534 | 4610 | 4686 | 4762 | 4838 | 4914 | 4990 | 5066 | 5142 | 5218 |
| 1 | 204 | 4336 | 4414 | 4492 | 4570 | 4648 | 4726 | 4804 | 4882 | 4960 | 5038 | 5116 | 5194 | 5272 | 5350 | 5428 | 5506 | 5584 |
| 1 | | 4671 | 4751 | 4831 | 4911 | 4991 | 5071 | 5151 | 5231 | 5311 | 5391 | 5471 | 5551 | 5631 | 5711 | 5791 | 5871 | 5951 |
| 0 | | 5007 | 5089 | 5171 | 5253 | 5335 | 5417 | 5499 | 5581 | 5663 | 5745 | 5827 | 5909 | 5991 | 6073 | 6155 | 6237 | 6319 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Parts for Seconds of Auxil. Argum. | S. A. A. & A. D. 92° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 22 | 0 | 203 4583 | 4565 | 4547 | 4530 | 4512 | 4494 | 4477 | 4459 | 4441 | 4424 | 4406 | 4387 | 4371 | 4353 | 4335 | 4318 | 4300 |
| 22 | 1 | 4871 | 4853 | 4835 | 4817 | 4800 | 4782 | 4764 | 4746 | 4728 | 4710 | 4693 | 4675 | 4657 | 4639 | 4621 | 4604 | 4586 |
| 22 | 2 | 5159 | 5141 | 5123 | 5105 | 5087 | 5069 | 5051 | 5033 | 5015 | 4997 | 4979 | 4961 | 4943 | 4925 | 4907 | 4889 | 4871 |
| 21 | 3 | 5447 | 5429 | 5411 | 5393 | 5374 | 5356 | 5338 | 5320 | 5302 | 5284 | 5266 | 5248 | 5230 | 5212 | 5193 | 5175 | 5157 |
| 21 | 4 | 5735 | 5717 | 5698 | 5680 | 5661 | 5644 | 5625 | 5607 | 5589 | 5571 | 5552 | 5534 | 5516 | 5498 | 5479 | 5461 | 5443 |
| 21 | 5 | 6023 | 6005 | 5986 | 5968 | 5949 | 5931 | 5913 | 5894 | 5876 | 5857 | 5839 | 5821 | 5802 | 5784 | 5765 | 5747 | 5729 |
| 20 | 6 | 6311 | 6292 | 6274 | 6255 | 6237 | 6218 | 6200 | 6181 | 6163 | 6144 | 6126 | 6107 | 6089 | 6070 | 6051 | 6033 | 6014 |
| 20 | 7 | 6599 | 6580 | 6562 | 6543 | 6524 | 6506 | 6487 | 6468 | 6450 | 6431 | 6412 | 6394 | 6375 | 6356 | 6337 | 6319 | 6300 |
| 19 | 8 | 6887 | 6868 | 6849 | 6831 | 6812 | 6793 | 6774 | 6755 | 6736 | 6718 | 6699 | 6680 | 6661 | 6642 | 6623 | 6605 | 6586 |
| 19 | 9 | 7175 | 7156 | 7137 | 7118 | 7099 | 7081 | 7061 | 7043 | 7023 | 7004 | 6985 | 6966 | 6947 | 6928 | 6909 | 6890 | 6871 |
| 19 | 10 | 203 7463 | 7444 | 7425 | 7406 | 7387 | 7368 | 7348 | 7329 | 7310 | 7291 | 7272 | 7253 | 7234 | 7215 | 7195 | 7176 | 7157 |
| 18 | 11 | 7751 | 7732 | 7713 | 7693 | 7674 | 7655 | 7636 | 7616 | 7597 | 7578 | 7558 | 7539 | 7520 | 7501 | 7481 | 7462 | 7443 |
| 18 | 12 | 8039 | 8020 | 8000 | 7981 | 7962 | 7942 | 7923 | 7903 | 7884 | 7864 | 7845 | 7826 | 7806 | 7787 | 7767 | 7748 | 7728 |
| 18 | 13 | 8327 | 8308 | 8288 | 8269 | 8249 | 8229 | 8210 | 8190 | 8171 | 8151 | 8132 | 8112 | 8092 | 8073 | 8053 | 8034 | 8014 |
| 17 | 14 | 8615 | 8596 | 8576 | 8556 | 8536 | 8517 | 8497 | 8477 | 8458 | 8438 | 8418 | 8398 | 8379 | 8359 | 8339 | 8320 | 8300 |
| 17 | 15 | 203 8903 | 8883 | 8864 | 8844 | 8824 | 8804 | 8784 | 8764 | 8744 | 8725 | 8705 | 8685 | 8665 | 8645 | 8625 | 8605 | 8585 |
| 16 | 16 | 9191 | 9171 | 9151 | 9131 | 9111 | 9091 | 9071 | 9051 | 9031 | 9011 | 8991 | 8971 | 8951 | 8931 | 8911 | 8891 | 8871 |
| 16 | 17 | 9479 | 9459 | 9439 | 9419 | 9399 | 9379 | 9358 | 9338 | 9318 | 9298 | 9278 | 9258 | 9238 | 9217 | 9197 | 9177 | 9157 |
| 16 | 18 | 9767 | 9747 | 9727 | 9706 | 9686 | 9666 | 9646 | 9625 | 9605 | 9585 | 9564 | 9544 | 9524 | 9503 | 9483 | 9463 | 9442 |
| 15 | 19 | 204 (203) 0055 | 0035 | 0014 | 9994 | 9974 | 9953 | 9933 | 9912 | 9892 | 9871 | 9851 | 9830 | 9810 | 9790 | 9769 | 9749 | 9728 |
| 15 | 20 | 204 0343 | 0323 | 0302 | 0282 | 0261 | 0240 | 0220 | 0199 | 0179 | 0158 | 0137 | 0117 | 0096 | 0076 | 0055 | 0034 | 0014 |
| 15 | 21 | 0631 | 0611 | 0590 | 0569 | 0548 | 0528 | 0507 | 0486 | 0466 | 0445 | 0424 | 0403 | 0382 | 0362 | 0341 | 0320 | 0299 |
| 14 | 22 | 0919 | 0899 | 0878 | 0857 | 0836 | 0815 | 0794 | 0773 | 0752 | 0731 | 0711 | 0690 | 0669 | 0648 | 0627 | 0606 | 0585 |
| 14 | 23 | 1207 | 1186 | 1165 | 1144 | 1123 | 1102 | 1081 | 1060 | 1039 | 1018 | 0997 | 0976 | 0955 | 0934 | 0913 | 0892 | 0871 |
| 13 | 24 | 1495 | 1474 | 1453 | 1432 | 1411 | 1390 | 1368 | 1347 | 1326 | 1305 | 1284 | 1262 | 1241 | 1220 | 1199 | 1178 | 1156 |
| 13 | 25 | 204 1783 | 1762 | 1741 | 1719 | 1698 | 1677 | 1655 | 1634 | 1613 | 1591 | 1570 | 1549 | 1527 | 1506 | 1485 | 1463 | 1442 |
| 13 | 26 | 2071 | 2050 | 2028 | 2007 | 1986 | 1964 | 1943 | 1921 | 1900 | 1878 | 1857 | 1835 | 1814 | 1792 | 1771 | 1749 | 1728 |
| 12 | 27 | 2359 | 2338 | 2316 | 2295 | 2273 | 2251 | 2230 | 2208 | 2186 | 2165 | 2143 | 2122 | 2100 | 2078 | 2057 | 2035 | 2013 |
| 12 | 28 | 2647 | 2626 | 2604 | 2582 | 2560 | 2538 | 2517 | 2495 | 2473 | 2451 | 2430 | 2408 | 2386 | 2364 | 2342 | 2321 | 2299 |
| 12 | 29 | 2935 | 2913 | 2891 | 2870 | 2848 | 2826 | 2804 | 2782 | 2760 | 2738 | 2716 | 2694 | 2672 | 2650 | 2628 | 2606 | 2585 |
| 11 | 30 | 204 3223 | 3201 | 3179 | 3157 | 3135 | 3113 | 3091 | 3069 | 3047 | 3025 | 3003 | 2981 | 2958 | 2936 | 2914 | 2892 | 2870 |
| 11 | 31 | 3511 | 3489 | 3467 | 3445 | 3422 | 3400 | 3378 | 3356 | 3334 | 3311 | 3289 | 3267 | 3245 | 3222 | 3200 | 3178 | 3156 |
| 10 | 32 | 3799 | 3777 | 3754 | 3732 | 3710 | 3687 | 3665 | 3643 | 3620 | 3598 | 3576 | 3553 | 3531 | 3509 | 3486 | 3464 | 3441 |
| 10 | 33 | 4087 | 4065 | 4042 | 4020 | 3997 | 3975 | 3952 | 3930 | 3907 | 3885 | 3862 | 3840 | 3817 | 3795 | 3772 | 3749 | 3727 |
| 10 | 34 | 4375 | 4353 | 4330 | 4307 | 4285 | 4262 | 4239 | 4217 | 4194 | 4171 | 4149 | 4126 | 4103 | 4081 | 4058 | 4035 | 4013 |
| 9 | 35 | 204 4663 | 4640 | 4618 | 4595 | 4572 | 4549 | 4526 | 4504 | 4481 | 4458 | 4435 | 4412 | 4389 | 4367 | 4344 | 4321 | 4298 |
| 9 | 36 | 4951 | 4928 | 4905 | 4882 | 4859 | 4836 | 4813 | 4790 | 4768 | 4745 | 4722 | 4699 | 4676 | 4653 | 4630 | 4607 | 4584 |
| 9 | 37 | 5239 | 5216 | 5193 | 5170 | 5147 | 5124 | 5100 | 5077 | 5054 | 5031 | 5008 | 4985 | 4962 | 4939 | 4916 | 4893 | 4869 |
| 8 | 38 | 5527 | 5504 | 5481 | 5457 | 5434 | 5411 | 5388 | 5364 | 5341 | 5318 | 5295 | 5271 | 5248 | 5225 | 5202 | 5178 | 5155 |
| 8 | 39 | 5815 | 5792 | 5768 | 5745 | 5721 | 5698 | 5675 | 5651 | 5628 | 5604 | 5581 | 5558 | 5534 | 5511 | 5487 | 5464 | 5440 |
| 7 | 40 | 204 6103 | 6079 | 6055 | 6032 | 6009 | 5985 | 5962 | 5938 | 5915 | 5891 | 5867 | 5844 | 5820 | 5797 | 5773 | 5750 | 5726 |
| 7 | 41 | 6391 | 6367 | 6343 | 6320 | 6296 | 6272 | 6248 | 6225 | 6201 | 6178 | 6154 | 6131 | 6107 | 6083 | 6059 | 6035 | 6011 |
| 7 | 42 | 6679 | 6655 | 6631 | 6607 | 6583 | 6560 | 6536 | 6512 | 6488 | 6464 | 6440 | 6417 | 6393 | 6369 | 6345 | 6321 | 6297 |
| 6 | 43 | 6967 | 6943 | 6919 | 6895 | 6871 | 6847 | 6823 | 6799 | 6775 | 6751 | 6727 | 6703 | 6679 | 6655 | 6631 | 6607 | 6583 |
| 6 | 44 | 7255 | 7231 | 7206 | 7182 | 7158 | 7134 | 7110 | 7086 | 7062 | 7037 | 7013 | 6989 | 6965 | 6941 | 6917 | 6893 | 6868 |
| 6 | 45 | 204 7543 | 7518 | 7494 | 7470 | 7445 | 7421 | 7397 | 7373 | 7348 | 7324 | 7300 | 7275 | 7251 | 7227 | 7203 | 7178 | 7154 |
| 5 | 46 | 7830 | 7806 | 7781 | 7757 | 7733 | 7708 | 7684 | 7659 | 7635 | 7611 | 7586 | 7562 | 7537 | 7513 | 7488 | 7464 | 7440 |
| 5 | 47 | 8118 | 8094 | 8069 | 8045 | 8020 | 7996 | 7971 | 7946 | 7922 | 7897 | 7873 | 7848 | 7823 | 7799 | 7774 | 7750 | 7725 |
| 4 | 48 | 8406 | 8381 | 8357 | 8332 | 8307 | 8283 | 8258 | 8233 | 8209 | 8184 | 8159 | 8134 | 8110 | 8085 | 8060 | 8035 | 8011 |
| 4 | 49 | 8694 | 8669 | 8644 | 8620 | 8595 | 8570 | 8545 | 8520 | 8495 | 8470 | 8445 | 8421 | 8396 | 8371 | 8346 | 8321 | 8296 |
| 4 | 50 | 204 8982 | 8957 | 8932 | 8907 | 8882 | 8857 | 8832 | 8807 | 8782 | 8757 | 8732 | 8707 | 8682 | 8657 | 8632 | 8607 | 8582 |
| 3 | 51 | 9270 | 9245 | 9220 | 9194 | 9169 | 9144 | 9119 | 9094 | 9069 | 9044 | 9018 | 8993 | 8968 | 8943 | 8918 | 8892 | 8867 |
| 3 | 52 | 9558 | 9532 | 9507 | 9482 | 9457 | 9431 | 9406 | 9381 | 9355 | 9330 | 9305 | 9279 | 9254 | 9229 | 9203 | 9178 | 9153 |
| 3 | 53 | 9846 | 9820 | 9795 | 9769 | 9744 | 9718 | 9693 | 9668 | 9642 | 9617 | 9591 | 9566 | 9540 | 9515 | 9489 | 9464 | 9438 |
| 2 | 54 | 205 (204) 0133 | 0108 | 0082 | 0057 | 0031 | 0006 | 9980 | 9954 | 9929 | 9903 | 9878 | 9852 | 9826 | 9801 | 9775 | 9749 | 9724 |
| 2 | 55 | 205 0421 | 0396 | 0370 | 0344 | 0318 | 0293 | 0267 | 0241 | 0216 | 0190 | 0164 | 0139 | 0113 | 0087 | 0061 | 0035 | 0010 |
| 2 | 56 | 0709 | 0683 | 0657 | 0631 | 0606 | 0580 | 0554 | 0528 | 0502 | 0476 | 0450 | 0424 | 0398 | 0373 | 0347 | 0321 | 0295 |
| 1 | 57 | 0997 | 0971 | 0945 | 0919 | 0893 | 0867 | 0841 | 0815 | 0789 | 0763 | 0737 | 0711 | 0685 | 0659 | 0633 | 0607 | 0580 |
| 1 | 58 | 1285 | 1259 | 1233 | 1207 | 1181 | 1154 | 1128 | 1102 | 1076 | 1049 | 1023 | 0997 | 0971 | 0945 | 0919 | 0893 | 0866 |
| 0 | 59 | 1573 | 1547 | 1520 | 1494 | 1468 | 1441 | 1415 | 1389 | 1362 | 1336 | 1310 | 1283 | 1257 | 1231 | 1204 | 1178 | 1151 |

Sums for finding the Corrected Distances.

| Parts for Secs. of C. D. | C. D. 92° | Sums |
|---|---|---|
| ′ | ′ | |
| 0 | 0 | 503 4809 |
| 1 | 1 | 5105 |
| 2 | 2 | 5401 |
| 3 | 3 | 5777 |
| 4 | 4 | 6096 |
| 5 | 5 | 503 6392 |
| 6 | 6 | 6744 |
| 7 | 7 | 7034 |
| 8 | 8 | 7325 |
| 9 | 9 | 7617 |
| 10 | 10 | 503 7908 |
| 11 | 11 | 8197 |
| 12 | 12 | 8490 |
| 13 | 13 | 8778 |
| 14 | 14 | 8970 |
| 15 | 15 | 503 9262 |
| 16 | 16 | 9553 |
| 17 | 17 | 9841 |
| 18 | 18 | 504 0131 |
| 19 | 19 | 0421 |
| 20 | 20 | 504 0713 |
| 21 | 21 | 1004 |
| 22 | 22 | 1294 |
| 23 | 23 | 1585 |
| 24 | 24 | 1876 |
| 25 | 25 | 504 2166 |
| 26 | 26 | 2457 |
| 27 | 27 | 2748 |
| 28 | 28 | 3038 |
| 29 | 29 | 3329 |
| 30 | 30 | 504 3616 |
| 31 | 31 | 3910 |
| 32 | 32 | 4201 |
| 33 | 33 | 4491 |
| 34 | 34 | 4782 |
| 35 | 35 | 504 5072 |
| 36 | 36 | 5363 |
| 37 | 37 | 5654 |
| 38 | 38 | 5944 |
| 39 | 39 | 6235 |
| 40 | 40 | 504 6526 |
| 41 | 41 | 6817 |
| 42 | 42 | 7107 |
| 43 | 43 | 7398 |
| 44 | 44 | 7689 |
| 45 | 45 | 504 7979 |
| 46 | 46 | 8270 |
| 47 | 47 | 8561 |
| 48 | 48 | 8851 |
| 49 | 49 | 9142 |
| 50 | 50 | 504 9433 |
| 51 | 51 | 9723 |
| 52 | 52 | 505 0014 |
| 53 | 53 | 0304 |
| 54 | 54 | 0595 |
| 55 | 55 | 505 0885 |
| 56 | 56 | 1176 |
| 57 | 57 | 1467 |
| 58 | 58 | 1758 |
| 59 | 59 | 2048 |

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Part for Seconds of Auxil. Argum. additive | Diff. & A.D. 93° | Numbers |
|---|---|---|
| 29 | 0 | 96 4810 |
| 28 | 1 | 4811 |
| 28 | 2 | 4812 |
| 27 | 3 | 4813 |
| 27 | 4 | 4814 |
| - | 5 | 96 4815 |
| 26 | 6 | 4816 |
| 26 | 7 | 4773 |
| 25 | 8 | 4774 |
| 25 | 9 | 4775 |
| 24 | 10 | 4776 |
| 24 | 11 | 4777 |
| 23 | 12 | 4778 |
| 23 | 13 | 4779 |
| 22 | 14 | 4780 |
| 22 | 15 | 96 4781 |
| 21 | 16 | 4782 |
| 21 | 17 | 4783 |
| 20 | 18 | 4784 |
| 20 | 19 | 4785 |
| 19 | 20 | 96 4786 |
| 19 | 21 | 4787 |
| 18 | 22 | 4788 |
| 18 | 23 | 4789 |
| 17 | 24 | 4790 |
| 17 | 25 | 96 4791 |
| 16 | 26 | 4792 |
| 16 | 27 | 4793 |
| 15 | 28 | 4794 |
| 15 | 29 | 4795 |
| 14 | 30 | 96 4796 |
| 14 | 31 | 4797 |
| 13 | 32 | 4798 |
| 13 | 33 | 4799 |
| 12 | 34 | 4800 |
| 12 | 35 | 96 4801 |
| 11 | 36 | 4802 |
| 11 | 37 | 4056 |
| 10 | 38 | 4057 |
| 10 | 39 | 4058 |
| 9 | 40 | 96 4059 |
| 9 | 41 | 4060 |
| 8 | 42 | 4061 |
| 8 | 43 | 4062 |
| 7 | 44 | 4063 |
| 7 | 45 | 96 4064 |
| 6 | 46 | 4065 |
| 6 | 47 | 4066 |
| 5 | 48 | 4067 |
| 5 | 49 | 96 4068 |
| 4 | 50 | 4069 |
| 4 | 51 | 4070 |
| 3 | 52 | 4071 |
| 3 | 53 | 4072 |
| 2 | 54 | 4073 |
| 2 | 55 | 96 4074 |
| 1 | 56 | 4075 |
| 1 | 57 | 4076 |
| 0 | 58 | 4077 |
| 0 | 59 | 96 4078 |

| Part for Seconds of Auxil. Argum. additive | Diff. & A.D. 93° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 31 | 0 | 2316 | 2288 | 2257 | 2231 | 2204 | 2178 | 2151 | 2125 | 2098 | 2072 | 2046 | 2019 | 1993 | 1966 | 1940 | 1914 | 1887 |
| 31 | 1 | 2600 | 2573 | 2547 | 2520 | 2494 | 2467 | 2441 | 2414 | 2388 | 2361 | 2335 | 2308 | 2281 | 2255 | 2228 | 2202 | 2175 |
| 30 | 2 | 2890 | 2864 | 2837 | 2810 | 2784 | 2757 | 2730 | 2704 | 2677 | 2650 | 2623 | 2597 | 2570 | 2543 | 2517 | 2490 | 2463 |
| 30 | 3 | 3181 | 3154 | 3127 | 3100 | 3073 | 3047 | 3020 | 2993 | 2966 | 2939 | 2912 | 2885 | 2859 | 2832 | 2805 | 2778 | 2751 |
| - | 4 | 3471 | 3444 | 3417 | 3390 | 3363 | 3336 | 3309 | 3282 | 3255 | 3228 | 3201 | 3174 | 3147 | 3121 | 3094 | 3067 | 3040 |
| 28 | 5 | 3761 | 3734 | 3707 | 3680 | 3653 | 3626 | 3599 | 3571 | 3544 | 3517 | 3490 | 3463 | 3436 | 3409 | 3382 | 3355 | 3328 |
| 28 | 6 | 4052 | 4024 | 3997 | 3970 | 3943 | 3915 | 3888 | 3861 | 3833 | 3806 | 3779 | 3752 | 3724 | 3697 | 3670 | 3643 | 3616 |
| 27 | 7 | 4342 | 4315 | 4287 | 4260 | 4232 | 4205 | 4177 | 4150 | 4123 | 4095 | 4068 | 4040 | 4013 | 3985 | 3958 | 3930 | 3903 |
| 27 | 8 | 4632 | 4605 | 4577 | 4550 | 4522 | 4495 | 4467 | 4440 | 4412 | 4384 | 4357 | 4329 | 4301 | 4274 | 4246 | 4219 | 4191 |
| 26 | 9 | 4922 | 4894 | 4867 | 4839 | 4812 | 4784 | 4757 | 4729 | 4702 | 4674 | 4645 | 4618 | 4590 | 4562 | 4534 | 4506 | 4478 |
| - | 10 | 5212 | 5184 | 5157 | 5129 | 5102 | 5074 | 5047 | 5019 | 4992 | 4964 | 4934 | 4907 | 4879 | 4851 | 4823 | 4795 | 4767 |
| 25 | 11 | 5503 | 5475 | 5447 | 5419 | 5391 | 5363 | 5335 | 5307 | 5279 | 5251 | 5223 | 5195 | 5167 | 5139 | 5111 | 5083 | 5055 |
| 25 | 12 | 5793 | 5765 | 5737 | 5709 | 5681 | 5653 | 5625 | 5596 | 5568 | 5540 | 5512 | 5484 | 5456 | 5427 | 5399 | 5371 | 5343 |
| 24 | 13 | 6084 | 6055 | 6027 | 5999 | 5971 | 5942 | 5914 | 5886 | 5857 | 5829 | 5801 | 5772 | 5744 | 5716 | 5687 | 5659 | 5631 |
| 24 | 14 | 6374 | 6345 | 6317 | 6288 | 6260 | 6231 | 6203 | 6175 | 6146 | 6118 | 6089 | 6061 | 6033 | 6004 | 5976 | 5947 | 5919 |
| 23 | 15 | 6664 | 6635 | 6607 | 6578 | 6550 | 6521 | 6493 | 6464 | 6436 | 6407 | 6378 | 6350 | 6321 | 6293 | 6264 | 6235 | 6207 |
| 23 | 16 | 6954 | 6925 | 6897 | 6868 | 6840 | 6811 | 6782 | 6753 | 6725 | 6696 | 6667 | 6638 | 6610 | 6581 | 6552 | 6523 | 6494 |
| 22 | 17 | 7245 | 7216 | 7187 | 7158 | 7130 | 7101 | 7072 | 7043 | 7014 | 6985 | 6956 | 6927 | 6898 | 6869 | 6840 | 6811 | 6782 |
| 22 | 18 | 7535 | 7506 | 7477 | 7448 | 7419 | 7390 | 7361 | 7332 | 7303 | 7274 | 7245 | 7216 | 7187 | 7158 | 7129 | 7100 | 7071 |
| 21 | 19 | 7825 | 7796 | 7767 | 7738 | 7709 | 7680 | 7651 | 7621 | 7592 | 7563 | 7534 | 7505 | 7476 | 7447 | 7417 | 7388 | 7359 |
| 21 | 20 | 8116 | 8086 | 8057 | 8028 | 7999 | 7970 | 7941 | 7912 | 7883 | 7854 | 7825 | 7796 | 7767 | 7738 | 7708 | 7679 | 7650 |
| 20 | 21 | 8406 | 8377 | 8347 | 8318 | 8289 | 8260 | 8231 | 8202 | 8173 | 8144 | 8115 | 8086 | 8057 | 8028 | 7999 | 7970 | 7941 |
| 20 | 22 | 8696 | 8667 | 8637 | 8608 | 8579 | 8550 | 8521 | 8492 | 8463 | 8434 | 8405 | 8376 | 8347 | 8318 | 8289 | 8260 | 8231 |
| 19 | 23 | 8986 | 8957 | 8927 | 8898 | 8869 | 8840 | 8811 | 8782 | 8753 | 8724 | 8695 | 8666 | 8637 | 8608 | 8579 | 8550 | 8521 |
| 19 | 24 | 9277 | 9247 | 9217 | 9187 | 9157 | 9127 | 9097 | 9067 | 9037 | 9007 | 8977 | 8947 | 8917 | 8888 | 8858 | 8829 | 8800 |
| 18 | 25 | 9567 | 9537 | 9507 | 9477 | 9447 | 9417 | 9387 | 9357 | 9327 | 9297 | 9267 | 9237 | 9207 | 9176 | 9146 | 9116 | 9086 |
| 18 | 26 | 9857 | 9827 | 9797 | 9767 | 9737 | 9707 | 9677 | 9647 | 9617 | 9587 | 9557 | 9527 | 9497 | 9467 | 9434 | 9404 | 9374 |
| 17 | 27 | 0147 | 0117 | 0087 | 0056 | 0026 | 9996 | 9966 | 9936 | 9906 | 9876 | 9844 | 9814 | 9783 | 9753 | 9723 | 9693 | 9663 |
| 17 | 28 | 0437 | 0407 | 0377 | 0346 | 0315 | 0285 | 0255 | 0224 | 0194 | 0163 | 0133 | 0102 | 0071 | 0041 | 0010 | 9980 | 9950 |
| 16 | 29 | 0728 | 0697 | 0667 | 0636 | 0605 | 0574 | 0543 | 0513 | 0482 | 0452 | 0421 | 0391 | 0360 | 0329 | 0299 | 0268 | 0238 |
| 16 | 30 | 1018 | 0987 | 0956 | 0925 | 0895 | 0864 | 0833 | 0802 | 0772 | 0741 | 0711 | 0680 | 0649 | 0617 | 0587 | 0556 | 0525 |
| 15 | 31 | 1308 | 1277 | 1246 | 1215 | 1184 | 1153 | 1122 | 1091 | 1061 | 1030 | 0999 | 0968 | 0937 | 0906 | 0875 | 0844 | 0813 |
| 15 | 32 | 1598 | 1567 | 1536 | 1505 | 1474 | 1443 | 1412 | 1381 | 1350 | 1318 | 1287 | 1256 | 1225 | 1194 | 1163 | 1132 | 1101 |
| 14 | 33 | 1888 | 1857 | 1826 | 1795 | 1764 | 1733 | 1701 | 1670 | 1639 | 1608 | 1577 | 1546 | 1515 | 1482 | 1451 | 1420 | 1389 |
| 14 | 34 | 2179 | 2147 | 2116 | 2085 | 2053 | 2022 | 1991 | 1960 | 1928 | 1897 | 1865 | 1834 | 1802 | 1771 | 1740 | 1708 | 1677 |
| 13 | 35 | 2469 | 2437 | 2406 | 2374 | 2343 | 2311 | 2280 | 2248 | 2217 | 2185 | 2154 | 2122 | 2091 | 2059 | 2028 | 1996 | 1965 |
| 13 | 36 | 2759 | 2727 | 2696 | 2664 | 2632 | 2601 | 2569 | 2537 | 2506 | 2474 | 2442 | 2411 | 2379 | 2347 | 2315 | 2283 | 2252 |
| 12 | 37 | 3049 | 3017 | 2986 | 2954 | 2922 | 2890 | 2858 | 2826 | 2795 | 2763 | 2731 | 2699 | 2667 | 2635 | 2604 | 2572 | 2540 |
| 11 | 38 | 3339 | 3307 | 3275 | 3243 | 3211 | 3179 | 3147 | 3116 | 3084 | 3052 | 3020 | 2988 | 2956 | 2924 | 2892 | 2860 | 2828 |
| 11 | 39 | 3629 | 3597 | 3565 | 3533 | 3501 | 3469 | 3437 | 3405 | 3373 | 3341 | 3309 | 3276 | 3244 | 3212 | 3180 | 3148 | 3116 |
| - | 40 | 3919 | 3887 | 3855 | 3823 | 3791 | 3758 | 3726 | 3694 | 3662 | 3630 | 3598 | 3566 | 3534 | 3502 | 3470 | 3438 | 3406 |
| 10 | 41 | 4209 | 4177 | 4145 | 4113 | 4081 | 4048 | 4016 | 3985 | 3951 | 3918 | 3886 | 3853 | 3821 | 3788 | 3756 | 3724 | 3692 |
| 9 | 42 | 4499 | 4467 | 4435 | 4402 | 4370 | 4337 | 4305 | 4273 | 4240 | 4208 | 4175 | 4143 | 4110 | 4078 | 4045 | 4013 | 3981 |
| 9 | 43 | 4789 | 4757 | 4724 | 4692 | 4659 | 4627 | 4594 | 4561 | 4529 | 4496 | 4464 | 4431 | 4398 | 4366 | 4333 | 4301 | 4268 |
| 8 | 44 | 5079 | 5046 | 5014 | 4981 | 4948 | 4916 | 4883 | 4850 | 4817 | 4785 | 4752 | 4719 | 4686 | 4654 | 4621 | 4588 | 4556 |
| 8 | 45 | 5369 | 5336 | 5304 | 5271 | 5238 | 5205 | 5172 | 5140 | 5107 | 5074 | 5041 | 5008 | 4975 | 4942 | 4910 | 4877 | 4844 |
| 7 | 46 | 5659 | 5626 | 5593 | 5560 | 5527 | 5494 | 5461 | 5428 | 5395 | 5362 | 5329 | 5296 | 5263 | 5230 | 5197 | 5164 | 5131 |
| 7 | 47 | 5948 | 5915 | 5882 | 5849 | 5816 | 5783 | 5750 | 5717 | 5684 | 5651 | 5618 | 5585 | 5552 | 5519 | 5486 | 5453 | 5420 |
| 6 | 48 | 6238 | 6205 | 6172 | 6139 | 6106 | 6073 | 6040 | 6007 | 5974 | 5941 | 5908 | 5875 | 5842 | 5809 | 5776 | 5743 | 5710 |
| 6 | 49 | 6528 | 6495 | 6462 | 6429 | 6396 | 6363 | 6330 | 6297 | 6264 | 6231 | 6198 | 6165 | 6132 | 6099 | 6066 | 6033 | 6000 |
| 5 | 50 | 6817 | 6784 | 6751 | 6718 | 6685 | 6652 | 6619 | 6586 | 6553 | 6520 | 6487 | 6454 | 6421 | 6388 | 6355 | 6322 | 6289 |
| 5 | 51 | 7107 | 7074 | 7041 | 7008 | 6975 | 6942 | 6909 | 6876 | 6843 | 6810 | 6777 | 6744 | 6711 | 6678 | 6645 | 6612 | 6579 |
| 4 | 52 | 7397 | 7364 | 7331 | 7298 | 7265 | 7232 | 7199 | 7166 | 7133 | 7100 | 7067 | 7034 | 7001 | 6968 | 6935 | 6902 | 6869 |
| 4 | 53 | 7686 | 7653 | 7620 | 7587 | 7554 | 7521 | 7488 | 7455 | 7422 | 7389 | 7356 | 7323 | 7290 | 7257 | 7224 | 7191 | 7158 |
| 3 | 54 | 7976 | 7943 | 7910 | 7877 | 7844 | 7811 | 7778 | 7745 | 7712 | 7679 | 7646 | 7613 | 7580 | 7547 | 7514 | 7481 | 7448 |
| 3 | 55 | 8265 | 8232 | 8199 | 8166 | 8133 | 8100 | 8067 | 8034 | 8001 | 7968 | 7935 | 7902 | 7869 | 7836 | 7803 | 7770 | 7737 |
| 2 | 56 | 8555 | 8522 | 8489 | 8456 | 8423 | 8390 | 8357 | 8324 | 8291 | 8258 | 8225 | 8192 | 8159 | 8126 | 8093 | 8060 | 8027 |
| 2 | 57 | 8844 | 8811 | 8778 | 8745 | 8712 | 8679 | 8646 | 8613 | 8580 | 8547 | 8514 | 8481 | 8448 | 8415 | 8382 | 8349 | 8316 |
| 1 | 58 | 9134 | 9101 | 9068 | 9035 | 9002 | 8969 | 8936 | 8903 | 8870 | 8837 | 8804 | 8771 | 8738 | 8705 | 8672 | 8639 | 8606 |
| 1 | 59 | 9423 | 9390 | 9357 | 9324 | 9291 | 9258 | 9225 | 9192 | 9159 | 9126 | 9093 | 9060 | 9027 | 8994 | 8961 | 8928 | 8895 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Arg. | A. A. & A. D. 93° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 31 | 0 | 205 1861 | 1834 | 1808 | 1781 | 1755 | 1728 | 1702 | 1675 | 1649 | 1622 | 1596 | 1569 | 1543 | 1516 | 1490 | 1463 | 1437 |
| 31 | 1 | 2149 | 2122 | 2095 | 2069 | 2042 | 2015 | 1989 | 1962 | 1936 | 1909 | 1882 | 1856 | 1829 | 1802 | 1776 | 1749 | 1722 |
| 30 | 2 | 2437 | 2410 | 2383 | 2356 | 2330 | 2303 | 2276 | 2249 | 2222 | 2195 | 2169 | 2142 | 2115 | 2088 | 2062 | 2035 | 2008 |
| 30 | 3 | 2724 | 2697 | 2671 | 2644 | 2617 | 2590 | 2563 | 2536 | 2509 | 2482 | 2455 | 2428 | 2401 | 2374 | 2347 | 2320 | 2293 |
| 29 | 4 | 3012 | 2985 | 2958 | 2931 | 2904 | 2877 | 2850 | 2823 | 2796 | 2769 | 2741 | 2714 | 2687 | 2660 | 2633 | 2606 | 2579 |
| 28 | 5 | 205 3300 | 3273 | 3245 | 3218 | 3191 | 3164 | 3137 | 3110 | 3082 | 3055 | 3028 | 3001 | 2973 | 2946 | 2919 | 2892 | 2864 |
| 28 | 6 | 3588 | 3560 | 3533 | 3506 | 3478 | 3451 | 3424 | 3396 | 3369 | 3342 | 3314 | 3287 | 3260 | 3233 | 3205 | 3178 | 3151 |
| 27 | 7 | 3875 | 3848 | 3821 | 3793 | 3766 | 3738 | 3711 | 3683 | 3656 | 3628 | 3601 | 3573 | 3546 | 3518 | 3491 | 3463 | 3436 |
| 27 | 8 | 4163 | 4136 | 4108 | 4081 | 4053 | 4026 | 3998 | 3970 | 3943 | 3915 | 3887 | 3860 | 3832 | 3804 | 3777 | 3749 | 3721 |
| - | 9 | 4451 | 4423 | 4396 | 4368 | 4341 | 4314 | 4286 | 4257 | 4229 | 4201 | 4173 | 4145 | 4118 | 4090 | 4062 | 4034 | 4006 |
| 26 | 10 | 205 4739 | 4711 | 4683 | 4655 | 4627 | 4599 | 4571 | 4543 | 4515 | 4488 | 4460 | 4432 | 4404 | 4377 | 4349 | 4321 | 4292 |
| 25 | 11 | 5027 | 4999 | 4971 | 4943 | 4914 | 4886 | 4858 | 4830 | 4802 | 4774 | 4746 | 4718 | 4690 | 4662 | 4633 | 4605 | 4577 |
| 25 | 12 | 5315 | 5286 | 5258 | 5230 | 5202 | 5173 | 5145 | 5117 | 5089 | 5060 | 5032 | 5004 | 4976 | 4947 | 4919 | 4891 | 4863 |
| 24 | 13 | 5602 | 5574 | 5546 | 5517 | 5489 | 5461 | 5433 | 5404 | 5376 | 5347 | 5319 | 5291 | 5262 | 5234 | 5205 | 5177 | 5148 |
| 24 | 14 | 5890 | 5862 | 5833 | 5805 | 5777 | 5748 | 5720 | 5692 | 5663 | 5633 | 5606 | 5577 | 5548 | 5520 | 5491 | 5462 | 5434 |
| 23 | 15 | 205 6178 | 6149 | 6121 | 6092 | 6063 | 6035 | 6006 | 5977 | 5949 | 5920 | 5891 | 5862 | 5834 | 5805 | 5776 | 5748 | 5719 |
| 23 | 16 | 6466 | 6437 | 6408 | 6379 | 6350 | 6322 | 6293 | 6264 | 6235 | 6206 | 6177 | 6148 | 6120 | 6091 | 6062 | 6033 | 6004 |
| 22 | 17 | 6753 | 6725 | 6696 | 6667 | 6638 | 6609 | 6580 | 6551 | 6522 | 6493 | 6464 | 6435 | 6406 | 6377 | 6348 | 6319 | 6290 |
| 22 | 18 | 7041 | 7012 | 6983 | 6954 | 6925 | 6896 | 6867 | 6838 | 6808 | 6779 | 6750 | 6721 | 6692 | 6663 | 6634 | 6604 | 6575 |
| 21 | 19 | 7329 | 7300 | 7271 | 7241 | 7212 | 7183 | 7154 | 7124 | 7095 | 7066 | 7037 | 7007 | 6978 | 6949 | 6919 | 6890 | 6861 |
| 21 | 20 | 205 7617 | 7587 | 7558 | 7529 | 7499 | 7470 | 7440 | 7411 | 7382 | 7353 | 7323 | 7294 | 7264 | 7234 | 7205 | 7176 | 7146 |
| 20 | 21 | 7904 | 7875 | 7845 | 7816 | 7786 | 7757 | 7727 | 7698 | 7668 | 7639 | 7609 | 7580 | 7550 | 7520 | 7491 | 7461 | 7431 |
| 20 | 22 | 8192 | 8163 | 8133 | 8103 | 8073 | 8044 | 8014 | 7984 | 7955 | 7925 | 7895 | 7866 | 7836 | 7807 | 7777 | 7747 | 7717 |
| 19 | 23 | 8480 | 8450 | 8420 | 8390 | 8361 | 8331 | 8301 | 8271 | 8241 | 8211 | 8182 | 8152 | 8122 | 8092 | 8062 | 8032 | 8002 |
| 19 | 24 | 8768 | 8738 | 8708 | 8678 | 8648 | 8618 | 8588 | 8558 | 8528 | 8498 | 8468 | 8438 | 8408 | 8378 | 8348 | 8318 | 8288 |
| 18 | 25 | 205 9056 | 9025 | 8995 | 8965 | 8935 | 8905 | 8875 | 8845 | 8814 | 8784 | 8754 | 8724 | 8694 | 8664 | 8633 | 8603 | 8573 |
| 18 | 26 | 9343 | 9313 | 9283 | 9252 | 9222 | 9192 | 9162 | 9131 | 9101 | 9071 | 9040 | 9010 | 8980 | 8950 | 8919 | 8889 | 8858 |
| 17 | 27 | 9631 | 9601 | 9570 | 9540 | 9509 | 9479 | 9448 | 9418 | 9388 | 9357 | 9327 | 9296 | 9266 | 9235 | 9205 | 9174 | 9144 |
| 17 | 28 | 9919 | 9888 | 9858 | 9827 | 9797 | 9766 | 9735 | 9705 | 9674 | 9643 | 9613 | 9582 | 9552 | 9521 | 9490 | 9460 | 9429 |
| 16 | 29 | 206 (205) 0207 | 0176 | 0145 | 0114 | 0084 | 0053 | 0022 | 9991 | 9961 | 9930 | 9900 | 9869 | 9838 | 9807 | 9776 | 9745 | 9715 |
| 16 | 30 | 206 0494 | 0463 | 0432 | 0402 | 0371 | 0340 | 0309 | 0278 | 0247 | 0216 | 0185 | 0154 | 0123 | 0093 | 0062 | 0031 | |
| 15 | 31 | 0782 | 0751 | 0720 | 0689 | 0658 | 0627 | 0596 | 0565 | 0534 | 0503 | 0472 | 0440 | 0409 | 0378 | 0347 | 0316 | 0285 |
| 15 | 32 | 1070 | 1038 | 1007 | 0976 | 0945 | 0914 | 0883 | 0851 | 0820 | 0789 | 0758 | 0727 | 0695 | 0664 | 0633 | 0602 | 0571 |
| 14 | 33 | 1357 | 1326 | 1295 | 1263 | 1232 | 1201 | 1169 | 1138 | 1107 | 1075 | 1044 | 1013 | 0981 | 0950 | 0919 | 0887 | 0856 |
| 13 | 34 | 1645 | 1613 | 1582 | 1551 | 1519 | 1488 | 1456 | 1425 | 1393 | 1362 | 1331 | 1299 | 1268 | 1237 | 1205 | 1174 | 1142 |
| 13 | 35 | 206 1933 | 1901 | 1869 | 1838 | 1806 | 1775 | 1743 | 1711 | 1680 | 1648 | 1617 | 1585 | 1553 | 1522 | 1490 | 1458 | 1427 |
| 12 | 36 | 2220 | 2189 | 2157 | 2125 | 2093 | 2062 | 2030 | 1998 | 1966 | 1935 | 1903 | 1871 | 1839 | 1807 | 1775 | 1744 | 1712 |
| 12 | 37 | 2508 | 2476 | 2444 | 2412 | 2380 | 2348 | 2317 | 2285 | 2253 | 2221 | 2189 | 2157 | 2125 | 2093 | 2061 | 2029 | 1997 |
| 11 | 38 | 2796 | 2764 | 2732 | 2700 | 2667 | 2635 | 2603 | 2571 | 2539 | 2507 | 2475 | 2443 | 2411 | 2379 | 2347 | 2315 | 2283 |
| 11 | 39 | 3083 | 3051 | 3019 | 2987 | 2955 | 2923 | 2890 | 2858 | 2826 | 2794 | 2762 | 2730 | 2698 | 2665 | 2633 | 2601 | 2569 |
| 10 | 40 | 206 3371 | 3339 | 3306 | 3274 | 3242 | 3209 | 3177 | 3145 | 3112 | 3080 | 3047 | 3015 | 2983 | 2950 | 2918 | 2886 | 2853 |
| 10 | 41 | 3658 | 3626 | 3594 | 3561 | 3529 | 3496 | 3464 | 3431 | 3399 | 3366 | 3334 | 3301 | 3269 | 3236 | 3204 | 3171 | 3138 |
| 9 | 42 | 3944 | 3914 | 3881 | 3848 | 3816 | 3783 | 3750 | 3718 | 3685 | 3652 | 3620 | 3587 | 3555 | 3522 | 3489 | 3456 | 3424 |
| 9 | 43 | 4234 | 4201 | 4168 | 4136 | 4103 | 4070 | 4037 | 4004 | 3972 | 3939 | 3906 | 3873 | 3840 | 3808 | 3775 | 3742 | 3709 |
| 8 | 44 | 4521 | 4488 | 4456 | 4423 | 4390 | 4357 | 4324 | 4291 | 4258 | 4225 | 4192 | 4159 | 4126 | 4093 | 4060 | 4027 | 3994 |
| 8 | 45 | 206 4809 | 4776 | 4743 | 4711 | 4677 | 4644 | 4611 | 4578 | 4545 | 4511 | 4478 | 4445 | 4412 | 4379 | 4346 | 4313 | 4280 |
| 7 | 46 | 5097 | 5064 | 5030 | 4997 | 4964 | 4931 | 4897 | 4864 | 4831 | 4798 | 4764 | 4731 | 4698 | 4665 | 4631 | 4598 | 4565 |
| 7 | 47 | 5384 | 5351 | 5318 | 5284 | 5251 | 5218 | 5184 | 5151 | 5117 | 5084 | 5051 | 5017 | 4984 | 4951 | 4917 | 4884 | 4850 |
| 6 | 48 | 5672 | 5639 | 5605 | 5571 | 5538 | 5504 | 5471 | 5437 | 5404 | 5370 | 5337 | 5303 | 5270 | 5236 | 5203 | 5169 | 5135 |
| 6 | 49 | 5960 | 5926 | 5892 | 5858 | 5825 | 5791 | 5757 | 5724 | 5690 | 5657 | 5623 | 5589 | 5556 | 5522 | 5488 | 5454 | 5421 |
| 5 | 50 | 206 6247 | 6214 | 6180 | 6144 | 6111 | 6077 | 6044 | 6011 | 5977 | 5943 | 5910 | 5875 | 5841 | 5808 | 5774 | 5740 | 5707 |
| 5 | 51 | 6535 | 6501 | 6467 | 6432 | 6398 | 6364 | 6331 | 6297 | 6263 | 6230 | 6196 | 6161 | 6127 | 6093 | 6060 | 6025 | 5991 |
| 4 | 52 | 6822 | 6788 | 6754 | 6720 | 6685 | 6651 | 6618 | 6584 | 6550 | 6516 | 6483 | 6448 | 6414 | 6380 | 6346 | 6311 | 6277 |
| 4 | 53 | 7110 | 7076 | 7042 | 7007 | 6973 | 6938 | 6905 | 6871 | 6837 | 6803 | 6769 | 6735 | 6701 | 6667 | 6632 | 6598 | 6562 |
| 3 | 54 | 7398 | 7363 | 7329 | 7294 | 7260 | 7226 | 7192 | 7158 | 7124 | 7090 | 7056 | 7022 | 6988 | 6954 | 6919 | 6885 | 6847 |
| 3 | 55 | 206 7685 | 7651 | 7616 | 7582 | 7547 | 7513 | 7479 | 7444 | 7410 | 7374 | 7344 | 7309 | 7275 | 7241 | 7206 | 7172 | 7132 |
| 2 | 56 | 7973 | 7938 | 7903 | 7869 | 7834 | 7799 | 7765 | 7730 | 7695 | 7661 | 7626 | 7591 | 7556 | 7522 | 7487 | 7452 | 7417 |
| 2 | 57 | 8260 | 8225 | 8190 | 8156 | 8121 | 8086 | 8051 | 8016 | 7981 | 7947 | 7912 | 7877 | 7842 | 7807 | 7772 | 7737 | 7702 |
| 1 | 58 | 8547 | 8512 | 8477 | 8443 | 8408 | 8373 | 8338 | 8303 | 8268 | 8233 | 8198 | 8163 | 8128 | 8093 | 8058 | 8023 | 7988 |
| 1 | 59 | 8835 | 8800 | 8765 | 8730 | 8695 | 8660 | 8625 | 8590 | 8554 | 8519 | 8484 | 8449 | 8414 | 8379 | 8344 | 8309 | 8273 |

| Parts for Seconds of Sec. of C. D. | C. D. 93 | Sums |
|---|---|---|
| 0 | 0 | 505 2370 |
| 5 | 1 | 2422 |
| 10 | 2 | 2917 |
| 15 | 3 | 3227 |
| 19 | 4 | 3419 |
| 24 | 5 | 3539 |
| 29 | 6 | 3617 |
| 34 | 7 | 3671 |
| 39 | 8 | 3709 |
| 44 | 9 | 3735 |
| 48 | 10 | 505 3754 |
| 53 | 11 | 3768 |
| 58 | 12 | 3778 |
| 63 | 13 | 3784 |
| 68 | 14 | 3787 |
| 73 | 15 | 505 3788 |
| 77 | 16 | 3785 |
| 82 | 17 | 3779 |
| 87 | 18 | 3769 |
| 92 | 19 | 3754 |
| 97 | 20 | 505 3735 |
| 102 | 21 | 3711 |
| 106 | 22 | 3682 |
| 111 | 23 | 3647 |
| 116 | 24 | 3607 |
| 121 | 25 | 505 3562 |
| 126 | 26 | 3511 |
| 131 | 27 | 506 3455 |
| 136 | 28 | 3393 |
| 140 | 29 | 3326 |
| 145 | 30 | 506 3254 |
| 150 | 31 | 3176 |
| 155 | 32 | 3093 |
| 160 | 33 | 3004 |
| 165 | 34 | 2910 |
| 169 | 35 | 506 2811 |
| 174 | 36 | 2707 |
| 179 | 37 | 2597 |
| 184 | 38 | 2482 |
| 189 | 39 | 2362 |
| 194 | 40 | 506 2237 |
| 199 | 41 | 2107 |
| 203 | 42 | 1972 |
| 208 | 43 | 1832 |
| 213 | 44 | 1687 |
| 218 | 45 | 506 1537 |
| 223 | 46 | 1382 |
| 228 | 47 | 1222 |
| 232 | 48 | 1057 |
| 237 | 49 | 887 |
| 242 | 50 | 506 0712 |
| 247 | 51 | 0532 |
| 252 | 52 | 0348 |
| 257 | 53 | 0159 |
| 261 | 54 | 505 9965 |
| 266 | 55 | 9768 |
| 271 | 56 | 9567 |
| 276 | 57 | 9362 |
| 281 | 58 | 9153 |
| 286 | 59 | 8940 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. of C. A. additive | C. S. A. 94° | Numbers |
|---|---|---|
| 290 | 0 | 094 7374 |
| 286 | 1 | 7083 |
| 281 | 2 | 6793 |
| 276 | 3 | 6502 |
| 271 | 4 | 6212 |
| 266 | 5 | 094 5921 |
| 261 | 6 | 5631 |
| 257 | 7 | 5340 |
| 252 | 8 | 5050 |
| 247 | 9 | 4759 |
| 242 | 10 | 094 4469 |
| 237 | 11 | 4178 |
| 232 | 12 | 3888 |
| 228 | 13 | 3598 |
| 223 | 14 | 3307 |
| 218 | 15 | 094 3017 |
| 213 | 16 | 2726 |
| 208 | 17 | 2436 |
| 203 | 18 | 2146 |
| 200 | 19 | 1855 |
| 194 | 20 | 094 1565 |
| 189 | 21 | 1274 |
| 184 | 22 | 0984 |
| 179 | 23 | 0694 |
| 174 | 24 | 0403 |
| 169 | 25 | 094 0113 |
| 165 | 26 | 093 9823 |
| 160 | 27 | 9533 |
| 155 | 28 | 9242 |
| 150 | 29 | 8951 |
| 145 | 30 | 093 8661 |
| 140 | 31 | 8371 |
| 136 | 32 | 8080 |
| 131 | 33 | 7790 |
| 126 | 34 | 7500 |
| 121 | 35 | 093 7209 |
| 116 | 36 | 6919 |
| 111 | 37 | 6629 |
| 106 | 38 | 6339 |
| 102 | 39 | 6048 |
| 97 | 40 | 093 5758 |
| 92 | 41 | 5468 |
| 87 | 42 | 5177 |
| 82 | 43 | 4887 |
| 77 | 44 | 4597 |
| 73 | 45 | 093 4307 |
| 68 | 46 | 4016 |
| 63 | 47 | 3726 |
| 58 | 48 | 3436 |
| 53 | 49 | 3146 |
| 48 | 50 | 093 2855 |
| 44 | 51 | 2565 |
| 39 | 52 | 2275 |
| 34 | 53 | 1985 |
| 29 | 54 | 1694 |
| 24 | 55 | 093 1404 |
| 20 | 56 | 1114 |
| 15 | 57 | 0824 |
| 10 | 58 | 0534 |
| 5 | 59 | 0244 |

| Parts for Seconds of Auxil. Argum. additive | S. A. A. & A. D. 94° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 39 | 0 | 206 9721 | 9686 | 9651 | 9616 | 9581 | 9546 | 9510 | 9475 | 9440 | 9405 | 9370 | 9334 | 9299 | 9264 | 9229 | 9193 | 9158 |
| 39 | 1 | 207 (206) 0011 | 9976 | 9941 | 9906 | 9870 | 9835 | 9799 | 9764 | 9729 | 9693 | 9658 | 9623 | 9587 | 9552 | 9517 | 9481 | 9446 |
| 38 | 2 | 0321 | 0286 | 0251 | 0215 | 0180 | 0144 | 0109 | 0073 | 0038 | 0002 | 9967 | 9931 | 9896 | 9860 | 9825 | 9789 | 9754 |
| 38 | 3 | 207 0591 | 0556 | 0520 | 0485 | 0449 | 0413 | 0378 | 0342 | 0307 | 0271 | 0235 | 0200 | 0164 | 0128 | 0093 | 0057 | 0021 |
| 37 | 4 | 0881 | 0846 | 0810 | 0774 | 0738 | 0703 | 0667 | 0631 | 0595 | 0560 | 0524 | 0488 | 0452 | 0416 | 0381 | 0345 | 0309 |
| 36 | 5 | 207 1171 | 1136 | 1100 | 1064 | 1028 | 0992 | 0956 | 0920 | 0884 | 0848 | 0812 | 0776 | 0740 | 0704 | 0668 | 0633 | 0597 |
| 36 | 6 | 1461 | 1425 | 1389 | 1353 | 1317 | 1281 | 1245 | 1209 | 1173 | 1137 | 1101 | 1065 | 1029 | 0993 | 0956 | 0920 | 0884 |
| 35 | 7 | 1751 | 1715 | 1679 | 1643 | 1607 | 1570 | 1534 | 1498 | 1462 | 1426 | 1389 | 1353 | 1317 | 1281 | 1244 | 1208 | 1172 |
| 34 | 8 | 2041 | 2005 | 1969 | 1932 | 1896 | 1860 | 1823 | 1787 | 1751 | 1714 | 1678 | 1642 | 1605 | 1569 | 1532 | 1496 | 1460 |
| 34 | 9 | 2331 | 2295 | 2259 | 2222 | 2185 | 2149 | 2113 | 2076 | 2039 | 2003 | 1966 | 1930 | 1893 | 1857 | 1820 | 1784 | 1747 |
| 33 | 10 | 207 2621 | 2585 | 2548 | 2512 | 2475 | 2438 | 2402 | 2365 | 2328 | 2292 | 2255 | 2218 | 2182 | 2145 | 2108 | 2072 | 2035 |
| 32 | 11 | 2911 | 2875 | 2838 | 2801 | 2764 | 2727 | 2691 | 2654 | 2617 | 2580 | 2543 | 2507 | 2470 | 2433 | 2396 | 2359 | 2322 |
| 32 | 12 | 3201 | 3164 | 3127 | 3091 | 3054 | 3017 | 2980 | 2943 | 2906 | 2869 | 2832 | 2795 | 2758 | 2721 | 2684 | 2647 | 2610 |
| 31 | 13 | 3491 | 3454 | 3417 | 3380 | 3343 | 3306 | 3269 | 3232 | 3195 | 3158 | 3120 | 3083 | 3046 | 3009 | 2972 | 2935 | 2898 |
| 30 | 14 | 3781 | 3744 | 3707 | 3670 | 3632 | 3595 | 3558 | 3521 | 3484 | 3447 | 3409 | 3372 | 3334 | 3297 | 3260 | 3223 | 3185 |
| 30 | 15 | 207 4071 | 4034 | 3996 | 3959 | 3922 | 3884 | 3847 | 3810 | 3772 | 3735 | 3697 | 3660 | 3623 | 3585 | 3548 | 3510 | 3473 |
| 29 | 16 | 4361 | 4324 | 4286 | 4249 | 4211 | 4174 | 4136 | 4099 | 4061 | 4024 | 3986 | 3948 | 3911 | 3873 | 3836 | 3798 | 3761 |
| 28 | 17 | 4651 | 4613 | 4576 | 4538 | 4500 | 4463 | 4425 | 4387 | 4350 | 4312 | 4274 | 4237 | 4199 | 4161 | 4124 | 4086 | 4048 |
| 28 | 18 | 4941 | 4903 | 4865 | 4828 | 4790 | 4752 | 4714 | 4676 | 4638 | 4601 | 4563 | 4525 | 4487 | 4449 | 4411 | 4374 | 4336 |
| 27 | 19 | 5231 | 5193 | 5155 | 5117 | 5079 | 5041 | 5003 | 4965 | 4927 | 4889 | 4851 | 4813 | 4775 | 4737 | 4699 | 4661 | 4623 |
| 26 | 20 | 207 5521 | 5483 | 5445 | 5407 | 5369 | 5330 | 5292 | 5254 | 5216 | 5178 | 5140 | 5102 | 5063 | 5025 | 4987 | 4949 | 4911 |
| 26 | 21 | 5811 | 5773 | 5734 | 5696 | 5658 | 5620 | 5581 | 5543 | 5505 | 5467 | 5428 | 5390 | 5352 | 5313 | 5275 | 5237 | 5198 |
| 25 | 22 | 6101 | 6062 | 6024 | 5986 | 5947 | 5909 | 5870 | 5832 | 5794 | 5755 | 5717 | 5678 | 5640 | 5601 | 5563 | 5524 | 5486 |
| 24 | 23 | 6391 | 6352 | 6314 | 6275 | 6236 | 6198 | 6159 | 6121 | 6082 | 6044 | 6005 | 5967 | 5928 | 5889 | 5851 | 5812 | 5774 |
| 24 | 24 | 6680 | 6642 | 6603 | 6564 | 6526 | 6487 | 6448 | 6410 | 6371 | 6332 | 6294 | 6255 | 6216 | 6177 | 6139 | 6100 | 6061 |
| 23 | 25 | 207 6970 | 6931 | 6893 | 6854 | 6815 | 6776 | 6737 | 6698 | 6660 | 6621 | 6582 | 6543 | 6504 | 6465 | 6426 | 6387 | 6348 |
| 22 | 26 | 7260 | 7221 | 7182 | 7143 | 7104 | 7065 | 7026 | 6987 | 6948 | 6909 | 6870 | 6831 | 6792 | 6753 | 6714 | 6675 | 6636 |
| 22 | 27 | 7550 | 7511 | 7472 | 7433 | 7394 | 7354 | 7315 | 7276 | 7237 | 7198 | 7159 | 7120 | 7080 | 7041 | 7002 | 6963 | 6924 |
| 21 | 28 | 7840 | 7801 | 7761 | 7722 | 7683 | 7644 | 7604 | 7565 | 7526 | 7486 | 7447 | 7408 | 7369 | 7329 | 7290 | 7250 | 7211 |
| 20 | 29 | 8130 | 8090 | 8051 | 8012 | 7972 | 7933 | 7893 | 7854 | 7814 | 7775 | 7736 | 7696 | 7657 | 7617 | 7578 | 7538 | 7499 |
| 20 | 30 | 207 8420 | 8380 | 8340 | 8301 | 8261 | 8222 | 8182 | 8143 | 8103 | 8064 | 8024 | 7984 | 7945 | 7905 | 7865 | 7826 | 7786 |
| 19 | 31 | 8710 | 8670 | 8630 | 8590 | 8551 | 8511 | 8471 | 8432 | 8392 | 8352 | 8312 | 8272 | 8233 | 8193 | 8153 | 8114 | 8074 |
| 18 | 32 | 8999 | 8959 | 8920 | 8880 | 8840 | 8800 | 8760 | 8721 | 8681 | 8641 | 8601 | 8561 | 8521 | 8481 | 8441 | 8401 | 8361 |
| 18 | 33 | 9289 | 9249 | 9209 | 9169 | 9129 | 9089 | 9049 | 9009 | 8969 | 8929 | 8889 | 8849 | 8809 | 8769 | 8729 | 8689 | 8649 |
| 17 | 34 | 9579 | 9539 | 9499 | 9459 | 9418 | 9378 | 9338 | 9298 | 9258 | 9218 | 9177 | 9137 | 9097 | 9057 | 9017 | 8976 | 8936 |
| 16 | 35 | 207 9868 | 9828 | 9787 | 9747 | 9707 | 9667 | 9627 | 9587 | 9547 | 9506 | 9466 | 9426 | 9385 | 9345 | 9304 | 9264 | 9224 |
| 16 | 36 | 208 (207) 0158 | 0118 | 0078 | 0037 | 9997 | 9956 | 9916 | 9875 | 9835 | 9795 | 9754 | 9714 | 9673 | 9633 | 9592 | 9552 | 9511 |
| 15 | 37 | 0447 | 0407 | 0367 | 0327 | 0286 | 0246 | 0205 | 0165 | 0124 | 0083 | 0042 | 0002 | 9961 | 9921 | 9880 | 9839 | 9799 |
| 14 | 38 | 208 0737 | 0697 | 0657 | 0616 | 0575 | 0535 | 0494 | 0453 | 0412 | 0372 | 0331 | 0290 | 0249 | 0208 | 0168 | 0127 | 0086 |
| 14 | 39 | 1026 | 0987 | 0946 | 0906 | 0864 | 0824 | 0783 | 0742 | 0701 | 0661 | 0619 | 0578 | 0537 | 0496 | 0455 | 0414 | 0373 |
| 13 | 40 | 208 1315 | 1277 | 1236 | 1195 | 1154 | 1113 | 1072 | 1031 | 0990 | 0948 | 0907 | 0866 | 0825 | 0784 | 0743 | 0702 | 0661 |
| 13 | 41 | 1607 | 1566 | 1525 | 1484 | 1443 | 1402 | 1361 | 1319 | 1278 | 1237 | 1196 | 1155 | 1113 | 1072 | 1031 | 0990 | 0948 |
| 12 | 42 | 1897 | 1856 | 1815 | 1773 | 1732 | 1691 | 1649 | 1608 | 1567 | 1525 | 1484 | 1443 | 1401 | 1360 | 1318 | 1277 | 1236 |
| 11 | 43 | 2187 | 2146 | 2104 | 2063 | 2021 | 1980 | 1938 | 1897 | 1855 | 1814 | 1772 | 1731 | 1689 | 1648 | 1606 | 1565 | 1523 |
| 11 | 44 | 2477 | 2435 | 2394 | 2352 | 2310 | 2269 | 2227 | 2185 | 2144 | 2102 | 2061 | 2019 | 1977 | 1936 | 1894 | 1852 | 1811 |
| 10 | 45 | 208 2767 | 2725 | 2683 | 2641 | 2600 | 2558 | 2516 | 2474 | 2432 | 2391 | 2349 | 2307 | 2265 | 2223 | 2182 | 2140 | 2098 |
| 9 | 46 | 3057 | 3014 | 2973 | 2931 | 2889 | 2847 | 2805 | 2763 | 2721 | 2679 | 2637 | 2595 | 2553 | 2511 | 2469 | 2427 | 2385 |
| 9 | 47 | 3346 | 3304 | 3262 | 3220 | 3178 | 3136 | 3094 | 3052 | 3010 | 2967 | 2925 | 2883 | 2841 | 2799 | 2757 | 2715 | 2673 |
| 8 | 48 | 3636 | 3594 | 3551 | 3509 | 3467 | 3425 | 3383 | 3340 | 3298 | 3256 | 3214 | 3171 | 3129 | 3087 | 3045 | 3002 | 2960 |
| 7 | 49 | 3925 | 3883 | 3841 | 3799 | 3756 | 3714 | 3671 | 3629 | 3587 | 3544 | 3502 | 3460 | 3417 | 3375 | 3332 | 3290 | 3247 |
| 7 | 50 | 208 4215 | 4173 | 4130 | 4088 | 4045 | 4003 | 3960 | 3918 | 3875 | 3833 | 3790 | 3748 | 3705 | 3663 | 3620 | 3577 | 3535 |
| 6 | 51 | 4505 | 4462 | 4420 | 4377 | 4334 | 4292 | 4249 | 4206 | 4164 | 4121 | 4078 | 4036 | 3993 | 3950 | 3908 | 3865 | 3822 |
| 5 | 52 | 4795 | 4752 | 4709 | 4666 | 4623 | 4581 | 4538 | 4495 | 4452 | 4410 | 4367 | 4324 | 4281 | 4238 | 4195 | 4153 | 4110 |
| 5 | 53 | 5084 | 5041 | 4998 | 4955 | 4913 | 4870 | 4827 | 4784 | 4741 | 4698 | 4655 | 4612 | 4569 | 4526 | 4483 | 4440 | 4397 |
| 4 | 54 | 5374 | 5331 | 5288 | 5245 | 5202 | 5159 | 5116 | 5073 | 5030 | 4987 | 4943 | 4900 | 4857 | 4814 | 4771 | 4728 | 4684 |
| 3 | 55 | 208 5664 | 5621 | 5577 | 5534 | 5491 | 5448 | 5405 | 5361 | 5318 | 5275 | 5231 | 5188 | 5145 | 5102 | 5058 | 5015 | 4972 |
| 3 | 56 | 5953 | 5910 | 5867 | 5823 | 5780 | 5737 | 5693 | 5650 | 5606 | 5563 | 5519 | 5476 | 5433 | 5389 | 5346 | 5302 | 5259 |
| 2 | 57 | 6243 | 6200 | 6156 | 6113 | 6069 | 6025 | 5982 | 5938 | 5895 | 5851 | 5808 | 5764 | 5721 | 5677 | 5634 | 5590 | 5546 |
| 1 | 58 | 6533 | 6489 | 6445 | 6402 | 6358 | 6314 | 6271 | 6227 | 6183 | 6140 | 6096 | 6052 | 6009 | 5965 | 5921 | 5877 | 5833 |
| 1 | 59 | 6822 | 6778 | 6735 | 6691 | 6647 | 6603 | 6559 | 6516 | 6472 | 6428 | 6384 | 6340 | 6297 | 6253 | 6209 | 6165 | 6121 |

C. T. XI. Numbers I. and Numbers III. for Sums of Apparent Altitudes } and Auxiliary Arguments.
for Apparent Distances - - - - - }

Auxiliary Arguments.

| Page & A. D. | 17′ | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| | 0 | 0306 | 9123 | 9088 | 9052 | 9017 | 8982 | 8947 | 8911 | 8876 | 8841 | 8805 | 8770 | 8735 | 8700 | 8664 | 8629 | 8593 | 8558 |
| | 1 | | 9141 | 9105 | 9069 | 9034 | 8998 | 8963 | 8927 | 8892 | 8856 | 8821 | 8785 | 8750 | 8714 | 8679 | 8643 | 8608 | 8572 |
| | 2 | | 9698 | 9662 | 9627 | 9591 | 9555 | 9520 | 9484 | 9449 | 9414 | 9378 | 9342 | 9307 | 9271 | 9235 | 9200 | 9164 | 9129 |
| | 3 | | | | | | | | | | | | | | | | | | |
| 27 | 4 | 0307(1866) | 0273 | 0237 | 0201 | 0166 | 0130 | 0094 | 0058 | 0022 | 9986 | 9950 | 9914 | 9878 | 9843 | 9807 | 9771 | 9735 | 9700 |
| 26 | 5 | 0307(1867) | 0561 | 0525 | 0489 | 0453 | 0417 | 0381 | 0345 | 0309 | 0273 | | | | | | | | |
| 26 | 6 | 0307 | 0848 | 0812 | 0776 | 0740 | 0704 | 0667 | 0631 | 0595 | 0559 | | | | | | | | |
| | 7 | | 1136 | 1099 | 1063 | 1027 | 0990 | 0954 | 0918 | 0882 | 0845 | 0809 | 0773 | 0736 | 0700 | 0664 | | | |
| | 8 | | 1423 | 1387 | 1350 | 1314 | 1277 | 1241 | 1204 | 1168 | 1132 | 1095 | 1059 | 1022 | 0986 | 0949 | 0913 | | |
| 24 | 9 | | 1711 | 1674 | 1637 | 1601 | 1564 | 1528 | 1491 | 1455 | 1418 | 1381 | 1345 | 1308 | 1271 | 1235 | 1198 | 1161 | 1125 |
| 23 | 10 | 0307 | 1998 | 1961 | 1925 | 1888 | 1851 | 1814 | 1777 | 1741 | 1704 | 1667 | 1631 | 1594 | 1557 | 1520 | 1483 | 1447 | 1410 |
| 22 | 11 | | 2286 | 2249 | 2212 | 2175 | 2138 | 2101 | 2064 | 2027 | 1990 | 1954 | 1917 | 1880 | 1843 | 1806 | 1769 | 1732 | 1695 |
| 22 | 12 | | 2573 | 2536 | 2499 | 2462 | 2425 | 2388 | 2351 | 2314 | 2277 | 2240 | 2203 | 2166 | 2128 | 2091 | | | |
| 21 | 13 | | 2861 | 2823 | 2786 | 2749 | 2712 | 2675 | 2637 | 2600 | 2563 | 2526 | 2489 | 2451 | 2414 | 2377 | 2340 | 2302 | 2265 |
| 20 | 14 | | 3148 | 3111 | 3073 | 3036 | 2999 | 2961 | 2924 | 2887 | 2849 | 2812 | 2775 | 2737 | 2700 | 2662 | 2625 | 2588 | 2550 |
| 19 | 15 | 0307 | 3435 | 3398 | 3361 | 3323 | 3286 | 3248 | 3211 | 3173 | 3136 | 3098 | 3061 | 3023 | 2986 | 2948 | 2911 | 2873 | 2836 |
| 18 | 16 | | 3723 | 3685 | 3648 | 3610 | 3572 | 3535 | 3497 | 3460 | 3422 | 3384 | 3347 | 3309 | 3271 | 3234 | 3196 | 3158 | 3121 |
| 17 | 17 | | 4010 | 3973 | 3935 | 3897 | 3860 | 3822 | 3784 | 3746 | 3708 | 3670 | 3633 | 3595 | 3557 | 3519 | 3481 | 3443 | 34 |
| 16 | 18 | | 4298 | 4260 | 4222 | 4184 | 4147 | 4109 | 4071 | 4033 | 3994 | 3956 | 3919 | 3881 | 3843 | 3805 | 3767 | 3729 | 3691 |
| 15 | 19 | | 4585 | 4547 | 4509 | 4471 | 4433 | 4395 | 4357 | 4319 | 4281 | 4243 | 4205 | 4166 | 4128 | 4090 | 4052 | 4014 | 3976 |
| 14 | 20 | 0307 | 4873 | 4834 | 4796 | 4758 | 4720 | 4682 | 4643 | 4605 | 4567 | 4529 | 4491 | 4452 | 4414 | 4376 | 4337 | | |
| 13 | 21 | | 5160 | 5122 | 5083 | 5045 | 5007 | 4968 | 4930 | 4892 | 4853 | 4815 | 4776 | 4738 | 4700 | 4661 | 4623 | | |
| 12 | 22 | | 5447 | 5409 | 5370 | 5332 | 5293 | 5255 | 5216 | 5178 | 5139 | 5101 | 5062 | 5024 | 4985 | 4947 | 4908 | | |
| 11 | 23 | | 5735 | 5696 | 5658 | 5619 | 5580 | 5542 | | | | | | | | | | | |
| 10 | 24 | | 6022 | 5983 | 5945 | 5906 | 5867 | 5828 | 5790 | 5751 | 5712 | 5673 | 5634 | 5595 | | | | | |
| 9 | 25 | 0307 | 6310 | 6271 | 6232 | 6193 | 6154 | 6115 | 6076 | 6037 | 5998 | 5959 | 5920 | 5881 | 5842 | | | | |
| 8 | 26 | | | | | | | | | | | | | | | | | | |
| 7 | 27 | | | | | | | | | | | | | | | | | | |
| 6 | 28 | | 7172 | 7133 | 7095 | 7056 | 7018 | 6979 | 6941 | 6902 | 6857 | 6817 | 6778 | 6735 | 6699 | 6660 | 6620 | 05 | |
| 5 | 29 | | 7460 | 7422 | 7383 | 7345 | 7306 | 7268 | 7222 | 7182 | 7143 | 7103 | 7064 | 7024 | 6985 | 6945 | 6906 | 68 | |
| 4 | 30 | 0307 | 7747 | 7707 | 7667 | 7628 | 7589 | 7549 | 7509 | 7469 | 7429 | 7389 | | | | | | | |
| 3 | 31 | | 8034 | 7994 | 7954 | 7915 | 7875 | | | | | | | | | | | | |
| 2 | 32 | | 8321 | 8281 | 8241 | 8201 | 8161 | 8121 | | 8041 | 8002 | 7961 | 7921 | 7881 | 7841 | 7801 | 7761 | 7721 | |
| 1 | 33 | | 8609 | 8569 | 8528 | 8488 | 8448 | 8408 | | | | 8248 | 8207 | 8167 | 8127 | 8087 | 8047 | 8006 | |
| 17 | 34 | | 8896 | 8856 | 8815 | 8775 | 8735 | 8695 | 8654 | 8614 | 8574 | 8534 | 8493 | 8453 | 8413 | 8372 | 8332 | 8292 | 8251 |
| 16 | 35 | 0307 | 9183 | 9143 | 9102 | 9062 | 9022 | 8981 | | 8900 | 8860 | 8820 | 8779 | 8739 | 8698 | 8658 | 8617 | 8577 | |
| 16 | 36 | | 9471 | 9430 | 9389 | 9349 | 9308 | 9268 | | | | | | | 8984 | 8943 | 8902 | 8862 | |
| 15 | 37 | | 9758 | 9717 | 9676 | 9636 | 9595 | 9554 | 9514 | 9473 | 9432 | 9392 | 9351 | 9310 | 9269 | 9229 | 9188 | 9147 | 9106 |
| 14 | 38 | 0307(1867) | 0045 | 0004 | 9964 | 9923 | 9882 | 9841 | 9800 | 9759 | 9718 | 9678 | 9637 | 9596 | | | | | |
| 14 | 39 | | 0332 | 0292 | 0251 | 0210 | 0169 | 0128 | 0087 | 0046 | 0005 | 9964 | 9923 | 9881 | 9840 | 9799 | 9758 | 9717 | |
| 13 | 40 | 0307 | | | | | | | | | | | | | | | | | |
| 13 | 41 | | 0907 | 0866 | 0825 | 0783 | 0742 | 0701 | 0659 | 0618 | 0577 | | | | | 0370 | 0329 | | |
| 12 | 42 | | 1194 | 1153 | 1112 | 1070 | 1029 | 0987 | 0946 | 0904 | 0863 | | | | | | | | |
| 11 | 43 | | 1482 | 1440 | 1398 | 1357 | 1315 | 1274 | 1232 | 1191 | 1149 | | | | | 0941 | 0899 | | |
| 11 | 44 | | 1769 | 1727 | 1685 | 1644 | 1602 | | 1519 | 1477 | 1435 | 1393 | 1352 | 1310 | 1268 | 1226 | 1184 | | |
| 10 | 45 | | | | | | | | | 1805 | 1763 | 1721 | 1679 | 1637 | 1595 | 1554 | 1512 | 1470 | 1428 |
| 9 | 46 | | 2345 | 2301 | 2259 | 2217 | | | | 2091 | 2049 | 2007 | 1965 | 1923 | 1881 | | | 1755 | 1713 |
| 8 | 47 | | | 2588 | 2546 | 2504 | 2462 | 2420 | 2378 | 2336 | 2293 | 2251 | 2209 | 2167 | 2124 | 2082 | 2040 | | |
| 8 | 48 | | | | | | | | 2664 | 2622 | 2579 | 2537 | 2495 | 2452 | 2410 | 2368 | 2325 | | |
| 7 | 49 | | 3205 | 3163 | 3120 | 3078 | 3035 | 2993 | | 2908 | 2865 | | | 2780 | 2738 | 2695 | 2653 | 2610 | |
| 6 | 50 | | 3492 | 3450 | 3407 | 3365 | | | | | 3194 | 3151 | | 3067 | 3024 | 2981 | 2938 | 2896 | 2853 |
| 6 | 51 | | 3780 | 3737 | 3694 | 3651 | | | | | 3480 | 3438 | | | | | | | |
| 5 | 52 | | | | | | | | | 3766 | 3724 | | | | 3595 | 3552 | 3509 | 3466 | 3423 |
| 4 | 53 | | | | | | | | | | | | 3966 | 3923 | 3880 | 3837 | 3794 | 3751 | 3708 |
| 4 | 54 | | 4641 | 4598 | 4555 | 4512 | | | | | 4339 | 4296 | 4252 | 4209 | 4166 | 4123 | 4079 | 4036 | 3993 |
| 3 | 55 | | 4928 | 4885 | 4842 | 4798 | 4755 | 4712 | 4668 | 4625 | 4582 | 4538 | 4495 | 4451 | 4408 | 4365 | 4321 | 4278 | 4234 |
| 2 | 56 | | 5216 | 5172 | 5129 | 5085 | 5042 | 4998 | 4955 | 4911 | 4868 | 4824 | 4781 | 4737 | 4693 | 4650 | 4606 | 4563 | 4519 |
| 2 | 57 | | | | 5459 | 5415 | 537 | | | | 5197 | 5154 | 5110 | 5066 | 5023 | 4979 | 4935 | 4892 | 4848 |
| 1 | 58 | | | | 5746 | 5702 | 56 | | | | 5483 | 5440 | 5396 | 5352 | 5308 | 5264 | 5220 | 5177 | 5133 |
| 1 | 59 | | | | 6033 | 5989 | 59 | | | | 5770 | 5726 | | | | 5550 | 5506 | 5462 | 5418 |

Sums for finding the Corrected Distances.

| Page & A. D. | 34′ | Sums |
|---|---|---|
| | ′ | |
| | 0 | 506 9756 |
| | 1 | 507 0047 |
| | 2 | 0337 |
| | 3 | 0627 |
| | 4 | 0917 |
| | 5 | 507 1207 |
| | 6 | 1497 |
| | 7 | 1788 |
| | 8 | 2078 |
| | 9 | 2368 |
| | 10 | 507 2658 |
| | 11 | 2948 |
| | 12 | 3238 |
| | 13 | 3528 |
| | 14 | 3818 |
| | 15 | 507 4108 |
| | 16 | 4399 |
| | 17 | 4689 |
| | 18 | 4979 |
| | 19 | 5269 |
| | 20 | 507 5559 |
| | 21 | 5849 |
| | 22 | 6139 |
| | 23 | 6429 |
| | 24 | 6719 |
| | 25 | 507 7009 |
| | 26 | 7299 |
| | 27 | 7589 |
| | 28 | 7879 |
| | 29 | 8169 |
| | 30 | 507 8459 |
| | 31 | 8749 |
| | 32 | 9039 |
| | 33 | 9330 |
| | 34 | 9619 |
| | 35 | 507 9909 |
| | 36 | 508 0199 |
| | 37 | 0489 |
| | 38 | 0779 |
| | 39 | 1069 |
| | 40 | 508 1359 |
| | 41 | 1649 |
| | 42 | 1939 |
| | 43 | 2229 |
| | 44 | 2519 |
| | 45 | 508 2809 |
| | 46 | 3099 |
| | 47 | 3389 |
| | 48 | 3679 |
| | 49 | 3969 |
| | 50 | 508 4259 |
| | 51 | 4547 |
| | 52 | 4837 |
| | 53 | 5127 |
| | 54 | 5417 |
| | 55 | 508 5707 |
| | 56 | 5997 |
| | 57 | 6287 |
| | 58 | 6577 |
| | 59 | 6867 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C.S.A. | C.S.A 95° | Numbers |
|---|---|---|
| 29 | 0 | 092 9954 |
| 28 | 1 | 9873 |
| 28 | 2 | 9373 |
| 27 | 3 | 9273 |
| 27 | 4 | 8703 |
| 26 | 5 | 092 8533 |
| 26 | 6 | 8212 |
| 25 | 7 | 7922 |
| 25 | 8 | 7632 |
| 24 | 9 | 7342 |
| 24 | 10 | 092 7052 |
| 23 | 11 | 6762 |
| 23 | 12 | 6472 |
| 22 | 13 | 6182 |
| 22 | 14 | 5892 |
| 21 | 15 | 092 5601 |
| 21 | 16 | 5311 |
| 20 | 17 | 5021 |
| 20 | 18 | 4731 |
| 19 | 19 | 4441 |
| 19 | 20 | 092 4151 |
| 18 | 21 | 3861 |
| 18 | 22 | 3571 |
| 17 | 23 | 3281 |
| 17 | 24 | 2991 |
| 16 | 25 | 091 2701 |
| 16 | 26 | 2411 |
| 15 | 27 | 2121 |
| 155 | 28 | 1831 |
| 150 | 29 | 1541 |
| 145 | 30 | 092 1251 |
| 140 | 31 | 0961 |
| 135 | 32 | 0671 |
| 130 | 33 | 0381 |
| 126 | 34 | 0091 |
| 121 | 35 | 091 9801 |
| 116 | 36 | 9511 |
| 111 | 37 | 9221 |
| 106 | 38 | 8931 |
| 102 | 39 | 8641 |
| 97 | 40 | 091 8351 |
| 92 | 41 | 8061 |
| 87 | 42 | 7771 |
| 83 | 43 | 7481 |
| 78 | 44 | 7191 |
| 73 | 45 | 091 6902 |
| 68 | 46 | 6612 |
| 63 | 47 | 6322 |
| 58 | 48 | 6032 |
| 53 | 49 | 5742 |
| 48 | 50 | 091 5452 |
| 44 | 51 | 5162 |
| 39 | 52 | 4872 |
| 34 | 53 | 4582 |
| 29 | 54 | 4292 |
| 24 | 55 | 091 4002 |
| 20 | 56 | 3712 |
| 15 | 57 | 3422 |
| 10 | 58 | 3132 |
| 5 | 59 | 2842 |
| 0 | 60 | 2552 |

| Parts for Seconds of Auxil. Argum. | C.A.A. & A. D. 95° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 48 | 0 | 209 | 7112 | 7063 | 7014 | 6965 | 6916 | 6867 | 6818 | 6769 | 6720 | 6671 | 6622 | 6573 | 6524 | 6475 | 6426 | 6377 |
| 48 | 1 | | 7402 | 7353 | 7304 | 7255 | 7206 | 7157 | 7108 | 7059 | 7010 | 6961 | 6912 | 6863 | 6814 | 6765 | 6716 | 6667 |
| 47 | 2 | | 7691 | 7642 | 7593 | 7544 | 7495 | 7446 | 7397 | 7348 | 7299 | 7250 | 7201 | 7152 | 7103 | 7054 | 7005 | 6956 |
| 47 | 3 | | 7981 | 7932 | 7883 | 7834 | 7785 | 7736 | 7687 | 7638 | 7589 | 7540 | 7491 | 7442 | 7393 | 7344 | 7295 | 7246 |
| 46 | 4 | | 8270 | 8221 | 8172 | 8123 | 8074 | 8025 | 7976 | 7927 | 7878 | 7829 | 7780 | 7731 | 7682 | 7633 | 7584 | 7535 |
| 45 | 5 | 208 | 8559 | 8510 | 8461 | 8412 | 8363 | 8314 | 8265 | 8216 | 8167 | 8118 | 8069 | 8020 | 7971 | 7922 | 7873 | 7824 |
| 44 | 6 | | 8849 | 8800 | 8751 | 8702 | 8653 | 8604 | 8555 | 8506 | 8457 | 8408 | 8359 | 8310 | 8261 | 8212 | 8163 | 8114 |
| 43 | 7 | | 9138 | 9089 | 9040 | 8991 | 8942 | 8893 | 8844 | 8795 | 8746 | 8697 | 8648 | 8599 | 8550 | 8501 | 8452 | 8403 |
| 43 | 8 | | 9428 | 9379 | 9330 | 9281 | 9232 | 9183 | 9134 | 9085 | 9036 | 8987 | 8938 | 8889 | 8840 | 8791 | 8742 | 8693 |
| 42 | 9 | | 9717 | 9668 | 9619 | 9570 | 9521 | 9472 | 9423 | 9374 | 9325 | 9276 | 9227 | 9178 | 9129 | 9080 | 9031 | 8982 |
| 41 | 10 | 209 (208) | 0007 | 9958 | 9909 | 9860 | 9811 | 9762 | 9713 | 9664 | 9615 | 9566 | 9517 | 9468 | 9419 | 9370 | 9321 | 9272 |
| 41 | 11 | | 0296 | 0247 | 0198 | 0149 | 0100 | 0051 | 0002 | 9953 | 9904 | 9855 | 9806 | 9757 | 9708 | 9659 | 9610 | 9561 |
| 40 | 12 | | 0586 | 0537 | 0488 | 0439 | 0390 | 0341 | 0292 | 0243 | 0194 | 0145 | 0096 | 0047 | 9998 | 9949 | 9900 | 9851 |
| 39 | 13 | | 0875 | 0826 | 0777 | 0728 | 0679 | 0630 | 0581 | 0532 | 0483 | 0434 | 0385 | 0336 | 0287 | 0238 | 0189 | 0140 |
| 39 | 14 | | 1165 | 1116 | 1067 | 1018 | 0969 | 0920 | 0871 | 0822 | 0773 | 0724 | 0675 | 0626 | 0577 | 0528 | 0479 | 0430 |
| 38 | 15 | 209 | 1454 | 1405 | 1356 | 1307 | 1258 | 1209 | 1160 | 1111 | 1062 | 1013 | 0964 | 0915 | 0866 | 0817 | 0768 | 0719 |
| 37 | 16 | | 1743 | 1694 | 1645 | 1596 | 1547 | 1498 | 1449 | 1400 | 1351 | 1302 | 1253 | 1204 | 1155 | 1106 | 1057 | 1008 |
| 37 | 17 | | 2033 | 1984 | 1935 | 1886 | 1837 | 1788 | 1739 | 1690 | 1641 | 1592 | 1543 | 1494 | 1445 | 1396 | 1347 | 1298 |
| 36 | 18 | | 2322 | 2273 | 2224 | 2175 | 2126 | 2077 | 2028 | 1979 | 1930 | 1881 | 1832 | 1783 | 1734 | 1685 | 1636 | 1587 |
| 35 | 19 | | 2612 | 2563 | 2514 | 2465 | 2416 | 2367 | 2318 | 2269 | 2220 | 2171 | 2122 | 2073 | 2024 | 1975 | 1926 | 1877 |
| 35 | 20 | | 2901 | 2852 | 2803 | 2754 | 2705 | 2656 | 2607 | 2558 | 2509 | 2460 | 2411 | 2362 | 2313 | 2264 | 2215 | 2166 |
| 34 | 21 | | 3190 | 3141 | 3092 | 3043 | 2994 | 2945 | 2896 | 2847 | 2798 | 2749 | 2700 | 2651 | 2602 | 2553 | 2504 | 2455 |
| 34 | 22 | | 3480 | 3431 | 3382 | 3333 | 3284 | 3235 | 3186 | 3137 | 3088 | 3039 | 2990 | 2941 | 2892 | 2843 | 2794 | 2745 |
| 33 | 23 | | 3769 | 3720 | 3671 | 3622 | 3573 | 3524 | 3475 | 3426 | 3377 | 3328 | 3279 | 3230 | 3181 | 3132 | 3083 | 3034 |
| 32 | 24 | | 4059 | 4010 | 3961 | 3912 | 3863 | 3814 | 3765 | 3716 | 3667 | 3618 | 3569 | 3520 | 3471 | 3422 | 3373 | 3324 |
| 32 | 25 | | 4348 | 4299 | 4250 | 4201 | 4152 | 4103 | 4054 | 4005 | 3956 | 3907 | 3858 | 3809 | 3760 | 3711 | 3662 | 3613 |
| 31 | 26 | | 4637 | 4588 | 4539 | 4490 | 4441 | 4392 | 4343 | 4294 | 4245 | 4196 | 4147 | 4098 | 4049 | 4000 | 3951 | 3902 |
| 30 | 27 | | 4927 | 4878 | 4829 | 4780 | 4731 | 4682 | 4633 | 4584 | 4535 | 4486 | 4437 | 4388 | 4339 | 4290 | 4241 | 4192 |
| 30 | 28 | | 5216 | 5167 | 5118 | 5069 | 5020 | 4971 | 4922 | 4873 | 4824 | 4775 | 4726 | 4677 | 4628 | 4579 | 4530 | 4481 |
| 29 | 29 | | 5506 | 5457 | 5408 | 5359 | 5310 | 5261 | 5212 | 5163 | 5114 | 5065 | 5016 | 4967 | 4918 | 4869 | 4820 | 4771 |
| 28 | 30 | 209 | 5795 | 5746 | 5697 | 5648 | 5599 | 5550 | 5501 | 5452 | 5403 | 5354 | 5305 | 5256 | 5207 | 5158 | 5109 | 5060 |
| 28 | 31 | | 6084 | 6035 | 5986 | 5937 | 5888 | 5839 | 5790 | 5741 | 5692 | 5643 | 5594 | 5545 | 5496 | 5447 | 5398 | 5349 |
| 27 | 32 | | 6374 | 6325 | 6276 | 6227 | 6178 | 6129 | 6080 | 6031 | 5982 | 5933 | 5884 | 5835 | 5786 | 5737 | 5688 | 5639 |
| 26 | 33 | | 6663 | 6614 | 6565 | 6516 | 6467 | 6418 | 6369 | 6320 | 6271 | 6222 | 6173 | 6124 | 6075 | 6026 | 5977 | 5928 |
| 26 | 34 | | 6953 | 6904 | 6855 | 6806 | 6757 | 6708 | 6659 | 6610 | 6561 | 6512 | 6463 | 6414 | 6365 | 6316 | 6267 | 6218 |
| 25 | 35 | 209 | 7242 | 7193 | 7144 | 7095 | 7046 | 6997 | 6948 | 6899 | 6850 | 6801 | 6752 | 6703 | 6654 | 6605 | 6556 | 6507 |
| 24 | 36 | | 7531 | 7482 | 7433 | 7384 | 7335 | 7286 | 7237 | 7188 | 7139 | 7090 | 7041 | 6992 | 6943 | 6894 | 6845 | 6796 |
| 24 | 37 | | 7821 | 7772 | 7723 | 7674 | 7625 | 7576 | 7527 | 7478 | 7429 | 7380 | 7331 | 7282 | 7233 | 7184 | 7135 | 7086 |
| 23 | 38 | | 8110 | 8061 | 8012 | 7963 | 7914 | 7865 | 7816 | 7767 | 7718 | 7669 | 7620 | 7571 | 7522 | 7473 | 7424 | 7375 |
| 22 | 39 | | 8400 | 8351 | 8302 | 8253 | 8204 | 8155 | 8106 | 8057 | 8008 | 7959 | 7910 | 7861 | 7812 | 7763 | 7714 | 7665 |
| 22 | 40 | | 8689 | 8640 | 8591 | 8542 | 8493 | 8444 | 8395 | 8346 | 8297 | 8248 | 8199 | 8150 | 8101 | 8052 | 8003 | 7954 |
| 21 | 41 | | 8978 | 8929 | 8880 | 8831 | 8782 | 8733 | 8684 | 8635 | 8586 | 8537 | 8488 | 8439 | 8390 | 8341 | 8292 | 8243 |
| 20 | 42 | | 9268 | 9219 | 9170 | 9121 | 9072 | 9023 | 8974 | 8925 | 8876 | 8827 | 8778 | 8729 | 8680 | 8631 | 8582 | 8533 |
| 20 | 43 | | 9557 | 9508 | 9459 | 9410 | 9361 | 9312 | 9263 | 9214 | 9165 | 9116 | 9067 | 9018 | 8969 | 8920 | 8871 | 8822 |
| 19 | 44 | | 9847 | 9798 | 9749 | 9700 | 9651 | 9602 | 9553 | 9504 | 9455 | 9406 | 9357 | 9308 | 9259 | 9210 | 9161 | 9112 |
| 18 | 45 | 210 (209) | 0136 | 0087 | 0037 | 9986 | 9936 | 9885 | 9835 | 9784 | 9733 | 9683 | 9632 | 9582 | 9531 | 9481 | 9430 | 9380 |
| 18 | 46 | | 0425 | 0376 | 0326 | 0275 | 0225 | 0174 | 0124 | 0073 | 0022 | 9972 | 9921 | 9871 | 9820 | 9770 | 9719 | 9669 |
| 17 | 47 | | 0715 | 0665 | 0615 | 0564 | 0514 | 0463 | 0413 | 0362 | 0312 | 0261 | 0211 | 0160 | 0110 | 0059 | 0009 | 9958 |
| 16 | 48 | 210 | 1005 | 0954 | 0904 | 0853 | 0802 | 0751 | 0700 | 0649 | 0598 | 0547 | 0496 | 0445 | 0394 | 0343 | 0292 | 0241 |
| 16 | 49 | | 1294 | 1243 | 1193 | 1142 | 1091 | 1040 | 0989 | 0938 | 0887 | 0836 | 0785 | 0734 | 0683 | 0632 | 0581 | 0530 |
| 15 | 50 | 210 | 1584 | 1533 | 1482 | 1430 | 1379 | 1328 | 1277 | 1225 | 1174 | 1123 | 1071 | 1020 | 0969 | 0917 | 0866 | 0815 |
| 14 | 51 | | 1873 | 1822 | 1771 | 1720 | 1668 | 1617 | 1566 | 1515 | 1463 | 1412 | 1361 | 1309 | 1258 | 1207 | 1155 | 1104 |
| 14 | 52 | | 2163 | 2112 | 2060 | 2009 | 1958 | 1906 | 1855 | 1804 | 1752 | 1701 | 1650 | 1598 | 1547 | 1496 | 1444 | 1393 |
| 13 | 53 | | 2452 | 2401 | 2350 | 2298 | 2247 | 2196 | 2144 | 2093 | 2042 | 1990 | 1939 | 1888 | 1836 | 1785 | 1734 | 1682 |
| 12 | 54 | | 2742 | 2690 | 2639 | 2588 | 2536 | 2485 | 2434 | 2382 | 2331 | 2280 | 2228 | 2177 | 2126 | 2074 | 2023 | 1972 |
| 12 | 55 | 210 | 3031 | 2980 | 2928 | 2877 | 2826 | 2774 | 2723 | 2672 | 2620 | 2569 | 2518 | 2466 | 2415 | 2364 | 2312 | 2261 |
| 11 | 56 | | 3320 | 3269 | 3218 | 3166 | 3115 | 3064 | 3012 | 2961 | 2910 | 2858 | 2807 | 2756 | 2704 | 2653 | 2602 | 2550 |
| 10 | 57 | | 3610 | 3559 | 3507 | 3456 | 3405 | 3353 | 3302 | 3251 | 3199 | 3148 | 3097 | 3045 | 2994 | 2943 | 2891 | 2840 |
| 10 | 58 | | 3899 | 3848 | 3797 | 3745 | 3694 | 3643 | 3591 | 3540 | 3489 | 3437 | 3386 | 3335 | 3283 | 3232 | 3181 | 3129 |
| 9 | 59 | | 4189 | 4137 | 4086 | 4035 | 3983 | 3932 | 3881 | 3829 | 3778 | 3727 | 3675 | 3624 | 3573 | 3521 | 3470 | 3419 |
| 8 | 60 | | 4478 | 4427 | 4375 | 4324 | 4273 | 4221 | 4170 | 4119 | 4067 | 4016 | 3965 | 3913 | 3862 | 3811 | 3759 | 3708 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Second of Arg. | Arg. & A.D. 95 | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N |
| 48 | 0 | 208 6364 | 6320 | 6276 | 6232 | 6188 | 6144 | 6100 | 6056 | 6012 | 5967 | 5923 | 5879 | 5835 | 5791 | 5747 | [illegible] | [illegible] |
| 48 | 1 | 6651 | 6607 | 6563 | 6519 | 6475 | 6430 | 6386 | 6342 | 6298 | 6253 | 6209 | 6165 | 6121 | 6076 | 6032 | [illegible] | [illegible] |
| 47 | 2 | 6938 | 6894 | 6850 | 6805 | 6761 | 6717 | 6672 | 6628 | 6584 | 6539 | 6495 | 6450 | 6406 | 6361 | 6317 | 0273 | [illegible] |
| 46 | 3 | 7226 | 7181 | 7137 | 7092 | 7048 | 7003 | 6959 | 6914 | 6869 | 6825 | 6780 | 6736 | 6691 | 6647 | 6602 | 6558 | [illegible] |
| 45 | 4 | 7513 | 7468 | 7423 | 7379 | 7334 | [illegible] | [illegible] | [illegible] | 7155 | 7111 | [illegible] | 7021 | 6977 | 6932 | 6887 | 6842 | [illegible] |
| 44 | 5 | 208 7800 | 7755 | 7710 | 7665 | 7621 | 7576 | 7531 | 7486 | 7441 | 7397 | 735[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 44 | 6 | 8087 | 8042 | 7997 | 7952 | 7907 | 7862 | 7817 | 7772 | 7727 | 7682 | 76[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 43 | 7 | 8374 | 8329 | 8284 | 8239 | 8194 | 8149 | 8104 | 8058 | [illegible] | 7966 | 79[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | 8 | 8661 | 8616 | 8571 | 8525 | 8480 | 8435 | 8390 | 8344 | 8299 | 8254 | 82[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | 9 | 8948 | 8903 | 8857 | 8812 | 8767 | 8721 | 8676 | 8631 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | 10 | 208 9235 | 9190 | 9144 | 9099 | 9053 | 9008 | 8962 | [illegible] | [illegible] | 8825 | 8780 | 8734 | 8689 | 8643 | 8597 | 8552 | [illegible] |
| 40 | 11 | 9522 | 9477 | 9431 | 9385 | 9340 | 9294 | 9248 | 9203 | 9157 | 9111 | 9065 | 9020 | 8974 | 8928 | 8882 | 8837 | [illegible] |
| 39 | 12 | 9809 | 9764 | 9718 | 9672 | 9626 | 9580 | 9535 | 9489 | 9443 | 9397 | 9351 | 9305 | 9259 | 9213 | 9167 | 9122 | 9076 |
| 38 | 13 | 209(208) 0097 | 0051 | 0005 | 9959 | 9913 | 9867 | 9821 | 9775 | 9729 | 9683 | 9637 | 9591 | 9545 | 9499 | 9452 | 9406 | 9360 |
| 37 | 14 | 0384 | 0337 | 0291 | 0245 | 0199 | 0153 | 0107 | 0061 | 0015 | 9968 | 9922 | 9876 | 9830 | 9784 | 9737 | 9691 | 9645 |
| 36 | 15 | 209(208) 0671 | 0624 | 0578 | 0532 | 0486 | 0439 | 0393 | 0347 | 0300 | 0254 | [illegible] | [illegible] | 0115 | 0069 | 0022 | 9976 | 9930 |
| 36 | 16 | 209 0958 | 0911 | 0865 | 0818 | 0772 | 0726 | 0679 | [illegible] | 0586 | 0540 | 0493 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | 17 | 1245 | 1198 | 1152 | 1105 | 1058 | 1012 | 0965 | [illegible] | [illegible] | [illegible] | 0779 | 0732 | 0686 | 0639 | 0592 | 0546 | 0499 |
| 34 | 18 | 1532 | 1485 | 1438 | 1392 | 1345 | 1298 | 1251 | 1205 | 1158 | 1111 | 1065 | 1018 | [illegible] | [illegible] | [illegible] | 0831 | 0784 |
| 33 | 19 | 1819 | 1772 | 1725 | 1678 | 1631 | 1584 | 1538 | 1491 | 1444 | 1397 | [illegible] | [illegible] | 1256 | 1209 | 1162 | 1115 | 1069 |
| 32 | 20 | 209 2106 | 2059 | 2012 | 1965 | 1918 | 1871 | 1824 | 1777 | 1730 | 1683 | 1636 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 32 | 21 | 2393 | 2346 | 2298 | 2251 | 2204 | 2157 | 2110 | 2063 | 2015 | 1968 | 1921 | 1874 | 1827 | 1780 | 1732 | 1685 | 1638 |
| 31 | 22 | 2680 | 2632 | 2585 | 2538 | 2491 | 2443 | 2396 | 2349 | 2301 | [illegible] | [illegible] | 2159 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | 23 | 2967 | 2919 | 287[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | 24 | 3254 | 3206 | 3158 | 3111 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 28 | 25 | 209 3541 | 3493 | 3445 | 3397 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 26 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 27 | 4114 | 4066 | 4018 | 3970 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | 28 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 29 | 4688 | 4640 | 4592 | 4543 | 4495 | 4447 | 4399 | 4350 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | 30 | 209 4975 | 4927 | 4878 | 4830 | 4781 | 4733 | 4685 | [illegible] | [illegible] | [illegible] | [illegible] | 4442 | 4394 | 4345 | 4296 | [illegible] | [illegible] |
| 23 | 31 | 5262 | 5214 | 5165 | 5116 | [illegible] | 5019 | 4971 | 4922 | 4873 | [illegible] | [illegible] | 4727 | 4679 | 4630 | 4581 | [illegible] | [illegible] |
| 23 | 32 | 5549 | 5500 | [illegible] | [illegible] | 5354 | 5305 | 5257 | [illegible] | [illegible] | [illegible] | 5013 | 4964 | 4915 | 4866 | [illegible] | [illegible] | [illegible] |
| 22 | 33 | 5836 | 578[illegible] | [illegible] | [illegible] | 5640 | 5592 | 5543 | 5494 | 5445 | [illegible] | [illegible] | 5298 | 5249 | 5200 | 5151 | [illegible] | [illegible] |
| 21 | 34 | 6123 | 6074 | [illegible] | [illegible] | 5927 | 5878 | 5829 | 5780 | 5730 | 5681 | 5634 | 5585 | 5534 | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 35 | 209 6410 | 6361 | 6311 | 6262 | 6213 | 6164 | 6115 | 6065 | 6016 | 5967 | 5918 | 5868 | 5819 | 5770 | 5721 | [illegible] | [illegible] |
| 19 | 36 | 6697 | 6647 | 6598 | 6549 | 6499 | 6450 | 6401 | 6351 | 6302 | 6253 | 6203 | 6154 | 6104 | 6055 | [illegible] | [illegible] | [illegible] |
| 19 | 37 | 6983 | 6934 | 6885 | 6835 | 6786 | 6736 | 6687 | 6637 | 6588 | 6538 | 6489 | [illegible] | 6389 | 6340 | [illegible] | [illegible] | [illegible] |
| 18 | 38 | [illegible] | 7221 | 7171 | 7122 | 7072 | [illegible] | [illegible] | [illegible] | 6873 | 6824 | 6774 | 6724 | 6674 | 6625 | [illegible] | [illegible] | [illegible] |
| 17 | 39 | [illegible] | 7507 | 7458 | 7408 | 7358 | 7308 | 7259 | 7209 | 7159 | 7109 | 7059 | 7009 | 6960 | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | 40 | 209 7844 | 7794 | 7744 | 7694 | 7644 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7095 | 7045 |
| 15 | 41 | 8131 | 8081 | 8031 | 7981 | 7931 | 7881 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 42 | 8418 | 8367 | 8317 | 8267 | 8217 | 8167 | 8116 | 8066 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | 43 | 8704 | 8654 | 8604 | 8553 | 8503 | 8453 | 8402 | 8352 | 8302 | 8251 | [illegible] | [illegible] | [illegible] | [illegible] | 49 | 7999 | 7949 | 7898 |
| 13 | 44 | 8991 | 8941 | 8890 | 8840 | 8789 | 8739 | 8688 | 8638 | 858[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 34 | 8284 | 8233 | 8183 |
| 12 | 45 | 209 9278 | 9228 | 9177 | 9126 | 9076 | 9025 | 8974 | 8923 | 8873 | 8822 | [illegible] | [illegible] | [illegible] | 8670 | [illegible] | [illegible] | [illegible] |
| 11 | 46 | 9565 | 9514 | 9463 | 9413 | 9362 | 9311 | 9260 | 9209 | 9158 | 9108 | 9057 | 9006 | 8955 | 890[illegible] | [illegible] | [illegible] | [illegible] |
| 11 | 47 | 9852 | 9801 | 9750 | 9699 | 9648 | 9597 | 9546 | [illegible] | 9444 | 9393 | 9342 | 9291 | 9240 | 9189 | 9138 | [illegible] | [illegible] |
| 10 | 48 | [illegible] | 0139 | 0087 | 0036 | 9985 | 9934 | [illegible] | 9832 | [illegible] | 9730 | [illegible] | 9679 | 9627 | 9576 | 9525 | [illegible] | [illegible] |
| 9 | 49 | [illegible] | 0425 | [illegible] | 0323 | 0272 | 0220 | 0169 | 0118 | [illegible] | [illegible] | 0015 | 9964 | 9913 | 9861 | 9810 | [illegible] | [illegible] |
| 8 | 50 | 210 0712 | 0661 | 0609 | 055[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7 | 51 | 0999 | 0947 | 0896 | 0844 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | 52 | 1285 | 1234 | 1182 | 1130 | [illegible] | 79 | 1027 | 0975 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1365 | 1313 | 1261 | 12[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1651 | 1599 | 154[illegible] | 1495 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 4 | 55 | 210 2146 | 2094 | 2041 | 1989 | 1937 | 1885 | 1833 | 1781 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 3 | 56 | 2432 | 2380 | 2328 | 2276 | 2223 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2 | 57 | 2719 | 2667 | 2614 | 2562 | 250[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 2 | 58 | 3006 | 2953 | 2901 | 2848 | 27[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | 59 | 3292 | 3240 | 3187 | 3134 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| Parts for Second of Arg. | Arg. & A.D. 95 | Sums |
|---|---|---|
| | ′ | |
| [illegible] | 0 | [illegible] 7156 |
| [illegible] | 1 | 7446 |
| [illegible] | 2 | 7735 |
| [illegible] | 3 | 8025 |
| [illegible] | 4 | 8315 |
| [illegible] | 5 | [illegible] 8605 |
| [illegible] | 6 | 8894 |
| [illegible] | 7 | 9184 |
| [illegible] | 8 | 9474 |
| [illegible] | 9 | 9763 |
| [illegible] | 10 | [illegible] 0053 |
| [illegible] | 11 | 0343 |
| [illegible] | 12 | 0633 |
| [illegible] | 13 | 0924 |
| [illegible] | 14 | 1215 |
| [illegible] | 15 | [illegible] 1506 |
| [illegible] | 16 | 1796 |
| [illegible] | 17 | [illegible] |
| [illegible] | 18 | [illegible] |
| [illegible] | 19 | [illegible] |
| [illegible] | 20 | [illegible] |
| [illegible] | 21 | [illegible] |
| [illegible] | 22 | [illegible] |
| [illegible] | 23 | [illegible] |
| [illegible] | 24 | [illegible] |
| [illegible] | 25 | [illegible] |
| [illegible] | 26 | [illegible] |
| [illegible] | 27 | [illegible] |
| [illegible] | 28 | [illegible] |
| [illegible] | 29 | [illegible] |
| [illegible] | 30 | [illegible] |
| [illegible] | 31 | [illegible] |
| [illegible] | 32 | [illegible] |
| [illegible] | 33 | [illegible] |
| [illegible] | 34 | [illegible] |
| [illegible] | 35 | [illegible] |
| [illegible] | 36 | [illegible] |
| [illegible] | 37 | [illegible] |
| [illegible] | 38 | [illegible] |
| [illegible] | 39 | [illegible] |
| [illegible] | 40 | [illegible] |
| [illegible] | 41 | [illegible] |
| [illegible] | 42 | [illegible] |
| [illegible] | 43 | [illegible] |
| [illegible] | 44 | [illegible] |
| [illegible] | 45 | [illegible] |
| [illegible] | 46 | [illegible] |
| [illegible] | 47 | [illegible] |
| [illegible] | 48 | [illegible] |
| [illegible] | 49 | [illegible] |
| [illegible] | 50 | [illegible] |
| [illegible] | 51 | [illegible] |
| [illegible] | 52 | [illegible] |
| [illegible] | 53 | [illegible] |
| [illegible] | 54 | [illegible] |
| [illegible] | 55 | [illegible] |
| [illegible] | 56 | [illegible] |
| [illegible] | 57 | [illegible] |
| [illegible] | 58 | [illegible] |
| [illegible] | 59 | [illegible] |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments

| Part or Prop. of Add. | A.A. & A.D. | Numbers |
|---|---|---|
| Add. | ´ | |
| 280 | 0 | 1975 |
| 279 | 1 | |
| 278 | 2 | |
| 277 | 3 | 1685 |
| 276 | 4 | 1395 |
| 265 | 5 | 091 1106 |
| 261 | 6 | 0816 |
| 256 | 7 | 0526 |
| 251 | 8 | 0237 |
| 246 | 9 | 090 6947 |
| 241 | 10 | 090 6657 |
| 236 | 11 | 9367 |
| 232 | 12 | 9078 |
| 227 | 13 | 8788 |
| 222 | 14 | 8498 |
| 217 | 15 | 090 8209 |
| 212 | 16 | 7919 |
| 207 | 17 | 7629 |
| 203 | 18 | 7340 |
| 198 | 19 | 7050 |
| 193 | 20 | 090 6761 |
| 188 | 21 | 6471 |
| 183 | 22 | 6181 |
| 178 | 23 | 5892 |
| 174 | 24 | 5602 |
| 169 | 25 | 090 5313 |
| 164 | 26 | 5023 |
| 159 | 27 | 4733 |
| 154 | 28 | 4444 |
| 150 | 29 | 4154 |
| 145 | 30 | 090 3865 |
| 140 | 31 | 3575 |
| 135 | 32 | 3286 |
| 131 | 33 | 2996 |
| 126 | 34 | 2707 |
| 121 | 35 | 090 2417 |
| 116 | 36 | 2128 |
| 111 | 37 | 1838 |
| 107 | 38 | 1549 |
| 102 | 39 | 1259 |
| 97 | 40 | 090 0970 |
| 92 | 41 | 0680 |
| 87 | 42 | 0391 |
| 83 | 43 | 0101 |
| 78 | 44 | 089 9812 |
| 73 | 45 | 089 9522 |
| 68 | 46 | 9233 |
| 63 | 47 | 8943 |
| 58 | 48 | 8654 |
| 53 | 49 | 8365 |
| 48 | 50 | 089 8076 |
| 43 | 51 | 7786 |
| 39 | 52 | 7497 |
| 34 | 53 | 7207 |
| 29 | 54 | 6918 |
| 25 | 55 | 6628 |
| 20 | 56 | 6339 |
| 15 | 57 | 6049 |
| 10 | 58 | 5760 |
| 5 | 59 | 5470 |

| Part or Prop. of Add. | A.A. & A.D. | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ´ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| Add. | ´ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 57 | 0 | 210 | 4417 | 4417 | 4371 | 4325 | 4279 | 4233 | 4187 | 4141 | 4095 | 4049 | 4003 | 3957 | 3911 | 3865 | 3819 | 3773 |
| 57 | 1 | | | | | | | | | | | | | | | | | |
| 56 | 2 | | 5054 | 5001 | 4948 | 4895 | 4842 | 4789 | 4736 | 4683 | 4630 | 4577 | | | | | | |
| 55 | 3 | | | | | | | | | | | | | | | | | |
| 54 | 4 | | | | | | | | | | | | | | | | | |
| 53 | 5 | 210 | 5922 | 5868 | 5815 | 5761 | 5708 | 5654 | 5601 | 5547 | | | | | | | | |
| 52 | 6 | | 6211 | 6157 | 6104 | 6050 | 5996 | 5943 | 5889 | 5836 | | | | | | | | |
| 51 | 7 | | 6500 | 6446 | 6392 | 6339 | 6285 | 6231 | 6177 | 6124 | | | | | | | | |
| 50 | 8 | | 6789 | 6735 | 6681 | 6627 | 6573 | 6519 | 6466 | 6412 | | | | | | | | |
| 49 | 9 | | | | | | | | | | | | | | | | | |
| 47 | 10 | 210 | | | | | | | | | | | | | | | | |
| 47 | 11 | | | | | | | | | | | | | | | | | |
| 47 | 12 | | | | | | | | | | | | | | | | | |
| 45 | 13 | | | | | | | | | | | | | | | | | |
| 44 | 14 | | | | | | | | | | | | | | | | | |
| 43 | 15 | 210 | | | | | | | | | | | | | | | | |
| 42 | 16 | | | | | | | | | | | | | | | | | |
| 41 | 17 | | | | | | | | | | | | | | | | | |
| 40 | 18 | | | | | | | | | | | | | | | | | |
| 39 | 19 | | | | | | | | | | | | | | | | | |
| 38 | 20 | 211(210) | | | | | | | | | | | | | | | | |
| 37 | 21 | | | | | | | | | | | | | | | | | |
| 36 | 22 | | | | | | | | | | | | | | | | | |
| 35 | 23 | 211 | | | | | | | | | | | | | | | | |
| 34 | 24 | | | | | | | | | | | | | | | | | |
| 33 | 25 | 211 | | | | | | | | | | | | | | | | |
| 32 | 26 | | | | | | | | | | | | | | | | | |
| 31 | 27 | | | | | | | | | | | | | | | | | |
| 30 | 28 | | | | | | | | | | | | | | | | | |
| 29 | 29 | | | | | | | | | | | | | | | | | |
| 28 | 30 | 211 | | | | | | | | | | | | | | | | |
| 27 | 31 | | | | | | | | | | | | | | | | | |
| 26 | 32 | | | | | | | | | | | | | | | | | |
| 25 | 33 | | | | | | | | | | | | | | | | | |
| 24 | 34 | | | | | | | | | | | | | | | | | |
| 23 | 35 | 211 | | | | | | | | | | | | | | | | |
| 22 | 36 | | 4879 | 4821 | 4763 | 4705 | 4648 | 4590 | 4532 | 4474 | 4416 | 4358 | 4300 | 4242 | 4184 | 4126 | 4068 | 4009 | 3951 |
| 21 | 37 | | 5168 | 5110 | 5052 | 4994 | 4936 | 4878 | 4819 | 4761 | 4703 | 4645 | 4587 | 4529 | 4471 | 4412 | 4354 | 4296 | 4238 |
| 20 | 38 | | | | | | | | | | | | | | | | | | |
| 19 | 39 | | | | | | | | | | | | | | | | | | |
| 18 | 40 | 211 | | | | | | | | | | | | | | | | | |
| 17 | 41 | | 6323 | 6265 | 6206 | 6147 | 6089 | | | | | | | | | | | | |
| 16 | 42 | | | | | | | | | | | | | | | | | | |
| 15 | 43 | | | | | | | | | | | | | | | | | | |
| 14 | 44 | | | | | | | | | | | | | | | | | | |
| 13 | 45 | 211 | | | | | | | | | | | | | | | | | |
| 12 | 46 | | 7707 | 7708 | 7648 | 7589 | 7529 | 7470 | 7410 | 7351 | 7292 | 7232 | 7173 | 7113 | 7054 | 6994 | 6935 | 6875 | 6816 |
| 11 | 47 | | | | | | | | | | | | | | | | | | |
| 11 | 48 | | 8344 | 8285 | 8225 | 8165 | 8106 | 8046 | 7986 | 7926 | 7867 | 7807 | 7747 | 7687 | 7628 | 7568 | 7508 | 7448 | 7388 |
| 11 | 49 | | 8633 | 8573 | 8513 | 8454 | 8394 | 8334 | 8274 | 8214 | 8154 | 8094 | 8034 | | | | | | |
| 10 | 50 | 211 | 8922 | 8862 | 8802 | 8742 | 8682 | 8622 | 8562 | | | | | | | | | | |
| 9 | 51 | | | | | | | | | | | | | | | | | | |
| 8 | 52 | | | | | | | | | | | | | | | | | | |
| 7 | 53 | | | | | | | | | | | | | | | | | | |
| 6 | 54 | 212(211) | 0076 | 0016 | 9956 | 9895 | 9834 | 9774 | 9713 | 9652 | 9592 | 9531 | 9470 | 9410 | 9349 | 9288 | | | |
| 5 | 55 | | | | | | | | | | | | | | | | | | |
| 4 | 56 | | | | | | | | | | | | | | | | | | |
| 3 | 57 | | | | | | | | | | | | | | | | | | |
| 2 | 58 | 212 | | | | | | | | | | | | | | | | | |
| 1 | 59 | | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. additive | S. A. A. A.D. 96° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 58 | 0′ | 210 3579 | 3526 | 3473 | 3421 | 3368 | 3315 | 3262 | 3209 | 3156 | 3103 | 3050 | 2998 | 2945 | 2892 | 2839 | 2786 | 2733 |
| 57 | 1 | | | | | | | | | | | | | | | | | |
| 56 | 2 | 4152 | 4099 | 4046 | 3993 | 3940 | 3887 | 3834 | 3780 | 3727 | 3674 | 3621 | 3568 | 3514 | 3461 | 3408 | 3355 | 3301 |
| 55 | 3 | 4439 | 4386 | 4333 | 4279 | 4226 | 4173 | 4119 | 4066 | 4013 | 3959 | 3906 | 3853 | 3799 | 3746 | 3693 | 3639 | 3586 |
| 54 | 4 | | | | | | | | | | | | | | | | | |
| 53 | 5 | 210 5012 | 4959 | 4905 | 4852 | 4798 | 4744 | 4691 | 4637 | 4584 | 4530 | 4476 | 4423 | 4369 | 4315 | 4262 | 4208 | 4154 |
| 52 | 6 | | | | | | | | | | | | | | | | | |
| 51 | 7 | | | | | | | | | | | | | | | | | |
| 50 | 8 | | | | | | | | | | | | | | | | | |
| 49 | 9 | | | | | | | | | | | | | | | | | |
| 48 | 10 | 210 | | | | | | | | | | | | | | | | |
| 47 | 11 | | | | | | | | | | | | | | | | | |
| 46 | 12 | | | | | | | | | | | | | | | | | |
| 45 | 13 | 7305 | 7250 | 7196 | 7141 | 7086 | 7031 | 6977 | 6922 | 6867 | 6812 | 6757 | 6703 | 6648 | 6593 | 6538 | 6483 | 6428 |
| 44 | 14 | | | | | | | | | | | | | | | | | |
| 43 | 15 | 210 7878 | 7823 | 7768 | 7713 | 7658 | 7603 | 7548 | 7493 | 7438 | 7383 | 7328 | 7272 | 7217 | 7162 | 7107 | 7052 | 6997 |
| 42 | 16 | | | | | | | | | | | | | | | | | |
| 41 | 17 | 8451 | 8396 | 8341 | 8285 | 8230 | 8175 | 8119 | 8064 | 8008 | 7953 | 7898 | 7842 | 7787 | 7731 | 7676 | 7621 | 7565 |
| 40 | 18 | 8738 | 8682 | 8627 | 8571 | 8516 | 8460 | 8405 | 8349 | 8294 | 8238 | 8183 | 8127 | 8072 | 8016 | 7960 | 7905 | 7849 |
| 39 | 19 | | | | | | | | | | | | | | | | | |
| 38 | | 210 | | | | | | | | | | | | | | | | |
| 37 | 21 | | | | | | | | | | | | | | | | | |
| 36 | 22 | | | | | | | | | | | | | | | | | |
| 35 | 23 | 211 (210) | | | | | | | | | | | | | | | | |
| 34 | 24 | | | | | | | | | | | | | | | | | |
| 33 | 25 | 211 | | | | | | | | | | | | | | | | |
| 32 | 26 | 211 | | | | | | | | | | | | | | | | |
| 31 | 28 | 1602 | 1545 | 1488 | 1431 | 1375 | 1318 | 1261 | 1204 | 1147 | 1090 | 1033 | 0976 | 0919 | 0862 | 0805 | 0748 | 0690 |
| 30 | 30 | | | | | | | | | | | | | | | | | |
| 29 | 30 | 211 | | | | | | | | | | | | | | | | |
| 28 | 31 | | | | | | | | | | | | | | | | | |
| 27 | 32 | 2748 | 2690 | 2633 | 2575 | 2518 | 2460 | 2403 | 2345 | 2288 | 2230 | 2172 | 2115 | 2057 | 2000 | 1942 | 1884 | 1827 |
| 26 | 33 | | | | | | | | | | | | | | | | | |
| 25 | 34 | | | | | | | | | | | | | | | | | |
| 24 | 35 | 211 | | | | | | | | | | | | | | | | |
| 23 | 36 | | | | | | | | | | | | | | | | | |
| 22 | 37 | | | | | | | | | | | | | | | | | |
| 21 | 38 | | | | | | | | | | | | | | | | | |
| 20 | 39 | | | | | | | | | | | | | | | | | |
| 19 | 40 | 211 | 5039 | 4980 | 4921 | 4863 | 4804 | 4745 | 4686 | 4628 | 4569 | 4510 | 4451 | 4393 | 4334 | 4275 | 4216 | 4157 | 4099 |
| 18 | 41 | | | | | | | | | | | | | | | | | |
| 17 | 42 | 5611 | 5552 | 5493 | 5434 | 5375 | 5316 | 5257 | 5198 | 5139 | 5080 | 5021 | 4962 | 4903 | 4844 | 4785 | 4726 | 4666 |
| 16 | 43 | | | | | | | | | | | | | | | | | |
| 15 | 44 | | | | | | | | | | | | | | | | | |
| 14 | 45 | | | | | | | | | | | | | | | | | |
| 13 | 46 | | | | | | | | | | | | | | | | | |
| 12 | 47 | | | | | | | | | | | | | | | | | |
| 11 | 48 | | | | | | | | | | | | | | | | | |
| 10 | 49 | | | | | | | | | | | | | | | | | |
| 9 | 50 | 211 | 7901 | 7841 | 7781 | 7721 | 7660 | 7600 | 7540 | 7480 | 7420 | 7359 | 7299 | 7239 | 7179 | 7119 | 7058 | 6998 | 6938 |
| 8 | 51 | | | | | | | | | | | | | | | | | |
| 7 | 52 | | | | | | | | | | | | | | | | | |
| 6 | 53 | | | | | | | | | | | | | | | | | |
| 5 | 54 | | | | | | | | | | | | | | | | | |
| 4 | 55 | 211 | | | | | | | | | | | | | | | | |
| 3 | 56 | 9618 | 9557 | 9496 | 9435 | 9374 | 9313 | 9252 | 9191 | 9130 | 9069 | 9007 | 8946 | 8885 | 8824 | 8763 | 8702 | 8641 |
| 2 | 57 | | | | | | | | | | | | | | | | | |
| 1 | 58 | 212 (211) | 0190 | 0129 | 0068 | 0006 | 9945 | 9884 | 9822 | 9761 | 9700 | 9638 | 9577 | 9515 | 9454 | 9393 | 9331 | 9270 | 9208 |
| 0 | 59 | | 0476 | 0415 | 0353 | 0292 | 0231 | 0169 | 0108 | 0046 | 9985 | 9923 | 9861 | 9800 | 9738 | 9677 | 9615 | 9554 | 9492 |

| Parts for Seconds of addit. | 0′ | Sums |
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| 3 | | |
| 2 | | |
| 1 | | |
| 0 | | |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C.S.A. *addit.* | C.S.A. 97° | Numbers |
|---|---|---|
| 28 | 0 | 1889 5185 |
| 28 | 1 | 1889 |
| 27 | 2 | 1861 |
| 27 | 3 | 1834 |
| 26 | 4 | 1807 |
| 26 | 5 | 1781 |
| 25 | 6 | 1755 |
| 25 | 7 | 1730 |
| 24 | 8 | 1705 |
| 24 | 9 | 1681 |
| 236 | 10 | 2000 |
| 231 | 11 | 1911 |
| 226 | 12 | 1825 |
| 221 | 13 | 1742 |
| 217 | 14 | 1663 |
| 212 | 15 | 1586 |
| 208 | 16 | 0555 |
| 204 | 17 | 0527 |
| 200 | 18 | 0501 |
| 196 | 19 | 0476 |
| 192 | 20 | 0452 |
| 188 | 21 | 0429 |
| 185 | 22 | 8831 |
| 178 | 23 | 8531 |
| 174 | 24 | 8248 |
| 171 | 25 | 7980 |
| 167 | 26 | 7724 |
| 164 | 27 | 7479 |
| 161 | 28 | 7245 |
| 158 | 29 | 7021 |
| 155 | 30 | 6806 |
| 152 | 31 | 6600 |
| 149 | 32 | 6402 |
| 146 | 33 | 6211 |
| 143 | 34 | 6028 |
| 140 | 35 | 5851 |
| 138 | 36 | 5681 |
| 135 | 37 | 5517 |
| 106 | 38 | 4196 |
| 104 | 39 | 4092 |
| 102 | 40 | 3991 |
| 100 | 41 | 3894 |
| 98 | 42 | 3799 |
| 96 | 43 | 3707 |
| 94 | 44 | 3618 |
| 92 | 45 | 3532 |
| 90 | 46 | 3448 |
| 87 | 47 | 1596 |
| 86 | 48 | 1557 |
| 84 | 49 | 1520 |
| 83 | 50 | 1484 |
| 81 | 51 | 1449 |
| 80 | 52 | 1415 |
| 78 | 53 | 1382 |
| 77 | 54 | 1350 |
| 76 | 55 | 1319 |
| 74 | 56 | 1289 |
| 73 | 57 | 1260 |
| 72 | 58 | 1232 |
| 71 | 59 | 1205 |
| 70 | 60 | 1178 |

| Parts for Seconds of Auxil. Argum. *additive* | A.A. & A.D. 97° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 66 | 0 | 212 | 1747 | 1683 | 1624 | 1562 | 1501 | 1439 | 1378 | 1316 | 1255 | 1193 | 1132 | 1070 | 1009 | 947 | 886 | 824 |
| 64 | 1 | | 1673 | 1611 | 1550 | 1488 | 1427 | 1365 | 1304 | 1242 | 1181 | 1119 | 1058 | 996 | 935 | 873 | 812 | 750 |
| 64 | 2 | | 2385 | 2323 | 2262 | 2200 | 2138 | 2076 | 2015 | 1953 | 1891 | 1829 | 1768 | 1706 | 1644 | 1582 | 1520 | 1458 | 1397 |
| 63 | 3 | | 2612 | 2550 | 2488 | 2426 | 2364 | 2302 | 2240 | 2178 | 2117 | 2055 | 1993 | 1931 | 1869 | 1807 | 1745 | 1683 |
| 62 | 4 | | 2777 | 2714 | 2652 | 2590 | 2528 | 2466 | 2404 | 2342 | 2280 | 2218 | 2155 | 2093 | 2031 | 1969 | 1907 | 1845 |
| 61 | 5 | 212 | 2914 | 2852 | 2790 | 2728 | 2666 | 2604 | 2542 | 2480 | 2418 | 2356 | 2294 | 2232 | 2170 | 2108 | 2046 | 1984 |
| 60 | 6 | | 3539 | 3477 | 3415 | 3352 | 3290 | 3228 | 3165 | 3103 | 3041 | 2978 | 2916 | 2853 | 2791 | 2729 | 2666 | 2604 | 2541 |
| 59 | 7 | | 3828 | 3765 | 3703 | 3640 | 3578 | 3515 | 3455 | 3391 | 3328 | 3265 | 3203 | 3141 | 3078 | 3015 | 2953 | 2890 |
| 57 | 8 | | 4116 | 4054 | 3991 | 3928 | 3866 | 3803 | 3741 | 3678 | 3615 | 3553 | 3490 | 3427 | 3365 | 3302 | 3239 | 3176 | 3114 |
| 56 | 9 | | 4334 | 4270 | 4207 | 4144 | 4081 | 4018 | 3955 | 3892 | 3829 | 3766 | 3703 | 3640 | 3577 | 3514 | 3451 | 3388 |
| 55 | 10 | 212 | 4553 | 4490 | 4427 | 4364 | 4301 | 4238 | 4175 | 4112 | 4049 | 3986 | 3923 | 3860 | 3797 | 3734 | 3671 | 3608 |
| 54 | 11 | | 4982 | 4919 | 4856 | 4793 | 4730 | 4666 | 4603 | 4540 | 4477 | 4414 | 4351 | 4288 | 4225 | 4162 | 4098 | 4035 | 3972 |
| 53 | 12 | | 5407 | 5344 | 5281 | 5217 | 5154 | 5091 | 5028 | 4965 | 4901 | 4838 | 4775 | 4712 | 4649 | 4585 | 4522 | 4459 |
| 52 | 13 | | 5555 | 5492 | 5428 | 5365 | 5302 | 5240 | 5177 | 5115 | 5052 | 4989 | 4925 | 4862 | 4799 | 4736 | 4673 | 4610 |
| 51 | 14 | | 5714 | 5651 | 5587 | 5524 | 5461 | 5398 | 5335 | 5272 | 5209 | 5146 | 5083 | 5020 | 4957 | 4894 | 4831 | 4768 |
| 50 | 15 | 212 | 6134 | 6072 | 6009 | 5945 | 5882 | 5819 | 5756 | 5693 | 5630 | 5567 | 5504 | 5441 | 5378 | 5315 | 5252 | 5189 |
| 48 | 16 | | 6424 | 6360 | 6296 | 6233 | 6169 | 6105 | 6041 | 5977 | 5914 | 5850 | 5786 | 5722 | 5658 | 5594 | 5530 | 5467 | 5403 |
| 47 | 17 | | 6717 | 6653 | 6589 | 6525 | 6461 | 6397 | 6333 | 6269 | 6205 | 6141 | 6077 | 6013 | 5949 | 5885 | 5821 | 5757 | 5693 |
| 47 | 18 | | 7011 | 6947 | 6883 | 6819 | 6744 | 6691 | 6627 | 6563 | 6499 | 6435 | 6371 | 6307 | 6243 | 6179 | 6115 | 6051 | 5987 |
| 45 | 19 | | 7208 | 7144 | 7080 | 7016 | 6952 | 6888 | 6824 | 6760 | 6696 | 6632 | 6568 | 6504 | 6440 | 6376 | 6312 | 6248 | 6184 |
| 44 | 20 | 212 | 7577 | 7513 | 7449 | 7385 | 7320 | 7256 | 7192 | 7128 | 7064 | 7000 | 6936 | 6872 | 6808 | 6744 | 6680 | 6616 | 6552 |
| 43 | 21 | | 7985 | 7921 | 7857 | 7793 | 7729 | 7665 | 7601 | 7537 | 7473 | 7409 | 7345 | 7281 | 7217 | 7153 | 7089 | 7025 | 6961 |
| 42 | 22 | | 8154 | 8090 | 8026 | 7962 | 7898 | 7834 | 7770 | 7706 | 7642 | 7578 | 7514 | 7450 | 7386 | 7322 | 7258 | 7194 | 7130 |
| 41 | 23 | | 8442 | 8378 | 8313 | 8248 | 8183 | 8119 | 8054 | 7989 | 7924 | 7859 | 7794 | 7729 | 7665 | 7600 | 7535 | 7470 | 7405 |
| 41 | 24 | | 8731 | 8666 | 8601 | 8536 | 8471 | 8406 | 8341 | 8276 | 8211 | 8146 | 8081 | 8016 | 7951 | 7886 | 7821 | 7756 | 7691 |
| 39 | 25 | 212 | 9018 | 8954 | 8890 | 8826 | 8762 | 8698 | 8634 | 8570 | 8506 | 8442 | 8378 | 8314 | 8250 | 8186 | 8122 | 8058 | 7994 |
| 37 | 26 | | 9307 | 9243 | 9179 | 9115 | 9051 | 8987 | 8923 | 8859 | 8795 | 8731 | 8667 | 8603 | 8539 | 8475 | 8411 | 8347 | 8283 |
| 37 | 27 | | 9595 | 9531 | 9467 | 9403 | 9339 | 9275 | 9211 | 9147 | 9083 | 9019 | 8955 | 8891 | 8827 | 8763 | 8699 | 8635 | 8571 |
| 35 | 28 | | 9883 | 9819 | 9755 | 9691 | 9627 | 9563 | 9499 | 9435 | 9371 | 9307 | 9243 | 9179 | 9115 | 9051 | 8987 | 8923 | 8859 |
| 34 | 29 | 213 | 0172 | 0107 | 0041 | 9975 | 9910 | 9844 | 9778 | 9712 | 9647 | 9581 | 9515 | 9450 | 9384 | 9318 | 9253 | 9187 | 9121 |
| 33 | 30 | 213(214) | 0460 | 0395 | 0329 | 0263 | 0197 | 0131 | 0066 | 0000 | 9934 | 9868 | 9802 | 9736 | 9670 | 9604 | 9538 | 9472 | 9406 |
| 32 | 31 | | 0748 | 0683 | 0617 | 0551 | 0485 | 0419 | 0353 | 0287 | 0221 | 0155 | 0089 | 0023 | 9957 | 9891 | 9825 | 9759 | 9693 |
| 31 | 32 | | 1037 | 0971 | 0905 | 0839 | 0773 | 0707 | 0641 | 0574 | 0508 | 0442 | 0376 | 0310 | 0244 | 0177 | 0111 | 0045 | 9979 |
| 30 | 33 | 213 | 1325 | 1259 | 1193 | 1127 | 1061 | 0994 | 0928 | 0862 | 0796 | 0730 | 0663 | 0597 | 0531 | 0465 | 0398 | 0332 | 0266 |
| 29 | 34 | | 1613 | 1547 | 1481 | 1414 | 1348 | 1281 | 1215 | 1149 | 1082 | 1016 | 0950 | 0883 | 0817 | 0751 | 0684 | 0618 | 0552 |
| 28 | 35 | 213 | 1902 | 1835 | 1769 | 1703 | 1636 | 1570 | 1503 | 1437 | 1371 | 1304 | 1238 | 1171 | 1105 | 1039 | 0972 | 0906 | 0839 |
| 27 | 36 | | 2190 | 2123 | 2057 | 1990 | 1923 | 1857 | 1790 | 1723 | 1657 | 1590 | 1524 | 1457 | 1391 | 1324 | 1258 | 1191 | 1125 |
| 26 | 37 | | 2478 | 2411 | 2344 | 2277 | 2211 | 2144 | 2077 | 2010 | 1943 | 1877 | 1810 | 1743 | 1677 | 1610 | 1543 | 1477 | 1410 |
| 24 | 38 | | 2766 | 2699 | 2632 | 2565 | 2498 | 2431 | 2364 | 2297 | 2230 | 2163 | 2096 | 2029 | 1962 | 1895 | 1828 | 1761 | 1694 |
| 23 | 39 | | 3054 | 2987 | 2920 | 2853 | 2786 | 2718 | 2651 | 2584 | 2517 | 2450 | 2383 | 2316 | 2249 | 2182 | 2115 | 2048 | 1981 |
| 22 | 40 | 213 | 3343 | 3276 | 3209 | 3141 | 3074 | 3007 | 2940 | 2873 | 2805 | 2738 | 2671 | 2604 | 2536 | 2469 | 2402 | 2335 | 2268 |
| 21 | 41 | | 3631 | 3564 | 3496 | 3429 | 3362 | 3294 | 3227 | 3160 | 3092 | 3025 | 2958 | 2890 | 2823 | 2756 | 2688 | 2621 | 2554 |
| 20 | 42 | | 3919 | 3851 | 3784 | 3717 | 3649 | 3582 | 3514 | 3447 | 3379 | 3312 | 3245 | 3177 | 3110 | 3042 | 2975 | 2907 | 2840 |
| 19 | 43 | | 4207 | 4140 | 4072 | 4005 | 3937 | 3869 | 3802 | 3734 | 3667 | 3599 | 3532 | 3464 | 3396 | 3329 | 3261 | 3194 | 3126 |
| 17 | 44 | | 4496 | 4428 | 4360 | 4292 | 4224 | 4157 | 4089 | 4021 | 3954 | 3886 | 3818 | 3751 | 3683 | 3615 | 3547 | 3480 | 3412 |
| 17 | 45 | 213 | 4784 | 4716 | 4648 | 4580 | 4511 | 4443 | 4375 | 4307 | 4239 | 4171 | 4103 | 4035 | 3967 | 3899 | 3831 | 3763 | 3695 |
| 16 | 46 | | 5072 | 5004 | 4936 | 4867 | 4799 | 4731 | 4663 | 4594 | 4526 | 4458 | 4390 | 4322 | 4253 | 4185 | 4117 | 4049 | 3981 |
| 14 | 47 | | 5359 | 5291 | 5223 | 5154 | 5086 | 5018 | 4949 | 4881 | 4813 | 4745 | 4676 | 4608 | 4539 | 4471 | 4403 | 4334 | 4266 |
| 13 | 48 | | 5647 | 5579 | 5510 | 5442 | 5373 | 5305 | 5237 | 5168 | 5100 | 5031 | 4963 | 4894 | 4826 | 4757 | 4689 | 4620 | 4552 |
| 12 | 49 | | 5935 | 5866 | 5798 | 5729 | 5661 | 5592 | 5524 | 5455 | 5387 | 5318 | 5249 | 5181 | 5112 | 5043 | 4975 | 4906 | 4838 |
| 11 | 50 | 213 | 6222 | 6154 | 6085 | 6017 | 5948 | 5880 | 5811 | 5743 | 5674 | 5605 | 5537 | 5468 | 5399 | 5331 | 5262 | 5193 | 5125 |
| 11 | 51 | | 6511 | 6443 | 6374 | 6305 | 6237 | 6168 | 6099 | 6031 | 5962 | 5893 | 5824 | 5756 | 5687 | 5618 | 5549 | 5481 | 5412 |
| 9 | 52 | | 6799 | 6730 | 6661 | 6593 | 6524 | 6455 | 6386 | 6317 | 6249 | 6180 | 6111 | 6042 | 5973 | 5905 | 5836 | 5767 | 5698 |
| 8 | 53 | | 7087 | 7018 | 6949 | 6880 | 6811 | 6742 | 6673 | 6604 | 6535 | 6466 | 6397 | 6328 | 6259 | 6190 | 6121 | 6052 | 5983 |
| 7 | 54 | | 7375 | 7306 | 7237 | 7168 | 7099 | 7030 | 6961 | 6892 | 6823 | 6754 | 6685 | 6616 | 6547 | 6478 | 6409 | 6340 | 6271 |
| 6 | 55 | 213 | 7663 | 7594 | 7525 | 7456 | 7387 | 7318 | 7249 | 7180 | 7111 | 7042 | 6973 | 6904 | 6835 | 6766 | 6697 | 6628 | 6559 |
| 4 | 56 | | 7951 | 7882 | 7813 | 7744 | 7675 | 7606 | 7537 | 7468 | 7399 | 7330 | 7261 | 7192 | 7123 | 7054 | 6985 | 6916 | 6847 |
| 3 | 57 | | 8239 | 8170 | 8101 | 8032 | 7963 | 7894 | 7825 | 7756 | 7687 | 7618 | 7549 | 7480 | 7411 | 7342 | 7273 | 7204 | 7135 |
| 3 | 58 | | 8527 | 8458 | 8389 | 8320 | 8251 | 8182 | 8113 | 8044 | 7975 | 7906 | 7837 | 7768 | 7699 | 7630 | 7561 | 7492 | 7423 |
| 2 | 59 | | 8815 | 8746 | 8677 | 8608 | 8539 | 8470 | 8401 | 8332 | 8263 | 8194 | 8125 | 8056 | 7987 | 7918 | 7849 | 7780 | 7711 |
| 1 | 60 | | 9103 | 9034 | 8965 | 8896 | 8827 | 8758 | 8689 | 8620 | 8551 | 8482 | 8413 | 8344 | 8275 | 8206 | 8137 | 8068 | 7999 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Page for Sum of Ap. Alt. Arguments | A. & A.D. 97 | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 60 | 0 | 212 (211) 0763 | 0701 | 0639 | 0578 | 0516 | 0454 | 0393 | 0331 | 0269 | 0208 | 0146 | 0084 | 0023 | 9961 | 9900 | 9838 | 9777 |
| 65 | 1 | 212 | 1049 | 0987 | 0925 | 0863 | 0802 | 0740 | 0678 | 0616 | 0554 | 0493 | 0431 | 0369 | 0307 | 0245 | 0183 | 0121 |
| 64 | 2 | | 1335 | 1273 | 1211 | 1149 | 1087 | 1025 | 0963 | 0901 | 0839 | 0777 | 0715 | 0653 | 0591 | 0529 | 0467 | 0405 |
| 63 | 3 | | 1621 | 1559 | 1497 | 1435 | 1373 | 1310 | 1248 | 1186 | 1124 | 1062 | 1000 | 0938 | 0876 | 0814 | 0751 | 0689 |
| 62 | 4 | | 1907 | 1845 | 1782 | 1720 | 1658 | 1596 | 1534 | 1471 | 1409 | 1347 | 1285 | 1222 | 1160 | 1098 | 1035 | 0973 |
| 61 | 5 | 212 | 2193 | 2131 | 2068 | 2006 | 1943 | 1881 | 1819 | 1756 | 1694 | 1632 | 1569 | 1507 | 1444 | 1382 | 1319 | 1257 |
| 60 | 6 | | 2479 | 2416 | 2354 | 2291 | 2229 | 2166 | 2104 | 2041 | 1979 | 1916 | 1854 | 1791 | 1728 | 1666 | 1603 | 1541 |
| 59 | 7 | | 2765 | 2702 | 2640 | 2577 | 2514 | 2452 | 2389 | 2326 | 2264 | 2201 | 2138 | 2075 | 2013 | 1950 | 1887 | 1825 |
| 58 | 8 | | 3051 | 2988 | 2925 | 2863 | 2800 | 2737 | 2674 | 2611 | 2549 | 2486 | 2423 | 2360 | 2297 | 2234 | 2171 | 2108 |
| 57 | 9 | | 3337 | 3274 | 3211 | 3148 | 3085 | 3022 | 2959 | 2896 | 2833 | 2770 | 2707 | 2644 | 2581 | 2518 | 2455 | 2392 |
| 56 | 10 | 212 | 3623 | 3560 | 3497 | 3434 | 3371 | 3308 | 3245 | 3181 | 3118 | 3055 | 2992 | 2929 | 2866 | 2802 | 2739 | 2676 |
| 55 | 11 | | 3909 | 3846 | 3783 | 3719 | 3656 | 3593 | 3530 | 3466 | 3403 | 3340 | 3276 | 3213 | 3150 | 3087 | 3023 | 2960 |
| 54 | 12 | | 4195 | 4132 | 4068 | 4005 | 3942 | 3878 | 3815 | 3751 | 3688 | 3624 | 3561 | 3497 | 3434 | 3371 | 3307 | 3244 |
| 53 | 13 | | 4481 | 4417 | 4354 | 4290 | 4227 | 4163 | 4100 | 4036 | 3973 | 3909 | 3846 | 3782 | 3719 | 3655 | 3591 | 3527 |
| 52 | 14 | | 4767 | 4703 | 4640 | 4576 | 4512 | 4448 | 4385 | 4321 | 4257 | 4194 | 4130 | 4066 | 4003 | 3939 | 3875 | 3811 |
| 51 | 15 | 212 | 5053 | 4989 | 4925 | 4861 | 4798 | 4734 | 4670 | 4606 | 4542 | 4478 | 4415 | 4351 | 4287 | 4223 | 4159 | 4095 |
| 50 | 16 | | 5339 | 5275 | 5211 | 5147 | 5083 | 5019 | 4955 | 4891 | 4827 | 4763 | 4699 | 4635 | 4571 | 4507 | 4443 | 4379 |
| 49 | 17 | | 5625 | 5561 | 5496 | 5432 | 5368 | 5304 | 5240 | 5176 | 5112 | 5048 | 4984 | 4920 | 4855 | 4791 | 4727 | 4662 |
| 48 | 18 | | 5911 | 5846 | 5782 | 5718 | 5654 | 5589 | 5525 | 5461 | 5397 | 5332 | 5268 | 5204 | 5139 | 5075 | 5011 | 4947 |
| 47 | 19 | | 6196 | 6132 | 6068 | 6003 | 5939 | 5875 | 5810 | 5746 | 5681 | 5617 | 5552 | 5488 | 5423 | 5359 | 5294 | 5230 |
| 46 | 20 | 212 | 6482 | 6418 | 6353 | 6289 | 6224 | 6160 | 6096 | 6031 | 5967 | 5902 | 5837 | 5772 | 5708 | 5643 | 5578 | 5514 |
| 45 | 21 | | 6768 | 6704 | 6639 | 6574 | 6510 | 6445 | 6381 | 6316 | 6251 | 6187 | 6121 | 6056 | 5992 | 5927 | 5862 | 5797 |
| 44 | 22 | | 7054 | 6989 | 6924 | 6860 | 6795 | 6731 | 6666 | 6601 | 6536 | 6471 | 6406 | 6341 | 6276 | 6211 | 6146 | 6081 |
| 43 | 23 | | 7340 | 7275 | 7210 | 7145 | 7080 | 7015 | 6951 | 6886 | 6821 | 6756 | 6691 | 6625 | 6560 | 6495 | 6430 | 6365 |
| 42 | 24 | | 7626 | 7561 | 7496 | 7431 | 7365 | 7300 | 7235 | 7170 | 7105 | 7040 | 6974 | 6909 | 6844 | 6779 | 6714 | 6648 |
| 41 | 25 | 212 | 7912 | 7846 | 7781 | 7716 | 7651 | 7585 | 7520 | 7455 | 7389 | 7324 | 7259 | 7193 | 7128 | 7063 | 6997 | 6932 |
| 40 | 26 | | 8197 | 8132 | 8067 | 8001 | 7936 | 7871 | 7805 | 7740 | 7674 | 7609 | 7543 | 7478 | 7412 | 7347 | 7281 | 7216 |
| 39 | 27 | | 8483 | 8418 | 8352 | 8287 | 8221 | 8156 | 8090 | 8024 | 7959 | 7893 | 7828 | 7762 | 7696 | 7631 | 7565 | 7499 |
| 38 | 28 | | 8769 | 8703 | 8638 | 8572 | 8506 | 8441 | 8375 | 8309 | 8243 | 8178 | 8112 | 8046 | 7980 | 7914 | 7849 | 7783 |
| 37 | 29 | | 9055 | 8989 | 8923 | 8857 | 8792 | 8726 | 8660 | 8594 | 8528 | 8462 | 8396 | 8330 | 8264 | 8198 | 8132 | 8066 |
| 36 | 30 | 212 | 9341 | 9275 | 9209 | 9143 | 9077 | 9011 | 8945 | 8879 | 8813 | 8747 | 8681 | 8614 | 8548 | 8482 | 8416 | 8350 |
| 35 | 31 | | 9627 | 9561 | 9495 | 9429 | 9363 | 9297 | 9231 | 9165 | 9098 | 9032 | 8965 | 8899 | 8832 | 8766 | 8700 | 8634 |
| 34 | 32 | | 9912 | 9846 | 9780 | 9713 | 9647 | 9581 | 9515 | 9448 | 9382 | 9315 | 9249 | 9183 | 9116 | 9050 | 8984 | 8917 |
| 33 | 33 | 213 (212) 0198 | 0132 | 0065 | 9999 | 9932 | 9866 | 9799 | 9733 | 9666 | 9600 | 9533 | 9467 | 9400 | 9334 | 9267 | 9201 | 9134 |
| 32 | 34 | | 0484 | 0417 | 0351 | 0284 | 0218 | 0151 | 0084 | 0018 | 9951 | 9885 | 9818 | 9751 | 9685 | 9618 | 9551 | 9485 |
| 31 | 35 | 213 (212) 0770 | 0703 | 0636 | 0569 | 0503 | 0436 | 0369 | 0302 | 0236 | 0169 | 0102 | 0035 | 9968 | 9902 | 9835 | 9768 | 9701 |
| 30 | 36 | | 1055 | 0988 | 0922 | 0855 | 0788 | 0721 | 0654 | 0587 | 0520 | 0453 | 0386 | 0319 | 0252 | 0185 | 0118 | 0051 |
| 29 | 37 | 213 | 1341 | 1274 | 1207 | 1140 | 1073 | 1006 | 0939 | 0872 | 0805 | 0738 | 0671 | 0603 | 0536 | 0469 | 0402 | 0335 |
| 28 | 38 | | 1627 | 1559 | 1492 | 1425 | 1358 | 1291 | 1224 | 1156 | 1089 | 1022 | 0955 | 0888 | 0820 | 0753 | 0686 | 0618 |
| 27 | 39 | | 1912 | 1845 | 1778 | 1710 | 1643 | 1576 | 1508 | 1441 | 1374 | 1306 | 1239 | 1172 | 1104 | 1037 | 0969 | 0902 |
| 26 | 40 | 213 | 2198 | 2130 | 2063 | 1996 | 1928 | 1861 | 1793 | 1726 | 1658 | 1591 | 1523 | 1456 | 1388 | 1321 | 1253 | 1185 |
| 25 | 41 | | 2484 | 2416 | 2348 | 2281 | 2213 | 2146 | 2078 | 2010 | 1943 | 1875 | 1807 | 1740 | 1672 | 1604 | 1537 | 1469 |
| 24 | 42 | | 2769 | 2702 | 2634 | 2566 | 2499 | 2431 | 2363 | 2295 | 2227 | 2159 | 2092 | 2024 | 1956 | 1888 | 1820 | 1752 |
| 23 | 43 | | 3055 | 2987 | 2919 | 2851 | 2783 | 2716 | 2648 | 2580 | 2512 | 2444 | 2376 | 2308 | 2240 | 2172 | 2104 | 2036 |
| 22 | 44 | | 3341 | 3273 | 3205 | 3136 | 3068 | 3000 | 2932 | 2864 | 2796 | 2728 | 2660 | 2592 | 2524 | 2456 | 2387 | 2319 |
| 21 | 45 | 213 | 3626 | 3558 | 3490 | 3422 | 3353 | 3285 | 3217 | 3149 | 3081 | 3012 | 2944 | 2876 | 2808 | 2739 | 2671 | 2603 |
| 20 | 46 | | 3912 | 3843 | 3775 | 3707 | 3638 | 3570 | 3502 | 3433 | 3365 | 3297 | 3228 | 3160 | 3091 | 3023 | 2955 | 2886 |
| 19 | 47 | | 4197 | 4129 | 4060 | 3992 | 3923 | 3855 | 3787 | 3718 | 3649 | 3581 | 3512 | 3444 | 3375 | 3307 | 3238 | 3170 |
| 18 | 48 | | 4483 | 4414 | 4346 | 4277 | 4208 | 4140 | 4071 | 4003 | 3934 | 3865 | 3797 | 3728 | 3659 | 3590 | 3522 | 3453 |
| 17 | 49 | | | | 4631 | 4562 | 4493 | 4425 | 4356 | 4287 | 4218 | 4150 | 4081 | 4012 | 3943 | 3874 | 3805 | 3736 |
| 16 | 50 | 213 | | | 4916 | 4847 | 4778 | 4710 | 4641 | 4572 | 4503 | 4434 | 4365 | 4296 | 4227 | 4158 | 4089 | 4020 |
| 15 | 51 | | | | 5202 | 5133 | 5063 | 4994 | 4925 | 4856 | 4787 | 4718 | 4649 | 4580 | 4511 | 4441 | 4372 | 4303 |
| 14 | 52 | | | | | | | | 5141 | 5072 | 5002 | 4933 | 4864 | 4794 | 4725 | 4656 | 4586 | 4517 |
| 13 | 53 | | | | | | | | | | | | | | | | 4870 | 48 |
| 12 | 54 | | | | | | 5910 | 5849 | 5779 | 5710 | 5640 | 5571 | 5501 | 5432 | 5362 | 5292 | 5223 | 5153 |
| 11 | 55 | 214 | | | | | 6203 | 6134 | 6064 | 5994 | 5925 | 5855 | 5785 | 5715 | 5646 | 5576 | 5506 | 5436 |
| 10 | 56 | | 6767 | 6698 | 6628 | 6558 | 6488 | 6418 | 6349 | 6279 | 6209 | | | | | | | |
| 9 | 57 | | 7055 | 6983 | 6913 | 6843 | 6773 | 6703 | 6633 | 6563 | 6493 | | 6353 | 6283 | 6213 | 6143 | 6073 | 6003 |
| 8 | 58 | | | | | 7128 | 7058 | 6988 | 6918 | 6848 | 6778 | | 6637 | 6567 | 6497 | 6427 | 6357 | 6286 |
| 7 | 59 | | | | | 7413 | 7343 | 7273 | 7202 | 7132 | 7062 | | 6921 | 6851 | 6781 | | | |

| Page for Sum of Ap. Alt. Arguments | ′ 97 | Sums |
|---|---|---|
| | ′ | |
| 60 | 0 | 512 1[illegible] |
| 59 | 1 | 2158 |
| 58 | 2 | 2447 |
| 57 | 3 | 2735 |
| 56 | 4 | 3024 |
| 55 | 5 | 512 3312 |
| 54 | 6 | 3601 |
| 53 | 7 | 3889 |
| 52 | 8 | 4178 |
| 51 | 9 | 4467 |
| 50 | 10 | 512 4755 |
| 49 | 11 | 5045 |
| 48 | 12 | 5334 |
| 47 | 13 | 5622 |
| 46 | 14 | 5911 |
| 45 | 15 | 512 6199 |
| 44 | 16 | 6488 |
| 43 | 17 | 6776 |
| 42 | 18 | 7065 |
| 41 | 19 | 7353 |
| 40 | 20 | 513 7642 |
| 39 | 21 | 7930 |
| 38 | 22 | 8219 |
| 37 | 23 | 8507 |
| 36 | 24 | 8796 |
| 35 | 25 | 513 9084 |
| 34 | 26 | 9373 |
| 33 | 27 | 9661 |
| 32 | 28 | 9950 |
| 31 | 29 | 514 0238 |
| 30 | 30 | 0527 |
| 29 | 31 | 0815 |
| 28 | 32 | 1103 |
| 27 | 33 | 1391 |
| 26 | 34 | 1680 |
| 25 | 35 | 513 1968 |
| 24 | 36 | 2256 |
| 23 | 37 | 2545 |
| 22 | 38 | 2833 |
| 21 | 39 | 3121 |
| 20 | 40 | 513 3410 |
| 19 | 41 | 3698 |
| 18 | 42 | 3986 |
| 17 | 43 | 4274 |
| 16 | 44 | 4563 |
| 15 | 45 | 513 4851 |
| 14 | 46 | 5139 |
| 13 | 47 | 5427 |
| 12 | 48 | 5716 |
| 11 | 49 | 6004 |
| 10 | 50 | 513 6292 |
| 9 | 51 | 6581 |
| 8 | 52 | 6869 |
| 7 | 53 | 7157 |
| 6 | 54 | 7445 |
| 5 | 55 | 513 7733 |
| 4 | 56 | 8021 |
| 3 | 57 | 8309 |
| 2 | 58 | 8597 |
| 1 | 59 | 8885 |

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Diff. for 1 Sec. of Aux. Arg. | 96° | Numbers |
|---|---|---|
| 288 | 0 | 87 7842 |
| 284 | 1 | 7553 |
| 279 | 2 | 7265 |
| 274 | 3 | 6976 |
| 269 | 4 | 6687 |
| 264 | 5 | 87 6398 |
| 260 | 6 | 6112 |
| 255 | 7 | 5821 |
| 251 | 8 | 5533 |
| 246 | 9 | 5244 |
| 242 | 10 | 87 4955 |
| 238 | 11 | 4667 |
| 233 | 12 | 4378 |
| 229 | 13 | 4090 |
| 225 | 14 | 3801 |
| 220 | 15 | 87 3512 |
| 216 | 16 | 3224 |
| 207 | 17 | 2935 |
| 203 | 18 | 2647 |
| 197 | 19 | 2358 |
| 192 | 20 | 87 2070 |
| 188 | 21 | 1781 |
| 183 | 22 | 1493 |
| 178 | 23 | 1204 |
| 173 | 24 | 0916 |
| 168 | 25 | 87 0627 |
| 163 | 26 | 0338 |
| 158 | 27 | 0050 |
| 153 | 28 | 86 9761 |
| 148 | 29 | 9472 |
| 143 | 30 | 9184 |
| 138 | 31 | 8895 |
| 133 | 32 | 8607 |
| 128 | 33 | 8318 |
| 123 | 34 | 8029 |
| 118 | 35 | 86 7740 |
| 113 | 36 | 7452 |
| 111 | 37 | 7163 |
| 102 | 38 | 6874 |
| 101 | 39 | 6586 |
| 96 | 40 | 86 6297 |
| 91 | 41 | 6014 |
| 87 | 42 | 5726 |
| 82 | 43 | 5437 |
| 77 | 44 | 5148 |
| 72 | 45 | 86 4861 |
| 67 | 46 | 4573 |
| 63 | 47 | 4284 |
| 58 | 48 | 3996 |
| 53 | 49 | 3707 |
| 48 | 50 | 86 3418 |
| 43 | 51 | 3132 |
| 38 | 52 | 2844 |
| 34 | 53 | 2555 |
| 29 | 54 | 2267 |
| 24 | 55 | 1979 |
| 19 | 56 | 1691 |
| 14 | 57 | 1403 |
| 10 | 58 | 1115 |
| 5 | 59 | 86 0827 |

| Diff. for 1 Sec. of Aux. Arg. | A. D. 98° | ϕ | Auxiliary Arguments. 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 74 | 6 | 213 | 9103 | 9033 | 8963 | 8893 | 8822 | 8752 | 8682 | 8612 | 8542 | 8471 | 8401 | 8331 | 8261 | 8191 | 8120 | 8050 |
| 73 | 1 | | 9031 | 8961 | 8891 | 8821 | 8751 | 8681 | 8611 | 8541 | 8471 | 8401 | 8331 | 8261 | 8191 | 8121 | 8051 | 7981 |
| 72 | 2 | | 8959 | 8889 | 8819 | 8749 | 8679 | 8609 | 8539 | 8469 | 8399 | 8329 | 8259 | 8189 | 8119 | 8049 | 7979 | 7909 |
| 71 | 3 | | 8887 | 8817 | 8747 | 8677 | 8607 | 8537 | 8467 | 8397 | 8327 | 8257 | 8187 | 8117 | 8047 | 7977 | 7907 | 7837 |
| 70 | 4 | 214 (213) | 8815 | 8745 | 8675 | 8605 | 8535 | 8465 | 8395 | 8325 | 8255 | 8185 | 8115 | 8045 | 7975 | 7905 | 7835 | 7765 |
| 69 | 5 | 214 (213) | 8743 | 8673 | 8603 | 8533 | 8463 | 8393 | 8323 | 8253 | 8183 | 8113 | 8043 | 7973 | 7903 | 7833 | 7763 | 7693 |
| 67 | 6 | | 8670 | 8600 | 8530 | 8460 | 8390 | 8320 | 8250 | 8180 | 8110 | 8040 | 7970 | 7900 | 7830 | 7760 | 7690 | 7620 |
| 67 | 7 | | 8598 | 8528 | 8458 | 8388 | 8318 | 8248 | 8178 | 8108 | 8038 | 7968 | 7898 | 7828 | 7758 | 7688 | 7618 | 7548 |
| 66 | 8 | 214 | 8526 | 8456 | 8386 | 8316 | 8246 | 8176 | 8106 | 8036 | 7966 | 7896 | 7826 | 7756 | 7686 | 7616 | 7546 | 7476 |
| 65 | 9 | | 8454 | 8384 | 8314 | 8244 | 8174 | 8104 | 8034 | 7964 | 7894 | 7824 | 7754 | 7684 | 7614 | 7544 | 7474 | 7404 |
| 63 | 10 | 214 | 8382 | 8312 | 8242 | 8172 | 8102 | 8032 | 7962 | 7892 | 7822 | 7752 | 7682 | 7612 | 7542 | 7472 | 7402 | 7332 |
| 62 | 11 | | 8310 | 8240 | 8170 | 8100 | 8030 | 7960 | 7890 | 7820 | 7750 | 7680 | 7610 | 7540 | 7470 | 7400 | 7330 | 7260 |
| 61 | 12 | | 8238 | 8168 | 8098 | 8028 | 7958 | 7888 | 7818 | 7748 | 7678 | 7608 | 7538 | 7468 | 7398 | 7328 | 7258 | 7188 |
| 60 | 13 | | 8166 | 8096 | 8026 | 7956 | 7886 | 7816 | 7746 | 7676 | 7606 | 7536 | 7466 | 7396 | 7326 | 7256 | 7186 | 7116 |
| 58 | 14 | | 8094 | 8024 | 7954 | 7884 | 7814 | 7744 | 7674 | 7604 | 7534 | 7464 | 7394 | 7324 | 7254 | 7184 | 7114 | 7044 |
| 57 | 15 | 214 | 8022 | 7952 | 7882 | 7812 | 7742 | 7672 | 7602 | 7532 | 7462 | 7392 | 7322 | 7252 | 7182 | 7112 | 7042 | 6972 |
| 56 | 16 | | 7950 | 7880 | 7810 | 7740 | 7670 | 7600 | 7530 | 7460 | 7390 | 7320 | 7250 | 7180 | 7110 | 7040 | 6970 | 6900 |
| 55 | 17 | | 7878 | 7808 | 7738 | 7668 | 7598 | 7528 | 7458 | 7388 | 7318 | 7248 | 7178 | 7108 | 7038 | 6968 | 6898 | 6828 |
| 53 | 18 | | 7806 | 7736 | 7666 | 7596 | 7526 | 7456 | 7386 | 7316 | 7246 | 7176 | 7106 | 7036 | 6966 | 6896 | 6826 | 6756 |
| 53 | 19 | | 7734 | 7664 | 7594 | 7524 | 7454 | 7384 | 7314 | 7244 | 7174 | 7104 | 7034 | 6964 | 6894 | 6824 | 6754 | 6684 |
| 52 | 20 | 214 | 7662 | 7592 | 7522 | 7452 | 7382 | 7312 | 7242 | 7172 | 7102 | 7032 | 6962 | 6892 | 6822 | 6752 | 6682 | 6612 |
| 51 | 21 | | 7590 | 7520 | 7450 | 7380 | 7310 | 7240 | 7170 | 7100 | 7030 | 6960 | 6890 | 6820 | 6750 | 6680 | 6610 | 6540 |
| 49 | 22 | | 7518 | 7448 | 7378 | 7308 | 7238 | 7168 | 7098 | 7028 | 6958 | 6888 | 6818 | 6748 | 6678 | 6608 | 6538 | 6468 |
| 48 | 23 | | 7446 | 7376 | 7306 | 7236 | 7166 | 7096 | 7026 | 6956 | 6886 | 6816 | 6746 | 6676 | 6606 | 6536 | 6466 | 6396 |
| 47 | 24 | | 7374 | 7304 | 7234 | 7164 | 7094 | 7024 | 6954 | 6884 | 6814 | 6744 | 6674 | 6604 | 6534 | 6464 | 6394 | 6324 |
| 46 | 25 | 214 | 7302 | 7232 | 7162 | 7092 | 7022 | 6952 | 6882 | 6812 | 6742 | 6672 | 6602 | 6532 | 6462 | 6392 | 6322 | 6252 |
| 45 | 26 | | 7230 | 7160 | 7090 | 7020 | 6950 | 6880 | 6810 | 6740 | 6670 | 6600 | 6530 | 6460 | 6390 | 6320 | 6250 | 6180 |
| 43 | 27 | | 7158 | 7088 | 7018 | 6948 | 6878 | 6808 | 6738 | 6668 | 6598 | 6528 | 6458 | 6388 | 6318 | 6248 | 6178 | 6108 |
| 42 | 28 | | 7086 | 7016 | 6946 | 6876 | 6806 | 6736 | 6666 | 6596 | 6526 | 6456 | 6386 | 6316 | 6246 | 6176 | 6106 | 6036 |
| 41 | 29 | | 7014 | 6944 | 6874 | 6804 | 6734 | 6664 | 6594 | 6524 | 6454 | 6384 | 6314 | 6244 | 6174 | 6104 | 6034 | 5964 |
| 40 | 30 | 214 | 6942 | 6872 | 6802 | 6732 | 6662 | 6592 | 6522 | 6452 | 6382 | 6312 | 6242 | 6172 | 6102 | 6032 | 5962 | 5892 |
| 39 | 31 | | 6870 | 6800 | 6730 | 6660 | 6590 | 6520 | 6450 | 6380 | 6310 | 6240 | 6170 | 6100 | 6030 | 5960 | 5890 | 5820 |
| 38 | 32 | | 6798 | 6728 | 6658 | 6588 | 6518 | 6448 | 6378 | 6308 | 6238 | 6168 | 6098 | 6028 | 5958 | 5888 | 5818 | 5748 |
| 37 | 33 | | 6726 | 6656 | 6586 | 6516 | 6446 | 6376 | 6306 | 6236 | 6166 | 6096 | 6026 | 5956 | 5886 | 5816 | 5746 | 5676 |
| 36 | 34 | | 6654 | 6584 | 6514 | 6444 | 6374 | 6304 | 6234 | 6164 | 6094 | 6024 | 5954 | 5884 | 5814 | 5744 | 5674 | 5604 |
| 35 | 35 | 214 | 6582 | 6512 | 6442 | 6372 | 6302 | 6232 | 6162 | 6092 | 6022 | 5952 | 5882 | 5812 | 5742 | 5672 | 5602 | 5532 |
| 34 | 36 | | 6510 | 6440 | 6370 | 6300 | 6230 | 6160 | 6090 | 6020 | 5950 | 5880 | 5810 | 5740 | 5670 | 5600 | 5530 | 5460 |
| 33 | 37 | | 6438 | 6368 | 6298 | 6228 | 6158 | 6088 | 6018 | 5948 | 5878 | 5808 | 5738 | 5668 | 5598 | 5528 | 5458 | 5388 |
| 32 | 38 | 215 (214) | 6366 | 6296 | 6226 | 6156 | 6086 | 6016 | 5946 | 5876 | 5806 | 5736 | 5666 | 5596 | 5526 | 5456 | 5386 | 5316 |
| 31 | 39 | | 6294 | 6224 | 6154 | 6084 | 6014 | 5944 | 5874 | 5804 | 5734 | 5664 | 5594 | 5524 | 5454 | 5384 | 5314 | 5244 |
| 30 | 40 | 215 (214) | 6222 | 6152 | 6082 | 6012 | 5942 | 5872 | 5802 | 5732 | 5662 | 5592 | 5522 | 5452 | 5382 | 5312 | 5242 | 5172 |
| 29 | 41 | | 6150 | 6080 | 6010 | 5940 | 5870 | 5800 | 5730 | 5660 | 5590 | 5520 | 5450 | 5380 | 5310 | 5240 | 5170 | 5100 |
| 22 | 42 | | 1185 | 1108 | 1032 | 0956 | 0880 | 0803 | 0727 | 0651 | 0574 | 0498 | 0422 | 0345 | 0269 | 0193 | 0116 | 0040 | 9963 |
| 21 | 43 | 215 | 1457 | 1380 | 1304 | 1228 | 1152 | 1076 | 0999 | 0923 | 0847 | 0771 | 0695 | 0618 | 0542 | 0466 | 0390 | 0313 | 0237 |
| 2 | 44 | | 1729 | 1653 | 1577 | 1501 | 1425 | 1348 | 1272 | 1196 | 1120 | 1044 | 0967 | 0891 | 0815 | 0739 | 0663 | 0586 | 0510 |
| 19 | 45 | 215 | 2001 | 1925 | 1849 | 1773 | 1696 | 1620 | 1544 | 1468 | 1392 | 1315 | 1239 | 1163 | 1087 | 1011 | 0934 | 0858 | 0782 |
| 17 | 46 | | 2273 | 2197 | 2121 | 2044 | 1968 | 1892 | 1816 | 1740 | 1663 | 1587 | 1511 | 1435 | 1359 | 1282 | 1206 | 1130 | 1054 |
| 17 | 47 | | 2545 | 2469 | 2392 | 2316 | 2240 | 2164 | 2088 | 2011 | 1935 | 1859 | 1783 | 1707 | 1630 | 1554 | 1478 | 1402 | 1326 |
| 15 | 48 | | 2817 | 2741 | 2664 | 2588 | 2512 | 2436 | 2359 | 2283 | 2207 | 2131 | 2055 | 1978 | 1902 | 1826 | 1750 | 1674 | 1597 |
| 14 | 49 | | 3089 | 3013 | 2936 | 2860 | 2784 | 2707 | 2631 | 2555 | 2479 | 2402 | 2326 | 2250 | 2174 | 2098 | 2021 | 1945 | 1869 |
| 13 | 50 | 215 | 3361 | 3284 | 3208 | 3132 | 3055 | 2979 | 2903 | 2826 | 2750 | 2674 | 2598 | 2521 | 2445 | 2369 | 2293 | 2216 | 2140 |
| 11 | 51 | | 3771 | 3693 | 3616 | 3538 | 3460 | 3383 | 3305 | 3228 | 3150 | 3072 | 2995 | 2917 | 2839 | 2762 | 2684 | | |
| 10 | 52 | | 4058 | 3980 | 3903 | 3825 | 3747 | 3669 | 3592 | 3514 | | | | | | | | | |
| 9 | 53 | | 4345 | 4267 | 4190 | 4112 | 4034 | 3956 | 3878 | 3800 | | | | | | | | | |
| 7 | 54 | | 4632 | 4554 | 4476 | 4399 | 4320 | 4242 | 4164 | 4086 | | | | | | | | | |
| 6 | 55 | 215 | 4919 | 4841 | 4763 | 4685 | 4607 | 4529 | 4451 | 4373 | 4295 | 4217 | 4139 | 4061 | 3983 | 3905 | 3827 | 3749 | 3671 |
| 5 | 56 | | 5207 | 5128 | 5050 | 4972 | 4894 | 4816 | 4738 | 4660 | 4582 | 4504 | 4426 | 4348 | 4270 | 4192 | 4114 | 4036 | 3958 |
| 4 | 57 | | 5494 | 5416 | 5337 | 5259 | 5180 | 5102 | 5024 | 4945 | 4867 | 4788 | 4710 | 4632 | 4553 | 4475 | 4397 | 4318 | 4240 |
| 3 | 58 | | 5781 | 5703 | 5624 | 5546 | 5467 | 5388 | 5310 | 5231 | 5153 | 5074 | 4995 | 4917 | 4838 | 4760 | 4681 | 4603 | 4524 |
| 2 | 59 | | 6068 | 5990 | 5911 | 5833 | 5754 | 5675 | 5597 | 5518 | 5439 | 5361 | 5282 | 5203 | 5125 | 5046 | 4967 | 4889 | 4810 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

Parts for Seconds of Aux. Argum. additive

Auxiliary Arguments.

| Parts for Seconds of Aux. Argum. additive | ° & A. D 90° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 75 | 0 | 213 | 79 | | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | | |
| | 3 | | | | | | | | | | | | | | | | | |
| | 4 | | | | | | | | | | | | | | | | | |
| | 5 | 213 | | | | | | | | | | | | | | | | |
| | 6 | | | | | | | | | | | | | | | | | |
| | 7 | | | | | | | | | | | | | | | | | |
| 65 | 8 | 214 (213) | | | | | | | | | | | | | | | | |
| | 9 | | | | | | | | | | | | | | | | | |
| 61 | 10 | 214 (213) | | | | | | | | | | | | | | | | |
| | 11 | | | | | | | | | | | | | | | | | |
| | 12 | 214 | | | | | | | | | | | | | | | | |
| | 13 | | | | | | | | | | | | | | | | | |
| | 14 | | | | | | | | | | | | | | | | | |
| 54 | 15 | 215 | | | | | | | | | | | | | | | | |
| 53 | 16 | | | | | | | | | | | | | | | | | |
| 52 | 17 | | | | | | | | | | | | | | | | | |
| | 18 | | | | | | | | | | | | | | | | | |
| 51 | 19 | | | | | | | | | | | | | | | | | |
| | 20 | 214 | | | | | | | | | | | | | | | | |
| | 21 | | | | | | | | | | | | | | | | | |
| | 22 | | | | | | | | | | | | | | | | | |
| 46 | 23 | | 4471 | 4397 | 4324 | 4250 | 4176 | 4103 | 4029 | 3955 | 3881 | 3807 | 3734 | 3660 | 3586 | 3512 | 3438 | 3365 | 3291 |
| 45 | 24 | | | | | | | | | | | | | | | | | | |
| 44 | 25 | 214 | | | | | | | | | | | | | | | | | |
| 43 | 26 | | | | | | | | | | | | | | | | | | |
| 42 | 27 | | 5612 | 5537 | 5463 | 5389 | 5315 | 5240 | 5166 | 5092 | 5017 | 4943 | 4868 | 4794 | 4720 | 4645 | 4571 | 4496 | 4422 |
| 41 | 28 | | | | | | | | | | | | | | | | | | |
| 40 | 29 | | | | | | | | | | | | | | | | | | |
| 39 | 30 | 214 | | | | | | | | | | | | | | | | | |
| 38 | 31 | | | | | | | | | | | | | | | | | | |
| 37 | 32 | | | | | | | | | | | | | | | | | | |
| 36 | 33 | | | | | | | | | | | | | | | | | | |
| 35 | 34 | | | | | | | | | | | | | | | | | | |
| 34 | 35 | 214 | | | | | | | | | | | | | | | | | |
| 33 | 36 | | | | | | | | | | | | | | | | | | |
| 32 | 37 | | | | | | | | | | | | | | | | | | |
| 31 | 38 | | | | | | | | | | | | | | | | | | |
| 30 | 39 | | | | | | | | | | | | | | | | | | |
| 29 | 40 | 214 | | | | | | | | | | | | | | | | | |
| 28 | 41 | | | | | | | | | | | | | | | | | | |
| 27 | 42 | | | | | | | | | | | | | | | | | | |
| 26 | 43 | 215 (214) | | | | | | | | | | | | | | | | | |
| 25 | 44 | | | | | | | | | | | | | | | | | | |
| 24 | 45 | 215 (214) | | | | | | | | | | | | | | | | | |
| 23 | 46 | | 1027 | 0950 | 0873 | 0796 | 0718 | 0641 | 0564 | 0487 | 0410 | 0333 | 0256 | 0179 | 0101 | 0024 | 9947 | 9870 | 9793 |
| 22 | 47 | 215 | 1312 | 1234 | 1157 | 1080 | 1003 | 0925 | 0848 | 0771 | 0694 | 0616 | 0539 | 0462 | 0385 | 0307 | 0230 | 0153 | 0075 |
| 21 | 48 | | | | | | | | | | | | | | | | | | |
| 20 | 49 | | | | | | | | | | | | | | | | | | |
| 19 | 50 | 215 | 2100 | 2022 | 1944 | 1866 | 1788 | 1710 | 1632 | 1554 | 1476 | 1398 | 1320 | 1242 | 1164 | 1086 | 1008 | 0930 | 0852 |
| 18 | 51 | | 2451 | 2373 | 2295 | 2218 | 2140 | 2062 | 1984 | 1906 | 1829 | 1751 | 1673 | 1595 | 1517 | 1439 | 1361 | 1283 | 1205 |
| 17 | 52 | | | | | | | | | | | | | | | 1722 | 1644 | 1566 | 1488 |
| 16 | 53 | | 3020 | 2942 | 2864 | 2787 | 2709 | 2631 | 2552 | 2474 | 2396 | 2318 | 2239 | 2161 | 2083 | 2005 | 1927 | 1848 | 1770 |
| 15 | 54 | | 3305 | 3227 | 3149 | 3071 | 2992 | 2914 | 2836 | 2758 | 2679 | 2601 | 2523 | 2444 | 2366 | 2288 | 2209 | 2131 | 2053 |
| 14 | 55 | 215 | | | | | | | | | | | | | | | | | |
| 13 | 56 | | | | | | | | | | | | | | | | | | |
| 12 | 57 | | | | | | | | | | | | | | | | | | |
| 11 | 58 | | | | | | | | | | | | | | | | | | |
| 10 | 59 | | | | | | | | | | | | | | | | | | |
| 9 | 60 | | | | | | | | | | | | | | | | | | |

| Parts for Sec. of C. D. additive | C. D 90° | Sums |
|---|---|---|
| 0 | 0 | 513 0172 |
| 2 | 1 | 0401 |
| 10 | 2 | 0429 |
| 14 | 3 | 514 0657 |
| 19 | 4 | 0885 |
| 24 | 5 | 514 1113 |
| 28 | 6 | 1341 |
| 33 | 7 | 1569 |
| 38 | 8 | 1797 |
| 43 | 9 | 2025 |
| 48 | 10 | 514 2253 |
| 53 | 11 | 2481 |
| 57 | 12 | 2709 |
| 62 | 13 | 2937 |
| 67 | 14 | 3165 |
| 72 | 15 | 514 3393 |
| 77 | 16 | 3621 |
| 81 | 17 | 3849 |
| 86 | 18 | 4076 |
| 91 | 19 | 4304 |
| 96 | 20 | 514 4532 |
| 100 | 21 | 4760 |
| 105 | 22 | 4988 |
| 110 | 23 | 5216 |
| 115 | 24 | 5444 |
| 120 | 25 | 514 5672 |
| 124 | 26 | 5900 |
| 129 | 27 | 6128 |
| 134 | 28 | 6356 |
| 139 | 29 | 6584 |
| 144 | 30 | 514 6812 |
| 148 | 31 | 7040 |
| 153 | 32 | 7268 |
| 158 | 33 | 7496 |
| 163 | 34 | 7724 |
| 168 | 35 | 514 7952 |
| 172 | 36 | 8180 |
| 177 | 37 | 8408 |
| 182 | 38 | 8636 |
| 187 | 39 | 8864 |
| 192 | 40 | 515 9092 |
| 196 | 41 | 9320 |
| 201 | 42 | 9548 |
| 206 | 43 | 9776 |
| 211 | 44 | 516 0004 |
| 216 | 45 | 516 0232 |
| 220 | 46 | 0460 |
| 225 | 47 | 0688 |
| 230 | 48 | 0916 |
| 235 | 49 | 517 1144 |
| 240 | 50 | 517 1372 |
| 244 | 51 | 1600 |
| 249 | 52 | 1828 |
| 254 | 53 | 2056 |
| 259 | 54 | 2284 |
| 264 | 55 | 517 2512 |
| 268 | 56 | 2740 |
| 273 | 57 | 2968 |
| 278 | 58 | 3196 |
| 283 | 59 | 3424 |
| 288 | 60 | 517 3652 |

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances - - - - - - } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Min. | Numbers |
|---|---|
| 0 | 0 |
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 7 | 7 |
| 8 | 8 |
| 9 | 9 |
| 10 | 10 |
| 11 | 11 |
| 12 | 12 |
| 13 | 13 |
| 14 | 14 |
| 15 | 15 |
| 16 | 16 |
| 17 | 17 |
| 18 | 18 |
| 19 | 19 |
| 20 | 20 |
| 21 | 21 |
| 22 | 22 |
| 23 | 23 |
| 24 | 24 |
| 25 | 25 |
| 26 | 26 |
| 27 | 27 |
| 28 | 28 |
| 29 | 29 |
| 30 | 30 |
| 31 | 31 |
| 32 | 32 |
| 33 | 33 |
| 34 | 34 |
| 35 | 35 |
| 36 | 36 |
| 37 | 37 |
| 38 | 38 |
| 39 | 39 |
| 40 | 40 |
| 41 | 41 |
| 42 | 42 |
| 43 | 43 |
| 44 | 44 |
| 45 | 45 |
| 46 | 46 |
| 47 | 47 |
| 48 | 48 |
| 49 | 49 |
| 50 | 50 |
| 51 | 51 |
| 52 | 52 |
| 53 | 53 |
| 54 | 54 |
| 55 | 55 |
| 56 | 56 |
| 57 | 57 |
| 58 | 58 |
| 59 | 59 |

| Min. | Add. | Numbers | Auxiliary Arguments. 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 215 | 6356 | 6277 | 6198 | 6119 | 6040 | 5961 | 5882 | 5804 | 5725 | 5646 | 5567 | 5488 | 5409 | 5330 | 5251 | 5172 | 5093 |
| 1 | | 6643 | 6564 | 6485 | 6406 | 6327 | 6248 | 6169 | 6090 | 6011 | 5931 | 5852 | 5773 | 5694 | 5615 | 5536 | 5457 | 5377 |
| 2 | | 6930 | 6851 | 6772 | 6693 | 6613 | 6534 | 6455 | 6376 | 6297 | 6217 | 6138 | 6059 | 5980 | 5900 | 5821 | 5742 | 5663 |
| 3 | | 7217 | 7138 | 7059 | 6979 | 6900 | 6821 | 6741 | 6662 | 6583 | 6503 | 6424 | 6344 | 6265 | 6186 | 6106 | 6027 | 5947 |
| 4 | | 7504 | 7425 | 7345 | 7266 | 7186 | 7107 | 7027 | 6948 | 6868 | 6789 | 6709 | 6630 | 6550 | 6471 | 6391 | 6312 | 6232 |
| 5 | 215 | 7791 | 7712 | 7632 | 7553 | 7473 | 7393 | 7314 | 7234 | 7154 | 7075 | 6995 | 6915 | 6836 | 6756 | 6676 | 6596 | 6517 |
| 6 | | 8078 | 7999 | 7919 | 7839 | 7760 | 7680 | 7600 | 7520 | 7440 | 7361 | 7281 | 7201 | 7121 | 7041 | 6961 | 6881 | 6801 |
| 7 | | 8366 | 8286 | 8206 | 8126 | 8047 | 7966 | 7886 | 7806 | 7726 | 7646 | 7566 | 7486 | 7406 | 7326 | 7246 | 7166 | 7086 |
| 8 | | 8653 | 8573 | 8493 | 8413 | 8333 | 8253 | 8172 | 8092 | 8012 | 7932 | 7852 | 7772 | 7692 | 7612 | 7531 | 7451 | 7371 |
| 9 | | 8940 | 8859 | 8779 | 8699 | 8619 | 8539 | 8459 | 8378 | 8298 | 8218 | 8138 | 8057 | 7977 | 7897 | 7816 | 7736 | 7656 |
| 10 | 215 | 9227 | 9146 | 9066 | 8986 | 8905 | 8825 | 8745 | 8664 | 8584 | 8504 | 8423 | 8343 | 8262 | 8182 | 8101 | 8021 | 7941 |
| 11 | | 9514 | 9433 | 9353 | 9272 | 9192 | 9111 | 9031 | 8950 | 8870 | 8789 | 8709 | 8628 | 8548 | 8467 | 8386 | 8306 | 8225 |
| 12 | | 9801 | 9720 | 9640 | 9559 | 9478 | 9398 | 9317 | 9236 | 9156 | 9075 | 8994 | 8914 | 8833 | 8752 | 8671 | 8591 | 8510 |
| 13 | 216 (215) | 0088 | 0007 | 9926 | 9846 | 9765 | 9684 | 9603 | 9522 | 9442 | 9361 | 9280 | 9199 | 9118 | 9037 | 8956 | 8875 | 8795 |
| 14 | | 0375 | 0294 | 0213 | 0132 | 0051 | 9970 | 9889 | 9808 | 9727 | 9646 | 9565 | 9484 | 9403 | 9322 | 9241 | 9160 | 9079 |
| 15 | 216 (215) | 0662 | 0581 | 0500 | 0419 | 0337 | 0256 | 0175 | 0094 | 0013 | 9932 | 9851 | 9770 | 9688 | 9607 | 9526 | 9445 | 9364 |
| 16 | | 0949 | 0867 | 0786 | 0705 | 0624 | 0543 | 0461 | 0380 | 0299 | 0218 | 0137 | 0055 | 9974 | 9893 | 9811 | 9730 | 9649 |
| 17 | | 1235 | 1154 | 1073 | 0992 | 0910 | 0829 | 0747 | 0666 | 0585 | 0504 | 0422 | 0341 | 0259 | 0178 | 0096 | 0015 | 9933 |
| 18 | 216 | 1522 | 1441 | 1360 | 1278 | 1197 | 1115 | 1034 | 0952 | 0871 | 0789 | 0708 | 0626 | 0544 | 0463 | 0381 | 0299 | 0218 |
| 19 | | 1809 | 1728 | 1646 | 1565 | 1483 | 1401 | 1320 | 1238 | 1157 | 1075 | 0993 | 0911 | 0830 | 0748 | 0666 | 0584 | 0502 |
| 20 | 216 | 2096 | 2015 | 1933 | 1851 | 1769 | 1687 | 1606 | 1524 | 1442 | 1360 | 1278 | 1196 | 1115 | 1033 | 0951 | 0869 | 0787 |
| 21 | | 2383 | 2301 | 2219 | 2137 | 2056 | 1974 | 1892 | 1810 | 1728 | 1646 | 1564 | 1482 | 1400 | 1318 | 1236 | 1154 | 1071 |
| 22 | | 2670 | 2588 | 2506 | 2424 | 2342 | 2260 | 2178 | 2096 | 2013 | 1932 | 1849 | 1767 | 1685 | 1603 | 1520 | 1438 | 1356 |
| 23 | | 2957 | 2875 | 2793 | 2710 | 2628 | 2546 | 2464 | 2381 | 2299 | 2217 | 2135 | 2052 | 1970 | 1888 | 1805 | 1723 | 1641 |
| 24 | | 3244 | 3161 | 3079 | 2997 | 2914 | 2832 | 2750 | 2667 | 2585 | 2502 | 2420 | 2338 | 2255 | 2173 | 2090 | 2008 | 1925 |
| 25 | 216 | 3531 | 3448 | 3366 | 3283 | 3201 | 3118 | 3036 | 2953 | 2870 | 2788 | 2706 | 2623 | 2540 | 2458 | 2375 | 2292 | 2210 |
| 26 | | 3817 | 3735 | 3652 | 3570 | 3487 | 3404 | 3322 | 3239 | 3156 | 3073 | 2991 | 2908 | 2825 | 2742 | 2660 | 2577 | 2494 |
| 27 | | 4104 | 4021 | 3939 | 3856 | 3773 | 3691 | 3608 | 3525 | 3442 | 3359 | 3276 | 3193 | 3110 | 3027 | 2944 | 2862 | 2779 |
| 28 | | 4391 | 4308 | 4225 | 4142 | 4059 | 3976 | 3893 | 3811 | 3727 | 3644 | 3561 | 3478 | 3395 | 3312 | 3229 | 3146 | 3063 |
| 29 | | 4678 | 4595 | 4512 | 4429 | 4346 | 4262 | 4179 | 4096 | 4013 | 3930 | 3847 | 3764 | 3680 | 3597 | 3514 | 3431 | 3348 |
| 30 | 216 | 4964 | 4881 | 4798 | 4715 | 4631 | 4548 | 4465 | 4382 | 4299 | 4215 | 4132 | 4049 | 3965 | 3882 | 3799 | 3715 | 3632 |
| 31 | | 5251 | 5168 | 5085 | 5001 | 4918 | 4834 | 4751 | 4668 | 4584 | 4501 | 4417 | 4334 | 4250 | 4167 | 4083 | 4000 | 3916 |
| 32 | | 5538 | 5454 | 5371 | 5288 | 5204 | 5120 | 5037 | 4953 | 4870 | 4786 | 4703 | 4619 | 4535 | 4452 | 4368 | 4284 | 4201 |
| 33 | | 5825 | 5741 | 5657 | 5574 | 5490 | 5406 | 5323 | 5239 | 5155 | 5072 | 4988 | 4904 | 4820 | 4737 | 4653 | 4569 | 4485 |
| 34 | | 6111 | 6028 | 5944 | 5860 | 5776 | 5692 | 5609 | 5525 | 5441 | 5357 | 5273 | 5189 | 5105 | 5021 | 4938 | 4854 | 4770 |
| 35 | 216 | 6398 | 6314 | 6230 | 6146 | 6062 | 5978 | 5894 | 5810 | 5726 | 5642 | 5558 | 5474 | 5390 | 5306 | 5222 | 5138 | 5054 |
| 36 | | 6685 | 6601 | 6517 | 6433 | 6349 | 6264 | 6180 | 6096 | 6012 | 5928 | 5844 | 5759 | 5675 | 5591 | 5507 | 5423 | 5339 |
| 37 | | 6971 | 6887 | 6803 | 6719 | 6635 | 6550 | 6466 | 6382 | 6298 | 6213 | 6129 | 6045 | 5960 | 5876 | 5792 | 5707 | 5623 |
| 38 | | 7258 | 7174 | 7089 | 7005 | 6921 | 6836 | 6752 | 6668 | 6583 | 6499 | 6414 | 6330 | 6245 | 6161 | 6076 | 5992 | 5907 |
| 39 | | 7545 | 7460 | 7376 | 7291 | 7207 | 7122 | 7038 | 6953 | 6868 | 6784 | 6699 | 6615 | 6530 | 6445 | 6361 | 6276 | 6192 |
| 40 | 216 | 7831 | 7747 | 7662 | 7577 | 7493 | 7408 | 7323 | 7238 | 7154 | 7069 | 6984 | 6900 | 6815 | 6730 | 6645 | 6560 | 6476 |
| 41 | | 8118 | 8033 | 7948 | 7864 | 7779 | 7694 | 7609 | 7524 | 7439 | 7355 | 7270 | 7185 | 7100 | 7015 | 6930 | 6845 | 6760 |
| 42 | | 8405 | 8320 | 8235 | 8150 | 8065 | 7980 | 7895 | 7810 | 7725 | 7640 | 7555 | 7470 | 7385 | 7300 | 7214 | 7129 | 7044 |
| 43 | | 8691 | 8606 | 8521 | 8436 | 8351 | 8266 | 8181 | 8096 | 8011 | 7926 | 7841 | 7756 | 7670 | 7585 | 7499 | 7414 | 7329 |
| 44 | | 8978 | 8892 | 8807 | 8722 | 8637 | 8552 | 8466 | 8381 | 8296 | 8211 | 8126 | 8040 | 7955 | 7870 | 7784 | 7698 | 7613 |
| 45 | 216 | 9264 | 9179 | 9093 | 9008 | 8923 | 8837 | 8752 | 8666 | 8581 | 8496 | 8410 | 8325 | 8239 | 8154 | 8068 | 7983 | 7897 |
| 46 | | 9551 | 9465 | 9380 | 9294 | 9209 | 9123 | 9038 | 8952 | 8866 | 8781 | 8695 | 8610 | 8524 | 8438 | 8353 | 8267 | 8181 |
| 47 | | 9837 | 9752 | 9666 | 9580 | 9495 | 9409 | 9323 | 9238 | 9152 | 9066 | 8980 | 8894 | 8809 | 8723 | 8637 | 8551 | 8465 |
| 48 | 217 (216) | 0124 | 0038 | 9952 | 9866 | 9781 | 9695 | 9609 | 9523 | 9437 | 9351 | 9265 | 9179 | 9093 | 9007 | 8922 | 8836 | 8750 |
| 49 | | 0410 | 0324 | 0238 | 0152 | 0067 | 9981 | 9894 | 9809 | 9723 | 9636 | 9550 | 9464 | 9378 | 9292 | 9206 | 9120 | 9034 |
| 50 | 217 (216) | 0697 | 0611 | 0525 | 0439 | 0353 | 0267 | 0180 | 0094 | 0008 | 9922 | 9835 | 9749 | 9663 | 9577 | 9491 | 9405 | 9319 |
| 51 | | 0983 | 0897 | 0811 | 0725 | 0638 | 0552 | 0466 | 0379 | 0293 | 0207 | 0120 | 0034 | 9948 | 9861 | 9775 | 9689 | 9602 |
| 52 | | 1270 | 1183 | 1097 | 1011 | 0924 | 0838 | 0751 | 0665 | 0578 | 0492 | 0405 | 0319 | 0232 | 0146 | 0059 | 9973 | 9886 |
| 53 | 217 | 1556 | 1470 | 1383 | 1297 | 1210 | 1123 | 1037 | 0950 | 0864 | 0777 | 0691 | 0604 | 0517 | 0430 | 0344 | 0257 | 0170 |
| 54 | | 1843 | 1756 | 1669 | 1582 | 1496 | 1409 | 1322 | 1235 | 1148 | 1062 | 0975 | 0888 | 0801 | 0715 | 0628 | 0541 | 0454 |
| 55 | 217 | 2129 | 2042 | 1955 | 1868 | 1781 | 1695 | 1608 | 1521 | 1434 | 1347 | 1260 | 1173 | 1086 | 0999 | 0913 | 0826 | 0739 |
| 56 | | 2416 | 2329 | 2242 | 2155 | 2068 | 1980 | 1893 | 1806 | 1719 | 1632 | 1545 | 1458 | 1371 | 1284 | 1197 | 1110 | 1023 |
| 57 | | 2703 | 2616 | 2528 | 2441 | 2354 | 2266 | 2179 | 2092 | 2005 | 1917 | 1830 | 1743 | 1656 | 1569 | 1482 | 1394 | 1307 |
| 58 | | 2989 | 2902 | 2815 | 2727 | 2640 | 2552 | 2465 | 2377 | 2290 | 2203 | 2115 | 2028 | 1940 | 1853 | 1766 | 1678 | 1591 |
| 59 | | 3276 | 3188 | 3101 | 3013 | 2926 | 2838 | 2751 | 2663 | 2576 | 2488 | 2400 | 2313 | 2225 | 2138 | 2050 | 1962 | 1875 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. | S.M.A. & A.D. 99° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 83 | 0 | 15 | 5014 | 4937 | 4856 | 4776 | 4697 | 4618 | 4539 | 4461 | 4382 | 4304 | 4225 | 4147 | 4069 | 3990 | 3912 | 3834 |
| 82 | 1 | | 5298 | 5219 | 5140 | 5061 | 4982 | 4903 | 4823 | 4743 | 4664 | 4585 | 4506 | 4427 | 4347 | 4268 | 4189 | 4110 |
| 81 | 2 | | 5583 | 5504 | 5424 | 5345 | 5266 | 5187 | 5107 | 5027 | 4948 | 4868 | 4789 | 4709 | 4630 | 4550 | 4471 | 4391 |
| 79 | 3 | | 5868 | 5788 | 5709 | 5629 | 5550 | 5470 | 5391 | 5311 | 5231 | 5152 | 5072 | 4993 | 4913 | 4834 | 4754 | 4674 |
| 79 | 4 | | 6153 | 6073 | 5993 | 5914 | 5834 | 5754 | 5674 | 5595 | 5515 | 5435 | 5356 | 5276 | 5196 | 5117 | 5037 | 4957 |
| 77 | 5 | 215 | 6437 | 6357 | 6277 | 6198 | 6118 | 6038 | 5958 | 5878 | 5798 | 5718 | 5638 | 5558 | 5478 | 5398 | 5318 | 5238 |
| 75 | 6 | | 6722 | 6642 | 6562 | 6482 | 6402 | 6322 | 6242 | 6162 | 6082 | 6002 | 5922 | 5842 | 5762 | 5681 | 5601 | 5521 |
| 74 | 7 | | 7006 | 6926 | 6846 | 6766 | 6686 | 6606 | 6526 | 6445 | 6365 | 6285 | 6205 | 6125 | 6044 | 5964 | 5884 | 5804 |
| 74 | 8 | | 7291 | 7211 | 7131 | 7051 | 6971 | 6890 | 6810 | 6730 | 6650 | 6569 | 6489 | 6409 | 6327 | 6248 | 6168 | 6087 |
| 71 | 9 | | 7575 | 7495 | 7415 | 7334 | 7254 | 7173 | 7093 | 7013 | 6932 | 6852 | 6771 | 6691 | 6611 | 6530 | 6450 | 6369 |
| 72 | 10 | 215 | 7860 | 7779 | 7699 | 7618 | 7538 | 7457 | 7377 | 7296 | 7216 | 7135 | 7054 | 6974 | 6893 | 6813 | 6732 | 6651 |
| 68 | 11 | | 8145 | 8064 | 7983 | 7902 | 7822 | 7741 | 7660 | 7580 | 7499 | 7418 | 7337 | 7257 | 7176 | 7095 | 7014 | 6933 |
| 67 | 12 | | 8429 | 8348 | 8267 | 8187 | 8106 | 8025 | 7944 | 7863 | 7783 | 7702 | 7621 | 7540 | 7459 | 7378 | 7297 | 7216 |
| 65 | 13 | | 8714 | 8633 | 8552 | 8471 | 8390 | 8309 | 8228 | 8147 | 8066 | 7985 | 7904 | 7823 | 7742 | 7661 | 7580 | 7499 |
| 64 | 14 | | 8998 | 8917 | 8836 | 8755 | 8674 | 8592 | 8511 | 8430 | 8349 | 8268 | 8187 | 8106 | 8024 | 7943 | 7862 | 7781 |
| 63 | 15 | 215 | 9283 | 9201 | 9120 | 9039 | 8958 | 8876 | 8795 | 8714 | 8632 | 8551 | 8470 | 8388 | 8307 | 8226 | 8144 | 8063 |
| 61 | 16 | | 9567 | 9486 | 9404 | 9323 | 9242 | 9160 | 9079 | 8997 | 8916 | 8834 | 8753 | 8671 | 8590 | 8508 | 8427 | 8345 |
| 60 | 17 | | 9852 | 9770 | 9689 | 9607 | 9525 | 9444 | 9362 | 9281 | 9199 | 9117 | 9036 | 8954 | 8872 | 8791 | 8709 | 8627 |
| 58 | 18 | 216 (215) | 0136 | 0054 | 9973 | 9891 | 9809 | 9728 | 9646 | 9564 | 9482 | 9400 | 9319 | 9237 | 9155 | 9073 | 8991 | 8910 |
| 57 | 19 | | 0420 | 0338 | 0257 | 0175 | 0093 | 0011 | 9929 | 9847 | 9765 | 9683 | 9601 | 9519 | 9437 | 9355 | 9274 | 9192 |
| 56 | 20 | 216 (215) | 0705 | 0623 | 0541 | 0459 | 0377 | 0295 | 0213 | 0131 | 0049 | 9967 | 9885 | 9803 | 9721 | 9639 | 9557 | 9474 |
| 54 | 21 | | 0989 | 0907 | 0825 | 0743 | 0661 | 0579 | 0496 | 0414 | 0332 | 0250 | 0168 | 0085 | 0003 | 9921 | 9839 | 9756 |
| 53 | 22 | | 1274 | 1192 | 1109 | 1027 | 0945 | 0862 | 0780 | 0698 | 0615 | 0533 | 0451 | 0368 | 0286 | 0203 | 0121 | 0039 |
| 51 | 23 | 216 | 1558 | 1476 | 1393 | 1311 | 1228 | 1146 | 1064 | 0981 | 0899 | 0816 | 0734 | 0651 | 0569 | 0486 | 0404 | 0321 |
| 50 | 24 | | 1843 | 1760 | 1677 | 1595 | 1512 | 1429 | 1347 | 1264 | 1181 | 1099 | 1016 | 0933 | 0851 | 0768 | 0685 | 0603 |
| 49 | 25 | 216 | 2127 | 2044 | 1962 | 1879 | 1796 | 1713 | 1631 | 1548 | 1465 | 1382 | 1299 | 1217 | 1134 | 1051 | 0968 | 0885 |
| 47 | 26 | | 2411 | 2328 | 2246 | 2163 | 2080 | 1997 | 1914 | 1831 | 1748 | 1665 | 1582 | 1499 | 1416 | 1333 | 1250 | 1167 |
| 46 | 27 | | 2696 | 2613 | 2530 | 2447 | 2364 | 2281 | 2198 | 2115 | 2032 | 1948 | 1865 | 1782 | 1699 | 1616 | 1533 | 1450 |
| 45 | 28 | | 2980 | 2897 | 2814 | 2731 | 2647 | 2564 | 2481 | 2398 | 2315 | 2232 | 2148 | 2065 | 1982 | 1899 | 1815 | 1732 |
| 43 | 29 | | 3264 | 3181 | 3098 | 3014 | 2931 | 2848 | 2764 | 2681 | 2598 | 2514 | 2431 | 2348 | 2264 | 2181 | 2097 | 2014 |
| 42 | 30 | 216 | 3549 | 3465 | 3382 | 3298 | 3215 | 3131 | 3048 | 2964 | 2881 | 2797 | 2714 | 2630 | 2547 | 2463 | 2380 | 2296 |
| 40 | 31 | | 3833 | 3749 | 3665 | 3582 | 3498 | 3415 | 3331 | 3247 | 3164 | 3080 | 2997 | 2913 | 2829 | 2746 | 2662 | 2579 |
| 39 | 32 | | 4117 | 4033 | 3949 | 3866 | 3782 | 3698 | 3615 | 3531 | 3447 | 3363 | 3280 | 3196 | 3112 | 3029 | 2945 | 2861 |
| 38 | 33 | | 4401 | 4318 | 4234 | 4150 | 4066 | 3982 | 3898 | 3814 | 3731 | 3647 | 3563 | 3479 | 3395 | 3312 | 3228 | 3144 |
| 36 | 34 | | 4686 | 4602 | 4518 | 4434 | 4350 | 4266 | 4181 | 4097 | 4013 | 3929 | 3845 | 3761 | 3677 | 3593 | 3510 | 3426 |
| 35 | 35 | 216 | 4970 | 4886 | 4802 | 4717 | 4633 | 4549 | 4465 | 4381 | 4297 | 4212 | 4128 | 4044 | 3960 | 3876 | 3792 | 3708 |
| 33 | 36 | | 5254 | 5170 | 5085 | 5001 | 4917 | 4833 | 4749 | 4664 | 4580 | 4496 | 4411 | 4327 | 4243 | 4159 | 4075 | 3990 |
| 32 | 37 | | 5538 | 5454 | 5369 | 5285 | 5201 | 5116 | 5032 | 4948 | 4863 | 4779 | 4695 | 4610 | 4526 | 4442 | 4358 | 4273 |
| 31 | 38 | | 5822 | 5737 | 5653 | 5569 | 5484 | 5400 | 5315 | 5231 | 5147 | 5062 | 4978 | 4893 | 4809 | 4725 | 4640 | 4556 |
| 29 | 39 | | 6105 | 6021 | 5936 | 5852 | 5767 | 5683 | 5598 | 5514 | 5429 | 5345 | 5260 | 5176 | 5091 | 5007 | 4923 | 4838 |
| 28 | 40 | 216 | 6389 | 6304 | 6220 | 6135 | 6051 | 5966 | 5882 | 5797 | 5713 | 5628 | 5544 | 5459 | 5375 | 5290 | 5206 | 5121 |
| 26 | 41 | | 6672 | 6588 | 6503 | 6419 | 6334 | 6250 | 6165 | 6081 | 5996 | 5912 | 5827 | 5743 | 5658 | 5574 | 5489 | 5405 |
| 25 | 42 | | 6959 | 6874 | 6789 | 6704 | 6618 | 6533 | 6448 | 6363 | 6277 | 6192 | 6107 | 6022 | 5936 | 5851 | 5766 | 5680 |
| 24 | 43 | | 7242 | 7157 | 7072 | 6987 | 6901 | 6816 | 6731 | 6645 | 6560 | 6475 | 6389 | 6304 | 6219 | 6133 | 6048 | 5963 |
| 22 | 44 | | 7526 | 7441 | 7355 | 7270 | 7185 | 7099 | 7014 | 6928 | 6843 | 6757 | 6672 | 6587 | 6501 | 6416 | 6330 | 6245 |
| 21 | 45 | 216 | 7811 | 7724 | 7639 | 7553 | 7468 | 7382 | 7297 | 7211 | 7125 | 7040 | 6954 | 6869 | 6783 | 6697 | 6612 | 6526 |
| 19 | 46 | | 8094 | 8008 | 7923 | 7837 | 7751 | 7666 | 7580 | 7494 | 7408 | 7323 | 7237 | 7151 | 7065 | 6980 | 6894 | 6808 |
| 18 | 47 | | 8378 | 8292 | 8206 | 8120 | 8034 | 7948 | 7862 | 7776 | 7690 | 7604 | 7518 | 7432 | 7346 | 7260 | 7174 | 7088 |
| 17 | 48 | | 8662 | 8576 | 8490 | 8403 | 8317 | 8231 | 8145 | 8059 | 7972 | 7886 | 7800 | 7714 | 7627 | 7541 | 7455 | 7369 |
| 15 | 49 | | 8946 | 8859 | 8773 | 8687 | 8600 | 8514 | 8427 | 8341 | 8255 | 8168 | 8082 | 7995 | 7909 | 7822 | 7736 | 7649 |
| 14 | 50 | 216 | 9230 | 9143 | 9056 | 8970 | 8883 | 8797 | 8710 | 8623 | 8537 | 8450 | 8363 | 8277 | 8190 | 8103 | 8017 | 7930 |
| 12 | 51 | | 9513 | 9426 | 9339 | 9253 | 9166 | 9079 | 8992 | 8905 | 8819 | 8732 | 8645 | 8558 | 8471 | 8384 | 8297 | 8211 |
| 11 | 52 | | 9797 | 9710 | 9623 | 9536 | 9449 | 9362 | 9275 | 9188 | 9101 | 9014 | 8927 | 8840 | 8753 | 8666 | 8579 | 8492 |
| 10 | 53 | 217 (216) | 0084 | 9997 | 9910 | 9823 | 9737 | 9650 | 9563 | 9476 | 9389 | 9302 | 9216 | 9129 | 9042 | 8955 | 8868 | 8781 |
| 8 | 54 | | 0368 | 0281 | 0194 | 0107 | 0020 | 9933 | 9846 | 9759 | 9672 | 9585 | 9498 | 9411 | 9324 | 9237 | 9150 | 9063 |
| 7 | 55 | 217 (216) | 0652 | 0565 | 0478 | 0391 | 0304 | 0217 | 0130 | 0043 | 9956 | 9869 | 9782 | 9695 | 9608 | 9521 | 9434 | 9347 |
| 5 | 56 | | 0936 | 0849 | 0762 | 0675 | 0588 | 0501 | 0414 | 0327 | 0240 | 0153 | 0066 | 9979 | 9892 | 9805 | 9718 | 9631 |
| 4 | 57 | | 1220 | 1133 | 1046 | 0959 | 0872 | 0785 | 0698 | 0611 | 0524 | 0437 | 0350 | 0263 | 0176 | 0089 | 0002 | 9915 |
| 3 | 58 | 217 | 1504 | 1417 | 1330 | 1243 | 1156 | 1069 | 0982 | 0895 | 0808 | 0721 | 0634 | 0547 | 0460 | 0373 | 0286 | 0199 |
| 1 | 59 | | 1788 | 1701 | 1614 | 1527 | 1440 | 1353 | 1266 | 1179 | 1092 | 1005 | 0918 | 0831 | 0744 | 0657 | 0570 | 0483 |

| Parts for Sec. of C. D. Auxiliary. | C. D. 99° | Sums |
|---|---|---|
| ′ | ′ | |
| 0 | 0 | 515 6434 |
| 1 | 1 | 6722 |
| 2 | 2 | 7009 |
| 3 | 3 | 7296 |
| 4 | 4 | 7584 |
| 5 | 5 | 515 7871 |
| 6 | 6 | 8159 |
| 7 | 7 | 8446 |
| 8 | 8 | 8733 |
| 9 | 9 | 9021 |
| 10 | 10 | 515 9308 |
| 11 | 11 | 9596 |
| 12 | 12 | 9883 |
| 13 | 13 | 516 0171 |
| 14 | 14 | 0458 |
| 15 | 15 | 0746 |
| 16 | 16 | 1033 |
| 17 | 17 | 1321 |
| 18 | 18 | 1604 |
| 19 | 19 | 1896 |
| 20 | 20 | 2184 |
| 21 | 21 | 2471 |
| 22 | 22 | 2752 |
| 23 | 23 | 3046 |
| 24 | 24 | 3334 |
| 25 | 25 | 516 3621 |
| 26 | 26 | 3909 |
| 27 | 27 | 4197 |
| 28 | 28 | 4484 |
| 29 | 29 | 4771 |
| 30 | 30 | 5059 |
| 31 | 31 | 5346 |
| 32 | 32 | 5634 |
| 33 | 33 | 5921 |
| 34 | 34 | 6209 |
| 35 | 35 | 516 6496 |
| 36 | 36 | 6784 |
| 37 | 37 | 7071 |
| 38 | 38 | 7359 |
| 39 | 39 | 7646 |
| 40 | 40 | 516 7933 |
| 41 | 41 | 8221 |
| 42 | 42 | 8508 |
| 43 | 43 | 8796 |
| 44 | 44 | 9083 |
| 45 | 45 | 516 9371 |
| 46 | 46 | 9658 |
| 47 | 47 | 9945 |
| 48 | 48 | 517 0233 |
| 49 | 49 | 0520 |
| 50 | 50 | 517 0808 |
| 51 | 51 | 1095 |
| 52 | 52 | 1383 |
| 53 | 53 | 1643 |
| 54 | 54 | 1958 |
| 55 | 55 | 2245 |
| 56 | 56 | 2533 |
| 57 | 57 | 2820 |
| 58 | 58 | 3107 |
| 59 | 59 | 3395 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. and Numbers III. for Sums of Apparent Altitudes and Apparent Distances } and Auxiliary Arguments.

| Part for Sec. of | C. S. A. 100″ | Numbers |
|---|---|---|
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | 084 | 1842 |
| 6 | | 1555 |
| 7 | | 1268 |
| 8 | | 0981 |
| 9 | | 0693 |
| 10 | 084 | 0406 |
| 11 | | 0119 |
| 12 | 083 | 9832 |
| 13 | | 9545 |
| 14 | | 9257 |
| 15 | 083 | 8970 |
| 16 | | 8683 |
| 17 | | 8396 |
| 18 | | 8109 |
| 19 | | 7821 |
| 20 | 083 | 7534 |
| 21 | | 7247 |
| 22 | | 6960 |
| 23 | | 6674 |
| 24 | | 6387 |
| 25 | 083 | 6100 |
| 26 | | 5813 |
| 27 | | 5526 |
| 28 | | 5239 |
| 29 | | 4952 |
| 30 | 083 | 4665 |
| 31 | | 4378 |
| 32 | | 4091 |
| 33 | | 3804 |
| 34 | | 3517 |
| 35 | 083 | 3231 |
| 36 | | 2944 |
| 37 | | 2657 |
| 38 | | 2371 |
| 39 | | 2084 |
| 40 | 083 | 1797 |
| 41 | | 1511 |
| 42 | | 1224 |
| 43 | | 0937 |
| 44 | | 0651 |
| 45 | 083 | 0364 |
| 46 | | 0077 |
| 47 | 082 | 9791 |
| 48 | | 9504 |
| 49 | | 9218 |
| 50 | 082 | 8931 |
| 51 | | 8644 |
| 52 | | 8357 |
| 53 | | 8071 |
| 54 | | 7784 |
| 55 | 082 | 7497 |
| 56 | | 7211 |
| 57 | | 6924 |
| 58 | | 6637 |
| 59 | | 6351 |
| 60 | 082 | 6064 |

| Part in Seconds of Auxil. A. | A. D. 100″ | Auxiliary Arguments. | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 217 | | | | | | | | | | | | | | | | | |
| 1 | 1 | | | | | | | | | | | | | | | | | | |
| 2 | 2 | | | | | | | | | | | | | | | | | | |
| 3 | 3 | | | | | | | | | | | | | | | | | | |
| 4 | 4 | | | | | | | | | | | | | | | | | | |
| 5 | 5 | 217 | | | | | | | | | | | | | | | | | |
| 6 | 6 | | | | | | | | | | | | | | | | | | |
| 7 | 7 | | | | | | | | | | | | | | | | | | |
| 8 | 8 | | | | | | | | | | | | | | | | | | |
| 9 | 9 | | | | | | | | | | | | | | | | | | |
| 10 | 10 | 217 | | | | | | | | | | | | | | | | | |
| 11 | 11 | | | | | | | | | | | | | | | | | | |
| 12 | 12 | | 6996 | 6906 | 6817 | 6728 | 6638 | 6549 | 6460 | 6371 | 6281 | 6192 | 6102 | 6013 | 5924 | 5834 | 5745 | 5655 | 5566 |
| 13 | 13 | | | | | | | | | | | | | | | | | | |
| 14 | 14 | | | | | | | | | | | | | | | | | | |
| 15 | 15 | 217 | | | | | | | | | | | | | | | | | |
| 16 | 16 | | | | | | | | | | | | | | | | | | |
| 17 | 17 | | | | | | | | | | | | | | | | | | |
| 18 | 18 | | | | | | | | | | | | | | | | | | |
| 19 | 19 | | | | | | | | | | | | | | | | | | |
| 20 | 20 | 217 | | | | | | | | | | | | | | | | | |
| 21 | 21 | | | | | | | | | | | | | | | | | | |
| 22 | 22 | | | | | | | | | | | | | | | | | | |
| 23 | 23 | 218 (217) | | | | | | | | | | | | | | | | | |
| 24 | 24 | | | | | | | | | | | | | | | | | | |
| 25 | 25 | 218 (217) | | | | | | | | | | | | | | | | | |
| 26 | 26 | | | | | | | | | | | | | | | | | | |
| 27 | 27 | | | | | | | | | | | | | | | | | | |
| 28 | 28 | 218 | | | | | | | | | | | | | | | | | |
| 29 | 29 | | | | | | | | | | | | | | | | | | |
| 30 | 30 | | | | | | | | | | | | | | | | | | |
| 31 | 31 | | | | | | | | | | | | | | | | | | |
| 32 | 32 | | | | | | | | | | | | | | | | | | |
| 33 | 33 | | | | | | | | | | | | | | | | | | |
| 34 | 34 | | | | | | | | | | | | | | | | | | |
| 35 | 35 | 218 | 3573 | 3480 | 3388 | 3295 | 3203 | 3110 | 3017 | 2925 | 2832 | 2739 | 2647 | 2554 | 2461 | 2369 | | | |
| 36 | 36 | | | | | | | | | | | | | | | | | | |
| 37 | 37 | | | | | | | | | | | | | | | | | | |
| 38 | 38 | | | | | | | | | | | | | | | | | | |
| 39 | 39 | | | | | | | | | | | | | | | | | | |
| 40 | 40 | 218 | | | | | | | | | | | | | | | | | |
| 41 | 41 | | | | | | | | | | | | | | | | | | |
| 42 | 42 | | | | | | | | | | | | | | | | | | |
| 43 | 43 | | | | | | | | | | | | | | | | | | |
| 44 | 44 | | | | | | | | | | | | | | | | | | |
| 45 | 45 | 218 | | | | | | | | | | | | | | | | | |
| 46 | 46 | | | | | | | | | | | | | | | | | | |
| 47 | 47 | | | | | | | | | | | | | | | | | | |
| 48 | 48 | | | | | | | | | | | | | | | | | | |
| 49 | 49 | | | | | | | | | | | | | | | | | | |
| 50 | 50 | 218 | | | | | | | | | | | | | | | | | |
| 51 | 51 | | | | | | | | | | | | | | | | | | |
| 52 | 52 | | | | | | | | | | | | | | | | | | |
| 53 | 53 | | | | | | | | | | | | | | | | | | |
| 54 | 54 | | | | | | | | | | | | | | | | | | |
| 55 | 55 | 218 | | | | | | | | | | | | | | | | | |
| 56 | 56 | | | | | | | | | | | | | | | | | | |
| 57 | 57 | | | | | | | | | | | | | | | | | | |
| 58 | 58 | | | | | | | | | | | | | | | | | | |
| 59 | 59 | | | | | | | | | | | | | | | | | | |
| 60 | 60 | 218 | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Aux. Arg. additive | S.A.A. & A. D. 100° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | | 217 | 2071 | 1983 | 1896 | 1808 | 1720 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 1 | | | 2355 | 2267 | 2179 | 2091 | 2003 | 1915 | 1827 | 1739 | 1651 | 1563 | 1475 | 1387 | 1299 | 1211 | 1123 | 1035 | 947 |
| 2 | | | 2639 | 2551 | 2463 | 2375 | 2287 | 2198 | 2110 | 2022 | 1934 | 1846 | 1758 | 1669 | 1581 | 1493 | 1405 | 1316 | 1228 |
| 3 | | | 2923 | 2834 | 2746 | 2658 | 2570 | 2482 | 2393 | 2305 | 2217 | 2129 | 2041 | 1953 | 1863 | 1775 | 1687 | 1598 | 1510 |
| 4 | | | 3206 | 3118 | 3030 | 2941 | 2853 | 2765 | 2676 | 2588 | 2499 | 2411 | 2322 | 2234 | 2145 | 2057 | 1969 | 1881 | 1791 |
| 5 | | 217 | 3492 | 3402 | 3313 | 3225 | 3136 | 3048 | 2958 | 2871 | 2782 | 2693 | 2604 | 2516 | 2427 | 2339 | 2250 | 2161 | 2073 |
| 6 | | | 3774 | 3685 | 3597 | 3508 | 3419 | 3331 | 3242 | 3153 | 3065 | 2976 | 2887 | 2798 | 2709 | 2621 | 2532 | 2443 | 2354 |
| 7 | | | 4058 | 3969 | 3881 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 8 | | | 4342 | 4253 | 4164 | 4075 | 3986 | 3897 | 3808 | 3719 | 3630 | 3541 | 3452 | 3363 | 3273 | 3184 | 3095 | 3006 | 2917 |
| 9 | | | 4625 | 4536 | 4447 | 4358 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3555 | 3467 | 3377 | 3288 | 3199 |
| 10 | | 217 | 4909 | 4820 | 4731 | 4644 | 4552 | 4463 | 4374 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 11 | | | 5193 | 5103 | 5014 | 4925 | 4835 | 4746 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 12 | | | 5476 | 5387 | 5297 | 5209 | 5119 | 5030 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 13 | | | 5760 | 5670 | 5581 | 5491 | 5401 | 5312 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | | | 6044 | 5954 | 5864 | 5774 | 5685 | 5595 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | | 217 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | | | 6611 | 6521 | 6431 | 6341 | 6251 | 6161 | 6070 | 5980 | 5890 | 5800 | 5710 | 5619 | 5529 | 5439 | 5349 | 5258 | 5168 |
| 17 | | | 6895 | 6804 | 6714 | 6624 | 6534 | 6443 | 6353 | 6263 | 6173 | 6082 | 5992 | 5901 | 5811 | 5721 | 5630 | 5540 | 5449 |
| 18 | | | 7178 | 7088 | 6997 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19 | | | 7462 | 7371 | 7281 | 7191 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | | 217 | 7745 | 7654 | 7564 | 7474 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 21 | | | 8029 | 7938 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 22 | | | 8313 | 8222 | 8131 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 23 | | | 8597 | 8505 | 8414 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | | | 8881 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | | 217 | 9165 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | | | 9447 | 9355 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | | | 9730 | 9638 | 9547 | 9455 | 9363 | 9272 | 9180 | 9088 | 8996 | 8905 | 8813 | 8721 | 8629 | 8537 | 8445 | 8353 | 8262 |
| 28 | | 218 (217) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | | 218 (217) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 32 | | | 1147 | 1055 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | | | 1431 | 1338 | 1246 | 1153 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 34 | | 218 | 1714 | 1621 | 1529 | 1436 | 1344 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | | 218 | 1997 | 1904 | 1812 | 1719 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | | | 2281 | 2188 | 2095 | 2002 | 1910 | 1817 | 1723 | 1630 | 1536 | 1443 | 1350 | 1257 | 1164 | 1071 | 978 | 885 | 791 |
| 37 | | | 2564 | 2471 | 2378 | 2285 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 38 | | | 2847 | 2754 | 2661 | 2567 | 2474 | 2381 | 2287 | 2194 | 2101 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 39 | | | 3131 | 3037 | 2944 | 2850 | 2757 | 2663 | 2570 | 2476 | 2383 | 2289 | 2196 | 2102 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | | 218 | 3414 | 3320 | 3227 | 3133 | 3040 | 2946 | 2852 | 2759 | 2665 | 2571 | 2478 | 2384 | 2290 | 2197 | 2103 | 2009 | 1915 |
| 41 | | | 3697 | 3603 | 3510 | 3416 | 3322 | 3229 | 3135 | 3041 | 2947 | 2853 | 2760 | 2666 | 2572 | 2478 | 2384 | 2290 | 2196 |
| 42 | | | 3980 | 3886 | 3793 | 3699 | 3605 | 3511 | 3417 | 3323 | 3229 | 3135 | 3041 | 2947 | 2853 | 2759 | 2665 | 2571 | 2477 |
| 43 | | | 4264 | 4170 | 4076 | 3982 | 3888 | 3794 | 3699 | 3605 | 3511 | 3417 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 44 | | | 4547 | 4453 | 4359 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 45 | | 218 | 4830 | 4736 | 4641 | 4547 | 4453 | 4358 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 46 | | | 5113 | 5019 | 4924 | 4830 | 4735 | 4641 | 4546 | 4452 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 47 | | | 5396 | 5302 | 5207 | 5113 | 5018 | 4923 | 4829 | 4734 | 4639 | 4545 | 4450 | 4355 | 4261 | 4166 | 4071 | 3976 | 3882 |
| 48 | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 49 | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 50 | | 218 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | | | 6529 | 6434 | 6339 | 6243 | 6148 | 6053 | 5958 | 5863 | 5767 | 5672 | 5577 | 5481 | 5386 | 5291 | 5195 | 5100 | 5005 |
| 52 | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | | 218 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 56 | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 58 | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| Parts for Sec. of Aux. Arg. additive | C. D. 100 | Sums |
|---|---|---|
| ′ | | |
| 0 | 0 | 517 3648 |
| 1 | 1 | 2955 |
| 2 | 2 | 4261 |
| 3 | 3 | 4567 |
| 4 | 4 | 4874 |
| 5 | 5 | 5180 |
| 6 | 6 | 5487 |
| 7 | 7 | 5793 |
| 8 | 8 | 6099 |
| 9 | 9 | 6406 |
| 10 | 10 | 6712 |
| 11 | 11 | 7018 |
| 12 | 12 | 7325 |
| 13 | 13 | 7631 |
| 14 | 14 | 7937 |
| 15 | 15 | 8244 |
| 16 | 16 | 8550 |
| 17 | 17 | 8856 |
| 18 | 18 | 9162 |
| 19 | 19 | 9468 |
| 20 | 20 | 9775 |
| 21 | 21 | 518 0081 |
| 22 | 22 | 0387 |
| 23 | 23 | 0693 |
| 24 | 24 | 0999 |
| 25 | 25 | 1305 |
| 26 | 26 | 1611 |
| 27 | 27 | 1917 |
| 28 | 28 | 2223 |
| 29 | 29 | 2529 |
| 30 | 30 | 2835 |
| 31 | 31 | 3141 |
| 32 | 32 | 3447 |
| 33 | 33 | 3753 |
| 34 | 34 | 4059 |
| 35 | 35 | 4365 |
| 36 | 36 | 4671 |
| 37 | 37 | 4977 |
| 38 | 38 | 5283 |
| 39 | 39 | 5589 |
| 40 | 40 | 5895 |
| 41 | 41 | 519 6201 |
| 42 | 42 | 6507 |
| 43 | 43 | 6813 |
| 44 | 44 | 7119 |
| 45 | 45 | 7425 |
| 46 | 46 | 7731 |
| 47 | 47 | 8037 |
| 48 | 48 | 8343 |
| 49 | 49 | 8649 |
| 50 | 50 | 8955 |
| 51 | 51 | 9261 |
| 52 | 52 | 9567 |
| 53 | 53 | 9873 |
| 54 | 54 | 520 0179 |
| 55 | 55 | 0485 |
| 56 | 56 | 0791 |
| 57 | 57 | 1097 |
| 58 | 58 | 1403 |
| 59 | 59 | 1709 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| for Sec. of C.S.A addit. | C.S.A 101° | Numbers | Seconds of Auxil. Argum. additive |
|---|---|---|---|
| | ′ | | |
| 000 | 0 | 00 0000 | 00 |
| 001 | 1 | 5776 | 08 |
| 002 | 2 | 5552 | 07 |
| 004 | 3 | 5328 | 05 |
| 007 | 4 | 4904 | 04 |
| 009 | 5 | 82 4633 | 02 |
| 012 | 6 | 4361 | 00 |
| 015 | 7 | 4091 | 59 |
| 018 | 8 | 3774 | 57 |
| 021 | 9 | 3488 | 55 |
| 025 | 10 | 82 3202 | 54 |
| 029 | 11 | 2918 | 52 |
| 033 | 12 | 2636 | 50 |
| 037 | 13 | 2312 | 49 |
| 041 | 14 | 2031 | 47 |
| 046 | 15 | 82 1750 | 46 |
| 051 | 16 | 1474 | 44 |
| 056 | 17 | 1198 | 43 |
| 061 | 18 | 0921 | 41 |
| 066 | 19 | 0643 | 40 |
| 072 | 20 | 0339 | 39 |
| 078 | 21 | 0067 | 37 |
| 084 | 22 | 81 9797 | 36 |
| 090 | 23 | 9481 | 35 |
| 097 | 24 | 9165 | 33 |
| 104 | 25 | 81 8849 | 32 |
| 111 | 26 | 8533 | 31 |
| 118 | 27 | 8217 | 30 |
| 126 | 28 | 7901 | 28 |
| 134 | 29 | 7585 | 27 |
| 142 | 30 | 81 7270 | 26 |
| 150 | 31 | 7109 | 25 |
| 159 | 32 | 6793 | 24 |
| 168 | 33 | 6477 | 23 |
| 177 | 34 | 6161 | 22 |
| 186 | 35 | 81 5846 | 21 |
| 196 | 36 | 5530 | 20 |
| 206 | 37 | 5473 | 19 |
| 216 | 38 | 4857 | 18 |
| 227 | 39 | 4541 | 17 |
| 238 | 40 | 4225 | 16 |
| 249 | 41 | 3909 | 15 |
| 260 | 42 | 4048 | 14 |
| 272 | 43 | 4761 | 13 |
| 284 | 44 | 3477 | 12 |
| 296 | 45 | 3161 | 11 |
| 309 | 46 | 2904 | 10 |
| 322 | 47 | 2529 | 09 |
| 335 | 48 | 2213 | 08 |
| 348 | 49 | 81 1897 | 07 |
| 362 | 50 | 1581 | 06 |
| 376 | 51 | 1476 | 05 |
| 390 | 52 | 1160 | 04 |
| 404 | 53 | 0844 | 03 |
| 419 | 54 | 0528 | 02 |
| 434 | 55 | 81 0212 | 01 |
| 449 | 56 | 80 9896 | 00 |
| 464 | 57 | 9580 | 59 |
| 480 | 58 | 9264 | 58 |
| 496 | 59 | 8948 | 57 |
| 512 | 60 | 8632 | 56 |

| Sec. & A.D. 101° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 219 | 7130 | 7017 | 6904 | 6791 | 6678 | 6565 | 6452 | 6339 | 6226 | 6113 | 6000 | 5887 | 5774 | 5661 | 5548 | 5435 |
| 1 | | 6922 | 6809 | 6696 | 6583 | 6470 | 6357 | 6244 | 6131 | 6018 | 5905 | 5792 | 5679 | 5566 | 5453 | 5340 | 5227 |
| 2 | | 6714 | 6601 | 6488 | 6375 | 6262 | 6149 | 6036 | 5923 | 5810 | 5697 | 5584 | 5471 | 5358 | 5245 | 5132 | 5019 |
| 3 | 219 | 6506 | 6393 | 6280 | 6167 | 6054 | 5941 | 5828 | 5715 | 5602 | 5489 | 5376 | 5263 | 5150 | 5037 | 4924 | 4811 |
| 4 | | 6298 | 6185 | 6072 | 5959 | 5846 | 5733 | 5620 | 5507 | 5394 | 5281 | 5168 | 5055 | 4942 | 4829 | 4716 | 4603 |
| 5 | 219 | 6090 | 5977 | 5864 | 5751 | 5638 | 5525 | 5412 | 5299 | 5186 | 5073 | 4960 | 4847 | 4734 | 4621 | 4508 | 4395 |
| 6 | | 5882 | 5769 | 5656 | 5543 | 5430 | 5317 | 5204 | 5091 | 4978 | 4865 | 4752 | 4639 | 4526 | 4413 | 4300 | 4187 |
| 7 | | 5674 | 5561 | 5448 | 5335 | 5222 | 5109 | 4996 | 4883 | 4770 | 4657 | 4544 | 4431 | 4318 | 4205 | 4092 | 3979 |
| 8 | | 5466 | 5353 | 5240 | 5127 | 5014 | 4901 | 4788 | 4675 | 4562 | 4449 | 4336 | 4223 | 4110 | 3997 | 3884 | 3771 |
| 9 | | 5258 | 5145 | 5032 | 4919 | 4806 | 4693 | 4580 | 4467 | 4354 | 4241 | 4128 | 4015 | 3902 | 3789 | 3676 | 3563 |
| 10 | 219 | 5050 | 4937 | 4824 | 4711 | 4598 | 4485 | 4372 | 4259 | 4146 | 4033 | 3920 | 3807 | 3694 | 3581 | 3468 | 3355 |
| 11 | | 4842 | 4729 | 4616 | 4503 | 4390 | 4277 | 4164 | 4051 | 3938 | 3825 | 3712 | 3599 | 3486 | 3373 | 3260 | 3147 |
| 12 | | 4634 | 4521 | 4408 | 4295 | 4182 | 4069 | 3956 | 3843 | 3730 | 3617 | 3504 | 3391 | 3278 | 3165 | 3052 | 2939 |
| 13 | | 4426 | 4313 | 4200 | 4087 | 3974 | 3861 | 3748 | 3635 | 3522 | 3409 | 3296 | 3183 | 3070 | 2957 | 2844 | 2731 |
| 14 | | 4218 | 4105 | 3992 | 3879 | 3766 | 3653 | 3540 | 3427 | 3314 | 3201 | 3088 | 2975 | 2862 | 2749 | 2636 | 2523 |
| 15 | 219 | 4010 | 3897 | 3784 | 3671 | 3558 | 3445 | 3332 | 3219 | 3106 | 2993 | 2880 | 2767 | 2654 | 2541 | 2428 | 2315 |
| 16 | | 3802 | 3689 | 3576 | 3463 | 3350 | 3237 | 3124 | 3011 | 2898 | 2785 | 2672 | 2559 | 2446 | 2333 | 2220 | 2107 |
| 17 | | 3594 | 3481 | 3368 | 3255 | 3142 | 3029 | 2916 | 2803 | 2690 | 2577 | 2464 | 2351 | 2238 | 2125 | 2012 | 1899 |
| 18 | | 3386 | 3273 | 3160 | 3047 | 2934 | 2821 | 2708 | 2595 | 2482 | 2369 | 2256 | 2143 | 2030 | 1917 | 1804 | 1691 |
| 19 | | 3178 | 3065 | 2952 | 2839 | 2726 | 2613 | 2500 | 2387 | 2274 | 2161 | 2048 | 1935 | 1822 | 1709 | 1596 | 1483 |
| 20 | 219 | 6418 | 6319 | 6220 | 6120 | 6021 | 5922 | 5823 | 5724 | 5625 | 5526 | 5427 | 5327 | 5228 | 5129 | 5030 | 4930 | 4831 |
| 21 | | 6210 | 6111 | 6012 | 5912 | 5813 | 5714 | 5615 | 5516 | 5417 | 5318 | 5219 | 5119 | 5020 | 4921 | 4822 | 4722 | 4623 |
| 22 | | 6002 | 5903 | 5804 | 5704 | 5605 | 5506 | 5407 | 5308 | 5209 | 5110 | 5011 | 4911 | 4812 | 4713 | 4614 | 4514 | 4415 |
| 23 | | 7273 | 7173 | 7074 | 6974 | 6875 | 6775 | 6676 | 6576 | 6477 | 6377 | 6277 | 6178 | 6078 | 5978 | 5879 | 5779 | 5679 |
| 24 | | 7065 | 6965 | 6866 | 6766 | 6667 | 6567 | 6468 | 6368 | 6269 | 6169 | 6069 | 5970 | 5870 | 5770 | 5671 | 5571 | 5471 |
| 25 | 219 | 6857 | 6757 | 6658 | 6558 | 6459 | 6359 | 6260 | 6160 | 6061 | 5961 | 5861 | 5762 | 5662 | 5562 | 5463 | 5363 | 5263 |
| 26 | | 6649 | 6549 | 6450 | 6350 | 6251 | 6151 | 6052 | 5952 | 5853 | 5753 | 5653 | 5554 | 5454 | 5354 | 5255 | 5155 | 5055 |
| 27 | | 6441 | 6341 | 6242 | 6142 | 6043 | 5943 | 5844 | 5744 | 5645 | 5545 | 5445 | 5346 | 5246 | 5146 | 5047 | 4947 | 4847 |
| 28 | | 6233 | 6133 | 6034 | 5934 | 5835 | 5735 | 5636 | 5536 | 5437 | 5337 | 5237 | 5138 | 5038 | 4938 | 4839 | 4739 | 4639 |
| 29 | | 6025 | 5925 | 5826 | 5726 | 5627 | 5527 | 5428 | 5328 | 5229 | 5129 | 5029 | 4930 | 4830 | 4730 | 4631 | 4531 | 4431 |
| 30 | 219 | 5817 | 5717 | 5618 | 5518 | 5419 | 5319 | 5220 | 5120 | 5021 | 4921 | 4821 | 4722 | 4622 | 4522 | 4423 | 4323 | 4223 |
| 31 | | 5609 | 5509 | 5410 | 5310 | 5211 | 5111 | 5012 | 4912 | 4813 | 4713 | 4613 | 4514 | 4414 | 4314 | 4215 | 4115 | 4015 |
| 32 | | 5401 | 5301 | 5202 | 5102 | 5003 | 4903 | 4804 | 4704 | 4605 | 4505 | 4405 | 4306 | 4206 | 4106 | 4007 | 3907 | 3807 |
| 33 | 220 | 5193 | 5093 | 4994 | 4894 | 4795 | 4695 | 4596 | 4496 | 4397 | 4297 | 4197 | 4098 | 3998 | 3898 | 3799 | 3699 | 3599 |
| 34 | | 4985 | 4885 | 4786 | 4686 | 4587 | 4487 | 4388 | 4288 | 4189 | 4089 | 3989 | 3890 | 3790 | 3690 | 3591 | 3491 | 3391 |
| 35 | 220 | 4777 | 4677 | 4578 | 4478 | 4379 | 4279 | 4180 | 4080 | 3981 | 3881 | 3781 | 3682 | 3582 | 3482 | 3383 | 3283 | 3183 |
| 36 | | 4569 | 4469 | 4370 | 4270 | 4171 | 4071 | 3972 | 3872 | 3773 | 3673 | 3573 | 3474 | 3374 | 3274 | 3175 | 3075 | 2975 |
| 37 | | 1261 | 1160 | 1058 | 0957 | 0855 | 0754 | 0652 | 0551 | 0449 | 0348 | 0246 | 0144 | 0043 | 9941 | 9839 | 9737 | 9636 |
| 38 | | 1053 | 0952 | 0850 | 0749 | 0647 | 0546 | 0444 | 0343 | 0241 | 0140 | 0038 | 9936 | 9835 | 9733 | 9631 | 9530 | 9428 |
| 39 | | 0845 | 0744 | 0642 | 0541 | 0439 | 0338 | 0236 | 0135 | 0033 | 9931 | 9830 | 9728 | 9626 | 9525 | 9423 | 9322 | 9220 |
| 40 | 220 | 0637 | 0536 | 0434 | 0333 | 0231 | 0130 | 0028 | 9926 | 9825 | 9723 | 9621 | 9520 | 9418 | 9316 | 9215 | 9113 | 9012 |
| 41 | | 0429 | 0328 | 0226 | 0125 | 0023 | 9922 | 9820 | 9719 | 9617 | 9516 | 9414 | 9312 | 9211 | 9109 | 9007 | 8906 | 8804 |
| 42 | | 2686 | 2583 | 2481 | 2379 | 2276 | 2174 | 2072 | 1969 | 1867 | 1765 | 1662 | 1560 | 1458 | 1355 | 1253 | 1150 | 1048 |
| 43 | | 2478 | 2375 | 2273 | 2170 | 2068 | 1965 | 1863 | 1761 | 1658 | 1556 | 1453 | 1351 | 1249 | 1146 | 1044 | 0941 | 0839 |
| 44 | | 2270 | 2167 | 2065 | 1962 | 1860 | 1757 | 1655 | 1552 | 1450 | 1347 | 1245 | 1142 | 1040 | 0937 | 0835 | 0732 | 0630 |
| 45 | 220 | 2062 | 1959 | 1857 | 1754 | 1652 | 1549 | 1447 | 1344 | 1242 | 1139 | 1037 | 0934 | 0832 | 0729 | 0627 | 0524 | 0422 |
| 46 | | 3824 | 3721 | 3618 | 3515 | 3413 | 3310 | 3207 | 3104 | 3001 | 2898 | 2795 | 2692 | 2589 | 2486 | 2384 | 2280 | 2177 |
| 47 | | 3616 | 3513 | 3410 | 3307 | 3204 | 3101 | 2998 | 2895 | 2792 | 2689 | 2586 | 2483 | 2380 | 2277 | 2174 | 2071 | 1968 |
| 48 | | 3408 | 3305 | 3202 | 3099 | 2996 | 2893 | 2790 | 2687 | 2584 | 2481 | 2378 | 2275 | 2172 | 2069 | 1966 | 1863 | 1760 |
| 49 | | 3200 | 3097 | 2994 | 2891 | 2788 | 2685 | 2582 | 2479 | 2376 | 2273 | 2170 | 2067 | 1964 | 1861 | 1758 | 1655 | 1552 |
| 50 | 220 | 2992 | 2889 | 2786 | 2683 | 2580 | 2477 | 2374 | 2271 | 2168 | 2065 | 1962 | 1859 | 1756 | 1653 | 1550 | 1447 | 1344 |
| 51 | | 5247 | 5143 | 5040 | 4936 | 4833 | 4729 | 4626 | 4522 | 4418 | 4315 | 4211 | 4107 | 4004 | 3900 | 3796 | 3693 | 3589 |
| 52 | | 5039 | 4935 | 4832 | 4728 | 4625 | 4521 | 4418 | 4314 | 4210 | 4107 | 4003 | 3899 | 3796 | 3692 | 3588 | 3485 | 3381 |
| 53 | | 4831 | 4727 | 4624 | 4520 | 4417 | 4313 | 4210 | 4106 | 4002 | 3899 | 3795 | 3691 | 3588 | 3484 | 3380 | 3277 | 3173 |
| 54 | | 4623 | 4519 | 4416 | 4312 | 4209 | 4105 | 4002 | 3898 | 3794 | 3691 | 3587 | 3483 | 3380 | 3276 | 3172 | 3069 | 2965 |
| 55 | 220 | 4415 | 4311 | 4208 | 4104 | 4001 | 3897 | 3794 | 3690 | 3586 | 3483 | 3379 | 3275 | 3172 | 3068 | 2964 | 2861 | 2757 |
| 56 | | 4207 | 4103 | 4000 | 3896 | 3793 | 3689 | 3586 | 3482 | 3378 | 3275 | 3171 | 3067 | 2964 | 2860 | 2756 | 2653 | 2549 |
| 57 | | 0654 | 0550 | 0447 | 0343 | 0240 | 0136 | 0033 | 9929 | 9825 | 9722 | 9618 | 9514 | 9411 | 9307 | 9203 | 9100 | 8996 |
| 58 | | 0446 | 0342 | 0239 | 0135 | 0032 | 9928 | 9825 | 9721 | 9617 | 9514 | 9410 | 9306 | 9203 | 9099 | 8995 | 8892 | 8788 |
| 59 | | 0238 | 0134 | 0031 | 9927 | 9824 | 9720 | 9617 | 9513 | 9409 | 9306 | 9202 | 9098 | 8995 | 8891 | 8787 | 8684 | 8580 |
| 60 | 220 | 0030 | 9926 | 9823 | 9719 | 9616 | 9512 | 9409 | 9305 | 9201 | 9098 | 8994 | 8890 | 8787 | 8683 | 8579 | 8476 | 8372 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

| Page 1st Sect. | Arg. A. D. 101 | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ | for Sec. of C. D. | C.D. 101° | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | | | |
| 101 | 0 | 219 (218) | | | | | | | | | | | | | | | | | | 0 | 516 |
| 99 | 1 | | | | | | | | | | | | | | | | | | | 1 | |
| 98 | 2 | | | | | | | | | | | | | | | | | | | 2 | |
| 97 | 3 | | | | | | | | | | | | | | | | | | 24 | 3 | |
| 96 | 4 | 219 (218) | | | | | | | | | | | | | | | | | 10 | 4 | |
| 95 | 5 | 219 (218) | | | | | | | | | | | | | | | | | 24 | 5 | 519 |
| 94 | 6 | | | | | | | | | | | | | | | | | | | 6 | |
| 93 | 7 | | | | | | | | | | | | | | | | | | | 7 | |
| 92 | 8 | | | | | | | | | | | | | | | | | | | 8 | |
| 91 | 9 | 219 | | | | | | | | | | | | | | | | | | 9 | |
| 90 | 10 | 219 | | | | | | | | | | | | | | | | | 47 | 1 | 19 |
| 89 | 11 | | | | | | | | | | | | | | | | | | | 11 | |
| 88 | 12 | | | | | | | | | | | | | | | | | | | 12 | |
| 87 | 13 | | | | | | | | | | | | | | | | | | | 13 | |
| 86 | 14 | | | | | | | | | | | | | | | | | | | 14 | |
| 85 | 15 | 219 | | | | | | | | | | | | | | | | | 71 | 15 | 520 |
| 84 | 16 | | | | | | | | | | | | | | | | | | 94 | 16 | 521 |
| 83 | 17 | | | | | | | | | | | | | | | | | | | 17 | |
| 82 | 18 | | | | | | | | | | | | | | | | | | | 18 | |
| 81 | 19 | | | | | | | | | | | | | | | | | | | 19 | |
| 80 | 20 | 219 | | | | | | | | | | | | | | | | | | 20 | 522 |
| 79 | 21 | | | | | | | | | | | | | | | | | | 100 | 21 | |
| 78 | 22 | | | | | | | | | | | | | | | | | | | 22 | |
| 77 | 23 | | | | | | | | | | | | | | | | | | | 23 | |
| 76 | 24 | | | | | | | | | | | | | | | | | | 118 | 24 | 531 |
| 75 | 25 | 219 | | | | | | | | | | | | | | | | | 118 | 25 | 524 |
| 74 | 26 | | | | | | | | | | | | | | | | | | | 26 | |
| 73 | 27 | | | | | | | | | | | | | | | | | | 1 | 27 | |
| 72 | 28 | | | | | | | | | | | | | | | | | | 118 | 28 | |
| 71 | 29 | | | | | | | | | | | | | | | | | | 135 | 29 | |
| 70 | 30 | 219 | | | | | | | | | | | | | | | | | 142 | 30 | 525 |
| 69 | 31 | | | | | | | | | | | | | | | | | | | 31 | |
| 68 | 32 | | | | | | | | | | | | | | | | | | 154 | 32 | |
| 67 | 33 | | | | | | | | | | | | | | | | | | 165 | 33 | 526 |
| 66 | 34 | | | | | | | | | | | | | | | | | | 166 | 34 | |
| 65 | 35 | 219 | | | | | | | | | | | | | | | | | 189 | 35 | 527 |
| 64 | 36 | | | | | | | | | | | | | | | | | | 171 | 36 | |
| 63 | 37 | | | | | | | | | | | | | | | | | | 176 | 37 | |
| 62 | 38 | | | | | | | | | | | | | | | | | | 1 | 38 | 104 |
| 61 | 39 | 220 (219) | | | | | | | | | | | | | | | | | 1 | 39 | 105 |
| 60 | 40 | 220 (219) | | | | | | | | | | | | | | | | | 189 | 40 | 528 |
| 59 | 41 | | | | | | | | | | | | | | | | | | 194 | 41 | |
| 58 | 42 | | | | | | | | | | | | | | | | | | 199 | 42 | 529 |
| 57 | 43 | | | | | | | | | | | | | | | | | | 204 | 43 | |
| 56 | 44 | | | | | | | | | | | | | | | | | | 211 | 44 | |
| 55 | 45 | 220 | | | | | | | | | | | | | | | | | 214 | 45 | 530 |
| 54 | 46 | | | | | | | | | | | | | | | | | | 1 | 46 | 531 |
| 53 | 47 | | | | | | | | | | | | | | | | | | 225 | 47 | 532 |
| 52 | 48 | 2639 | 2535 | 2432 | 2329 | 2225 | 2122 | 2018 | 1915 | 1811 | 1707 | 1604 | 1501 | 1397 | 1294 | 1190 | 1087 | 0983 | 228 | 48 | 533 |
| 51 | 49 | | | | | | | | | | | | | | | | | | 1 | 49 | 534 |
| 17 | 50 | 220 | 3203 | 3099 | 2996 | 2892 | 2788 | 2685 | 2581 | 2477 | 2373 | 2270 | 2166 | 2062 | 1958 | 1854 | 1751 | 1647 | 1543 | 237 | 50 | 520 | 506 |
| 15 | 51 | | | | | | | | | | | | | | | | | | | 1 | | |
| 14 | 52 | | 3767 | 3663 | 3559 | 3455 | 3351 | 3247 | 3143 | 3039 | 2935 | 2831 | 2727 | 2623 | 2519 | 2415 | 2311 | 2207 | 2102 | 247 | 52 | | 506 |
| 13 | 53 | | | | | | | | | | | | | | | | | | | 1 | 53 | | 507 |
| 12 | 54 | | | | | | | | | | | | | | | | | | | 2 | 54 | | 508 |
| 8 | 55 | 220 | | | | | | | | | | | | | | | | | | 254 | 55 | 522 | |
| 7 | 56 | | | | | | | | | | | | | | | | | | | 1 | 56 | | 477 |
| 5 | 57 | | | | | | | | | | | | | | | | | | | 271 | 57 | | |
| 3 | 58 | | 5459 | 5355 | 5250 | 5145 | 5040 | 4935 | 4830 | 4726 | 4621 | 4516 | 4411 | 4306 | 4201 | 4096 | 3991 | 3886 | 3781 | 275 | 58 | | 734 |
| 2 | 59 | | | | | | | | | | | | | | | | | | | 1 | 59 | | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. of C. S. A. addit. | C. S. A. 102° | Numbers |
|---|---|---|
| 285 | 0 | 080 8905 |
| 280 | 1 | 8620 |
| 275 | 2 | 8334 |
| 271 | 3 | 8049 |
| 266 | 4 | 7763 |
| 261 | 5 | 080 7478 |
| 256 | 6 | 7193 |
| 252 | 7 | 6907 |
| 247 | 8 | 6622 |
| 242 | 9 | 6336 |
| 237 | 10 | 080 6051 |
| 233 | 11 | 5766 |
| 228 | 12 | 5480 |
| 223 | 13 | 5195 |
| 218 | 14 | 4910 |
| 214 | 15 | 080 4624 |
| 209 | 16 | 4339 |
| 204 | 17 | 4054 |
| 199 | 18 | 3769 |
| 195 | 19 | 3483 |
| 190 | 20 | 080 3198 |
| 185 | 21 | 2913 |
| 180 | 22 | 2628 |
| 176 | 23 | 2343 |
| 171 | 24 | 2058 |
| 166 | 25 | 080 1772 |
| 161 | 26 | 1487 |
| 157 | 27 | 1202 |
| 152 | 28 | 0917 |
| 147 | 29 | 0632 |
| 142 | 30 | 080 0347 |
| 138 | 31 | 0062 |
| 133 | 32 | 079 9777 |
| 128 | 33 | 9492 |
| 123 | 34 | 9207 |
| 119 | 35 | 079 8922 |
| 114 | 36 | 8637 |
| 109 | 37 | 8352 |
| 104 | 38 | 8067 |
| 100 | 39 | 7782 |
| 95 | 40 | 079 7497 |
| 90 | 41 | 7213 |
| 85 | 42 | 6928 |
| 81 | 43 | 6643 |
| 76 | 44 | 6358 |
| 71 | 45 | 079 6073 |
| 66 | 46 | 5788 |
| 62 | 47 | 5503 |
| 57 | 48 | 5218 |
| 52 | 49 | 4933 |
| 47 | 50 | 079 4648 |
| 43 | 51 | 4363 |
| 38 | 52 | 4078 |
| 33 | 53 | 3793 |
| 28 | 54 | 3511 |
| 23 | 55 | 079 3227 |
| 19 | 56 | 2942 |
| 14 | 57 | 2657 |
| 9 | 58 | 2372 |
| 5 | 59 | 2087 |

| Parts for Seconds of Auxil. Argum. additive | S. A. A. & A. D. 102° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 104 | 0 | 220 | 7807 | 7702 | 7597 | 7493 | 7388 | 7283 | 7178 | 7073 | 6968 | 6863 | 6758 | 6653 | 6548 | 6444 | 6339 | 6234 | 6128 |
| 108 | 1 | | 8091 | 7986 | 7881 | 7777 | 7672 | 7567 | 7462 | 7357 | 7252 | 7146 | 7041 | 6936 | 6831 | 6726 | 6621 | 6516 | 6410 |
| 104 | 2 | | 8376 | 8271 | 8166 | 8060 | 7955 | 7850 | 7745 | 7640 | 7535 | 7430 | 7324 | 7219 | 7114 | 7008 | 6903 | 6797 | 6693 |
| 104 | 3 | | 8660 | 8555 | 8450 | 8344 | 8239 | 8134 | 8029 | 7923 | 7818 | 7713 | 7607 | 7502 | 7396 | 7291 | 7186 | 7081 | 6975 |
| 102 | 4 | | 8944 | 8839 | 8734 | 8628 | 8523 | 8417 | 8312 | 8207 | 8101 | 7996 | 7890 | 7785 | 7679 | 7573 | 7468 | 7362 | 7257 |
| 100 | 5 | 220 | 9229 | 9123 | 9018 | 8912 | 8807 | 8701 | 8595 | 8490 | 8384 | 8279 | 8173 | 8067 | 7962 | 7856 | 7750 | 7644 | 7539 |
| 99 | 6 | | 9513 | 9407 | 9302 | 9196 | 9090 | 8985 | 8879 | 8773 | 8667 | 8562 | 8456 | 8350 | 8244 | 8138 | 8032 | 7927 | 7821 |
| 97 | 7 | | 9797 | 9692 | 9586 | 9480 | 9374 | 9268 | 9162 | 9056 | 8950 | 8845 | 8739 | 8633 | 8527 | 8421 | 8315 | 8209 | 8103 |
| 95 | 8 | 221 (220) | 0081 | 9976 | 9870 | 9764 | 9658 | 9552 | 9446 | 9340 | 9234 | 9128 | 9021 | 8915 | 8809 | 8703 | 8597 | 8491 | 8385 |
| 93 | 9 | | 0365 | 0259 | 0154 | 0048 | 9941 | 9835 | 9729 | 9623 | 9517 | 9411 | 9304 | 9198 | 9092 | 8985 | 8879 | 8773 | 8667 |
| 91 | 10 | 221 (220) | 0650 | 0544 | 0438 | 0331 | 0225 | 0119 | 0012 | 9906 | 9800 | 9693 | 9587 | 9481 | 9374 | 9268 | 9161 | 9055 | 8949 |
| 89 | 11 | | 0934 | 0828 | 0721 | 0615 | 0509 | 0402 | 0296 | 0189 | 0083 | 9976 | 9870 | 9763 | 9657 | 9550 | 9444 | 9337 | 9230 |
| 88 | 12 | | 1218 | 1112 | 1005 | 0899 | 0792 | 0686 | 0579 | 0472 | 0366 | 0259 | 0153 | 0046 | 9939 | 9832 | 9726 | 9619 | 9512 |
| 86 | 13 | | 1502 | 1396 | 1289 | 1183 | 1076 | 0969 | 0862 | 0756 | 0649 | 0542 | 0435 | 0329 | 0222 | 0115 | 0008 | 9901 | 9794 |
| 84 | 14 | 221 | 1787 | 1680 | 1573 | 1466 | 1359 | 1253 | 1146 | 1039 | 0932 | 0825 | 0719 | 0611 | 0504 | 0397 | 0290 | 0183 | 0076 |
| 82 | 15 | 221 | 2071 | 1964 | 1857 | 1750 | 1643 | 1536 | 1429 | 1322 | 1215 | 1108 | 1001 | 0894 | 0786 | 0679 | 0572 | 0465 | 0358 |
| 80 | 16 | | 2355 | 2248 | 2141 | 2034 | 1926 | 1819 | 1712 | 1605 | 1498 | 1391 | 1283 | 1176 | 1069 | 0962 | 0854 | 0747 | 0640 |
| 78 | 17 | | 2639 | 2532 | 2425 | 2317 | 2210 | 2103 | 1995 | 1888 | 1781 | 1673 | 1566 | 1459 | 1351 | 1244 | 1136 | 1029 | 0921 |
| 77 | 18 | | 2923 | 2816 | 2708 | 2601 | 2494 | 2386 | 2279 | 2171 | 2064 | 1956 | 1849 | 1741 | 1634 | 1526 | 1419 | 1311 | 1203 |
| 75 | 19 | | 3207 | 3100 | 2992 | 2885 | 2777 | 2669 | 2562 | 2454 | 2347 | 2239 | 2131 | 2024 | 1916 | 1808 | 1701 | 1593 | 1485 |
| 73 | 20 | 221 | 3491 | 3384 | 3276 | 3168 | 3061 | 2953 | 2845 | 2737 | 2629 | 2522 | 2414 | 2306 | 2198 | 2090 | 1982 | 1875 | 1767 |
| 71 | 21 | | 3775 | 3667 | 3560 | 3452 | 3344 | 3236 | 3128 | 3020 | 2912 | 2804 | 2696 | 2589 | 2481 | 2373 | 2264 | 2157 | 2048 |
| 69 | 22 | | 4059 | 3951 | 3843 | 3735 | 3627 | 3519 | 3411 | 3303 | 3195 | 3087 | 2979 | 2871 | 2763 | 2655 | 2546 | 2438 | 2330 |
| 67 | 23 | | 4343 | 4235 | 4127 | 4019 | 3911 | 3803 | 3695 | 3586 | 3478 | 3370 | 3262 | 3153 | 3045 | 2937 | 2828 | 2720 | 2612 |
| 66 | 24 | | 4627 | 4519 | 4411 | 4302 | 4194 | 4086 | 3978 | 3869 | 3761 | 3653 | 3544 | 3436 | 3327 | 3219 | 3110 | 3002 | 2894 |
| 64 | 25 | 221 | 4911 | 4803 | 4694 | 4586 | 4478 | 4369 | 4261 | 4153 | 4044 | 3936 | 3828 | 3718 | 3609 | 3501 | 3392 | 3284 | 3175 |
| 62 | 26 | | 5195 | 5087 | 4978 | 4870 | 4761 | 4653 | 4544 | 4435 | 4327 | 4218 | 4110 | 4002 | 3892 | 3783 | 3674 | 3566 | 3457 |
| 60 | 27 | | 5479 | 5370 | 5262 | 5153 | 5044 | 4936 | 4827 | 4718 | 4609 | 4500 | 4392 | 4283 | 4174 | 4065 | 3956 | 3847 | 3738 |
| 58 | 28 | | 5763 | 5654 | 5545 | 5436 | 5328 | 5219 | 5110 | 5001 | 4892 | 4783 | 4674 | 4565 | 4456 | 4347 | 4238 | 4129 | 4020 |
| 57 | 29 | | 6047 | 5938 | 5829 | 5720 | 5611 | 5502 | 5393 | 5284 | 5175 | 5066 | 4957 | 4848 | 4738 | 4629 | 4520 | 4411 | 4302 |
| 55 | 30 | 221 | 6331 | 6221 | 6112 | 6003 | 5894 | 5785 | 5676 | 5567 | 5457 | 5348 | 5239 | 5130 | 5021 | 4911 | 4802 | 4693 | 4585 |
| 53 | 31 | | 6614 | 6505 | 6396 | 6287 | 6177 | 6068 | 5959 | 5849 | 5740 | 5631 | 5521 | 5412 | 5303 | 5193 | 5084 | 4974 | 4865 |
| 51 | 32 | | 6898 | 6789 | 6680 | 6570 | 6461 | 6351 | 6242 | 6132 | 6023 | 5913 | 5804 | 5694 | 5585 | 5475 | 5366 | 5256 | 5146 |
| 49 | 33 | | 7182 | 7073 | 6963 | 6854 | 6744 | 6634 | 6525 | 6415 | 6306 | 6196 | 6086 | 5976 | 5867 | 5757 | 5647 | 5538 | 5428 |
| 47 | 34 | | 7466 | 7356 | 7247 | 7137 | 7027 | 6917 | 6808 | 6698 | 6588 | 6478 | 6368 | 6259 | 6149 | 6039 | 5929 | 5819 | 5709 |
| 46 | 35 | 221 | 7750 | 7640 | 7530 | 7420 | 7310 | 7201 | 7091 | 6981 | 6871 | 6761 | 6651 | 6541 | 6431 | 6321 | 6211 | 6100 | 5991 |
| 44 | 36 | | 8033 | 7923 | 7813 | 7704 | 7594 | 7484 | 7374 | 7263 | 7153 | 7043 | 6933 | 6823 | 6713 | 6603 | 6493 | 6382 | 6272 |
| 42 | 37 | | 8317 | 8207 | 8097 | 7987 | 7877 | 7767 | 7656 | 7546 | 7436 | 7326 | 7216 | 7105 | 6995 | 6885 | 6774 | 6664 | 6554 |
| 41 | 38 | | 8601 | 8491 | 8381 | 8270 | 8160 | 8049 | 7939 | 7829 | 7719 | 7608 | 7498 | 7388 | 7277 | 7167 | 7056 | 6946 | 6835 |
| 39 | 39 | | 8884 | 8774 | 8664 | 8553 | 8443 | 8332 | 8222 | 8112 | 8001 | 7891 | 7780 | 7670 | 7559 | 7448 | 7338 | 7227 | 7116 |
| 38 | 40 | 221 | 9168 | 9058 | 8947 | 8837 | 8726 | 8615 | 8505 | 8394 | 8284 | 8173 | 8062 | 7952 | 7841 | 7730 | 7619 | 7508 | 7398 |
| 36 | 41 | | 9452 | 9341 | 9230 | 9120 | 9009 | 8898 | 8787 | 8677 | 8566 | 8455 | 8345 | 8234 | 8123 | 8012 | 7901 | 7790 | 7679 |
| 35 | 42 | | 9736 | 9625 | 9514 | 9403 | 9292 | 9181 | 9070 | 8960 | 8849 | 8738 | 8627 | 8516 | 8405 | 8294 | 8183 | 8072 | 7961 |
| 33 | 43 | 222 (221) | 0019 | 9908 | 9797 | 9686 | 9575 | 9464 | 9353 | 9242 | 9131 | 9020 | 8909 | 8798 | 8687 | 8575 | 8464 | 8353 | 8242 |
| 32 | 44 | | 0303 | 0192 | 0081 | 9970 | 9858 | 9747 | 9636 | 9525 | 9413 | 9302 | 9191 | 9080 | 8968 | 8857 | 8746 | 8635 | 8523 |
| 31 | 45 | 222 (221) | 0587 | 0476 | 0364 | 0253 | 0141 | 0030 | 9919 | 9807 | 9696 | 9585 | 9473 | 9362 | 9250 | 9139 | 9027 | 8916 | 8804 |
| 29 | 46 | | 0871 | 0759 | 0647 | 0536 | 0424 | 0313 | 0201 | 0090 | 9977 | 9865 | 9753 | 9641 | 9532 | 9421 | 9309 | 9197 | 9085 |
| 28 | 47 | | 1153 | 1042 | 0930 | 0819 | 0707 | 0596 | 0484 | 0372 | 0261 | 0149 | 0037 | 9926 | 9814 | 9702 | 9591 | 9479 | 9367 |
| 27 | 48 | | 1437 | 1325 | 1214 | 1102 | 0990 | 0878 | 0767 | 0655 | 0543 | 0431 | 0320 | 0208 | 0096 | 9984 | 9872 | 9760 | 9648 |
| 25 | 49 | | 1721 | 1609 | 1497 | 1385 | 1273 | 1161 | 1049 | 0937 | 0825 | 0714 | 0602 | 0490 | 0378 | 0266 | 0154 | 0042 | 9930 |
| 24 | 50 | 222 | 2004 | 1892 | 1780 | 1668 | 1556 | 1444 | 1332 | 1220 | 1108 | 0996 | 0884 | 0772 | 0660 | 0547 | 0435 | 0323 | 0211 |
| 23 | 51 | | 2287 | 2175 | 2063 | 1951 | 1838 | 1726 | 1615 | 1502 | 1390 | 1278 | 1166 | 1053 | 0941 | 0829 | 0717 | 0604 | 0492 |
| 22 | 52 | | 2571 | 2459 | 2347 | 2234 | 2122 | 2010 | 1897 | 1785 | 1673 | 1560 | 1448 | 1335 | 1223 | 1111 | 0998 | 0886 | 0773 |
| 21 | 53 | | 2854 | 2742 | 2630 | 2517 | 2405 | 2293 | 2180 | 2067 | 1955 | 1842 | 1730 | 1617 | 1505 | 1392 | 1279 | 1167 | 1054 |
| 20 | 54 | | 3138 | 3025 | 2913 | 2800 | 2688 | 2575 | 2463 | 2350 | 2237 | 2124 | 2012 | 1899 | 1786 | 1674 | 1561 | 1448 | 1335 |
| 19 | 55 | 222 | 3421 | 3308 | 3196 | 3083 | 2970 | 2858 | 2745 | 2632 | 2519 | 2407 | 2294 | 2181 | 2068 | 1955 | 1842 | 1729 | 1616 |
| 18 | 56 | | 3704 | 3592 | 3479 | 3366 | 3253 | 3140 | 3027 | 2914 | 2802 | 2689 | 2576 | 2463 | 2350 | 2237 | 2124 | 2011 | 1897 |
| 17 | 57 | | 3987 | 3875 | 3762 | 3649 | 3536 | 3423 | 3310 | 3197 | 3084 | 2971 | 2858 | 2745 | 2631 | 2518 | 2405 | 2292 | 2179 |
| 16 | 58 | | 4271 | 4158 | 4045 | 3932 | 3819 | 3706 | 3592 | 3479 | 3366 | 3253 | 3139 | 3026 | 2913 | 2800 | 2687 | 2574 | 2460 |
| 15 | 59 | | 4555 | 4441 | 4328 | 4215 | 4101 | 3988 | 3875 | 3761 | 3648 | 3535 | 3421 | 3308 | 3195 | 3081 | 2968 | 2854 | 2741 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Prop. part of Sum of Auxil. Argum. additive | Year & A. D. 102 | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 109 | 0 | 220 | [illegible] | | | | | | | | | | | | | | | |
| 108 | 1 | | 6305 | 6200 | 6095 | 5990 | 5884 | 5779 | 5674 | 5568 | 5463 | 5358 | 5252 | 5147 | 5042 | 4936 | 4831 | 4725 | 4620 |
| 106 | 2 | | [illegible] | | | | | | | | | | | | | | | | |
| 104 | 3 | | [illegible] | | | | | | | | | | | | | | | | |
| 102 | 4 | | 7151 | 7045 | 6940 | 6834 | 6728 | 6623 | 6517 | 6411 | 6305 | 6200 | 6094 | 5988 | 5882 | 5776 | 5670 | 5564 | 5458 |
| 100 | 5 | 220 | [illegible] | | | | | | | | | | | | | | | | |
| 99 | 6 | | 7715 | 7609 | 7503 | 7397 | 7291 | 7185 | 7079 | 6973 | 6867 | 6761 | 6655 | 6548 | 6442 | 6336 | 6230 | 6124 | 6018 |
| 97 | 7 | | 7997 | 7890 | 7784 | 7678 | 7572 | 7466 | 7360 | 7254 | 7147 | 7041 | 6935 | 6829 | 6722 | 6616 | 6510 | 6403 | 6297 |
| 96 | 8 | | [illegible] | | | | | | | | | | | | | | | | |
| 95 | 9 | | [illegible] | | | | | | | | | | | | | | | | |
| 91 | 10 | 220 | [illegible] | | | | | | | | | | | | | | | | |
| 89 | 11 | | 9124 | 9017 | 8910 | 8804 | 8697 | 8590 | 8483 | 8377 | 8270 | 8163 | 8056 | 7949 | 7843 | 7736 | 7629 | 7522 | 7415 |
| 87 | 12 | | [illegible] | | | | | | | | | | | | | | | | |
| 85 | 13 | | [illegible] | | | | | | | | | | | | | | | | |
| 83 | 14 | | [illegible] | | | | | | | | | | | | | | | | |
| 82 | 15 | 221 (220) | [illegible] | | | | | | | | | | | | | | | | |
| 80 | 16 | | [illegible] | | | | | | | | | | | | | | | | |
| 77 | 17 | | [illegible] | | | | | | | | | | | | | | | | |
| 77 | 18 | | [illegible] | | | | | | | | | | | | | | | | |
| 75 | 19 | | [illegible] | | | | | | | | | | | | | | | | |
| 73 | 20 | 221 (220) | [illegible] | | | | | | | | | | | | | | | | |
| 71 | 21 | 221 | [illegible] | | | | | | | | | | | | | | | | |
| 69 | 22 | | 2222 | 2114 | 2005 | 1897 | 1789 | 1681 | 1572 | 1464 | 1356 | 1247 | 1139 | 1030 | 0922 | 0813 | 0705 | 0596 | 0488 |
| 67 | 23 | | 2504 | 2395 | 2287 | 2178 | 2070 | 1961 | 1853 | 1744 | 1636 | 1527 | 1419 | 1310 | 1202 | 1093 | 0984 | 0876 | 0767 |
| 66 | 24 | | 2785 | 2677 | 2568 | 2459 | 2351 | 2242 | 2134 | 2025 | 1916 | 1808 | 1699 | 1590 | 1482 | 1373 | 1264 | 1155 | 1046 |
| 64 | 25 | 221 | 3067 | 2958 | 2849 | 2740 | 2632 | 2523 | 2414 | 2305 | 2197 | 2088 | 1979 | 1870 | 1761 | 1652 | 1543 | 1435 | 1326 |
| 62 | 26 | | 3348 | 3239 | 3130 | 3022 | 2913 | 2804 | 2695 | 2586 | 2477 | 2368 | 2259 | 2150 | 2041 | 1932 | 1823 | 1714 | 1605 |
| 60 | 27 | | 3629 | 3521 | 3412 | 3303 | 3194 | 3084 | 2976 | 2866 | 2757 | 2648 | 2539 | 2430 | 2321 | 2212 | 2102 | 1993 | 1884 |
| 58 | 28 | | [illegible] | | | | | | | | | | | | | | | | |
| 57 | 29 | | [illegible] | | | | | | | | | | | | | | | | |
| 55 | 30 | 221 | [illegible] | | | | | | | | | | | | | | | | |
| 53 | 31 | | 4755 | 4646 | 4536 | 4427 | 4317 | 4207 | 4098 | 3988 | 3879 | 3769 | 3659 | 3549 | 3440 | 3330 | 3220 | 3110 | 3001 |
| 51 | 32 | | 5037 | 4927 | 4817 | 4707 | 4598 | 4488 | 4378 | 4268 | 4159 | 4049 | 3939 | 3829 | 3719 | 3609 | 3500 | 3390 | 3280 |
| 49 | 33 | | 5318 | 5208 | 5098 | 4988 | 4879 | 4769 | 4659 | 4549 | 4439 | 4329 | 4219 | 4109 | 3999 | 3889 | 3779 | 3669 | 3559 |
| 47 | 34 | | [illegible] | | | | | | | | | | | | | | | | |
| 46 | 35 | 221 | 5881 | 5771 | 5660 | 5550 | 5440 | 5330 | 5220 | 5110 | 4999 | 4889 | 4779 | 4669 | 4558 | 4448 | 4338 | 4227 | 4117 |
| 44 | 36 | | 6162 | 6052 | 5941 | 5831 | 5721 | 5611 | 5500 | 5390 | 5279 | 5169 | 5059 | 4948 | 4838 | 4727 | 4617 | 4506 | 4396 |
| 42 | 37 | | [illegible] | | | | | | | | | | | | | | | | |
| 40 | 38 | | 6725 | 6614 | 6503 | 6393 | 6282 | 6172 | 6061 | 5950 | 5840 | 5729 | 5618 | 5508 | 5397 | 5286 | 5175 | 5065 | 4954 |
| 38 | 39 | | [illegible] | | | | | | | | | | | | | | | | |
| 36 | 40 | 221 | 7287 | 7176 | 7065 | 6955 | 6844 | 6733 | 6622 | 6511 | 6400 | 6289 | 6178 | 6067 | 5956 | 5845 | 5734 | 5623 | 5512 |
| 35 | 41 | | 7568 | 7457 | 7346 | 7235 | 7124 | 7013 | 6902 | 6791 | 6680 | 6569 | 6458 | 6347 | 6235 | 6124 | 6013 | 5902 | 5791 |
| 33 | 42 | | 7850 | 7738 | 7627 | 7516 | 7405 | 7294 | 7183 | 7071 | 6960 | 6849 | 6738 | 6626 | 6515 | 6404 | 6292 | 6181 | 6070 |
| 31 | 43 | | 8131 | 8019 | 7908 | 7797 | 7686 | 7574 | 7463 | 7351 | 7240 | 7129 | 7017 | 6906 | 6794 | 6683 | 6571 | 6460 | 6348 |
| 29 | 44 | | 8412 | 8300 | 8189 | 8078 | 7966 | 7855 | 7743 | 7632 | 7520 | 7409 | 7297 | 7185 | 7074 | 6962 | 6851 | 6739 | 6627 |
| 27 | 45 | 221 | [illegible] | | | | | | | | | | | | | | | | |
| 26 | 46 | | 8974 | 8862 | 8751 | 8639 | 8527 | 8415 | 8304 | 8192 | 8080 | 7968 | 7856 | 7745 | 7633 | 7521 | 7409 | 7297 | 7185 |
| 24 | 47 | | 9255 | 9143 | 9032 | 8920 | 8808 | 8696 | 8584 | 8472 | 8360 | 8248 | 8136 | 8024 | 7912 | 7800 | 7688 | 7576 | 7464 |
| 22 | 48 | | 9536 | 9424 | 9312 | 9200 | 9088 | 8976 | 8864 | 8752 | 8640 | 8528 | 8416 | 8304 | 8191 | 8079 | 7967 | 7855 | 7743 |
| 20 | 49 | | [illegible] | | | | | | | | | | | | | | | | |
| 18 | 50 | 222 (221) | 0098 | 9986 | 9874 | 9762 | 9649 | 9537 | 9425 | 9312 | 9200 | 9087 | 8975 | 8863 | 8750 | 8638 | 8525 | 8413 | 8300 |
| 16 | 51 | | 0379 | 0267 | 0155 | 0042 | 9930 | 9817 | 9705 | 9592 | 9480 | 9367 | 9255 | 9142 | 9029 | 8917 | 8804 | 8692 | 8579 |
| 15 | 52 | | 0660 | 0548 | 0435 | 0323 | 0210 | 0098 | 9985 | 9872 | 9760 | 9647 | 9534 | 9421 | 9309 | 9196 | 9083 | 8970 | 8858 |
| 13 | 53 | | [illegible] | | | | | | | | | | | | | | | | |
| 11 | 54 | | [illegible] | | | | | | | | | | | | | | | | |
| 9 | 55 | 221 (221) | [illegible] | | | | | | | | | | | | | | | | |
| 7 | 56 | | 1784 | 1671 | 1558 | 1445 | 1332 | 1219 | 1105 | 0992 | 0879 | 0766 | 0652 | 0539 | 0426 | 0312 | 0199 | 0086 | 9972 |
| 6 | 57 | 222 | [illegible] | | | | | | | | | | | | | | | | |
| 4 | 58 | | 2346 | 2233 | 2119 | 2006 | 1892 | 1779 | 1665 | 1552 | 1438 | 1325 | 1211 | 1098 | 0984 | 0870 | 0757 | 0643 | 0530 |
| 2 | 59 | | [illegible] | | | | | | | | | | | | | | | | |

Sums for finding the Corrected Distances.

| Prop. part of Sum of Auxil. Argum. additive | Year & A. D. 102 | Sums |
|---|---|---|
| 0 | 0 | 520 7912 |
| 5 | 1 | [illegible] |
| 9 | 2 | [illegible] |
| 14 | 3 | [illegible] |
| 19 | 4 | [illegible] |
| 24 | 5 | 520 9134 |
| 28 | 6 | [illegible] |
| 33 | 7 | [illegible] |
| 38 | 8 | 521 0133 |
| 43 | 9 | [illegible] |
| 47 | 10 | 521 0577 |
| 52 | 11 | 1040 |
| 57 | 12 | [illegible] |
| 61 | 13 | [illegible] |
| 66 | 14 | [illegible] |
| 71 | 15 | 521 [illegible] |
| 75 | 16 | [illegible] |
| 80 | 17 | [illegible] |
| 85 | 18 | [illegible] |
| 90 | 19 | [illegible] |
| 94 | 20 | 521 3572 |
| 99 | 21 | [illegible] |
| 104 | 22 | 4107 |
| 109 | 23 | [illegible] |
| 114 | 24 | [illegible] |
| 118 | 25 | 521 5210 |
| 123 | 26 | [illegible] |
| 128 | 27 | [illegible] |
| 132 | 28 | [illegible] |
| 137 | 29 | [illegible] |
| 142 | 30 | 521 [illegible] |
| 147 | 31 | [illegible] |
| 151 | 32 | [illegible] |
| 156 | 33 | [illegible] |
| 161 | 34 | [illegible] |
| 166 | 35 | 521 [illegible] |
| 170 | 36 | [illegible] |
| 175 | 37 | [illegible] |
| 180 | 38 | [illegible] |
| 185 | 39 | [illegible] |
| 189 | 40 | 521 [illegible] |
| 194 | 41 | [illegible] |
| 199 | 42 | [illegible] |
| 203 | 43 | 522 [illegible] |
| 208 | 44 | [illegible] |
| 213 | 45 | [illegible] |
| 218 | 46 | [illegible] |
| 222 | 47 | [illegible] |
| 227 | 48 | [illegible] |
| 232 | 49 | [illegible] |
| 237 | 50 | 522 [illegible] |
| 241 | 51 | [illegible] |
| 246 | 52 | [illegible] |
| 251 | 53 | [illegible] |
| 255 | 54 | [illegible] |
| 260 | 55 | [illegible] |
| 265 | 56 | 3817 |
| 270 | 57 | [illegible] |
| 274 | 58 | 4384 |
| 279 | 59 | [illegible] |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Part for Sec. of | Sums 103° | Numbers |
|---|---|---|
| 0 | | |
| 1 | | |
| 2 | | |
| 3 | | |
| 4 | | |
| 5 | | |
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| Part for Seconds of Auxil. | A.A. & A. D. 103° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 4835 | 4724 | 4611 | 4496 | 4384 | 4271 | 4157 | 4044 | 3930 | 3817 | 3703 | 3590 | 3476 | 3363 | 3249 | 3135 | 3022 |
| 1 | 1 | 5121 | 5007 | 4894 | 4780 | 4667 | 4553 | 4440 | 4326 | 4212 | 4099 | 3985 | 3871 | 3758 | 3644 | 3530 | 3417 | 3303 |
| 2 | 2 | 5408 | 5294 | 5180 | 5066 | 4952 | 4838 | 4724 | 4610 | 4496 | 4382 | 4267 | 4153 | 4039 | 3925 | 3811 | 3697 | 3584 |
| 3 | 3 | 5695 | 5580 | 5466 | 5351 | 5237 | 5123 | 5008 | 4894 | 4779 | 4665 | 4550 | 4435 | 4321 | 4207 | 4093 | 3978 | 3864 |
| 4 | 4 | 5981 | 5867 | 5752 | 5638 | 5523 | 5408 | 5294 | 5179 | 5065 | 4950 | 4835 | 4721 | 4607 | 4492 | 4378 | 4264 | 4149 |
| 5 | 5 | 6268 | 6153 | 6039 | 5924 | 5809 | 5694 | 5580 | 5465 | 5351 | 5236 | 5121 | 5007 | 4892 | 4778 | 4664 | 4549 | 4435 |
| 6 | 6 | 6555 | 6440 | 6325 | 6211 | 6096 | 5981 | 5866 | 5751 | 5637 | 5522 | 5407 | 5293 | 5178 | 5064 | 4949 | 4835 | 4720 |
| 7 | 7 | 6842 | 6727 | 6612 | 6497 | 6382 | 6267 | 6153 | 6038 | 5923 | 5808 | 5693 | 5579 | 5464 | 5350 | 5235 | 5121 | 5006 |
| 8 | 8 | 7128 | 7013 | 6898 | 6783 | 6668 | 6553 | 6439 | 6324 | 6209 | 6094 | 5979 | 5865 | 5750 | 5636 | 5521 | 5407 | 5292 |
| 9 | 9 | 7415 | 7300 | 7185 | 7070 | 6955 | 6840 | 6725 | 6610 | 6495 | 6380 | 6266 | 6151 | 6036 | 5922 | 5807 | 5693 | 5578 |
| 10 | 10 | 7702 | 7587 | 7472 | 7357 | 7241 | 7126 | 7011 | 6896 | 6781 | 6666 | 6552 | 6437 | 6322 | 6208 | 6093 | 5979 | 5864 |
| 11 | 11 | 7989 | 7874 | 7758 | 7643 | 7528 | 7413 | 7298 | 7183 | 7068 | 6953 | 6838 | 6723 | 6609 | 6494 | 6380 | 6265 | 6151 |
| 12 | 12 | 8276 | 8160 | 8045 | 7930 | 7815 | 7700 | 7585 | 7469 | 7354 | 7239 | 7124 | 7010 | 6895 | 6780 | 6666 | 6551 | 6437 |
| 13 | 13 | 8562 | 8447 | 8332 | 8217 | 8102 | 7986 | 7871 | 7756 | 7641 | 7526 | 7411 | 7296 | 7182 | 7067 | 6952 | 6838 | 6723 |
| 14 | 14 | 8849 | 8734 | 8619 | 8504 | 8388 | 8273 | 8158 | 8043 | 7928 | 7813 | 7698 | 7583 | 7468 | 7353 | 7239 | 7124 | 7010 |
| 15 | 15 | 9136 | 9021 | 8906 | 8790 | 8675 | 8560 | 8445 | 8330 | 8215 | 8100 | 7985 | 7870 | 7755 | 7641 | 7526 | 7411 | 7296 |
| 16 | 16 | 9423 | 9308 | 9192 | 9077 | 8962 | 8847 | 8732 | 8617 | 8502 | 8386 | 8271 | 8156 | 8042 | 7927 | 7812 | 7697 | 7583 |
| 17 | 17 | 9710 | 9594 | 9479 | 9364 | 9249 | 9134 | 9019 | 8903 | 8788 | 8673 | 8558 | 8443 | 8328 | 8214 | 8099 | 7984 | 7870 |
| 18 | 18 | 9996 | 9881 | 9766 | 9651 | 9536 | 9420 | 9305 | 9190 | 9075 | 8960 | 8845 | 8730 | 8615 | 8501 | 8386 | 8271 | 8157 |
| 19 | 19 | 223 (222) 0283 | 0168 | 0053 | 9938 | 9823 | 9708 | 9592 | 9477 | 9362 | 9247 | 9132 | 9017 | 8902 | 8788 | 8673 | 8558 | 8444 |
| 20 | 20 | (223 224) 0570 | 0455 | 0340 | 0225 | 0110 | 9995 | 9879 | 9764 | 9649 | 9534 | 9419 | 9304 | 9189 | 9075 | 8960 | 8845 | 8731 |
| 21 | 21 | 0857 | 0742 | 0627 | 0512 | 0397 | 0281 | 0166 | 0051 | 9936 | 9821 | 9706 | 9591 | 9476 | 9362 | 9247 | 9132 | 9018 |
| 22 | 22 | 1144 | 1029 | 0914 | 0799 | 0683 | 0568 | 0453 | 0338 | 0223 | 0108 | 9993 | 9878 | 9763 | 9649 | 9534 | 9419 | 9305 |
| 23 | 23 | 1431 | 1316 | 1200 | 1085 | 0970 | 0855 | 0740 | 0625 | 0510 | 0395 | 0280 | 0165 | 0050 | 9936 | 9821 | 9706 | 9592 |
| 24 | 24 | 1718 | 1602 | 1487 | 1372 | 1257 | 1142 | 1027 | 0912 | 0797 | 0682 | 0567 | 0452 | 0337 | 0223 | 0108 | 9993 | 9879 |
| 25 | 25 | 2004 | 1889 | 1774 | 1659 | 1544 | 1429 | 1314 | 1199 | 1084 | 0969 | 0854 | 0739 | 0624 | 0510 | 0395 | 0280 | 0166 |
| 26 | 26 | 2291 | 2176 | 2061 | 1946 | 1831 | 1716 | 1601 | 1486 | 1371 | 1256 | 1141 | 1026 | 0911 | 0797 | 0682 | 0567 | 0453 |
| 27 | 27 | 2578 | 2463 | 2348 | 2233 | 2118 | 2003 | 1888 | 1773 | 1658 | 1543 | 1428 | 1313 | 1198 | 1084 | 0969 | 0854 | 0740 |
| 28 | 28 | 2762 | 2645 | 2528 | 2410 | 2293 | 2175 | 2058 | 1940 | 1823 | 1705 | 1588 | 1470 | 1353 | 1235 | 1117 | 1000 | 0882 |
| 29 | 29 | 3045 | 2928 | 2811 | 2693 | 2575 | 2458 | 2340 | 2223 | 2105 | 1987 | 1870 | 1751 | 1634 | 1516 | 1398 | 1281 | 1163 |
| 30 | 30 | 3328 | 3211 | 3093 | 2976 | 2857 | 2740 | 2622 | 2504 | 2387 | 2268 | 2151 | 2033 | 1915 | 1797 | 1679 | 1561 | 1444 |
| 31 | 31 | 3611 | 3494 | 3375 | 3257 | 3139 | 3021 | 2903 | 2785 | 2667 | 2550 | 2432 | 2314 | 2196 | 2078 | 1960 | 1842 | 1725 |
| 32 | 32 | 3893 | 3775 | 3657 | 3539 | 3421 | 3303 | 3185 | 3067 | 2949 | 2831 | 2713 | 2595 | 2477 | 2358 | 2240 | 2122 | 2004 |
| 33 | 33 | 4176 | 4058 | 3941 | 3822 | 3703 | 3585 | 3467 | 3349 | 3231 | 3112 | 2994 | 2876 | 2758 | 2640 | 2521 | 2403 | 2285 |
| 34 | 34 | 4458 | 4341 | 4222 | 4104 | 3985 | 3867 | 3749 | 3631 | 3512 | 3394 | 3275 | 3157 | 3039 | 2920 | 2802 | 2684 | 2566 |
| 35 | 35 | 4741 | 4623 | 4504 | 4386 | 4267 | 4149 | 4031 | 3913 | 3794 | 3675 | 3557 | 3438 | 3320 | 3202 | 3083 | 2965 | 2847 |
| 36 | 36 | 5024 | 4905 | 4787 | 4668 | 4550 | 4431 | 4313 | 4194 | 4075 | 3957 | 3838 | 3719 | 3601 | 3482 | 3364 | 3246 | 3127 |
| 37 | 37 | 5306 | 5188 | 5069 | 4951 | 4832 | 4713 | 4594 | 4475 | 4357 | 4238 | 4119 | 4001 | 3882 | 3763 | 3645 | 3526 | 3408 |
| 38 | 38 | 5589 | 5470 | 5351 | 5233 | 5114 | 4995 | 4876 | 4757 | 4638 | 4519 | 4401 | 4282 | 4163 | 4044 | 3926 | 3807 | 3689 |
| 39 | 39 | 5871 | 5752 | 5633 | 5515 | 5396 | 5277 | 5158 | 5039 | 4920 | 4801 | 4682 | 4563 | 4444 | 4326 | 4207 | 4088 | 3970 |
| 40 | 40 | 6153 | 6035 | 5916 | 5797 | 5678 | 5559 | 5440 | 5321 | 5202 | 5083 | 4964 | 4845 | 4726 | 4607 | 4488 | 4370 | 4251 |
| 41 | 41 | 6436 | 6317 | 6198 | 6079 | 5960 | 5841 | 5722 | 5603 | 5484 | 5365 | 5246 | 5127 | 5008 | 4889 | 4770 | 4651 | 4532 |
| 42 | 42 | 6718 | 6599 | 6480 | 6361 | 6242 | 6123 | 6004 | 5885 | 5766 | 5647 | 5528 | 5409 | 5290 | 5171 | 5052 | 4933 | 4814 |
| 43 | 43 | 7000 | 6881 | 6762 | 6643 | 6524 | 6405 | 6286 | 6167 | 6048 | 5929 | 5810 | 5691 | 5572 | 5453 | 5334 | 5215 | 5096 |
| 44 | 44 | 7282 | 7163 | 7044 | 6925 | 6806 | 6687 | 6568 | 6449 | 6330 | 6211 | 6092 | 5973 | 5854 | 5735 | 5616 | 5497 | 5378 |
| 45 | 45 | 7564 | 7445 | 7326 | 7207 | 7088 | 6969 | 6850 | 6731 | 6612 | 6493 | 6374 | 6255 | 6136 | 6017 | 5898 | 5779 | 5660 |
| 46 | 46 | 7846 | 7727 | 7608 | 7489 | 7370 | 7251 | 7132 | 7013 | 6894 | 6775 | 6656 | 6537 | 6418 | 6299 | 6180 | 6061 | 5942 |
| 47 | 47 | 8128 | 8009 | 7890 | 7771 | 7652 | 7533 | 7414 | 7295 | 7176 | 7057 | 6938 | 6819 | 6700 | 6581 | 6462 | 6343 | 6224 |
| 48 | 48 | 8410 | 8291 | 8172 | 8053 | 7934 | 7815 | 7696 | 7577 | 7458 | 7339 | 7220 | 7101 | 6982 | 6863 | 6744 | 6625 | 6506 |
| 49 | 49 | 8692 | 8573 | 8454 | 8335 | 8216 | 8097 | 7978 | 7859 | 7740 | 7621 | 7502 | 7383 | 7264 | 7145 | 7026 | 6907 | 6788 |
| 50 | 50 | 8974 | 8855 | 8736 | 8617 | 8498 | 8379 | 8260 | 8141 | 8022 | 7903 | 7784 | 7665 | 7546 | 7427 | 7308 | 7189 | 7070 |
| 51 | 51 | 9256 | 9137 | 9018 | 8899 | 8780 | 8661 | 8542 | 8423 | 8304 | 8185 | 8066 | 7947 | 7828 | 7709 | 7590 | 7471 | 7352 |
| 52 | 52 | 9538 | 9419 | 9300 | 9181 | 9062 | 8943 | 8824 | 8705 | 8586 | 8467 | 8348 | 8229 | 8110 | 7991 | 7872 | 7753 | 7634 |
| 53 | 53 | 9820 | 9701 | 9582 | 9463 | 9344 | 9225 | 9106 | 8987 | 8868 | 8749 | 8630 | 8511 | 8392 | 8273 | 8154 | 8035 | 7916 |
| 54 | 54 | 224 (223) 0102 | 9983 | 9864 | 9745 | 9626 | 9507 | 9388 | 9269 | 9150 | 9031 | 8912 | 8793 | 8674 | 8555 | 8436 | 8317 | 8198 |
| 55 | 55 | (224 225) 0384 | 0265 | 0146 | 0027 | 9908 | 9789 | 9670 | 9551 | 9432 | 9313 | 9194 | 9075 | 8956 | 8837 | 8718 | 8599 | 8480 |
| 56 | 56 | 0666 | 0547 | 0428 | 0309 | 0190 | 0071 | 9952 | 9833 | 9714 | 9595 | 9476 | 9357 | 9238 | 9119 | 9000 | 8881 | 8762 |
| 57 | 57 | 0954 | 0832 | 0711 | 0589 | 0468 | 0346 | 0224 | 0103 | 9981 | 9860 | 9738 | 9616 | 9494 | 9373 | 9251 | 9129 | 9007 |
| 58 | 58 | 1236 | 1114 | 0993 | 0871 | 0749 | 0628 | 0506 | 0384 | 0262 | 0140 | 0019 | 9897 | 9775 | 9653 | 9531 | 9409 | 9287 |
| 59 | 59 | 1518 | 1396 | 1274 | 1153 | 1031 | 0909 | 0787 | 0665 | 0543 | 0421 | 0299 | 0177 | 0055 | 9933 | 9811 | 9689 | 9567 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Parts for Seconds of Auxil. Arg.

| A.A. & A. D. 103° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 222 | 2908 | 2794 | 2681 | 2567 | 2453 | 2339 | 2226 | 2112 | 1998 | 1884 | 1770 | 1656 | 1542 | 1428 | 1315 | 1201 | 1087 |
| 1 | | 3189 | 3075 | 2961 | 2847 | 2733 | 2619 | 2505 | 2392 | 2278 | 2164 | 2050 | 1936 | 1822 | 1708 | 1593 | 1479 | 1365 |
| 2 | | 3470 | 3356 | 3242 | 3128 | 3014 | 2900 | 2785 | 2671 | 2557 | 2443 | 2329 | 2215 | 2101 | 1987 | 1872 | 1758 | 1644 |
| 3 | | 3750 | 3636 | 3522 | 3408 | 3294 | 3180 | 3065 | 2951 | 2837 | 2723 | 2608 | 2494 | 2380 | 2265 | 2151 | 2037 | 1922 |
| 4 | | 4031 | 3917 | 3803 | 3688 | 3574 | 3460 | 3345 | 3231 | 3117 | 3002 | 2888 | 2773 | 2659 | 2544 | 2430 | 2315 | 2201 |
| 5 | 222 | 4312 | 4197 | 4083 | 3969 | 3854 | 3740 | 3625 | 3511 | 3396 | 3282 | 3167 | 3053 | 2938 | 2823 | 2709 | 2594 | 2479 |
| 6 | | 4593 | 4478 | 4364 | 4249 | 4134 | 4020 | 3905 | 3791 | 3676 | 3561 | 3447 | 3332 | 3217 | 3102 | 2987 | 2873 | 2758 |
| 7 | | 4873 | 4759 | 4644 | 4529 | 4415 | 4300 | 4185 | 4070 | 3955 | 3841 | 3726 | 3611 | 3496 | 3381 | 3266 | 3151 | 3036 |
| 8 | | 5154 | 5039 | 4924 | 4810 | 4695 | 4580 | 4465 | 4350 | 4235 | 4120 | 4005 | 3890 | 3775 | 3660 | 3545 | 3430 | 3315 |
| 9 | | 5435 | 5320 | 5205 | 5090 | 4975 | 4860 | 4745 | 4630 | 4515 | 4399 | 4284 | 4169 | 4054 | 3939 | 3823 | 3708 | 3593 |
| 10 | 222 | 5716 | 5600 | 5485 | 5370 | 5255 | 5140 | 5025 | 4909 | 4794 | 4679 | 4564 | 4448 | 4333 | 4218 | 4103 | 3987 | 3872 |
| 11 | | 5996 | 5881 | 5766 | 5650 | 5535 | 5420 | 5304 | 5189 | 5074 | 4958 | 4843 | 4727 | 4612 | 4497 | 4381 | 4266 | 4150 |
| 12 | | 6277 | 6161 | 6046 | 5930 | 5815 | 5700 | 5584 | 5469 | 5353 | 5238 | 5122 | 5007 | 4891 | 4775 | 4660 | 4544 | 4429 |
| 13 | | 6557 | 6442 | 6326 | 6211 | 6095 | 5980 | 5864 | 5748 | 5633 | 5517 | 5401 | 5285 | 5170 | 5054 | 4938 | 4823 | 4707 |
| 14 | | 6838 | 6722 | 6607 | 6491 | 6375 | 6259 | 6144 | 6028 | 5912 | 5796 | 5680 | 5564 | 5448 | 5333 | 5217 | 5101 | 4985 |
| 15 | 222 | 7119 | 7003 | 6887 | 6771 | 6656 | 6540 | 6424 | 6308 | 6191 | 6075 | 5959 | 5843 | 5727 | 5611 | 5495 | 5379 | 5263 |
| 16 | | 7399 | 7283 | 7167 | 7051 | 6935 | 6819 | 6703 | 6587 | 6471 | 6355 | 6239 | 6122 | 6006 | 5890 | 5774 | 5657 | 5541 |
| 17 | | 7680 | 7564 | 7448 | 7331 | 7215 | 7099 | 6983 | 6867 | 6751 | 6634 | 6518 | 6402 | 6285 | 6169 | 6052 | 5936 | 5820 |
| 18 | | 7960 | 7844 | 7728 | 7611 | 7495 | 7379 | 7262 | 7146 | 7029 | 6913 | 6796 | 6680 | 6564 | 6447 | 6331 | 6214 | 6098 |
| 19 | | 8241 | 8124 | 8008 | 7892 | 7775 | 7659 | 7542 | 7426 | 7309 | 7192 | 7076 | 6959 | 6843 | 6726 | 6610 | 6493 | 6377 |
| 20 | 222 | 8521 | 8405 | 8288 | 8172 | 8056 | 7938 | 7822 | 7705 | 7588 | 7472 | 7355 | 7238 | 7121 | 7005 | 6888 | 6771 | 6654 |
| 21 | | 8802 | 8685 | 8568 | 8452 | 8335 | 8218 | 8101 | 7985 | 7868 | 7751 | 7634 | 7517 | 7400 | 7283 | 7166 | 7049 | 6932 |
| 22 | | 9082 | 8965 | 8849 | 8732 | 8615 | 8498 | 8381 | 8264 | 8147 | 8030 | 7913 | 7796 | 7679 | 7562 | 7445 | 7328 | 7211 |
| 23 | | 9363 | 9246 | 9129 | 9012 | 8895 | 8778 | 8660 | 8543 | 8426 | 8309 | 8192 | 8075 | 7958 | 7840 | 7723 | 7606 | 7489 |
| 24 | | 9643 | 9526 | 9409 | 9292 | 9174 | 9057 | 8940 | 8823 | 8705 | 8588 | 8471 | 8354 | 8236 | 8119 | 8002 | 7885 | 7767 |
| 25 | 222 | 9923 | 9806 | 9689 | 9572 | 9454 | 9337 | 9220 | 9102 | 8985 | 8867 | 8750 | 8633 | 8515 | 8397 | 8280 | 8162 | 8045 |
| 26 | 223(222) | 0204 | 0086 | 9969 | 9852 | 9734 | 9617 | 9499 | 9382 | 9264 | 9147 | 9029 | 8911 | 8794 | 8676 | 8558 | 8441 | 8323 |
| 27 | | 0484 | 0367 | 0249 | 0131 | 0014 | 9896 | 9778 | 9661 | 9543 | 9425 | 9308 | 9190 | 9072 | 8955 | 8837 | 8719 | 8601 |
| 28 | | 0765 | 0647 | 0529 | 0411 | 0294 | 0176 | 0058 | 9940 | 9822 | 9705 | 9587 | 9469 | 9351 | 9233 | 9115 | 8997 | 8879 |
| 29 | | 1045 | 0927 | 0809 | 0691 | 0573 | 0455 | 0337 | 0220 | 0102 | 9984 | 9866 | 9748 | 9630 | 9511 | 9393 | 9275 | 9157 |
| 30 | 223(222) | 1326 | 1207 | 1089 | 0971 | 0853 | 0735 | 0617 | 0498 | 0380 | 0262 | 0144 | 0026 | 9907 | 9789 | 9672 | 9554 | 9435 |
| 31 | | 1605 | 1487 | 1369 | 1251 | 1133 | 1015 | 0896 | 0778 | 0660 | 0542 | 0424 | 0305 | 0187 | 0069 | 9950 | 9832 | 9713 |
| 32 | | 1886 | 1767 | 1649 | 1531 | 1412 | 1294 | 1176 | 1057 | 0939 | 0821 | 0702 | 0584 | 0465 | 0347 | 0228 | 0110 | 9991 |
| 33 | 223 | 2166 | 2047 | 1929 | 1811 | 1692 | 1574 | 1455 | 1337 | 1218 | 1099 | 0981 | 0862 | 0744 | 0625 | 0507 | 0388 | 0269 |
| 34 | | 2447 | 2327 | 2209 | 2090 | 1972 | 1853 | 1735 | 1616 | 1497 | 1378 | 1260 | 1141 | 1022 | 0903 | 0785 | 0666 | 0547 |
| 35 | 223 | 2726 | 2608 | 2489 | 2370 | 2251 | 2133 | 2014 | 1895 | 1776 | 1657 | 1538 | 1420 | 1301 | 1182 | 1063 | 0944 | 0825 |
| 36 | | 3006 | 2888 | 2769 | 2650 | 2531 | 2412 | 2293 | 2174 | 2055 | 1936 | 1817 | 1698 | 1579 | 1460 | 1341 | 1222 | 1103 |
| 37 | | 3287 | 3168 | 3049 | 2930 | 2811 | 2691 | 2572 | 2453 | 2334 | 2215 | 2096 | 1977 | 1858 | 1738 | 1619 | 1500 | 1380 |
| 38 | | 3567 | 3448 | 3328 | 3209 | 3090 | 2971 | 2852 | 2732 | 2613 | 2494 | 2375 | 2255 | 2136 | 2017 | 1897 | 1778 | 1658 |
| 39 | | 3847 | 3728 | 3608 | 3489 | 3370 | 3250 | 3131 | 3012 | 2892 | 2773 | 2653 | 2534 | 2414 | 2295 | 2175 | 2056 | 1936 |
| 40 | 223 | 4127 | 4008 | 3888 | 3769 | 3649 | 3530 | 3410 | 3291 | 3171 | 3052 | 2932 | 2813 | 2693 | 2573 | 2454 | 2334 | 2214 |
| 41 | | 4407 | 4287 | 4168 | 4048 | 3928 | 3809 | 3689 | 3569 | 3450 | 3330 | 3211 | 3091 | 2971 | 2851 | 2732 | 2612 | 2492 |
| 42 | | 4687 | 4567 | 4448 | 4328 | 4208 | 4088 | 3969 | 3849 | 3729 | 3609 | 3489 | 3370 | 3250 | 3130 | 3010 | 2890 | 2770 |
| 43 | | 4967 | 4847 | 4727 | 4608 | 4488 | 4368 | 4248 | 4128 | 4008 | 3888 | 3768 | 3648 | 3528 | 3408 | 3288 | 3167 | 3047 |
| 44 | | 5247 | 5127 | 5007 | 4887 | 4767 | 4647 | 4527 | 4407 | 4287 | 4167 | 4047 | 3927 | 3806 | 3686 | 3566 | 3445 | 3325 |
| 45 | 223 | 5527 | 5407 | 5287 | 5167 | 5047 | 4926 | 4806 | 4686 | 4566 | 4445 | 4325 | 4205 | 4084 | 3964 | 3844 | 3723 | 3603 |
| 46 | | 5807 | 5687 | 5567 | 5447 | 5326 | 5206 | 5085 | 4965 | 4844 | 4724 | 4603 | 4483 | 4363 | 4242 | 4121 | 4001 | 3880 |
| 47 | | 6087 | 5967 | 5846 | 5726 | 5605 | 5485 | 5364 | 5244 | 5123 | 5003 | 4882 | 4761 | 4641 | 4520 | 4399 | 4279 | 4158 |
| 48 | | 6367 | 6246 | 6126 | 6005 | 5884 | 5764 | 5643 | 5523 | 5402 | 5281 | 5161 | 5040 | 4919 | 4798 | 4677 | 4557 | 4436 |
| 49 | | 6647 | 6526 | 6405 | 6284 | 6163 | 6043 | 5922 | 5801 | 5681 | 5560 | 5439 | 5318 | 5197 | 5076 | 4955 | 4834 | 4713 |
| 50 | 223 | 6927 | 6805 | 6684 | 6563 | 6442 | 6322 | 6201 | 6080 | 5959 | 5838 | 5717 | 5596 | 5475 | 5354 | 5233 | 5112 | 4991 |
| 51 | | 7206 | 7085 | 6964 | 6843 | 6722 | 6601 | 6480 | 6359 | 6238 | 6117 | 5996 | 5875 | 5754 | 5633 | 5511 | 5390 | 5269 |
| 52 | | 7486 | 7365 | 7244 | 7123 | 7002 | 6881 | 6759 | 6638 | 6517 | 6396 | 6274 | 6153 | 6032 | 5911 | 5790 | 5668 | 5547 |
| 53 | | 7766 | 7645 | 7524 | 7403 | 7282 | 7160 | 7039 | 6918 | 6797 | 6675 | 6554 | 6433 | 6312 | 6190 | 6069 | 5948 | 5826 |
| 54 | | 8046 | 7925 | 7804 | 7683 | 7561 | 7440 | 7319 | 7197 | 7076 | 6955 | 6833 | 6712 | 6591 | 6469 | 6348 | 6227 | 6105 |
| 55 | 223 | 8326 | 8205 | 8084 | 7963 | 7841 | 7720 | 7599 | 7477 | 7356 | 7235 | 7113 | 6992 | 6870 | 6749 | 6628 | 6506 | 6385 |
| 56 | | 8606 | 8485 | 8364 | 8242 | 8121 | 8000 | 7878 | 7757 | 7636 | 7514 | 7393 | 7271 | 7150 | 7029 | 6907 | 6786 | 6664 |
| 57 | | 8886 | 8765 | 8643 | 8522 | 8401 | 8279 | 8158 | 8036 | 7915 | 7793 | 7672 | 7551 | 7429 | 7308 | 7186 | 7065 | 6943 |
| 58 | | 9166 | 9044 | 8923 | 8802 | 8680 | 8559 | 8437 | 8316 | 8194 | 8073 | 7951 | 7830 | 7708 | 7587 | 7465 | 7344 | 7222 |
| 59 | | 9445 | 9324 | 9203 | 9081 | 8960 | 8838 | 8717 | 8595 | 8474 | 8352 | 8231 | 8109 | 7988 | 7866 | 7745 | 7623 | 7502 |

Sums for finding the Corrected Distances.

Parts for Sec of A. Arg.

| C. D. 103° | Sums | | |
|---|---|---|---|
| ′ | | | |
| 0 | 522 | 4631 | |
| 1 | | 5153 | |
| 2 | | 5674 | |
| 3 | | 6196 | |
| 4 | | 6717 | |
| 5 | 522 | 7239 | |
| 6 | | 7761 | |
| 7 | | 8283 | |
| 8 | | 8805 | |
| 9 | | 9327 | |
| 10 | 522 | 9849 | |
| 11 | | 0371 | |
| 12 | | 0893 | |
| 13 | | 1415 | |
| 14 | | 1937 | |
| 15 | 522 | 2459 | |
| 16 | | 2981 | |
| 17 | | 3503 | |
| 18 | 523 | 4026 | |
| 19 | | 4548 | |
| 20 | | 5071 | |
| 21 | | 5593 | |
| 22 | | 6116 | |
| 23 | | 6638 | |
| 24 | 523 | 7161 | |
| 25 | | 7683 | |
| 26 | | 8206 | |
| 27 | | 8728 | |
| 28 | | 9251 | |
| 29 | 523 | 9773 | |
| 30 | | 0296 | |
| 31 | | 0819 | |
| 32 | | 1341 | |
| 33 | | 1864 | |
| 34 | | 2387 | |
| 35 | 523 | 2909 | |
| 36 | | 3432 | |
| 37 | | 3955 | |
| 38 | | 4478 | |
| 39 | | 5001 | |
| 40 | 523 | 5524 | |
| 41 | | 6047 | |
| 42 | | 6570 | |
| 43 | | 7093 | |
| 44 | | 7616 | |
| 45 | 523 | 8139 | |
| 46 | | 8662 | |
| 47 | | 9185 | |
| 48 | | 9708 | |
| 49 | | 0231 | |
| 50 | 523 | 0754 | |
| 51 | | 1277 | |
| 52 | | 1800 | |
| 53 | | 2323 | |
| 54 | 524 | 2847 | |
| 55 | 524 | 3370 | |
| 56 | | 3893 | |
| 57 | | 4416 | |
| 58 | | 4939 | |
| 59 | | 5463 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. of C.S.A. *addit.* | C.S.A. 104° | Numbers |
|---|---|---|
| 283 | 0 | 4770 |
| 279 | 1 | 4482 |
| 274 | 2 | 4199 |
| 269 | 3 | 3915 |
| 264 | 4 | 3632 |
| 259 | 5 | 3349 |
| 254 | 6 | 3065 |
| 250 | 7 | 2781 |
| 245 | 8 | 2498 |
| 241 | 9 | 2216 |
| 236 | 10 | 1932 |
| 231 | 11 | 1649 |
| 227 | 12 | 1366 |
| 222 | 13 | 1083 |
| 217 | 14 | 800 |
| 213 | 15 | 517 |
| 208 | 16 | 0233 |
| 203 | 17 | 9950 |
| 199 | 18 | 9667 |
| 194 | 19 | 9383 |
| 189 | 20 | 9100 |
| 184 | 21 | 8818 |
| 179 | 22 | 8535 |
| 175 | 23 | 8252 |
| 170 | 24 | 7969 |
| 165 | 25 | 7686 |
| 160 | 26 | 7403 |
| 156 | 27 | 7120 |
| 151 | 28 | 6837 |
| 146 | 29 | 6554 |
| 141 | 30 | 6271 |
| 137 | 31 | 5989 |
| 132 | 32 | 5706 |
| 127 | 33 | 5423 |
| 123 | 34 | 5141 |
| 118 | 35 | 4858 |
| 113 | 36 | 4575 |
| 108 | 37 | 4293 |
| 104 | 38 | 4011 |
| 99 | 39 | 3727 |
| 94 | 40 | 3444 |
| 89 | 41 | 3162 |
| 85 | 42 | 2879 |
| 80 | 43 | 2597 |
| 75 | 44 | 2314 |
| 71 | 45 | 2032 |
| 66 | 46 | 1749 |
| 61 | 47 | 1467 |
| 57 | 48 | 1184 |
| 52 | 49 | 0902 |
| 47 | 50 | 0619 |
| 42 | 51 | 0337 |
| 38 | 52 | 0054 |
| 33 | 53 | 9772 |
| 28 | 54 | 9489 |
| 24 | 55 | 9207 |
| 19 | 56 | 8924 |
| 14 | 57 | 8642 |
| 9 | 58 | 8359 |
| 5 | 59 | 8077 |

| Parts for Seconds of Auxil. Argum. *additive* | C.S.A. & A.D. 104° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 126 | 0 | 224(225) | 1678 | 1555 | 1434 | 1312 | 1190 | 1068 | 0946 | 0824 | 0702 | 0580 | 0458 | 0336 | 0213 | 0091 | 9969 | 9847 |
| 124 | 1 | 224 | 1658 | 1536 | 1416 | 1294 | 1172 | 1050 | 0928 | 0806 | 0684 | 0562 | 0440 | 0318 | 0196 | 0074 | 9952 | 9830 |
| 122 | 2 | | 2304 | 2242 | 2120 | 1998 | 1876 | 1755 | 1633 | 1511 | 1389 | 1268 | 1146 | 1024 | 0902 | 0780 | 0658 | 0536 |
| 120 | 3 | | 2646 | 2524 | 2402 | 2279 | 2157 | 2034 | 1912 | 1789 | 1667 | 1544 | 1422 | 1299 | 1177 | 1054 | 0932 | 0809 | 0686 |
| 118 | 4 | | 2987 | 2865 | 2743 | 2621 | 2498 | 2376 | 2253 | 2131 | 2008 | 1885 | 1763 | 1640 | 1517 | 1395 | 1272 | 1149 | 1026 |
| 116 | 5 | 224 | 3328 | 3206 | 3084 | 2962 | 2839 | 2717 | 2594 | 2471 | 2349 | 2226 | 2103 | 1980 | 1858 | 1735 | 1612 | 1489 | 1366 |
| 114 | 6 | | 3669 | 3547 | 3425 | 3303 | 3180 | 3058 | 2935 | 2812 | 2689 | 2566 | 2443 | 2320 | 2197 | 2074 | 1951 | 1828 | 1705 |
| 112 | 7 | | 4010 | 3888 | 3766 | 3643 | 3521 | 3398 | 3275 | 3152 | 3029 | 2906 | 2783 | 2660 | 2537 | 2414 | 2291 | 2168 | 2045 |
| 110 | 8 | | 4350 | 4228 | 4106 | 3983 | 3861 | 3738 | 3615 | 3492 | 3369 | 3246 | 3123 | 3000 | 2877 | 2754 | 2631 | 2508 | 2385 |
| 108 | 9 | | 4691 | 4569 | 4446 | 4324 | 4201 | 4078 | 3955 | 3832 | 3709 | 3586 | 3463 | 3340 | 3217 | 3094 | 2971 | 2848 | 2725 |
| 106 | 10 | 224 | 5031 | 4909 | 4787 | 4664 | 4541 | 4418 | 4295 | 4172 | 4049 | 3926 | 3803 | 3680 | 3557 | 3434 | 3311 | 3188 | 3065 |
| 104 | 11 | | 5372 | 5249 | 5127 | 5004 | 4881 | 4758 | 4635 | 4512 | 4389 | 4266 | 4143 | 4020 | 3897 | 3774 | 3651 | 3528 | 3405 |
| 102 | 12 | | 5712 | 5590 | 5467 | 5344 | 5221 | 5098 | 4975 | 4852 | 4729 | 4606 | 4483 | 4360 | 4237 | 4114 | 3991 | 3868 | 3745 |
| 99 | 13 | | 6052 | 5930 | 5807 | 5684 | 5561 | 5438 | 5315 | 5192 | 5069 | 4946 | 4823 | 4700 | 4577 | 4454 | 4331 | 4208 | 4085 |
| 97 | 14 | | 6392 | 6270 | 6147 | 6024 | 5901 | 5778 | 5655 | 5532 | 5409 | 5286 | 5163 | 5040 | 4917 | 4794 | 4671 | 4548 | 4425 |
| 95 | 15 | 224 | 6732 | 6609 | 6487 | 6364 | 6241 | 6118 | 5995 | 5872 | 5749 | 5626 | 5503 | 5380 | 5257 | 5134 | 5011 | 4888 | 4765 |
| 93 | 16 | | 7071 | 6949 | 6826 | 6703 | 6580 | 6457 | 6334 | 6211 | 6088 | 5965 | 5842 | 5719 | 5596 | 5473 | 5350 | 5227 | 5104 |
| 91 | 17 | | 7411 | 7288 | 7166 | 7043 | 6920 | 6797 | 6674 | 6551 | 6428 | 6305 | 6182 | 6059 | 5936 | 5813 | 5690 | 5567 | 5444 |
| 89 | 18 | | 7750 | 7628 | 7505 | 7382 | 7259 | 7136 | 7013 | 6890 | 6767 | 6644 | 6521 | 6398 | 6275 | 6152 | 6029 | 5906 | 5783 |
| 87 | 19 | | 8090 | 7967 | 7844 | 7721 | 7598 | 7475 | 7352 | 7229 | 7106 | 6983 | 6860 | 6737 | 6614 | 6491 | 6368 | 6245 | 6122 |
| 85 | 20 | 224 | 8429 | 8306 | 8183 | 8060 | 7937 | 7814 | 7691 | 7568 | 7445 | 7322 | 7199 | 7076 | 6953 | 6830 | 6707 | 6584 | 6461 |
| 83 | 21 | | 8768 | 8645 | 8522 | 8399 | 8276 | 8153 | 8030 | 7907 | 7784 | 7661 | 7538 | 7415 | 7292 | 7169 | 7046 | 6923 | 6800 |
| 82 | 22 | | 8001 | 7876 | 7751 | 7626 | 7501 | 7376 | 7251 | 7126 | 7000 | 6875 | 6750 | 6625 | 6499 | 6374 | 6249 | 6123 | 5998 |
| 80 | 23 | | 8340 | 8215 | 8090 | 7965 | 7840 | 7715 | 7590 | 7465 | 7339 | 7214 | 7089 | 6964 | 6838 | 6713 | 6588 | 6462 | 6337 |
| 78 | 24 | | 8678 | 8553 | 8428 | 8303 | 8178 | 8053 | 7928 | 7803 | 7678 | 7553 | 7428 | 7303 | 7178 | 7053 | 6928 | 6803 | 6678 |
| 77 | 25 | 224 | 9017 | 8892 | 8767 | 8642 | 8517 | 8392 | 8267 | 8142 | 8017 | 7892 | 7767 | 7642 | 7517 | 7392 | 7267 | 7142 | 7017 |
| 75 | 26 | | 9355 | 9230 | 9105 | 8980 | 8855 | 8730 | 8605 | 8480 | 8355 | 8230 | 8105 | 7980 | 7855 | 7730 | 7605 | 7480 | 7355 |
| 73 | 27 | | 9693 | 9568 | 9443 | 9318 | 9193 | 9068 | 8943 | 8818 | 8693 | 8568 | 8443 | 8318 | 8193 | 8068 | 7943 | 7818 | 7693 |
| 72 | 28 | | 9031 | 8906 | 8781 | 8656 | 8531 | 8406 | 8281 | 8156 | 8031 | 7906 | 7781 | 7656 | 7531 | 7406 | 7281 | 7156 | 7031 |
| 70 | 29 | | 9369 | 9244 | 9119 | 8994 | 8869 | 8744 | 8619 | 8494 | 8369 | 8244 | 8119 | 8000 | 7869 | 7744 | 7619 | 7494 | 7369 |
| 68 | 30 | 225(224) | 9707 | 9582 | 9457 | 9332 | 9207 | 9082 | 8957 | 8832 | 8707 | 8582 | 8457 | 8332 | 8207 | 8082 | 7957 | 7832 | 7707 |
| 67 | 31 | | 0535 | 0409 | 0283 | 0156 | 0030 | 9904 | 9777 | 9651 | 9524 | 9398 | 9271 | 9145 | 9018 | 8891 | 8765 | 8638 | 8512 |
| 65 | 32 | | 0382 | 0256 | 0130 | 0003 | 9877 | 9751 | 9624 | 9498 | 9371 | 9245 | 9118 | 8992 | 8865 | 8739 | 8612 | 8486 | 8359 |
| 64 | 33 | | 0229 | 0103 | 9977 | 9850 | 9724 | 9597 | 9471 | 9344 | 9218 | 9091 | 8965 | 8838 | 8712 | 8585 | 8459 | 8332 | 8206 |
| 62 | 34 | | 0076 | 9950 | 9824 | 9697 | 9571 | 9444 | 9318 | 9191 | 9065 | 8938 | 8812 | 8685 | 8559 | 8432 | 8306 | 8179 | 8053 |
| 61 | 35 | 225(224) | 9923 | 9797 | 9671 | 9544 | 9418 | 9291 | 9165 | 9038 | 8912 | 8785 | 8659 | 8532 | 8406 | 8279 | 8153 | 8026 | 7900 |
| 59 | 36 | | 9770 | 9644 | 9518 | 9391 | 9265 | 9138 | 9012 | 8885 | 8759 | 8632 | 8506 | 8379 | 8253 | 8126 | 8000 | 7873 | 7747 |
| 58 | 37 | | 9617 | 9491 | 9365 | 9238 | 9112 | 8985 | 8859 | 8732 | 8606 | 8479 | 8353 | 8226 | 8100 | 7973 | 7847 | 7720 | 7594 |
| 56 | 38 | | 9464 | 9338 | 9212 | 9085 | 8959 | 8832 | 8706 | 8579 | 8453 | 8326 | 8200 | 8073 | 7947 | 7820 | 7694 | 7567 | 7441 |
| 55 | 39 | | 9311 | 9185 | 9059 | 8932 | 8806 | 8679 | 8553 | 8426 | 8300 | 8173 | 8047 | 7920 | 7794 | 7667 | 7541 | 7414 | 7288 |
| 53 | 40 | 225 | 9158 | 9032 | 8906 | 8779 | 8653 | 8526 | 8400 | 8273 | 8147 | 8020 | 7894 | 7767 | 7641 | 7514 | 7388 | 7261 | 7135 |
| 52 | 41 | | 9005 | 8879 | 8753 | 8626 | 8500 | 8373 | 8247 | 8120 | 7994 | 7867 | 7741 | 7614 | 7488 | 7361 | 7235 | 7108 | 6982 |
| 50 | 42 | | 8852 | 8726 | 8600 | 8473 | 8347 | 8220 | 8094 | 7967 | 7841 | 7714 | 7588 | 7461 | 7335 | 7208 | 7082 | 6955 | 6829 |
| 49 | 43 | | 8699 | 8573 | 8447 | 8320 | 8194 | 8067 | 7941 | 7814 | 7688 | 7561 | 7435 | 7308 | 7182 | 7055 | 6929 | 6802 | 6676 |
| 47 | 44 | | 8546 | 8420 | 8294 | 8167 | 8041 | 7914 | 7788 | 7661 | 7535 | 7408 | 7282 | 7155 | 7029 | 6902 | 6776 | 6649 | 6523 |
| 46 | 45 | 225 | 8393 | 8267 | 8141 | 8014 | 7888 | 7761 | 7635 | 7508 | 7382 | 7255 | 7129 | 7002 | 6876 | 6749 | 6623 | 6496 | 6370 |
| 44 | 46 | | 8240 | 8114 | 7988 | 7861 | 7735 | 7608 | 7482 | 7355 | 7229 | 7102 | 6976 | 6849 | 6723 | 6596 | 6470 | 6343 | 6217 |
| 43 | 47 | | 8087 | 7961 | 7835 | 7708 | 7582 | 7455 | 7329 | 7202 | 7076 | 6949 | 6823 | 6696 | 6570 | 6443 | 6317 | 6190 | 6064 |
| 41 | 48 | | 7934 | 7808 | 7682 | 7555 | 7429 | 7302 | 7176 | 7049 | 6923 | 6796 | 6670 | 6543 | 6417 | 6290 | 6164 | 6037 | 5911 |
| 40 | 49 | | 7781 | 7655 | 7529 | 7402 | 7276 | 7149 | 7023 | 6896 | 6770 | 6643 | 6517 | 6390 | 6264 | 6137 | 6011 | 5884 | 5758 |
| 38 | 50 | 225 | 7628 | 7502 | 7376 | 7249 | 7123 | 6996 | 6870 | 6743 | 6617 | 6490 | 6364 | 6237 | 6111 | 5984 | 5858 | 5731 | 5605 |
| 37 | 51 | | 7475 | 7349 | 7223 | 7096 | 6970 | 6843 | 6717 | 6590 | 6464 | 6337 | 6211 | 6084 | 5958 | 5831 | 5705 | 5578 | 5452 |
| 35 | 52 | | 7322 | 7196 | 7070 | 6943 | 6817 | 6690 | 6564 | 6437 | 6311 | 6184 | 6058 | 5931 | 5805 | 5678 | 5552 | 5425 | 5299 |
| 34 | 53 | | 7169 | 7043 | 6917 | 6790 | 6664 | 6537 | 6411 | 6284 | 6158 | 6031 | 5905 | 5778 | 5652 | 5525 | 5399 | 5272 | 5146 |
| 32 | 54 | | 7016 | 6890 | 6764 | 6637 | 6511 | 6384 | 6258 | 6131 | 6005 | 5878 | 5752 | 5625 | 5499 | 5372 | 5246 | 5119 | 4993 |
| 31 | 55 | 225 | 6863 | 6737 | 6611 | 6484 | 6358 | 6231 | 6105 | 5978 | 5852 | 5725 | 5599 | 5472 | 5346 | 5219 | 5093 | 4966 | 4840 |
| 29 | 56 | | 6710 | 6584 | 6458 | 6331 | 6205 | 6078 | 5952 | 5825 | 5699 | 5572 | 5446 | 5319 | 5193 | 5066 | 4940 | 4813 | 4687 |
| 28 | 57 | | 6557 | 6431 | 6305 | 6178 | 6052 | 5925 | 5799 | 5672 | 5546 | 5419 | 5293 | 5166 | 5040 | 4913 | 4787 | 4660 | 4534 |
| 26 | 58 | | 6404 | 6278 | 6152 | 6025 | 5899 | 5772 | 5646 | 5519 | 5393 | 5266 | 5140 | 5013 | 4887 | 4760 | 4634 | 4507 | 4381 |
| 25 | 59 | | 6251 | 6125 | 5999 | 5872 | 5746 | 5619 | 5493 | 5366 | 5240 | 5113 | 4987 | 4860 | 4734 | 4607 | 4481 | 4354 | 4228 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Parts for Seconds of Anval. Argum.

| Argum. & A. D. 104° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 223 | | | | | | | | | | | | | | | | |
| 1 | 224(223) | | | | | | | | | | | | | | | | |
| 2 | | 0284 | 0161 | 0039 | 9916 | 9794 | 9671 | 9548 | 9426 | 9303 | 9180 | 9058 | 8935 | 8812 | 8689 | 8566 | 8444 | 8321 |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |
| 5 | 224(223) | 1123 | | | | | | | | | | | | | | | | |
| 6 | | 1402 | 1279 | 1156 | 1033 | 0910 | 0787 | 0663 | 0540 | 0417 | 0294 | 0170 | 0047 | 9924 | 9800 | 9677 | 9553 | 9430 |
| 7 | | 1682 | 1559 | 1435 | 1312 | 1189 | 1065 | 0942 | 0819 | 0695 | 0572 | 0448 | 0325 | 0201 | 0078 | 9954 | 9831 | 9707 |
| 8 | | | | | | | | | | | | | | | | | | |
| 9 | 224 | 2241 | 2117 | 1994 | 1870 | 1747 | 1623 | 1499 | 1376 | 1252 | 1128 | 1005 | 0881 | 0757 | 0633 | 0509 | 0386 | 0262 |
| 10 | 224 | 2520 | 2397 | 2273 | 2149 | 2026 | 1902 | 1778 | 1654 | 1530 | 1407 | 1283 | 1159 | 1035 | 0911 | 0787 | 0663 | 0539 |
| 11 | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | |
| 13 | | 3359 | 3235 | 3111 | 2986 | 2862 | 2738 | 2614 | 2490 | 2365 | 2241 | 2117 | 1992 | 1868 | 1744 | 1619 | 1495 | 1370 |
| 14 | | | | | | | | | | | | | | | | | | |
| 15 | 224 | 3919 | 3795 | 3669 | 3544 | 3420 | 3295 | 3171 | 3046 | | | | | | | | | |
| 16 | | 4197 | 4072 | 3948 | 3823 | 3699 | 3574 | 3449 | 3325 | 3200 | 3075 | 2951 | 2826 | 2701 | 2576 | 2451 | 2327 | 2202 |
| 17 | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | |
| 20 | 224 | 5314 | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | | |
| 24 | | 6431 | | | | | | | | | | | | | | | | |
| 25 | 224 | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | |
| 27 | | 7206 | 7143 | | | | | | | | | | | | | | | |
| 28 | | 7748 | 7422 | 7295 | 7169 | 7043 | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | |
| 30 | 224 | 8106 | 7979 | 7853 | 7726 | 7600 | 7473 | 7346 | 7220 | 7093 | 6966 | 6840 | 6713 | 6586 | 6459 | 6332 | 6206 | 6079 |
| 31 | | 8385 | 8258 | 8132 | 8005 | 7878 | 7751 | 7625 | 7498 | 7371 | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | | | | |
| 35 | 224 | 9501 | 9374 | 9247 | 9119 | 8992 | 8865 | 8737 | 8610 | 8482 | 8355 | 8228 | 8100 | 7973 | 7845 | 7718 | 7590 | 7462 |
| 36 | | | | | | | | | | | | | | | | | | |
| 37 | 225(224) | | | | | | | | | | | | | | | | | |
| 38 | | 0338 | 0210 | 0082 | 9955 | 9827 | 9699 | 9571 | 9444 | 9316 | 9188 | 9060 | 8932 | 8804 | 8676 | 8548 | 8420 | 8292 |
| 39 | | | | | | | | | | | | | | | | | | |
| 40 | 225(224) | | | | | | | | | | | | | | | | | |
| 41 | | 1174 | 1046 | 0918 | 0790 | 0662 | 0534 | 0405 | 0277 | 0149 | 0021 | 9892 | 9764 | 9636 | 9507 | 9379 | 9251 | 9122 |
| 42 | | | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | | |
| 45 | 225 | | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | |
| 48 | | 3126 | 2996 | 2867 | 2738 | 2609 | 2480 | 2351 | 2222 | 2092 | 1963 | 1834 | 1704 | 1575 | 1446 | 1316 | 1187 | 1058 |
| 49 | | | | | | | | | | | | | | | | | | |
| 50 | 225 | 3683 | 3554 | 3424 | 3295 | 3165 | 3036 | 2906 | 2777 | 2647 | 2518 | 2388 | 2259 | 2129 | 1999 | 1870 | 1740 | 1610 |
| 51 | | | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | | | |
| 53 | | 4519 | 4389 | 4259 | 4129 | 3999 | 3870 | 3740 | 3610 | 3480 | 3350 | 3220 | 3090 | 2960 | 2830 | | | |
| 54 | | | | | | | | | | | | | | | | 2976 | 2846 | 2716 |
| 55 | 225 | | | | | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | | | | |
| 59 | | 6190 | 6059 | 5929 | 5798 | 5667 | 5536 | 5406 | 5275 | 5144 | 5013 | 4882 | 4751 | 4621 | 4490 | 4359 | 4228 | 4097 |

Sums for finding the Corrected Distances.

Parts for Sec. of

| C. D. 104° | Sums |
|---|---|
| 0′ | 524 1922 |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | 524 3338 |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | 524 4754 |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | 524 6170 |
| 16 | |
| 17 | |
| 18 | |
| 19 | |
| 20 | 524 7586 |
| 21 | |
| 22 | |
| 23 | |
| 24 | |
| 25 | 524 [illegible] |
| 26 | |
| 27 | |
| 28 | |
| 29 | |
| 30 | 525 [illegible] |
| 31 | |
| 32 | |
| 33 | |
| 34 | |
| 35 | 525 1754 |
| 36 | |
| 37 | |
| 38 | |
| 39 | |
| 40 | |
| 41 | |
| 42 | |
| 43 | |
| 44 | |
| 45 | 525 [illegible] |
| 46 | |
| 47 | |
| 48 | |
| 49 | |
| 50 | 525 [illegible] |
| 51 | |
| 52 | |
| 53 | |
| 54 | |
| 55 | [illegible] |
| 56 | |
| 57 | |
| 58 | |
| 59 | |

## Numbers II. for Corrected Sums of Altitudes.

| Part. for Sec. of Corr. addit. | 105° | Numbers |
|---|---|---|
| 283 | 0 | 0775 7790 |
| 277 | 1 | 7514 |
| 273 | 2 | 7231 |
| 267 | 3 | 6949 |
| 263 | 4 | 6667 |
| 257 | 5 | 0775 6385 |
| 254 | 6 | 6103 |
| 249 | 7 | 5821 |
| 244 | 8 | 5539 |
| 240 | 9 | 5257 |
| 235 | 10 | 0775 4975 |
| 230 | 11 | 4693 |
| 226 | 12 | 4411 |
| 221 | 13 | 4129 |
| 216 | 14 | 3847 |
| 211 | 15 | 0775 3565 |
| 207 | 16 | 3283 |
| 202 | 17 | 3001 |
| 197 | 18 | 2719 |
| 192 | 19 | 2437 |
| 188 | 20 | 0775 2155 |
| 183 | 21 | 1874 |
| 179 | 22 | 1592 |
| 174 | 23 | 1310 |
| 169 | 24 | 1028 |
| 164 | 25 | 0775 0747 |
| 160 | 26 | 0465 |
| 155 | 27 | 0183 |
| 150 | 28 | 0774 9902 |
| 146 | 29 | 9620 |
| 141 | 30 | 0774 9338 |
| 136 | 31 | 9057 |
| 132 | 32 | 8775 |
| 127 | 33 | 8494 |
| 122 | 34 | 8212 |
| 117 | 35 | 0774 7931 |
| 113 | 36 | 7649 |
| 108 | 37 | 7368 |
| 103 | 38 | 7086 |
| 98 | 39 | 6804 |
| 94 | 40 | 6523 |
| 89 | 41 | 6242 |
| 85 | 42 | 5961 |
| 80 | 43 | 5679 |
| 75 | 44 | 5398 |
| 70 | 45 | 0774 5117 |
| 66 | 46 | 4835 |
| 61 | 47 | 4554 |
| 56 | 48 | 4273 |
| 52 | 49 | 3992 |
| 47 | 50 | 0774 3711 |
| 42 | 51 | 3429 |
| 38 | 52 | 3148 |
| 33 | 53 | 2867 |
| 28 | 54 | 2586 |
| 23 | 55 | 0774 2305 |
| 18 | 56 | 2024 |
| 14 | 57 | 1743 |
| 9 | 58 | 1462 |
| 5 | 59 | 1181 |

## Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - and Auxiliary Arguments.

| Part for Sec. of Auxil. Argum. additive | M. & A.D. 105° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 135 | 0 | 225 8680 | 8555 | 8429 | 8297 | 8167 | 8036 | 7906 | 7775 | 7645 | 7514 | 7383 | 7253 | 7122 | 6991 | 6861 | 6730 | 6599 |
| 133 | 1 | 8606 | 8479 | 8350 | 8221 | 8091 | 7961 | 7831 | 7701 | 7571 | 7441 | 7311 | 7181 | 7051 | 6921 | 6791 | 6661 | 6531 |
| 131 | 2 | 9250 | 9120 | 8989 | 8858 | 8727 | 8596 | 8466 | 8335 | 8204 | 8073 | 7942 | 7811 | 7680 | 7549 | 7418 | 7287 | 7156 |
| 128 | 3 | 9531 | 9400 | 9268 | 9136 | 9003 | 8870 | 8737 | 8604 | 8471 | 8338 | 8205 | 8072 | 7939 | 7806 | 7673 | 7540 | 7407 |
| 126 | 4 | 9812 | 9681 | 9550 | 9418 | 9288 | 9157 | 9025 | 8894 | 8763 | 8632 | 8501 | 8370 | 8238 | 8107 | 7976 | 7845 | 7713 |
| 124 | 5 | 226(225) 0093 | 9961 | 9830 | 9699 | 9568 | 9437 | 9305 | 9174 | 9043 | 8911 | 8780 | 8649 | 8517 | 8386 | 8255 | 8123 | 7992 |
| 122 | 6 | 0373 | 0242 | 0111 | 9979 | 9848 | 9717 | 9585 | 9454 | 9322 | 9191 | 9059 | 8928 | 8796 | 8665 | 8533 | 8402 | 8270 |
| 119 | 7 | 0654 | 0523 | 0391 | 0260 | 0128 | 9997 | 9865 | 9734 | 9602 | 9470 | 9339 | 9207 | 9075 | 8944 | 8812 | 8680 | 8549 |
| 117 | 8 | 0935 | 0803 | 0671 | 0540 | 0408 | 0277 | 0145 | 0013 | 9882 | 9750 | 9618 | 9486 | 9354 | 9223 | 9091 | 8959 | 8827 |
| 115 | 9 | 1215 | 1084 | 0952 | 0820 | 0688 | 0557 | 0425 | 0293 | 0161 | 0029 | 9897 | 9765 | 9633 | 9501 | 9369 | 9237 | 9105 |
| 113 | 10 | 226(225) 1496 | 1364 | 1232 | 1100 | 0968 | 0837 | 0705 | 0573 | 0440 | 0308 | 0176 | 0044 | 9912 | 9780 | 9648 | 9516 | 9384 |
| 110 | 11 | 1777 | 1645 | 1512 | 1380 | 1248 | 1116 | 0984 | 0852 | 0720 | 0588 | 0456 | 0323 | 0191 | 0059 | 9927 | 9794 | 9662 |
| 108 | 12 | 2057 | 1925 | 1793 | 1661 | 1528 | 1396 | 1264 | 1132 | 0999 | 0867 | 0735 | 0602 | 0470 | 0338 | 0205 | 0073 | 9940 |
| 106 | 13 | 226 2338 | 2205 | 2073 | 1941 | 1808 | 1676 | 1544 | 1411 | 1279 | 1146 | 1014 | 0881 | 0749 | 0616 | 0484 | 0351 | 0219 |
| 104 | 14 | 2618 | 2486 | 2353 | 2221 | 2088 | 1956 | 1823 | 1691 | 1558 | 1426 | 1293 | 1160 | 1028 | 0895 | 0763 | 0630 | 0497 |
| 101 | 15 | 226 2899 | 2766 | 2634 | 2501 | 2368 | 2236 | 2103 | 1970 | 1838 | 1705 | 1572 | 1439 | 1307 | 1174 | 1041 | 0908 | 0775 |
| 99 | 16 | 3179 | 3047 | 2914 | 2781 | 2648 | 2516 | 2383 | 2250 | 2117 | 1984 | 1851 | 1718 | 1585 | 1452 | 1319 | 1186 | 1053 |
| 97 | 17 | 3460 | 3327 | 3194 | 3061 | 2928 | 2795 | 2662 | 2529 | 2396 | 2263 | 2130 | 1997 | 1864 | 1731 | 1598 | 1465 | 1332 |
| 95 | 18 | 3740 | 3607 | 3474 | 3341 | 3208 | 3075 | 2942 | 2809 | 2676 | 2542 | 2409 | 2276 | 2143 | 2010 | 1876 | 1743 | 1610 |
| 92 | 19 | 4020 | 3887 | 3754 | 3621 | 3488 | 3355 | 3222 | 3088 | 2955 | 2822 | 2688 | 2555 | 2422 | 2288 | 2155 | 2021 | 1888 |
| 90 | 20 | 226 4300 | 4168 | 4034 | 3901 | 3768 | 3634 | 3501 | 3368 | 3234 | 3101 | 2967 | 2834 | 2700 | 2567 | 2433 | 2300 | 2166 |
| 88 | 21 | 4581 | 4448 | 4315 | 4181 | 4048 | 3914 | 3781 | 3647 | 3513 | 3380 | 3246 | 3113 | 2979 | 2845 | 2712 | 2578 | 2444 |
| 86 | 22 | 4862 | 4728 | 4595 | 4461 | 4327 | 4194 | 4060 | 3926 | 3793 | 3659 | 3525 | 3391 | 3258 | 3124 | 2990 | 2856 | 2722 |
| 83 | 23 | 5142 | 5008 | 4875 | 4741 | 4607 | 4473 | 4340 | 4206 | 4072 | 3938 | 3804 | 3670 | 3536 | 3402 | 3268 | 3134 | 3000 |
| 81 | 24 | 5422 | 5288 | 5155 | 5021 | 4887 | 4753 | 4619 | 4485 | 4351 | 4217 | 4083 | 3949 | 3815 | 3681 | 3547 | 3413 | 3279 |
| 79 | 25 | 226 5703 | 5569 | 5435 | 5301 | 5167 | 5033 | 4898 | 4764 | 4630 | 4496 | 4362 | 4228 | 4094 | 3959 | 3825 | 3691 | 3557 |
| 77 | 26 | 5983 | 5849 | 5715 | 5580 | 5446 | 5312 | 5178 | 5044 | 4909 | 4775 | 4641 | 4506 | 4372 | 4238 | 4103 | 3969 | 3834 |
| 74 | 27 | 6263 | 6129 | 5995 | 5860 | 5726 | 5592 | 5457 | 5323 | 5189 | 5054 | 4920 | 4785 | 4651 | 4516 | 4382 | 4247 | 4113 |
| 72 | 28 | 6543 | 6409 | 6275 | 6140 | 6006 | 5871 | 5737 | 5602 | 5468 | 5333 | 5198 | 5064 | 4929 | 4794 | 4660 | 4525 | 4390 |
| 70 | 29 | 6824 | 6689 | 6554 | 6420 | 6285 | 6151 | 6016 | 5881 | 5747 | 5612 | 5477 | 5342 | 5208 | 5073 | 4938 | 4803 | 4669 |
| 68 | 30 | 226 7104 | 6969 | 6834 | 6700 | 6565 | 6430 | 6295 | 6160 | 6026 | 5891 | 5756 | 5621 | 5486 | 5351 | 5216 | 5081 | 4947 |
| 65 | 31 | 7384 | 7249 | 7114 | 6979 | 6845 | 6710 | 6575 | 6440 | 6305 | 6170 | 6035 | 5900 | 5765 | 5630 | 5494 | 5359 | 5224 |
| 63 | 32 | 7664 | 7529 | 7394 | 7259 | 7124 | 6989 | 6854 | 6719 | 6584 | 6449 | 6313 | 6178 | 6043 | 5908 | 5773 | 5637 | 5502 |
| 61 | 33 | 7944 | 7809 | 7674 | 7539 | 7404 | 7268 | 7133 | 6998 | 6863 | 6727 | 6592 | 6457 | 6321 | 6186 | 6051 | 5915 | 5780 |
| 59 | 34 | 8224 | 8089 | 7954 | 7818 | 7683 | 7548 | 7412 | 7277 | 7142 | 7006 | 6871 | 6735 | 6600 | 6464 | 6329 | 6193 | 6058 |
| 57 | 35 | 229 8504 | 8369 | 8234 | 8098 | 7963 | 7827 | 7692 | 7556 | 7421 | 7285 | 7149 | 7014 | 6878 | 6743 | 6607 | 6471 | 6336 |
| 54 | 36 | 8784 | 8649 | 8513 | 8378 | 8242 | 8106 | 7971 | 7835 | 7700 | 7564 | 7428 | 7292 | 7157 | 7021 | 6885 | 6749 | 6613 |
| 52 | 37 | 9064 | 8929 | 8793 | 8657 | 8522 | 8386 | 8250 | 8114 | 7978 | 7843 | 7707 | 7571 | 7435 | 7299 | 7163 | 7027 | 6891 |
| 50 | 38 | 9344 | 9209 | 9073 | 8937 | 8801 | 8665 | 8529 | 8393 | 8257 | 8121 | 7985 | 7849 | 7713 | 7577 | 7441 | 7305 | 7169 |
| 47 | 39 | 9624 | 9488 | 9352 | 9216 | 9080 | 8944 | 8808 | 8672 | 8536 | 8400 | 8264 | 8128 | 7991 | 7855 | 7719 | 7583 | 7447 |
| 45 | 40 | 9904 | 9768 | 9632 | 9496 | 9360 | 9224 | 9087 | 8951 | 8815 | 8679 | 8542 | 8406 | 8270 | 8133 | 7997 | 7861 | 7724 |
| 43 | 41 | 227(226) 0184 | 0048 | 9912 | 9775 | 9639 | 9503 | 9366 | 9230 | 9094 | 8957 | 8821 | 8684 | 8548 | 8411 | 8275 | 8138 | 8002 |
| 41 | 42 | 0464 | 0328 | 0191 | 0055 | 9919 | 9782 | 9645 | 9509 | 9373 | 9236 | 9099 | 8963 | 8826 | 8689 | 8553 | 8416 | 8279 |
| 38 | 43 | 0744 | 0608 | 0471 | 0334 | 0198 | 0061 | 9924 | 9788 | 9651 | 9515 | 9378 | 9241 | 9104 | 8967 | 8831 | 8694 | 8557 |
| 36 | 44 | 1024 | 0887 | 0751 | 0614 | 0477 | 0340 | 0203 | 0067 | 9930 | 9793 | 9656 | 9519 | 9382 | 9245 | 9108 | 8972 | 8835 |
| 34 | 45 | 227(226) 1304 | 1167 | 1030 | 0893 | 0756 | 0620 | 0482 | 0346 | 0209 | 0072 | 9935 | 9798 | 9661 | 9523 | 9386 | 9249 | 9112 |
| 32 | 46 | 1584 | 1447 | 1310 | 1173 | 1036 | 0899 | 0761 | 0624 | 0487 | 0350 | 0213 | 0076 | 9939 | 9802 | 9665 | 9527 | 9390 |
| 29 | 47 | 1863 | 1726 | 1589 | 1452 | 1315 | 1178 | 1040 | 0903 | 0766 | 0629 | 0492 | 0355 | 0217 | 0079 | 9942 | 9805 | 9667 |
| 27 | 48 | 2143 | 2006 | 1869 | 1731 | 1594 | 1457 | 1319 | 1182 | 1045 | 0907 | 0770 | 0632 | 0495 | 0357 | 0220 | 0083 | 9945 |
| 25 | 49 | 2423 | 2286 | 2148 | 2011 | 1873 | 1736 | 1598 | 1461 | 1324 | 1186 | 1049 | 0911 | 0774 | 0636 | 0499 | 0361 | 0224 |
| 23 | 50 | 227 2703 | 2565 | 2428 | 2290 | 2152 | 2015 | 1877 | 1740 | 1602 | 1464 | 1327 | 1189 | 1051 | 0913 | 0776 | 0638 | 0500 |
| 20 | 51 | 2982 | 2845 | 2707 | 2569 | 2432 | 2294 | 2156 | 2018 | 1880 | 1743 | 1605 | 1467 | 1329 | 1191 | 1053 | 0915 | 0777 |
| 18 | 52 | 3262 | 3125 | 2987 | 2849 | 2711 | 2573 | 2435 | 2297 | 2159 | 2021 | 1883 | 1745 | 1607 | 1469 | 1331 | 1193 | 1055 |
| 16 | 53 | 3542 | 3404 | 3266 | 3128 | 2990 | 2852 | 2714 | 2576 | 2438 | 2299 | 2161 | 2023 | 1885 | 1747 | 1609 | 1470 | 1332 |
| 14 | 54 | 3821 | 3683 | 3545 | 3407 | 3269 | 3131 | 2992 | 2854 | 2716 | 2578 | 2440 | 2302 | 2164 | 2026 | 1888 | 1750 | 1612 |
| 11 | 55 | 4101 | 3963 | 3825 | 3687 | 3548 | 3410 | 3272 | 3134 | 2996 | 2858 | 2720 | 2582 | 2444 | 2306 | 2168 | 2030 | 1892 |
| 9 | 56 | 4381 | 4243 | 4105 | 3967 | 3828 | 3690 | 3552 | 3414 | 3276 | 3138 | 3000 | 2862 | 2724 | 2586 | 2448 | 2310 | 2172 |
| 7 | 57 | 4660 | 4521 | 4383 | 4244 | 4106 | 3967 | 3829 | 3690 | 3551 | 3413 | 3274 | 3135 | 2997 | 2858 | 2719 | 2580 | 2441 |
| 4 | 58 | 4940 | 4801 | 4662 | 4524 | 4385 | 4246 | 4107 | 3968 | 3829 | 3690 | 3551 | 3412 | 3273 | 3134 | 2995 | 2856 | 2717 |
| 2 | 59 | 5220 | 5080 | 4941 | 4802 | 4663 | 4524 | 4385 | 4246 | 4107 | 3968 | 3829 | 3690 | 3551 | 3412 | 3273 | 3134 | 2995 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. additive | Arg. & A.D. 105° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 136 | 0 | 225 | 6468 | 6337 | 6207 | 6076 | 5945 | 5814 | 5683 | 5553 | 5421 | 5290 | 5159 | 5028 | 4897 | 4766 | 4635 | 4504 | 4373 |
| 133 | 1 | | 6747 | 6616 | 6485 | 6354 | 6223 | 6092 | 5961 | 5830 | 5699 | 5567 | 5436 | 5305 | 5174 | 5043 | 4912 | 4780 | 4649 |
| 131 | 2 | | 7025 | 6894 | 6763 | 6632 | 6501 | 6370 | 6238 | 6107 | 5976 | 5845 | 5713 | 5582 | 5451 | 5319 | 5188 | 5057 | 4925 |
| 129 | 3 | | 7303 | 7172 | 7041 | 6910 | 6779 | 6647 | 6516 | 6384 | 6253 | 6122 | 5990 | 5859 | 5727 | 5596 | 5464 | 5333 | 5201 |
| 126 | 4 | | 7582 | 7450 | 7319 | 7188 | 7056 | 6925 | 6793 | 6662 | 6530 | 6399 | 6267 | 6135 | 6004 | 5872 | 5741 | 5609 | 5477 |
| 124 | 5 | 225 | 7860 | 7729 | 7597 | 7466 | 7334 | 7202 | 7071 | 6939 | 6807 | 6676 | 6544 | 6412 | 6281 | 6149 | 6017 | 5885 | 5753 |
| 122 | 6 | | 8139 | 8007 | 7875 | 7743 | 7611 | 7480 | 7348 | 7216 | 7085 | 6953 | 6821 | 6689 | 6557 | 6425 | 6293 | 6161 | 6029 |
| 120 | 7 | | 8417 | 8285 | 8153 | 8021 | 7889 | 7758 | 7626 | 7494 | 7362 | 7230 | 7098 | 6966 | 6834 | 6702 | 6570 | 6438 | 6306 |
| 117 | 8 | | 8695 | 8563 | 8431 | 8299 | 8167 | 8035 | 7903 | 7771 | 7639 | 7507 | 7375 | 7243 | 7111 | 6979 | 6847 | 6715 | 6583 |
| 115 | 9 | | 8973 | 8841 | 8709 | 8577 | 8445 | 8313 | 8180 | 8048 | 7916 | 7784 | 7651 | 7519 | 7387 | 7255 | 7123 | 6991 | 6859 |
| 113 | 10 | 225 | 9251 | 9119 | 8987 | 8855 | 8723 | 8591 | 8458 | 8326 | 8193 | 8061 | 7928 | 7796 | 7663 | 7531 | 7399 | 7267 | 7135 |
| 111 | 11 | | 9530 | 9397 | 9265 | 9132 | 9000 | 8868 | 8735 | 8603 | 8470 | 8338 | 8205 | 8072 | 7940 | 7807 | 7675 | 7542 | 7410 |
| 108 | 12 | | 9808 | 9675 | 9543 | 9410 | 9278 | 9145 | 9013 | 8880 | 8747 | 8614 | 8482 | 8349 | 8216 | 8083 | 7951 | 7818 | 7685 |
| 106 | 13 | 226 (225) | 0086 | 9953 | 9821 | 9688 | 9555 | 9423 | 9290 | 9157 | 9024 | 8891 | 8758 | 8626 | 8493 | 8360 | 8227 | 8094 | 7961 |
| 104 | 14 | | 0364 | 0231 | 0099 | 9966 | 9833 | 9700 | 9567 | 9434 | 9301 | 9168 | 9035 | 8902 | 8769 | 8636 | 8503 | 8370 | 8237 |
| 102 | 15 | 226 (225) | 0642 | 0509 | 0376 | 0244 | 0111 | 0077 | 9844 | 9711 | 9578 | 9445 | 9312 | 9179 | 9046 | 8912 | 8779 | 8646 | 8513 |
| 99 | 16 | | 0920 | 0787 | 0654 | 0521 | 0388 | 0255 | 0122 | 9988 | 9855 | 9722 | 9589 | 9455 | 9322 | 9189 | 9055 | 8922 | 8788 |
| 97 | 17 | | 1198 | 1065 | 0932 | 0798 | 0665 | 0532 | 0399 | 0265 | 0132 | 9999 | 9865 | 9732 | 9598 | 9465 | 9331 | 9198 | 9064 |
| 95 | 18 | | 1476 | 1343 | 1210 | 1076 | 0943 | 0809 | 0676 | 0542 | 0409 | 0275 | 0142 | 0008 | 9875 | 9741 | 9607 | 9474 | 9340 |
| 93 | 19 | | 1754 | 1621 | 1487 | 1354 | 1220 | 1087 | 0953 | 0819 | 0686 | 0552 | 0418 | 0285 | 0151 | 0017 | 9883 | 9749 | 9616 |
| 90 | 20 | 226 (225) | 2032 | 1899 | 1765 | 1631 | 1497 | 1364 | 1230 | 1096 | 0963 | 0829 | 0695 | 0561 | 0427 | 0293 | 0159 | 0025 | 9891 |
| 88 | 21 | 226 | 2310 | 2177 | 2043 | 1909 | 1775 | 1641 | 1507 | 1373 | 1240 | 1106 | 0972 | 0838 | 0704 | 0570 | 0436 | 0301 | 0167 |
| 86 | 22 | | 2588 | 2454 | 2320 | 2186 | 2053 | 1919 | 1785 | 1650 | 1516 | 1382 | 1248 | 1114 | 0980 | 0846 | 0711 | 0577 | 0443 |
| 84 | 23 | | 2866 | 2732 | 2598 | 2464 | 2330 | 2196 | 2062 | 1927 | 1793 | 1659 | 1525 | 1390 | 1256 | 1122 | 0987 | 0853 | 0719 |
| 81 | 24 | | 3144 | 3010 | 2876 | 2742 | 2607 | 2473 | 2339 | 2204 | 2070 | 1936 | 1801 | 1667 | 1533 | 1398 | 1263 | 1129 | 0994 |
| 79 | 25 | 226 | 3422 | 3288 | 3153 | 3019 | 2885 | 2750 | 2616 | 2481 | 2347 | 2212 | 2078 | 1943 | 1808 | 1674 | 1539 | 1404 | 1270 |
| 77 | 26 | | 3700 | 3565 | 3431 | 3297 | 3162 | 3027 | 2893 | 2758 | 2623 | 2489 | 2354 | 2219 | 2085 | 1950 | 1815 | 1680 | 1545 |
| 75 | 27 | | 3978 | 3843 | 3709 | 3574 | 3439 | 3304 | 3170 | 3035 | 2900 | 2765 | 2630 | 2496 | 2361 | 2226 | 2091 | 1956 | 1821 |
| 72 | 28 | | 4256 | 4121 | 3986 | 3851 | 3717 | 3582 | 3447 | 3312 | 3177 | 3042 | 2907 | 2772 | 2637 | 2502 | 2367 | 2232 | 2097 |
| 70 | 29 | | 4533 | 4398 | 4264 | 4129 | 3994 | 3859 | 3724 | 3589 | 3453 | 3318 | 3183 | 3048 | 2913 | 2778 | 2643 | 2507 | 2372 |
| 68 | 30 | 226 | 4811 | 4676 | 4541 | 4406 | 4271 | 4136 | 4000 | 3865 | 3730 | 3595 | 3460 | 3324 | 3189 | 3054 | 2918 | 2783 | 2648 |
| 66 | 31 | | 5089 | 4954 | 4819 | 4683 | 4548 | 4413 | 4277 | 4142 | 4007 | 3871 | 3736 | 3600 | 3465 | 3330 | 3194 | 3059 | 2923 |
| 63 | 32 | | 5367 | 5231 | 5097 | 4961 | 4825 | 4690 | 4554 | 4419 | 4283 | 4148 | 4012 | 3877 | 3741 | 3605 | 3470 | 3334 | 3199 |
| 61 | 33 | | 5644 | 5509 | 5374 | 5238 | 5103 | 4967 | 4831 | 4695 | 4560 | 4424 | 4289 | 4153 | 4017 | 3881 | 3746 | 3610 | 3474 |
| 59 | 34 | | 5922 | 5787 | 5651 | 5515 | 5379 | 5244 | 5108 | 4972 | 4836 | 4701 | 4565 | 4429 | 4293 | 4157 | 4022 | 3885 | 3749 |
| 56 | 35 | 226 | 6200 | 6064 | 5928 | 5792 | 5656 | 5521 | 5385 | 5249 | 5113 | 4977 | 4841 | 4705 | 4569 | 4433 | 4297 | 4161 | 4025 |
| 54 | 36 | | 6477 | 6341 | 6205 | 6069 | 5934 | 5798 | 5662 | 5526 | 5390 | 5253 | 5117 | 4981 | 4845 | 4709 | 4573 | 4436 | 4300 |
| 52 | 37 | | 6755 | 6619 | 6483 | 6347 | 6211 | 6074 | 5938 | 5802 | 5666 | 5530 | 5393 | 5257 | 5121 | 4985 | 4848 | 4712 | 4576 |
| 50 | 38 | | 7033 | 6896 | 6760 | 6624 | 6488 | 6351 | 6215 | 6079 | 5942 | 5806 | 5670 | 5533 | 5397 | 5260 | 5124 | 4987 | 4851 |
| 47 | 39 | | 7310 | 7174 | 7037 | 6901 | 6765 | 6628 | 6492 | 6355 | 6219 | 6082 | 5946 | 5809 | 5673 | 5536 | 5399 | 5263 | 5126 |
| 45 | 40 | 226 | 7588 | 7451 | 7315 | 7178 | 7042 | 6905 | 6769 | 6632 | 6495 | 6359 | 6222 | 6085 | 5948 | 5812 | 5675 | 5538 | 5401 |
| 43 | 41 | | 7865 | 7729 | 7592 | 7455 | 7319 | 7182 | 7045 | 6908 | 6772 | 6635 | 6498 | 6361 | 6224 | 6087 | 5950 | 5814 | 5677 |
| 41 | 42 | | 8143 | 8006 | 7869 | 7732 | 7595 | 7458 | 7321 | 7184 | 7047 | 6911 | 6774 | 6637 | 6500 | 6363 | 6226 | 6089 | 5952 |
| 38 | 43 | | 8420 | 8283 | 8146 | 8009 | 7872 | 7735 | 7597 | 7460 | 7323 | 7186 | 7049 | 6912 | 6775 | 6638 | 6501 | 6364 | 6227 |
| 36 | 44 | | 8698 | 8561 | 8424 | 8286 | 8149 | 8012 | 7874 | 7737 | 7600 | 7463 | 7326 | 7188 | 7051 | 6914 | 6777 | 6640 | 6503 |
| 34 | 45 | 226 | 8975 | 8838 | 8701 | 8563 | 8426 | 8289 | 8152 | 8014 | 7877 | 7740 | 7602 | 7465 | 7328 | 7190 | 7052 | 6915 | 6777 |
| 31 | 46 | | 9253 | 9115 | 8978 | 8840 | 8703 | 8566 | 8428 | 8291 | 8153 | 8016 | 7878 | 7741 | 7603 | 7466 | 7328 | 7190 | 7053 |
| 29 | 47 | | 9530 | 9392 | 9255 | 9117 | 8980 | 8842 | 8705 | 8567 | 8430 | 8292 | 8154 | 8017 | 7879 | 7741 | 7603 | 7465 | 7328 |
| 27 | 48 | | 9808 | 9669 | 9531 | 9394 | 9257 | 9119 | 8982 | 8844 | 8707 | 8569 | 8432 | 8294 | 8156 | 8019 | 7881 | 7743 | 7605 |
| 25 | 49 | 227 (226) | 0085 | 9946 | 9808 | 9671 | 9534 | 9396 | 9259 | 9121 | 8984 | 8846 | 8709 | 8571 | 8434 | 8296 | 8158 | 8021 | 7883 |
| 22 | 50 | 227 (226) | 0363 | 0224 | 0086 | 9948 | 9811 | 9673 | 9536 | 9398 | 9261 | 9123 | 8986 | 8848 | 8711 | 8573 | 8436 | 8298 | 8160 |
| 20 | 51 | | 0640 | 0502 | 0363 | 0225 | 0088 | 9950 | 9813 | 9675 | 9538 | 9400 | 9263 | 9126 | 8988 | 8851 | 8713 | 8576 | 8438 |
| 18 | 52 | | 0918 | 0780 | 0641 | 0503 | 0365 | 0227 | 0090 | 9953 | 9815 | 9678 | 9540 | 9403 | 9265 | 9128 | 8991 | 8853 | 8716 |
| 16 | 53 | | 1196 | 1058 | 0919 | 0781 | 0643 | 0505 | 0367 | 0229 | 0092 | 9955 | 9818 | 9680 | 9543 | 9405 | 9268 | 9130 | 8993 |
| 14 | 54 | | 1474 | 1336 | 1197 | 1059 | 0921 | 0783 | 0645 | 0507 | 0369 | 0232 | 0094 | 9957 | 9820 | 9683 | 9545 | 9408 | 9270 |
| 11 | 55 | 227 (226) | 1752 | 1614 | 1475 | 1337 | 1199 | 1061 | 0923 | 0785 | 0647 | 0509 | 0372 | 0234 | 0096 | 9959 | 9822 | 9685 | 9548 |
| 9 | 56 | | 2030 | 1892 | 1753 | 1615 | 1477 | 1339 | 1201 | 1063 | 0925 | 0787 | 0650 | 0512 | 0374 | 0236 | 0098 | 9961 | 9824 |
| 7 | 57 | 227 | 2308 | 2170 | 2031 | 1893 | 1755 | 1617 | 1479 | 1341 | 1203 | 1065 | 0928 | 0790 | 0652 | 0514 | 0376 | 0238 | 0100 |
| 4 | 58 | | 2586 | 2447 | 2309 | 2171 | 2033 | 1895 | 1757 | 1619 | 1481 | 1343 | 1206 | 1068 | 0930 | 0792 | 0654 | 0516 | 0378 |
| 2 | 59 | | 2864 | 2725 | 2587 | 2449 | 2311 | 2173 | 2035 | 1897 | 1759 | 1622 | 1484 | 1346 | 1208 | 1070 | 0933 | 0795 | 0657 |
| 0 | 60 | | 3142 | 3003 | 2865 | 2727 | 2589 | 2451 | 2313 | 2175 | 2037 | 1900 | 1762 | 1624 | 1486 | 1348 | 1211 | 1073 | 0935 |

| Parts for Sec. of C. D. additive | Arg. 105° | Sums |
|---|---|---|
| ′ | | |
| 0 | 0 | 5345 |
| 1 | 1 | 5345 |
| 2 | 2 | 5346 |
| 3 | 3 | 5346 |
| 4 | 4 | 5346 |
| 5 | 5 | 5346 |
| 6 | 6 | 5346 |
| 7 | 7 | 5347 |
| 8 | 8 | 5347 |
| 9 | 9 | 5347 |
| 10 | 10 | 5347 |
| 11 | 11 | 5348 |
| 12 | 12 | 5348 |
| 13 | 13 | 5348 |
| 14 | 14 | 5348 |
| 15 | 15 | 5349 |
| 16 | 16 | 5349 |
| 17 | 17 | 5349 |
| 18 | 18 | 5349 |
| 19 | 19 | 5350 |
| 20 | 20 | 5350 |
| 21 | 21 | 5350 |
| 22 | 22 | 5350 |
| 23 | 23 | 5351 |
| 24 | 24 | 5351 |
| 25 | 25 | 5351 |
| 26 | 26 | 5351 |
| 27 | 27 | 5352 |
| 28 | 28 | 5352 |
| 29 | 29 | 5352 |
| 30 | 30 | 5352 |
| 31 | 31 | 5353 |
| 32 | 32 | 5353 |
| 33 | 33 | 5353 |
| 34 | 34 | 5353 |
| 35 | 35 | 5354 |
| 36 | 36 | 5354 |
| 37 | 37 | 5354 |
| 38 | 38 | 5354 |
| 39 | 39 | 5355 |
| 40 | 40 | 5355 |
| 41 | 41 | 5355 |
| 42 | 42 | 5355 |
| 43 | 43 | 5356 |
| 44 | 44 | 5356 |
| 45 | 45 | 5357 |
| 46 | 46 | 5357 |
| 47 | 47 | 5357 |
| 48 | 48 | 5358 |
| 49 | 49 | 5358 |
| 50 | 50 | 5359 |
| 51 | 51 | 5359 |
| 52 | 52 | 5360 |
| 53 | 53 | 5360 |
| 54 | 54 | 5360 |
| 55 | 55 | 5361 |
| 56 | 56 | 5361 |
| 57 | 57 | 5362 |
| 58 | 58 | 5362 |
| 59 | 59 | 5363 |

Numbers II. for Corrected Sums of Altitudes.

| Diff. | Numbers |
|---|---|
| 6 | 274 |
| 1 | 6719 |
| 2 | 6338 |
| 3 | 6057 |
| 4 | 5776 |
| 5 | 5495 |
| 6 | 5215 |
| 7 | 4934 |
| 8 | 4653 |
| 9 | 4372 |
| 10 | 4091 |
| 11 | 3811 |
| 12 | 3530 |
| 13 | 3249 |
| 14 | 2968 |
| 15 | 2687 |
| 16 | 2406 |
| 17 | 2126 |
| 18 | 1845 |
| 19 | 1564 |
| 20 | 1283 |
| 21 | 1002 |
| 22 | 0721 |
| 23 | 0440 |
| 24 | 0159 |
| 25 | 9878 |
| 26 | 9597 |
| 27 | 9316 |
| 28 | 9035 |
| 29 | 8754 |
| 30 | 8473 |
| 31 | 8192 |
| 32 | 7911 |
| 33 | 7630 |
| 34 | 7349 |
| 35 | 7068 |
| 36 | 6787 |
| 37 | 6506 |
| 38 | 6225 |
| 39 | 5944 |
| 40 | 5663 |
| 41 | 5382 |
| 42 | 5101 |
| 43 | 4820 |
| 44 | 4539 |
| 45 | 4258 |
| 46 | 3977 |
| 47 | 3696 |
| 48 | 3415 |
| 49 | 3134 |
| 50 | 2853 |
| 51 | 2572 |
| 52 | 2291 |
| 53 | 2010 |
| 54 | 1729 |
| 55 | 1448 |
| 56 | 1167 |
| 57 | 0886 |
| 58 | 0605 |
| 59 | 0324 |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| Diff. of Auxil. Argum. | A.A. & A.D. 106° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 143 | 0 | 227 | 5400 | 5256 | 5112 | 4968 | 4824 | 4680 | 4536 | 4392 | 4248 | 4104 | 3959 | 3815 | 3671 | 3527 | 3382 | 3238 |
| 141 | 1 | | 5277 | 5134 | 4990 | 4846 | 4702 | 4558 | 4414 | 4270 | 4126 | 3982 | 3838 | 3694 | 3550 | 3406 | 3262 | 3118 |
| 139 | 2 | | 5157 | 5013 | 4869 | 4725 | 4581 | 4437 | 4293 | 4149 | 4005 | 3861 | 3717 | 3573 | 3429 | 3285 | 3141 | 2997 |
| 137 | 3 | | 5036 | 4892 | 4748 | 4604 | 4460 | 4316 | 4172 | 4028 | 3884 | 3740 | 3596 | 3452 | 3308 | 3164 | 3020 | 2876 |
| 135 | 4 | | 4915 | 4771 | 4627 | 4483 | 4339 | 4195 | 4051 | 3907 | 3763 | 3619 | 3475 | 3331 | 3187 | 3043 | 2899 | 2755 |
| 133 | 5 | 227 | 4794 | 4650 | 4506 | 4362 | 4218 | 4074 | 3930 | 3786 | 3642 | 3498 | 3354 | 3210 | 3066 | 2922 | 2778 | 2634 |
| 131 | 6 | | 4673 | 4529 | 4385 | 4241 | 4097 | 3953 | 3809 | 3665 | 3521 | 3377 | 3233 | 3089 | 2945 | 2801 | 2657 | 2513 |
| 129 | 7 | | 4552 | 4408 | 4264 | 4120 | 3976 | 3832 | 3688 | 3544 | 3400 | 3256 | 3112 | 2968 | 2824 | 2680 | 2536 | 2392 |
| 127 | 8 | | 4431 | 4287 | 4143 | 3999 | 3855 | 3711 | 3567 | 3423 | 3279 | 3135 | 2991 | 2847 | 2703 | 2559 | 2415 | 2271 |
| 125 | 9 | | 4310 | 4166 | 4022 | 3878 | 3734 | 3590 | 3446 | 3302 | 3158 | 3014 | 2870 | 2726 | 2582 | 2438 | 2294 | 2150 |
| 123 | 10 | | 4189 | 4045 | 3901 | 3757 | 3613 | 3469 | 3325 | 3181 | 3037 | 2893 | 2749 | 2605 | 2461 | 2317 | 2173 | 2029 |
| 121 | 11 | | 4068 | 3924 | 3780 | 3636 | 3492 | 3348 | 3204 | 3060 | 2916 | 2772 | 2628 | 2484 | 2340 | 2196 | 2052 | 1908 |
| 119 | 12 | | 3947 | 3803 | 3659 | 3515 | 3371 | 3227 | 3083 | 2939 | 2795 | 2651 | 2507 | 2363 | 2219 | 2075 | 1931 | 1787 |
| 117 | 13 | | 3826 | 3682 | 3538 | 3394 | 3250 | 3106 | 2962 | 2818 | 2674 | 2530 | 2386 | 2242 | 2098 | 1954 | 1810 | 1666 |
| 115 | 14 | | 3705 | 3561 | 3417 | 3273 | 3129 | 2985 | 2841 | 2697 | 2553 | 2409 | 2265 | 2121 | 1977 | 1833 | 1689 | 1545 |
| 113 | 15 | 227 | 3584 | 3440 | 3296 | 3152 | 3008 | 2864 | 2720 | 2576 | 2432 | 2288 | 2144 | 2000 | 1856 | 1712 | 1568 | 1424 |
| 111 | 16 | | 3463 | 3319 | 3175 | 3031 | 2887 | 2743 | 2599 | 2455 | 2311 | 2167 | 2023 | 1879 | 1735 | 1591 | 1447 | 1303 |
| 109 | 17 | | 3342 | 3198 | 3054 | 2910 | 2766 | 2622 | 2478 | 2334 | 2190 | 2046 | 1902 | 1758 | 1614 | 1470 | 1326 | 1182 |
| 107 | 18 | 228(227) | 3221 | 3077 | 2933 | 2789 | 2645 | 2501 | 2357 | 2213 | 2069 | 1925 | 1781 | 1637 | 1493 | 1349 | 1205 | 1061 |
| 105 | 19 | | 3100 | 2956 | 2812 | 2668 | 2524 | 2380 | 2236 | 2092 | 1948 | 1804 | 1660 | 1516 | 1372 | 1228 | 1084 | 0940 |
| 103 | 20 | | 2979 | 2835 | 2691 | 2547 | 2403 | 2259 | 2115 | 1971 | 1827 | 1683 | 1539 | 1395 | 1251 | 1107 | 0963 | 0819 |
| 101 | 21 | | 2858 | 2714 | 2570 | 2426 | 2282 | 2138 | 1994 | 1850 | 1706 | 1562 | 1418 | 1274 | 1130 | 0986 | 0842 | 0698 |
| 99 | 22 | | 2737 | 2593 | 2449 | 2305 | 2161 | 2017 | 1873 | 1729 | 1585 | 1441 | 1297 | 1153 | 1009 | 0865 | 0721 | 0577 |
| 97 | 23 | | 2616 | 2472 | 2328 | 2184 | 2040 | 1896 | 1752 | 1608 | 1464 | 1320 | 1176 | 1032 | 0888 | 0744 | 0600 | 0456 |
| 95 | 24 | | 2495 | 2351 | 2207 | 2063 | 1919 | 1775 | 1631 | 1487 | 1343 | 1199 | 1055 | 0911 | 0767 | 0623 | 0479 | 0335 |
| 93 | 25 | 228 | 2374 | 2230 | 2086 | 1942 | 1798 | 1654 | 1510 | 1366 | 1222 | 1078 | 0934 | 0790 | 0646 | 0502 | 0358 | 0214 |
| 91 | 26 | | 2253 | 2109 | 1965 | 1821 | 1677 | 1533 | 1389 | 1245 | 1101 | 0957 | 0813 | 0669 | 0525 | 0381 | 0237 | 0093 |
| 89 | 27 | | 2132 | 1988 | 1844 | 1700 | 1556 | 1412 | 1268 | 1124 | 0980 | 0836 | 0692 | 0548 | 0404 | 0260 | 0116 | 9972 |
| 87 | 28 | | 2011 | 1867 | 1723 | 1579 | 1435 | 1291 | 1147 | 1003 | 0859 | 0715 | 0571 | 0427 | 0283 | 0139 | 9995 | 9851 |
| 85 | 29 | | 1890 | 1746 | 1602 | 1458 | 1314 | 1170 | 1026 | 0882 | 0738 | 0594 | 0450 | 0306 | 0162 | 0018 | 9874 | 9730 |
| 83 | 30 | | 1769 | 1625 | 1481 | 1337 | 1193 | 1049 | 0905 | 0761 | 0617 | 0473 | 0329 | 0185 | 0041 | 9897 | 9753 | 9609 |
| 81 | 31 | | 1648 | 1504 | 1360 | 1216 | 1072 | 0928 | 0784 | 0640 | 0496 | 0352 | 0208 | 0064 | 9920 | 9776 | 9632 | 9488 |
| 79 | 32 | | 1527 | 1383 | 1239 | 1095 | 0951 | 0807 | 0663 | 0519 | 0375 | 0231 | 0087 | 9943 | 9799 | 9655 | 9511 | 9367 |
| 77 | 33 | | 1406 | 1262 | 1118 | 0974 | 0830 | 0686 | 0542 | 0398 | 0254 | 0110 | 9966 | 9822 | 9678 | 9534 | 9390 | 9246 |
| 75 | 34 | | 1285 | 1141 | 0997 | 0853 | 0709 | 0565 | 0421 | 0277 | 0133 | 9989 | 9845 | 9701 | 9557 | 9413 | 9269 | 9125 |
| 73 | 35 | 228 | 1164 | 1020 | 0876 | 0732 | 0588 | 0444 | 0300 | 0156 | 0012 | 9868 | 9724 | 9580 | 9436 | 9292 | 9148 | 9004 |
| 71 | 36 | | 1043 | 0899 | 0755 | 0611 | 0467 | 0323 | 0179 | 0035 | 9891 | 9747 | 9603 | 9459 | 9315 | 9171 | 9027 | 8883 |
| 69 | 37 | | 0922 | 0778 | 0634 | 0490 | 0346 | 0202 | 0058 | 9914 | 9770 | 9626 | 9482 | 9338 | 9194 | 9050 | 8906 | 8762 |
| 67 | 38 | | 0801 | 0657 | 0513 | 0369 | 0225 | 0081 | 9937 | 9793 | 9649 | 9505 | 9361 | 9217 | 9073 | 8929 | 8785 | 8641 |
| 65 | 39 | | 0680 | 0536 | 0392 | 0248 | 0104 | 9960 | 9816 | 9672 | 9528 | 9384 | 9240 | 9096 | 8952 | 8808 | 8664 | 8520 |
| 63 | 40 | 228 | 0559 | 0415 | 0271 | 0127 | 9983 | 9839 | 9695 | 9551 | 9407 | 9263 | 9119 | 8975 | 8831 | 8687 | 8543 | 8399 |
| 61 | 41 | | 0438 | 0294 | 0150 | 0006 | 9862 | 9718 | 9574 | 9430 | 9286 | 9142 | 8998 | 8854 | 8710 | 8566 | 8422 | 8278 |
| 59 | 42 | | 0317 | 0173 | 0029 | 9885 | 9741 | 9597 | 9453 | 9309 | 9165 | 9021 | 8877 | 8733 | 8589 | 8445 | 8301 | 8157 |
| 57 | 43 | | 0196 | 0052 | 9908 | 9764 | 9620 | 9476 | 9332 | 9188 | 9044 | 8900 | 8756 | 8612 | 8468 | 8324 | 8180 | 8036 |
| 55 | 44 | | 0075 | 9931 | 9787 | 9643 | 9499 | 9355 | 9211 | 9067 | 8923 | 8779 | 8635 | 8491 | 8347 | 8203 | 8059 | 7915 |
| 53 | 45 | 228 | 9954 | 9810 | 9666 | 9522 | 9378 | 9234 | 9090 | 8946 | 8802 | 8658 | 8514 | 8370 | 8226 | 8082 | 7938 | 7794 |
| 51 | 46 | | 9833 | 9689 | 9545 | 9401 | 9257 | 9113 | 8969 | 8825 | 8681 | 8537 | 8393 | 8249 | 8105 | 7961 | 7817 | 7673 |
| 49 | 47 | | 9712 | 9568 | 9424 | 9280 | 9136 | 8992 | 8848 | 8704 | 8560 | 8416 | 8272 | 8128 | 7984 | 7840 | 7696 | 7552 |
| 47 | 48 | | 9591 | 9447 | 9303 | 9159 | 9015 | 8871 | 8727 | 8583 | 8439 | 8295 | 8151 | 8007 | 7863 | 7719 | 7575 | 7431 |
| 45 | 49 | | 9470 | 9326 | 9182 | 9038 | 8894 | 8750 | 8606 | 8462 | 8318 | 8174 | 8030 | 7886 | 7742 | 7598 | 7454 | 7310 |
| 43 | 50 | 228 | 9349 | 9205 | 9061 | 8917 | 8773 | 8629 | 8485 | 8341 | 8197 | 8053 | 7909 | 7765 | 7621 | 7477 | 7333 | 7189 |
| 41 | 51 | | 9228 | 9084 | 8940 | 8796 | 8652 | 8508 | 8364 | 8220 | 8076 | 7932 | 7788 | 7644 | 7500 | 7356 | 7212 | 7068 |
| 39 | 52 | | 9107 | 8963 | 8819 | 8675 | 8531 | 8387 | 8243 | 8099 | 7955 | 7811 | 7667 | 7523 | 7379 | 7235 | 7091 | 6947 |
| 37 | 53 | | 8986 | 8842 | 8698 | 8554 | 8410 | 8266 | 8122 | 7978 | 7834 | 7690 | 7546 | 7402 | 7258 | 7114 | 6970 | 6826 |
| 35 | 54 | | 8865 | 8721 | 8577 | 8433 | 8289 | 8145 | 8001 | 7857 | 7713 | 7569 | 7425 | 7281 | 7137 | 6993 | 6849 | 6705 |
| 33 | 55 | 228 | 8744 | 8600 | 8456 | 8312 | 8168 | 8024 | 7880 | 7736 | 7592 | 7448 | 7304 | 7160 | 7016 | 6872 | 6728 | 6584 |
| 31 | 56 | | 8623 | 8479 | 8335 | 8191 | 8047 | 7903 | 7759 | 7615 | 7471 | 7327 | 7183 | 7039 | 6895 | 6751 | 6607 | 6463 |
| 29 | 57 | | 8502 | 8358 | 8214 | 8070 | 7926 | 7782 | 7638 | 7494 | 7350 | 7206 | 7062 | 6918 | 6774 | 6630 | 6486 | 6342 |
| 27 | 58 | | 8381 | 8237 | 8093 | 7949 | 7805 | 7661 | 7517 | 7373 | 7229 | 7085 | 6941 | 6797 | 6653 | 6509 | 6365 | 6221 |
| 25 | 59 | | 8260 | 8116 | 7972 | 7828 | 7684 | 7540 | 7396 | 7252 | 7108 | 6964 | 6820 | 6676 | 6532 | 6388 | 6244 | 6100 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Part of Sec. of C. D. | A A & A.D. 1796 | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 144 | 0 | 227 | 3134 | 2995 | 2853 | 2710 | 2567 | 2437 | 2296 | 2155 | 2016 | 1879 | 1741 | 1602 | 1461 | 1321 | 1180 | 1042 |
| 141 | 1 | | 3411 | 3271 | 3132 | 2993 | 2853 | 2713 | 2574 | 2434 | 2295 | 2158 | 2018 | 1879 | 1739 | 1598 | 1457 | 1317 | 1177 |
| 138 | 2 | | 3688 | 3548 | 3409 | 3269 | 3130 | 2990 | 2850 | 2711 | 2571 | 2431 | 2291 | 2151 | 2011 | 1872 | 1732 | 1592 | 1452 |
| 135 | 3 | | 3965 | 3825 | 3686 | 3546 | 3406 | 3266 | 3126 | 2986 | 2847 | 2707 | 2567 | 2427 | 2287 | 2147 | 2007 | 1867 | 1727 |
| 132 | 4 | | 4242 | 4102 | 3962 | 3822 | 3682 | 3542 | 3402 | 3262 | 3122 | 2982 | 2842 | 2702 | 2562 | 2422 | 2282 | 2142 | 2002 |
| 129 | 5 | 227 | 4519 | 4379 | 4239 | 4099 | 3959 | 3819 | 3679 | 3539 | 3399 | 3259 | 3119 | 2979 | 2839 | 2699 | 2559 | 2419 | 2279 |
| 126 | 6 | | 4796 | 4656 | 4516 | 4375 | 4235 | 4095 | 3955 | 3814 | 3674 | 3534 | 3394 | 3254 | 3114 | 2974 | 2834 | 2694 | 2554 |
| 123 | 7 | | 5073 | 4933 | 4792 | 4652 | 4512 | 4371 | 4231 | 4091 | 3950 | 3810 | 3670 | 3530 | 3390 | 3250 | 3110 | 2970 | 2830 |
| 120 | 8 | | 5350 | 5209 | 5069 | 4928 | 4788 | 4647 | 4507 | 4367 | 4226 | 4086 | 3946 | 3806 | 3666 | 3526 | 3386 | 3246 | 3106 |
| 117 | 9 | | 5627 | 5486 | 5346 | 5205 | 5064 | 4924 | 4783 | 4643 | 4503 | 4362 | 4222 | 4082 | 3942 | 3802 | 3662 | 3522 | 3382 |
| 114 | 10 | 227 | 5903 | 5763 | 5622 | 5481 | 5341 | 5200 | 5060 | 4919 | 4779 | 4639 | 4498 | 4358 | 4218 | 4078 | 3938 | 3798 | 3658 |
| 111 | 11 | | 6180 | 6039 | 5899 | 5758 | 5617 | 5477 | 5336 | 5196 | 5055 | 4915 | 4775 | 4634 | 4494 | 4354 | 4214 | 4074 | 3934 |
| 108 | 12 | | 6457 | 6316 | 6175 | 6034 | 5894 | 5753 | 5613 | 5472 | 5332 | 5192 | 5051 | 4911 | 4771 | 4631 | 4491 | 4350 | 4210 |
| 105 | 13 | | 6734 | 6593 | 6452 | 6311 | 6171 | 6030 | 5889 | 5749 | 5608 | 5468 | 5328 | 5187 | 5047 | 4907 | 4767 | 4627 | 4486 |
| 102 | 14 | | 7011 | 6869 | 6728 | 6587 | 6446 | 6306 | 6165 | 6025 | 5885 | 5744 | 5604 | 5464 | 5323 | 5183 | 5043 | 4903 | 4763 |
| 99 | 15 | 227 | 7288 | 7146 | 7005 | 6864 | 6723 | 6583 | 6442 | 6302 | 6161 | 6021 | 5881 | 5740 | 5600 | 5460 | 5320 | 5179 | 5039 |
| 96 | 16 | | 7564 | 7423 | 7281 | 7139 | 6998 | 6856 | 6714 | 6573 | 6431 | 6289 | 6148 | 6008 | 5867 | 5727 | 5587 | 5447 | 5307 |
| 93 | 17 | | 7841 | 7699 | 7557 | 7416 | 7274 | 7132 | 6990 | 6848 | 6707 | 6565 | 6424 | 6283 | 6143 | 6003 | 5863 | 5723 | 5583 |
| 90 | 18 | | 8118 | 7976 | 7834 | 7692 | 7550 | 7408 | 7266 | 7124 | 6982 | 6841 | 6699 | 6559 | 6418 | 6278 | 6138 | 5998 | 5858 |
| 87 | 19 | | 8395 | 8252 | 8110 | 7968 | 7826 | 7684 | 7542 | 7400 | 7258 | 7116 | 6975 | 6834 | 6694 | 6554 | 6414 | 6274 | 6134 |
| 84 | 20 | 227 | 8671 | 8529 | 8387 | 8244 | 8102 | 7960 | 7818 | 7675 | 7533 | 7391 | 7248 | 7106 | 6964 | 6821 | 6679 | 6536 | 6394 |
| 81 | 21 | | 8947 | 8805 | 8663 | 8521 | 8378 | 8236 | 8094 | 7951 | 7809 | 7666 | 7524 | 7381 | 7239 | 7096 | 6954 | 6811 | 6668 |
| 78 | 22 | | 9224 | 9082 | 8939 | 8797 | 8654 | 8512 | 8369 | 8227 | 8084 | 7941 | 7799 | 7656 | 7513 | 7371 | 7228 | 7085 | 6943 |
| 75 | 23 | | 9501 | 9358 | 9215 | 9073 | 8930 | 8788 | 8645 | 8503 | 8360 | 8217 | 8074 | 7931 | 7788 | 7646 | 7503 | 7360 | 7217 |
| 72 | 24 | | 9777 | 9634 | 9492 | 9349 | 9206 | 9063 | 8921 | 8778 | 8635 | 8492 | 8349 | 8206 | 8063 | 7920 | 7777 | 7634 | 7491 |
| 69 | 25 | 228 (227) | 0054 | 9911 | 9768 | 9625 | 9482 | 9339 | 9196 | 9053 | 8910 | 8767 | 8624 | 8481 | 8338 | 8195 | 8052 | 7909 | 7765 |
| 66 | 26 | | 0330 | 0187 | 0044 | 9901 | 9758 | 9615 | 9472 | 9329 | 9186 | 9044 | 8901 | 8758 | 8615 | 8472 | 8329 | 8186 | 8043 |
| 63 | 27 | | 0606 | 0463 | 0320 | 0177 | 0034 | 9891 | 9748 | 9605 | 9462 | 9319 | 9176 | 9034 | 8891 | 8748 | 8605 | 8462 | 8319 |
| 60 | 28 | | 0882 | 0739 | 0596 | 0453 | 0310 | 0167 | 0024 | 9881 | 9738 | 9595 | 9452 | 9309 | 9166 | 9024 | 8881 | 8738 | 8595 |
| 57 | 29 | | 1158 | 1015 | 0872 | 0729 | 0586 | 0443 | 0300 | 0157 | 0014 | 9871 | 9728 | 9585 | 9442 | 9299 | 9156 | 9014 | 8871 |
| 54 | 30 | 228 (227) | 1435 | 1291 | 1148 | 1005 | 0862 | 0719 | 0576 | 0433 | 0290 | 0147 | 0004 | 9861 | 9718 | 9575 | 9432 | 9289 | 9146 |
| 51 | 31 | | 1711 | 1567 | 1424 | 1281 | 1138 | 0995 | 0852 | 0709 | 0566 | 0423 | 0280 | 0137 | 9994 | 9851 | 9708 | 9565 | 9422 |
| 48 | 32 | | 1987 | 1844 | 1700 | 1557 | 1414 | 1271 | 1128 | 0985 | 0842 | 0699 | 0556 | 0413 | 0270 | 0127 | 9984 | 9841 | 9698 |
| 45 | 33 | | 2265 | 2121 | 1977 | 1833 | 1689 | 1545 | 1401 | 1257 | 1112 | 0968 | 0824 | 0680 | 0536 | 0391 | 0247 | 0103 | 9959 |
| 42 | 34 | 228 | 2541 | 2397 | 2253 | 2109 | 1965 | 1820 | 1676 | 1532 | 1388 | 1243 | 1099 | 0955 | 0810 | 0666 | 0521 | 0377 | 0233 |
| 39 | 35 | | 2817 | 2673 | 2529 | 2385 | 2241 | 2096 | 1952 | 1808 | 1664 | 1519 | 1375 | 1231 | 1086 | 0942 | 0797 | 0653 | 0508 |
| 36 | 36 | | 3094 | 2949 | 2805 | 2661 | 2516 | 2372 | 2228 | 2083 | 1939 | 1795 | 1650 | 1506 | 1361 | 1217 | 1072 | 0928 | 0783 |
| 33 | 37 | | 3370 | 3225 | 3081 | 2936 | 2792 | 2647 | 2502 | 2358 | 2213 | 2068 | 1923 | 1779 | 1634 | 1489 | 1344 | 1199 | 1055 |
| 30 | 38 | | 3646 | 3501 | 3357 | 3212 | 3067 | 2922 | 2778 | 2633 | 2488 | 2343 | 2198 | 2053 | 1908 | 1763 | 1619 | 1474 | 1329 |
| 27 | 39 | | 3922 | 3777 | 3633 | 3488 | 3343 | 3198 | 3053 | 2908 | 2763 | 2618 | 2473 | 2328 | 2183 | 2038 | 1893 | 1748 | 1602 |
| 24 | 40 | | 4198 | 4053 | 3909 | 3764 | 3619 | 3474 | 3329 | 3184 | 3039 | 2894 | 2749 | 2604 | 2459 | 2314 | 2169 | 2024 | 1879 |
| 21 | 41 | | 4474 | 4329 | 4184 | 4039 | 3894 | 3749 | 3604 | 3458 | 3313 | 3168 | 3022 | 2877 | 2732 | 2586 | 2441 | 2296 | 2150 |
| 18 | 42 | | 4751 | 4605 | 4460 | 4315 | 4169 | 4024 | 3879 | 3734 | 3588 | 3443 | 3297 | 3152 | 3006 | 2861 | 2715 | 2570 | 2424 |
| 15 | 43 | | 5027 | 4881 | 4736 | 4590 | 4445 | 4300 | 4154 | 4009 | 3863 | 3717 | 3572 | 3426 | 3281 | 3135 | 2990 | 2844 | 2699 |
| 12 | 44 | | 5303 | 5157 | 5012 | 4866 | 4721 | 4575 | 4429 | 4284 | 4138 | 3992 | 3847 | 3701 | 3555 | 3409 | 3263 | 3118 | 2972 |
| 9 | 45 | 228 | 5579 | 5433 | 5287 | 5142 | 4996 | 4850 | 4704 | 4559 | 4413 | 4267 | 4121 | 3975 | 3829 | 3683 | 3537 | 3391 | 3245 |
| 6 | 46 | | 5855 | 5709 | 5563 | 5417 | 5271 | 5125 | 4980 | 4834 | 4688 | 4542 | 4396 | 4250 | 4104 | 3958 | 3811 | 3665 | 3519 |
| 3 | 47 | | 6131 | 5985 | 5839 | 5693 | 5547 | 5400 | 5255 | 5109 | 4963 | 4816 | 4670 | 4524 | 4378 | 4232 | 4085 | 3939 | 3793 |
| 0 | 48 | | 6407 | 6261 | 6114 | 5968 | 5822 | 5676 | 5530 | 5384 | 5237 | 5091 | 4945 | 4799 | 4652 | 4506 | 4359 | 4213 | 4067 |
| | 49 | | 6683 | 6536 | 6390 | 6244 | 6098 | 5951 | 5805 | 5659 | 5512 | 5366 | 5219 | 5073 | 4926 | 4780 | 4633 | 4487 | 4340 |
| | 50 | | 6959 | 6812 | 6666 | 6519 | 6373 | 6226 | 6080 | 5933 | 5787 | 5640 | 5493 | 5347 | 5200 | 5053 | 4907 | 4760 | 4613 |
| | 51 | | 7234 | 7088 | 6941 | 6795 | 6648 | 6502 | 6355 | 6208 | 6062 | 5915 | 5768 | 5622 | 5475 | 5328 | 5181 | 5034 | 4888 |
| | 52 | | 7510 | 7364 | 7217 | 7070 | 6924 | 6777 | 6630 | 6483 | 6336 | 6190 | 6043 | 5896 | 5749 | 5602 | 5455 | 5308 | 5161 |
| | 53 | | 7786 | 7639 | 7492 | 7346 | 7199 | 7052 | 6906 | 6759 | 6612 | 6465 | 6318 | 6171 | 6024 | 5877 | 5730 | 5583 | 5435 |
| | 54 | | 8062 | 7915 | 7768 | 7621 | 7474 | 7327 | 7180 | 7033 | 6886 | 6739 | 6592 | 6445 | 6298 | 6151 | 6004 | 5857 | 5709 |
| | 55 | | 8337 | 8190 | 8043 | 7896 | 7749 | 7602 | 7455 | 7308 | 7161 | 7014 | 6866 | 6719 | 6572 | 6425 | 6278 | 6130 | 5983 |
| | 56 | | 8613 | 8466 | 8319 | 8172 | 8025 | 7878 | 7730 | 7583 | 7436 | 7289 | 7141 | 6994 | 6847 | 6699 | 6552 | 6404 | 6257 |
| | 57 | | 8889 | 8742 | 8595 | 8448 | 8301 | 8153 | 8006 | 7859 | 7711 | 7564 | 7416 | 7269 | 7121 | 6974 | 6826 | 6678 | 6531 |
| | 58 | | 9165 | 9017 | 8870 | 8723 | 8575 | 8427 | 8280 | 8132 | 7984 | 7837 | 7689 | 7541 | 7393 | 7246 | 7098 | 6950 | 6802 |
| | 59 | | 9441 | 9293 | 9145 | 8998 | 8850 | 8702 | 8555 | 8407 | 8259 | 8111 | 7963 | 7815 | 7668 | 7520 | 7372 | 7224 | 7076 |

| Part of Sec. of C. D. | C. D. 1796 | Sums |
|---|---|---|
| | | |
| 0 | 0′ | 597 5637 |
| 1 | 1 | 5017 |
| 2 | 2 | 4397 |
| 3 | 3 | 3777 |
| 4 | 4 | 3158 |
| 5 | 5 | 2538 |
| 6 | 6 | 1918 |
| 7 | 7 | 1299 |
| 8 | 8 | 0679 |
| 9 | 9 | 0059 |
| 10 | 10 | 9439 |
| 11 | 11 | 8819 |
| 12 | 12 | 8200 |
| 13 | 13 | 7580 |
| 14 | 14 | 6960 |
| 15 | 15 | 6340 |
| 16 | 16 | 5721 |
| 17 | 17 | 5101 |
| 18 | 18 | 4481 |
| 19 | 19 | 3861 |
| 20 | 20 | 3242 |
| 21 | 21 | 2622 |
| 22 | 22 | 2002 |
| 23 | 23 | 1382 |
| 24 | 24 | 0763 |
| 25 | 25 | 0143 |
| 26 | 26 | 9523 |
| 27 | 27 | 8903 |
| 28 | 28 | 8284 |
| 29 | 29 | 7664 |
| 30 | 30 | 7044 |
| 31 | 31 | 6424 |
| 32 | 32 | 5805 |
| 33 | 33 | 5185 |
| 34 | 34 | 4565 |
| 35 | 35 | 3945 |
| 36 | 36 | 3326 |
| 37 | 37 | 2706 |
| 38 | 38 | 2086 |
| 39 | 39 | 1466 |
| 40 | 40 | 0847 |
| 41 | 41 | 0227 |
| 42 | 42 | 9607 |
| 43 | 43 | 8987 |
| 44 | 44 | 8368 |
| 45 | 45 | 7748 |
| 46 | 46 | 7128 |
| 47 | 47 | 6508 |
| 48 | 48 | 5889 |
| 49 | 49 | 5269 |
| 50 | 50 | 4649 |
| 51 | 51 | 4029 |
| 52 | 52 | 3410 |
| 53 | 53 | 2790 |
| 54 | 54 | 2170 |
| 55 | 55 | 1550 |
| 56 | 56 | 0931 |
| 57 | 57 | 0311 |
| 58 | 58 | 9691 |
| 59 | 59 | 9071 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

| Sum of Alt. | Diff. | Numbers |
|---|---|---|
| 279 | 72 | 4083 |
| 274 | 1 | 3883 |
| 273 | 2 | 3684 |
| 272 | 3 | 3484 |
| 260 | 4 | 3285 |
| 258 | 5 | 3085 |
| 251 | 6 | 2886 |
| 247 | 7 | 2687 |
| 244 | 8 | 2487 |
| 237 | 9 | 2288 |
| 233 | 10 | 2089 |
| 228 | 11 | 1889 |
| 223 | 12 | 1690 |
| 217 | 13 | 1491 |
| 214 | 14 | 1291 |
| 208 | 15 | 1092 |
| 203 | 16 | 893 |
| 198 | 17 | 693 |
| 193 | 18 | 494 |
| 191 | 19 | 294 |
| 186 | 20 | 95 |
| 181 | 21 | 8217 |
| 177 | 22 | 7938 |
| 173 | 23 | 7659 |
| 171 | 24 | 7380 |
| 166 | 25 | 7101 |
| 161 | 26 | 6822 |
| 156 | 27 | 6543 |
| 151 | 28 | 6264 |
| 146 | 29 | 5985 |
| 141 | 30 | 5706 |
| 136 | 31 | 5427 |
| 131 | 32 | 5148 |
| 126 | 33 | 4869 |
| 121 | 34 | 4590 |
| 116 | 35 | 4311 |
| 111 | 36 | 4032 |
| 107 | 37 | 3753 |
| 102 | 38 | 3474 |
| 97 | 39 | 3195 |
| 92 | 40 | 2916 |
| 87 | 41 | 2637 |
| 82 | 42 | 2358 |
| 77 | 43 | 2079 |
| 72 | 44 | 1800 |
| 67 | 45 | 1521 |
| 62 | 46 | 1242 |
| 57 | 47 | 963 |
| 52 | 48 | 684 |
| 47 | 49 | 405 |
| 42 | 50 | 126 |

| A. D. | Auxiliary Arguments. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 107 | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 2[illegible]77 | 1030 | 1782 | 1625 | 1487 | 1340 | 1193 | 1045 | 0897 | 0750 | 0602 | 0455 | 0307 | 0159 | 0012 | 0864 | |
| 1 | [illegible] | [illegible] | 1912 | 1765 | 1617 | 1470 | 1324 | 1174 | 1027 | [illegible] | 731 | 583 | 435 | 288 | 140 | | |
| 2 | [illegible] | [illegible] | [illegible] | 2168 | 2021 | 1873 | 1747 | 1580 | 1451 | 1303 | 1155 | 1007 | 859 | 711 | 564 | 416 | |
| 3 | [illegible] | 2011 | 1793 | 2467 | 2319 | 2171 | [illegible] | 1876 | 1728 | 158[illegible] | 1432 | 1284 | 1136 | [illegible] | [illegible] | [illegible] | |
| 4 | 3[illegible] | [illegible] | [illegible] | 2745 | 2597 | 2449 | 2301 | 2153 | [illegible] | 1857 | 1709 | 1561 | 1413 | 1265 | 1118 | [illegible] | |
| 5 | 3[illegible] | 3[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 6 | 3[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 7 | 417[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 8 | 44[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 9 | 47[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 10 | 500[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3515 | 3366 | 3217 | 3068 | 2919 | 2770 | 2621 | |
| 11 | 52[illegible] | [illegible] | 4984 | 4835 | 4686 | 4537 | 4388 | 4239 | 409[illegible] | [illegible] | 3791 | 3642 | 3493 | [illegible] | [illegible] | [illegible] | |
| 12 | 555[illegible] | [illegible] | 5261 | 5112 | 4963 | 4814 | 4665 | 4515 | 436[illegible] | 4217 | 4068 | 3918 | [illegible] | [illegible] | 3471 | 3321 | 3172 |
| 13 | 58[illegible] | [illegible] | 5538 | 5389 | 5240 | 5091 | 4941 | 4792 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3896 | 3746 | 3597 | 3447 |
| 14 | [illegible] | [illegible] | 5816 | 5666 | 5517 | 5368 | 5218 | 5069 | [illegible] | [illegible] | 4620 | 4471 | 4321 | 4172 | 4022 | 3872 | 3723 |
| 15 | [illegible] | [illegible] | 6093 | 5944 | 5794 | 5645 | 5495 | 5346 | [illegible] | [illegible] | 4897 | 4747 | 4597 | 4447 | 4298 | 4148 | 3998 |
| 16 | [illegible] | [illegible] | 6371 | 6221 | 6071 | 5922 | 5772 | 5622 | [illegible] | [illegible] | 5173 | [illegible] | 4873 | 4723 | 4573 | 4423 | 4273 |
| 17 | [illegible] | [illegible] | 6648 | 6498 | 6348 | 6199 | 6049 | 5899 | 5749 | 5599 | 5449 | 5299 | 5149 | 4999 | 4849 | [illegible] | |
| 18 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5725 | 5575 | 5425 | 5275 | 5125 | 4974 | |
| 19 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5701 | 5551 | 5400 | 5250 |
| 20 | 77[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 21 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6554 | 6403 | 6253 | 6102 | 5951 | 5801 | 5650 |
| 22 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6830 | 6679 | 6529 | 6378 | [illegible] | [illegible] | |
| 23 | [illegible] | [illegible] | 8312 | 8161 | 8010 | 7860 | 7709 | 7558 | 7408 | 7257 | 7106 | 6955 | 6804 | 6653 | 6502 | 6352 | 6201 |
| 24 | [illegible] | 8890 | 8739 | 8589 | 8438 | 8287 | 8136 | 7986 | 7835 | 7684 | 7533 | 7382 | 7231 | 7080 | 6929 | 6778 | 6627 | 6476 |
| 25 | [illegible] | 9168 | 9017 | 8866 | 8715 | 8564 | 8413 | 8262 | 8111 | 7960 | 7809 | 7658 | 7507 | 7356 | 7205 | 7053 | 6902 | 6751 |
| 26 | [illegible] | 9445 | 9294 | 9143 | 8992 | 8841 | 8690 | 8539 | 8388 | 8236 | 8085 | 7934 | 7783 | 7632 | 7480 | 7329 | 7178 | 7026 |
| 27 | [illegible] | 9722 | 9571 | 9420 | 9269 | 9118 | 8966 | 8815 | 8664 | 8513 | 8361 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 28 | [illegible] | 0000 | 9848 | 9697 | 9546 | 9394 | 9243 | 9092 | 8940 | 8789 | 8637 | 8486 | 8334 | 8183 | 8031 | 7880 | 7728 | 7577 |
| 29 | [illegible] | 0277 | 0126 | 9974 | 982[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8913 | 8762 | 8610 | 8459 | 8307 | 8155 | 8003 | 7852 |
| 30 | [illegible] | 0554 | 0403 | 0251 | 0100 | 9948 | 9796 | 9645 | 9493 | [illegible] | [illegible] | 9038 | 8886 | 8734 | 8582 | 8430 | 8279 | 8127 |
| 31 | [illegible] | 0832 | 0680 | 0528 | 0377 | 0225 | 0073 | 9921 | 9769 | [illegible] | [illegible] | 9314 | 9162 | 9010 | 8858 | 8706 | 8554 | 8402 |
| 32 | [illegible] | 1109 | 0957 | 0805 | 0653 | 0501 | 0349 | 0198 | 0046 | 9894 | 9742 | 9589 | 9437 | 9285 | 9133 | 8981 | 8829 | 8677 |
| 33 | [illegible] | 1386 | 1234 | 1082 | 0930 | 0778 | 0626 | 0474 | 0322 | 0170 | 0017 | 9865 | 9713 | 9561 | 9409 | 9256 | 9104 | 8953 |
| 34 | [illegible] | 1663 | 1511 | 1359 | 1207 | 1055 | 0903 | 0750 | 0598 | 0446 | 0293 | 0141 | 0089 | 0836 | [illegible] | [illegible] | [illegible] | |
| 35 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 36 | [illegible] | 2218 | 2065 | 1913 | 1760 | 1608 | 1455 | 1303 | 1150 | [illegible] | [illegible] | 845 | 0693 | 0540 | 0387 | 0235 | 0082 | 9929 | 9776 |
| 37 | [illegible] | 2495 | 2342 | 2190 | 2037 | 1884 | 1732 | 1579 | 1427 | 1274 | 1121 | 0968 | 0816 | 0663 | 0510 | 0357 | 0204 | 0051 |
| 38 | [illegible] | 2772 | 2619 | 2466 | 2314 | 2161 | 2008 | 1855 | 1703 | 1550 | 1397 | 1244 | 1091 | 0938 | 0785 | 0632 | 0479 | 0326 |
| 39 | [illegible] | 3049 | 2896 | 2743 | 2590 | 2437 | 2285 | 2132 | 1979 | [illegible] | [illegible] | 1773 | 1520 | 1367 | 1214 | 1060 | 0907 | 0754 | 0601 |
| 40 | [illegible] | 3326 | 3173 | 3020 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1949 | 1796 | 1642 | 1489 | 1336 | 1182 | 1029 | 0876 |
| 41 | [illegible] | 3603 | 3450 | 3297 | 3144 | 2990 | 2837 | 2684 | 2531 | 2378 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 42 | [illegible] | [illegible] | [illegible] | [illegible] | 3420 | 3267 | 3114 | 2960 | 2807 | [illegible] | [illegible] | 2347 | [illegible] | [illegible] | [illegible] | 1886 | 1732 | 1579 | 1425 |
| 43 | [illegible] | 4157 | 4004 | 3850 | 3697 | 3543 | 3390 | 3236 | 3083 | 2929 | 2776 | 2622 | 2469 | 2315 | 2161 | 2007 | 1854 | 1700 | |
| 44 | [illegible] | 4434 | 4280 | 4127 | 3973 | 3820 | 3666 | [illegible] | [illegible] | 3359 | 3205 | 3051 | 2898 | 2744 | 2590 | [illegible] | [illegible] | | |
| 45 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 46 | [illegible] | 4711 | 4557 | 4403 | 4250 | 4096 | 3942 | 3789 | [illegible] | 635 | 3481 | 3327 | 3173 | 3019 | 2865 | 2711 | [illegible] | | |
| 47 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 48 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 49 | [illegible] | 5264 | 5111 | 4957 | 4803 | 4649 | 4495 | 4341 | 4187 | 4032 | 3878 | 3724 | 3570 | 3416 | 3261 | 3107 | [illegible] | | |
| 50 | [illegible] | 5541 | 5387 | 5233 | 5079 | 4925 | 4771 | 4617 | 4462 | 4308 | 4154 | 4000 | 3845 | 3691 | 3537 | [illegible] | [illegible] | | |
| 51 | [illegible] | 5818 | 5664 | 5510 | 5355 | 5201 | 5047 | 4893 | 4738 | 4584 | 4429 | 4275 | 4120 | 3966 | 3812 | [illegible] | [illegible] | | |
| 52 | [illegible] | 6095 | 5941 | 5786 | 5632 | 5477 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4087 | 393[illegible] | [illegible] | | |
| 53 | [illegible] | 637[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 54 | [illegible] | 6648 | 6494 | 6339 | 6184 | 6030 | 5875 | 5720 | 5566 | 5411 | 5256 | 5101 | 4946 | 47[illegible] | [illegible] | [illegible] | [illegible] | | |
| 55 | [illegible] | 6925 | 6770 | 6616 | 6461 | 6306 | 6151 | 5996 | 5841 | 5686 | 5531 | 5376 | 5221 | [illegible] | [illegible] | 4911 | 4756 | [illegible] | |
| 56 | [illegible] | 7202 | 7047 | 6892 | 6737 | 6582 | 6427 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5186 | 5031 | 4876 | [illegible] |
| 57 | [illegible] | 7476 | 7323 | 7168 | 7015 | 6858 | 6703 | 6548 | 6393 | 6237 | 6082 | 5927 | 5772 | 5616 | 5461 | [illegible] | [illegible] | | |
| 58 | [illegible] | 7755 | 7600 | 7445 | 728[illegible] | [illegible] | 6979 | 6824 | 6669 | 6513 | 6358 | 6202 | 6047 | 5891 | 5736 | [illegible] | [illegible] | | |
| 59 | [illegible] | 8032 | 7876 | 7721 | 7566 | 7410 | 7255 | 7099 | 6944 | 6788 | 6633 | 6477 | 6322 | 6166 | 6011 | [illegible] | [illegible] | | |
| 60 | [illegible] | [illegible] | 8153 | 7997 | 7842 | 7686 | 7531 | 7375 | 7220 | 7064 | 6908 | 6753 | 6597 | 6441 | 6285 | 6130 | [illegible] | | |
| | [illegible] | [illegible] | 8429 | 8274 | 8118 | 7962 | 7807 | 7651 | 7495 | [illegible] | [illegible] | [illegible] | 7028 | 6872 | 6716 | [illegible] | [illegible] | | |

C. T. XI. Numbers I. and Numbers III. for Sums of Apparent Altitudes } and Auxiliary Arguments.
for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. additive | Arg. & A.D. 107° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 152 | 0 | 228 | 9716 | 9569 | 9421 | 9273 | 9125 | 8977 | 8828 | 8680 | 8531 | 8383 | 8235 | 8086 | 7938 | 7790 | 7642 | 7493 |
| 150 | 1 | | 9692 | 9544 | 9396 | 9248 | 9100 | 8952 | 8804 | 8656 | 8508 | 8360 | 8212 | 8064 | 7916 | 7768 | 7620 | 7472 |
| 147 | 2 | 229 (228) | 9668 | 9520 | 9371 | 9223 | 9075 | 8927 | 8779 | 8631 | 8483 | 8334 | 8186 | 8038 | 7890 | 7742 | 7594 | 7446 |
| 145 | 3 | | 9643 | 9495 | 9347 | 9199 | 9050 | 8902 | 8754 | 8606 | 8458 | 8310 | 8161 | 8013 | 7865 | 7717 | 7569 | 7421 |
| 143 | 4 | | 9619 | 9471 | 9322 | 9174 | 9026 | 8878 | 8730 | 8581 | 8433 | 8285 | 8137 | 7989 | 7840 | 7692 | 7544 | 7396 |
| 140 | 5 | 229 (228) | 9594 | 9446 | 9298 | 9150 | 9001 | 8853 | 8705 | 8557 | 8408 | 8260 | 8112 | 7964 | 7816 | 7667 | 7519 | 7371 |
| 138 | 6 | | 9570 | 9422 | 9273 | 9125 | 8977 | 8829 | 8681 | 8532 | 8384 | 8236 | 8088 | 7939 | 7791 | 7643 | 7495 | 7347 |
| 136 | 7 | | 9545 | 9397 | 9249 | 9101 | 8953 | 8804 | 8656 | 8508 | 8360 | 8211 | 8063 | 7915 | 7767 | 7619 | 7470 | 7322 |
| 132 | 8 | | 1921 | 1772 | 1623 | 1474 | 1325 | 1176 | 1027 | 0878 | 0729 | 0580 | 0431 | 0282 | 0132 | 9983 | 9834 | 9685 | 9536 |
| 130 | 9 | | 2106 | 1957 | 1808 | 1659 | 1509 | 1360 | 1211 | 1062 | 0913 | 0764 | 0615 | 0466 | 0317 | 0168 | 0019 | 9870 | 9721 |
| 127 | 10 | 229 | 2472 | 2323 | 2173 | 2024 | 1875 | 1725 | 1576 | 1427 | 1278 | 1129 | 0979 | 0830 | 0681 | 0532 | 0383 | 0234 | 0085 |
| 125 | 11 | | 2747 | 2598 | 2448 | 2299 | 2150 | 2000 | 1851 | 1701 | 1552 | 1402 | 1253 | 1103 | 0954 | 0804 | 0654 | 0505 | 0355 |
| 122 | 12 | | 3022 | 2873 | 2723 | 2574 | 2424 | 2275 | 2125 | 1976 | 1826 | 1676 | 1527 | 1377 | 1227 | 1078 | 0928 | 0778 | 0628 |
| 120 | 13 | | 3207 | 3058 | 2908 | 2759 | 2609 | 2460 | 2310 | 2161 | 2011 | 1862 | 1712 | 1563 | 1413 | 1264 | 1114 | 0965 | 0815 |
| 117 | 14 | | 3573 | 3423 | 3273 | 3124 | 2974 | 2824 | 2674 | 2524 | 2374 | 2224 | 2075 | 1925 | 1775 | 1625 | 1475 | 1324 | 1174 |
| 115 | 15 | 229 | 3848 | 3698 | 3548 | 3398 | 3249 | 3099 | 2949 | 2799 | 2649 | 2499 | 2349 | 2199 | 2048 | 1898 | 1748 | 1598 | 1447 |
| 112 | 16 | | 4124 | 3974 | 3823 | 3674 | 3523 | 3373 | 3223 | 3073 | 2923 | 2772 | 2622 | 2472 | 2322 | 2171 | 2021 | 1871 | 1721 |
| 110 | 17 | | 4307 | 4240 | 4090 | 3948 | 3798 | 3647 | 3497 | 3347 | 3197 | 3047 | 2897 | 2747 | 2596 | 2445 | 2295 | 2145 | 1995 |
| 107 | 18 | | 4674 | 4524 | 4373 | 4223 | 4073 | 3922 | 3772 | 3621 | 3471 | 3321 | 3170 | 3020 | 2870 | 2719 | 2568 | 2417 | 2267 |
| 105 | 19 | | 4940 | 4790 | 4640 | 4490 | 4347 | 4197 | 4046 | 3896 | 3745 | 3595 | 3444 | 3293 | 3143 | 2992 | 2841 | 2690 | 2539 |
| 102 | 20 | 229 | 5224 | 5074 | 4923 | 4773 | 4622 | 4471 | 4320 | 4170 | 4019 | 3868 | 3718 | 3567 | 3416 | 3265 | 3114 | 2963 | 2812 |
| 100 | 21 | | 5490 | 5340 | 5190 | 5040 | 4890 | 4740 | 4590 | 4440 | 4290 | 4140 | 3990 | 3840 | 3690 | 3540 | 3390 | 3240 | 3090 |
| 97 | 22 | | 5775 | 5624 | 5473 | 5322 | 5171 | 5020 | 4869 | 4718 | 4567 | 4416 | 4265 | 4114 | 3963 | 3812 | 3661 | 3510 | 3359 |
| 95 | 23 | | 6056 | 5906 | 5756 | 5605 | 5455 | 5305 | 5154 | 5004 | 4853 | 4703 | 4553 | 4402 | 4252 | 4101 | 3951 | 3800 | 3650 |
| 92 | 24 | | 6322 | 6174 | 6022 | 5871 | 5720 | 5569 | 5418 | 5267 | 5115 | 4964 | 4812 | 4661 | 4509 | 4358 | 4207 | 4055 | 3904 |
| 90 | 25 | 229 | 6602 | 6452 | 6302 | 6151 | 6000 | 5848 | 5697 | 5546 | 5394 | 5243 | 5091 | 4940 | 4788 | 4637 | 4485 | 4334 | 4182 |
| 87 | 26 | | 6875 | 6725 | 6574 | 6421 | 6269 | 6118 | 5966 | 5814 | 5663 | 5511 | 5360 | 5208 | 5056 | 4905 | 4753 | 4601 | 4449 |
| 85 | 27 | | 7138 | 6988 | 6837 | 6685 | 6534 | 6382 | 6230 | 6079 | 5927 | 5775 | 5623 | 5471 | 5320 | 5168 | 5016 | 4864 | 4712 |
| 82 | 28 | | 7425 | 7273 | 7121 | 6970 | 6818 | 6666 | 6514 | 6362 | 6210 | 6058 | 5907 | 5755 | 5603 | 5451 | 5299 | 5147 | 4995 |
| 79 | 29 | | 7700 | 7548 | 7396 | 7244 | 7092 | 6940 | 6788 | 6636 | 6484 | 6332 | 6180 | 6028 | 5876 | 5724 | 5572 | 5420 | 5267 |
| 77 | 30 | 229 | 7975 | 7823 | 7671 | 7519 | 7367 | 7214 | 7062 | 6910 | 6758 | 6606 | 6454 | 6302 | 6150 | 5997 | 5845 | 5693 | 5541 |
| 74 | 31 | | 8250 | 8097 | 7945 | 7793 | 7641 | 7489 | 7336 | 7184 | 7032 | 6880 | 6727 | 6575 | 6422 | 6270 | 6118 | 5965 | 5813 |
| 71 | 32 | | 8524 | 8372 | 8220 | 8068 | 7916 | 7763 | 7611 | 7459 | 7306 | 7154 | 7001 | 6849 | 6697 | 6544 | 6392 | 6239 | 6087 |
| 69 | 33 | | 8797 | 8647 | 8494 | 8342 | 8190 | 8037 | 7884 | 7732 | 7579 | 7427 | 7274 | 7122 | 6969 | 6817 | 6664 | 6511 | 6359 |
| 66 | 34 | | 9074 | 8922 | 8769 | 8616 | 8464 | 8311 | 8158 | 8005 | 7853 | 7700 | 7547 | 7394 | 7242 | 7089 | 6936 | 6783 | 6630 |
| 64 | 35 | 229 | 9340 | 9190 | 9037 | 8885 | 8732 | 8580 | 8427 | 8275 | 8122 | 7970 | 7817 | 7665 | 7512 | 7360 | 7207 | 7055 | 6902 |
| 61 | 36 | | 9624 | 9471 | 9318 | 9165 | 9012 | 8859 | 8706 | 8553 | 8400 | 8247 | 8094 | 7941 | 7788 | 7635 | 7482 | 7329 | 7176 |
| 59 | 37 | | 9898 | 9745 | 9592 | 9439 | 9286 | 9133 | 8980 | 8827 | 8674 | 8521 | 8368 | 8215 | 8062 | 7909 | 7756 | 7603 | 7450 |
| 56 | 38 | 230 (229) | 0173 | 0020 | 9867 | 9714 | 9561 | 9408 | 9255 | 9102 | 8949 | 8796 | 8643 | 8490 | 8337 | 8184 | 8031 | 7878 | 7725 |
| 53 | 39 | | 0448 | 0295 | 0141 | 9988 | 9835 | 9681 | 9528 | 9375 | 9221 | 9068 | 8914 | 8761 | 8607 | 8454 | 8300 | 8147 | 7993 |
| 51 | 40 | 230 (229) | 0723 | 0569 | 0416 | 0262 | 0109 | 9955 | 9801 | 9648 | 9494 | 9341 | 9187 | 9034 | 8880 | 8727 | 8573 | 8420 | 8266 |
| 48 | 41 | | 0997 | 0844 | 0690 | 0536 | 0383 | 0229 | 0076 | 9922 | 9768 | 9615 | 9461 | 9307 | 9153 | 8999 | 8846 | 8692 | 8538 |
| 46 | 42 | | 1272 | 1118 | 0964 | 0811 | 0657 | 0503 | 0349 | 0196 | 0042 | 9888 | 9734 | 9580 | 9426 | 9272 | 9118 | 8964 | 8810 |
| 43 | 43 | | 1546 | 1392 | 1239 | 1085 | 0931 | 0777 | 0623 | 0469 | 0315 | 0161 | 0007 | 9853 | 9699 | 9545 | 9391 | 9237 | 9083 |
| 41 | 44 | | 1821 | 1667 | 1513 | 1359 | 1205 | 1051 | 0897 | 0743 | 0589 | 0435 | 0281 | 0127 | 9973 | 9819 | 9665 | 9511 | 9357 |
| 38 | 45 | 230 (229) | 2095 | 1941 | 1787 | 1633 | 1479 | 1325 | 1171 | 1016 | 0862 | 0708 | 0553 | 0399 | 0245 | 0091 | 9937 | 9783 | 9629 |
| 36 | 46 | | 2370 | 2216 | 2061 | 1907 | 1753 | 1599 | 1444 | 1290 | 1135 | 0981 | 0827 | 0672 | 0518 | 0363 | 0209 | 0055 | 9901 |
| 33 | 47 | 230 | 2644 | 2490 | 2336 | 2181 | 2027 | 1872 | 1718 | 1563 | 1409 | 1254 | 1100 | 0945 | 0790 | 0636 | 0481 | 0327 | 0172 |
| 30 | 48 | | 2919 | 2764 | 2610 | 2455 | 2301 | 2146 | 1991 | 1837 | 1682 | 1527 | 1373 | 1218 | 1063 | 0908 | 0754 | 0599 | 0444 |
| 28 | 49 | | 3193 | 3039 | 2884 | 2730 | 2575 | 2421 | 2266 | 2111 | 1957 | 1802 | 1648 | 1493 | 1338 | 1184 | 1029 | 0874 | 0720 |
| 25 | 50 | 230 | 3468 | 3313 | 3159 | 3003 | 2848 | 2694 | 2539 | 2384 | 2229 | 2074 | 1919 | 1764 | 1609 | 1454 | 1299 | 1143 | 0988 |
| 23 | 51 | | 3742 | 3587 | 3432 | 3277 | 3122 | 2967 | 2812 | 2657 | 2502 | 2347 | 2192 | 2037 | 1881 | 1726 | 1571 | 1416 | 1260 |
| 20 | 52 | | 4016 | 3861 | 3706 | 3551 | 3396 | 3241 | 3086 | 2931 | 2775 | 2620 | 2465 | 2310 | 2155 | 2000 | 1845 | 1689 | 1534 |
| 18 | 53 | | 4291 | 4136 | 3980 | 3825 | 3670 | 3515 | 3359 | 3204 | 3049 | 2893 | 2738 | 2582 | 2427 | 2271 | 2116 | 1960 | 1805 |
| 15 | 54 | | 4565 | 4410 | 4254 | 4099 | 3944 | 3788 | 3633 | 3477 | 3322 | 3166 | 3011 | 2855 | 2699 | 2544 | 2388 | 2232 | 2077 |
| 13 | 55 | 230 | 4839 | 4684 | 4528 | 4373 | 4217 | 4062 | 3906 | 3751 | 3595 | 3440 | 3284 | 3129 | 2973 | 2817 | 2662 | 2506 | 2351 |
| 10 | 56 | | 5114 | 4958 | 4802 | 4647 | 4491 | 4335 | 4179 | 4024 | 3868 | 3712 | 3557 | 3401 | 3245 | 3090 | 2934 | 2778 | 2623 |
| 8 | 57 | | 5388 | 5232 | 5076 | 4920 | 4765 | 4609 | 4453 | 4297 | 4141 | 3985 | 3829 | 3674 | 3518 | 3362 | 3206 | 3051 | 2895 |
| 5 | 58 | | 5662 | 5506 | 5350 | 5194 | 5038 | 4882 | 4726 | 4570 | 4414 | 4258 | 4102 | 3946 | 3790 | 3634 | 3478 | 3322 | 3167 |
| 3 | 59 | | 5936 | 5780 | 5624 | 5468 | 5312 | 5156 | 5000 | 4843 | 4687 | 4531 | 4375 | 4219 | 4063 | 3907 | 3751 | 3595 | 3439 |

| Parts for Sec. of C. I. addit. | Arg. 107° | Sums |
|---|---|---|
| ′ | ′ | |
| 0 | 0 | 329 237 |
| 1 | 1 | 237 |
| 2 | 2 | 237 |
| 3 | 3 | 237 |
| 4 | 4 | 236 |
| 5 | 5 | 236 237 |
| 6 | 6 | 237 |
| 7 | 7 | 237 |
| 8 | 8 | 236 |
| 9 | 9 | 237 |
| 10 | 10 | 329 237 |
| 11 | 11 | 237 |
| 12 | 12 | 237 |
| 13 | 13 | 236 |
| 14 | 14 | 237 |
| 15 | 15 | 329 237 |
| 16 | 16 | 237 |
| 17 | 17 | 237 |
| 18 | 18 | 237 |
| 19 | 19 | 237 |
| 20 | 20 | 329 237 |
| 21 | 21 | 237 |
| 22 | 22 | 236 |
| 23 | 23 | 237 |
| 24 | 24 | 237 |
| 25 | 25 | 329 237 |
| 26 | 26 | 237 |
| 27 | 27 | 237 |
| 28 | 28 | 329 |
| 29 | 29 | 237 |
| 30 | 30 | 329 237 |
| 31 | 31 | 237 |
| 32 | 32 | 237 |
| 33 | 33 | 237 |
| 34 | 34 | 237 |
| 35 | 35 | 329 237 |
| 36 | 36 | 237 |
| 37 | 37 | 237 |
| 38 | 38 | 237 |
| 39 | 39 | 237 |
| 40 | 40 | 329 237 |
| 41 | 41 | 237 |
| 42 | 42 | 237 |
| 43 | 43 | 237 |
| 44 | 44 | 237 |
| 45 | 45 | 329 237 |
| 46 | 46 | 237 |
| 47 | 47 | 237 |
| 48 | 48 | 237 |
| 49 | 49 | 329 237 |
| 50 | 50 | 237 |
| 51 | 51 | 237 |
| 52 | 52 | 237 |
| 53 | 53 | 237 |
| 54 | 54 | 237 |
| 55 | 55 | 329 237 |
| 56 | 56 | 237 |
| 57 | 57 | 237 |
| 58 | 58 | 237 |
| 59 | 59 | 237 |

Numbers II. for Corrected Sums of Altitudes.

| Page Sec. | ′ | Numbers |
|---|---|---|
| 277 | 0 | 0735 |
| 278 | 1 | 7674 |
| 279 | 2 | 6704 |
| 280 | 3 | 6516 |
| 281 | 4 | 6118 |
| 254 | 5 | 5709 |
| 241 | 6 | 5290 |
| 245 | 7 | 4861 |
| 246 | 8 | 4420 |
| 233 | 9 | 3968 |
| 211 | 10 | 3507 |
| 212 | 11 | 3036 |
| 244 | 12 | 2554 |
| 217 | 13 | 2062 |
| 214 | 14 | 1560 |
| 218 | 15 | 1048 |
| 219 | 16 | 0526 |
| 220 | 17 | 0003 |
| 194 | 18 | 1549 |
| 195 | 19 | 1027 |
| 196 | 20 | 0504 |
| 197 | 21 | 1941 |
| 198 | 22 | 1417 |
| 199 | 23 | 0853 |
| 200 | 24 | 0329 |
| 201 | 25 | 1805 |
| 202 | 26 | 1241 |
| 203 | 27 | 0717 |
| 204 | 28 | 0153 |
| 205 | 29 | 1629 |
| 206 | 30 | 1105 |
| 207 | 31 | 0541 |
| 208 | 32 | 0017 |
| 209 | 33 | 1453 |
| 210 | 34 | 0929 |
| 215 | 35 | 0405 |
| 216 | 36 | 1841 |
| 221 | 37 | 1317 |
| 222 | 38 | 0753 |
| 223 | 39 | 0229 |
| 97 | 40 | 0706 |
| 98 | 41 | 5667 |
| 99 | 42 | 5139 |
| 100 | 43 | 4601 |
| 101 | 44 | 4053 |
| 102 | 45 | 3506 |
| 103 | 46 | 2948 |
| 104 | 47 | 2381 |
| 105 | 48 | 1804 |
| 106 | 49 | 1227 |
| 107 | 50 | 0641 |
| 108 | 51 | 0045 |
| 109 | 52 | 1449 |
| 110 | 53 | 0843 |
| 111 | 54 | 0237 |
| 112 | 55 | 1621 |
| 113 | 56 | 1005 |
| 114 | 57 | 0349 |
| 115 | 58 | 0723 |
| 116 | 59 | 0057 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

| Page Sec. & A. D. | ′ | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 277 | 0 | 8861 | 8706 | 8550 | 8394 | 8238 | 8082 | 7927 | 7771 | 7615 | 7459 | 7303 | 7147 | 6991 | 6835 | 6679 | 6523 | 6367 |
| 278 | 1 | 9138 | 8982 | 8826 | 8670 | 8514 | 8358 | 8202 | 8046 | 7890 | 7734 | 7578 | 7422 | 7266 | 7109 | 6954 | 6797 | 6641 |
| 279 | 2 | 9414 | 9258 | 9102 | 8946 | 8790 | 8634 | 8478 | 8322 | 8166 | 8009 | 7853 | 7697 | 7540 | 7384 | 7228 | 7071 | 6915 |
| 280 | 3 | 9691 | 9535 | 9378 | 9222 | 9066 | 8910 | 8753 | 8597 | 8441 | 8285 | 8128 | 7972 | 7815 | 7659 | 7502 | 7346 | 7189 |
| 281 | 4 | 9967 | 9811 | 9655 | 9498 | 9342 | 9186 | 9029 | 8873 | 8716 | 8560 | 8403 | 8247 | 8090 | 7933 | 7777 | 7620 | 7463 |
| 254 | 5 | 0244 | 0087 | 9931 | 9774 | 9618 | 9461 | 9305 | 9148 | 8991 | 8835 | 8678 | 8521 | 8364 | 8208 | 8051 | 7894 | 7737 |
| 241 | 6 | 0520 | 0363 | 0207 | 0050 | 9894 | 9737 | 9581 | 9424 | 9267 | 9110 | 8953 | 8796 | 8639 | 8483 | 8326 | 8169 | 8012 |
| 245 | 7 | 0796 | 0640 | 0483 | 0326 | 0169 | 0013 | 9856 | 9699 | 9542 | 9385 | 9228 | 9070 | 8914 | 8757 | 8600 | 8443 | 8286 |
| 246 | 8 | 1073 | 0916 | 0759 | 0602 | 0445 | 0288 | 0131 | 9974 | 9817 | 9660 | 9503 | 9345 | 9188 | 9032 | 8874 | 8717 | 8560 |
| 233 | 9 | 1349 | 1192 | 1035 | 0878 | 0721 | 0564 | 0407 | 0249 | 0092 | 9935 | 9778 | 9620 | 9463 | 9306 | 9149 | 8991 | 8834 |
| 211 | 10 | 1625 | 1468 | 1311 | 1154 | 0997 | 0840 | 0682 | 0525 | 0367 | 0210 | 0053 | 9895 | 9738 | 9581 | 9424 | 9266 | 9109 |
| 212 | 11 | 1901 | 1744 | 1587 | 1430 | 1272 | 1115 | 0957 | 0800 | 0643 | 0485 | 0328 | 0170 | 0012 | 9855 | 9697 | 9540 | 9382 |
| 244 | 12 | 2178 | 2020 | 1863 | 1705 | 1548 | 1390 | 1233 | 1075 | 0918 | 0760 | 0603 | 0445 | 0287 | 0130 | 9972 | 9815 | 9657 |
| 217 | 13 | 2454 | 2296 | 2139 | 1981 | 1824 | 1666 | 1508 | 1350 | 1193 | 1035 | 0877 | 0719 | 0562 | 0404 | 0246 | 0088 | 9930 |
| 214 | 14 | 2730 | 2572 | 2415 | 2257 | 2099 | 1941 | 1783 | 1626 | 1468 | 1310 | 1152 | 0994 | 0836 | 0678 | 0520 | 0362 | 0204 |
| 218 | 15 | 3006 | 2848 | 2691 | 2533 | 2375 | 2217 | 2059 | 1901 | 1743 | 1585 | 1427 | 1269 | 1111 | 0953 | 0794 | 0636 | 0478 |
| 219 | 16 | 3282 | 3124 | 2966 | 2808 | 2650 | 2492 | 2334 | 2176 | 2018 | 1860 | 1701 | 1543 | 1385 | 1227 | 1068 | 0910 | 0752 |
| 220 | 17 | 3558 | 3400 | 3242 | 3084 | 2926 | 2767 | 2609 | 2451 | 2293 | 2134 | 1976 | 1818 | 1659 | 1501 | 1343 | 1184 | 1026 |
| 194 | 18 | 3834 | 3676 | 3518 | 3359 | 3201 | 3043 | 2885 | 2726 | 2568 | 2409 | 2250 | 2092 | 1934 | 1775 | 1617 | 1458 | 1300 |
| 195 | 19 | 4111 | 3952 | 3794 | 3635 | 3477 | 3318 | 3160 | 3001 | 2843 | 2684 | 2525 | 2367 | 2208 | 2049 | 1891 | 1732 | 1573 |
| 196 | 20 | 4386 | 4228 | 4069 | 3911 | 3752 | 3593 | 3435 | 3276 | 3117 | 2959 | 2800 | 2641 | 2483 | 2323 | 2165 | 2006 | 1847 |
| 197 | 21 | 4662 | 4504 | 4345 | 4186 | 4028 | 3869 | 3710 | 3551 | 3392 | 3233 | 3074 | 2916 | 2757 | 2598 | 2439 | 2280 | 2121 |
| 198 | 22 | 4938 | 4779 | 4621 | 4462 | 4303 | 4144 | 3985 | 3826 | 3667 | 3508 | 3349 | 3190 | 3031 | 2872 | 2713 | 2554 | 2395 |
| 199 | 23 | 5214 | 5055 | 4896 | 4737 | 4578 | 4419 | 4260 | 4101 | 3942 | 3783 | 3623 | 3464 | 3305 | 3146 | 2987 | 2828 | 2668 |
| 200 | 24 | 5490 | 5331 | 5172 | 5013 | 4854 | 4695 | 4535 | 4376 | 4217 | 4057 | 3898 | 3739 | 3579 | 3420 | 3261 | 3101 | 2942 |
| 201 | 25 | 5766 | 5607 | 5448 | 5289 | 5130 | 4970 | 4810 | 4651 | 4492 | 4333 | 4173 | 4013 | 3853 | 3694 | 3535 | 3375 | 3215 |
| 202 | 26 | 6042 | 5883 | 5724 | 5564 | 5404 | 5245 | 5085 | 4926 | 4766 | 4607 | 4447 | 4287 | 4127 | 3968 | 3808 | 3649 | 3489 |
| 203 | 27 | 6318 | 6158 | 5999 | 5839 | 5679 | 5520 | 5360 | 5201 | 5041 | 4881 | 4722 | 4562 | 4401 | 4242 | 4082 | 3923 | 3762 |
| 204 | 28 | 6593 | 6434 | 6274 | 6114 | 5955 | 5795 | 5635 | 5475 | 5316 | 5156 | 4996 | 4836 | 4675 | 4516 | 4356 | 4196 | 4036 |
| 205 | 29 | 6869 | 6709 | 6550 | 6390 | 6230 | 6070 | 5910 | 5750 | 5590 | 5430 | 5270 | 5110 | 4950 | 4790 | 4630 | 4470 | 4310 |
| 206 | 30 | 7145 | 6985 | 6825 | 6665 | 6505 | 6345 | 6185 | 6025 | 5865 | 5705 | 5545 | 5384 | 5224 | 5064 | 4904 | 4744 | 4584 |
| 207 | 31 | 7421 | 7260 | 7100 | 6940 | 6780 | 6620 | 6460 | 6300 | 6139 | 5979 | 5819 | 5659 | 5498 | 5338 | 5177 | 5017 | 4857 |
| 208 | 32 | 7696 | 7536 | 7376 | 7216 | 7055 | 6895 | 6735 | 6574 | 6414 | 6254 | 6093 | 5933 | 5772 | 5612 | 5451 | 5291 | 5130 |
| 209 | 33 | 7972 | 7812 | 7651 | 7491 | 7330 | 7170 | 7010 | 6849 | 6689 | 6528 | 6367 | 6207 | 6046 | 5886 | 5724 | 5564 | 5404 |
| 210 | 34 | 8247 | 8087 | 7926 | 7766 | 7605 | 7445 | 7284 | 7124 | 6963 | 6802 | 6642 | 6481 | 6320 | 6159 | 5998 | 5838 | 5677 |
| 215 | 35 | 8523 | 8362 | 8202 | 8041 | 7880 | 7720 | 7559 | 7398 | 7238 | 7077 | 6916 | 6755 | 6594 | 6433 | 6272 | 6111 | 5950 |
| 216 | 36 | 8799 | 8638 | 8477 | 8316 | 8155 | 7995 | 7834 | 7673 | 7512 | 7351 | 7190 | 7029 | 6868 | 6707 | 6546 | 6385 | 6224 |
| 221 | 37 | 9074 | 8913 | 8752 | 8592 | 8430 | 8269 | 8109 | 7947 | 7787 | 7626 | 7465 | 7142 | 6981 | 6819 | 6658 | 6497 | 6336 |
| 222 | 38 | 9350 | 9189 | 9028 | 8867 | 8705 | 8544 | 8383 | 8222 | 8061 | 7900 | 7739 | 7416 | 7255 | 7093 | 6932 | 6770 | 6609 |
| 223 | 39 | 9625 | 9464 | 9303 | 9142 | 8980 | 8819 | 8658 | 8496 | 8335 | 8174 | 8013 | 7851 | 7690 | 7528 | 7367 | 7205 | 7044 |
| 97 | 40 | 9901 | 9740 | 9578 | 9417 | 9255 | 9094 | 8932 | 8771 | 8609 | 8448 | 8287 | 8125 | 7964 | 7802 | 7640 | 7479 | 7317 |
| 98 | 41 | 0176 | 0015 | 9853 | 9692 | 9530 | 9368 | 9207 | 9045 | 8884 | 8722 | 8561 | 8399 | 8237 | 8076 | 7914 | 7752 | 7590 |
| 99 | 42 | 0451 | 0290 | 0128 | 9967 | 9805 | 9643 | 9482 | 9320 | 9159 | 9007 | 8835 | 8673 | 8511 | 8349 | 8187 | 8025 | 7863 |
| 100 | 43 | 0727 | 0565 | 0403 | 0242 | 0080 | 9918 | 9756 | 9594 | 9433 | 9271 | 9109 | 8947 | 8785 | 8623 | 8461 | 8299 | 8137 |
| 101 | 44 | 1002 | 0840 | 0678 | 0517 | 0355 | 0193 | 0031 | 9869 | 9707 | 9545 | 9382 | 9220 | 9058 | 8896 | 8734 | 8571 | 8409 |
| 102 | 45 | 1278 | 1116 | 0954 | 0791 | 0630 | 0467 | 0305 | 0143 | 9981 | 9819 | 9656 | 9494 | 9332 | 9170 | 9008 | 8845 | 8683 |
| 103 | 46 | 1553 | 1391 | 1229 | 1066 | 0904 | 0742 | 0579 | 0417 | 0255 | 0093 | 9930 | 9768 | 9606 | 9443 | 9281 | 9118 | 8956 |
| 104 | 47 | 1829 | 1667 | 1504 | 1341 | 1179 | 1016 | 0854 | 0692 | 0529 | 0367 | 0204 | 0042 | 9879 | 9716 | 9554 | 9391 | 9229 |
| 105 | 48 | 2104 | 1941 | 1778 | 1616 | 1454 | 1291 | 1128 | 0966 | 0803 | 0641 | 0478 | 0315 | 0153 | 9990 | 9828 | 9664 | 9501 |
| 106 | 49 | 2380 | 2217 | 2054 | 1891 | 1729 | 1566 | 1403 | 1240 | 1077 | 0915 | 0752 | 0589 | 0426 | 0263 | 0101 | 9938 | 9775 |
| 107 | 50 | 2654 | 2491 | 2328 | 2166 | 2003 | 1840 | 1677 | 1514 | 1352 | 1189 | 1026 | 0863 | 0700 | 0537 | 0374 | 0211 | 0048 |
| 108 | 51 | 2929 | 2766 | 2603 | 2440 | 2277 | 2114 | 1952 | 1789 | 1626 | 1463 | 1299 | 1137 | 0974 | 0811 | 0648 | 0485 | 0322 |
| 87 | 52 | 3205 | 3042 | 2879 | 2716 | 2553 | 2390 | 2226 | 2063 | 1900 | 1737 | 1573 | 1410 | 1247 | 1083 | 0920 | 0757 | 0594 |
| 109 | 53 | 3480 | 3317 | 3154 | 2991 | 2827 | 2664 | 2501 | 2337 | 2174 | 2010 | 1847 | 1684 | 1521 | 1357 | 1194 | 1030 | 0866 |
| 110 | 54 | 3756 | 3593 | 3430 | 3266 | 3103 | 2938 | 2774 | 2611 | 2448 | 2284 | 2121 | 1957 | 1794 | 1631 | 1467 | 1303 | 1139 |
| 111 | 55 | 4029 | 3866 | 3702 | 3539 | 3375 | 3212 | 3049 | 2885 | 2721 | 2558 | 2394 | 2231 | 2067 | 1903 | 1740 | 1576 | 1412 |
| 112 | 56 | 4304 | 4141 | 3977 | 3814 | 3650 | 3486 | 3323 | 3159 | 2995 | 2832 | 2668 | 2504 | 2341 | 2177 | 2013 | 1849 | 1685 |
| 113 | 57 | 4579 | 4416 | 4252 | 4088 | 3925 | 3761 | 3597 | 3433 | 3269 | 3105 | 2942 | 2778 | 2614 | 2450 | 2286 | 2122 | 1958 |
| 114 | 58 | 4854 | 4691 | 4527 | 4363 | 4199 | 4035 | 3871 | 3707 | 3543 | 3379 | 3215 | 3051 | 2887 | 2723 | 2559 | 2394 | 2230 |
| 115 | 59 | 5129 | 4965 | 4801 | 4637 | 4473 | 4309 | 4145 | 3981 | 3817 | 3653 | 3489 | 3325 | 3161 | 2997 | 2832 | 2667 | 2503 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Sums & A. D. 108° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 139 | 7150 | 6993 | 6836 | 6680 | 6523 | 6366 | 6209 | 6052 | 5895 | 5738 | 5581 | 5424 | 5267 | 5110 | 4953 | 4796 |
| 1 | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | 230 | 7551 | 7394 | 7237 | 7111 | | | | | | | | | | | | |
| 6 | | 7855 | 7698 | 7541 | 7384 | | | | | | | | | | | | |
| 7 | | 8159 | 7974 | 7814 | 7657 | | | | | | | | | | | | |
| 8 | | 8463 | 8284 | 8091 | 7931 | | | | | | | | | | | | |
| 9 | | 8771 | 8591 | 8411 | 8231 | | | | | | | | | | | | |
| 10 | 230 | 8956 | 8793 | 8631 | 8471 | | | | | | | | | | | | |
| 11 | | 9224 | 9067 | 8907 | 8751 | | | | | | | | | | | | |
| 12 | | 9496 | 9341 | 9184 | 9027 | | | | | | | | | | | | |
| 13 | | 9772 | 9614 | 9456 | 9298 | 9140 | 8982 | 8824 | 8665 | | | | | | | | |
| 14 | 231 (230) | 0046 | 9888 | 9729 | 9571 | 9413 | 9255 | 9097 | 8938 | | | | | | | | |
| 15 | 231 (230) | 0319 | 0161 | 0003 | 9845 | 9686 | 9528 | 9369 | 9211 | 9053 | 8894 | 8736 | 8577 | 8419 | 8260 | 8102 | |
| 16 | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | |
| 18 | | 1141 | | | | | | | | | | | | | | | |
| 19 | | 1415 | 1256 | 1097 | 0938 | 0779 | | | | | | | | | | | |
| 20 | 231 (230) | | 1500 | 1341 | 1211 | 1052 | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | |
| 23 | | 2509 | 2349 | 2190 | 2030 | 1871 | 1711 | 1552 | 1392 | 1233 | 1073 | 0914 | 0754 | 0594 | 0435 | 0275 | 0115 | 9955 |
| 24 | 231 | | | | | | | | | | | | | | | | | |
| 25 | 231 | | | | | | | | | | | | | | | | | |
| 26 | | 3329 | 3169 | 3009 | 2850 | 2690 | 2530 | 2370 | 2210 | 2050 | 1890 | 1730 | 1570 | 1410 | 1250 | 1089 | 0929 | 0769 |
| 27 | | | | | | | | | | | | | | | | | | |
| 28 | | 3876 | 3716 | 3556 | 3396 | 3235 | 3075 | 2915 | 2755 | 2595 | 2434 | 2274 | 2114 | 1953 | 1792 | 1632 | 1472 | 1311 |
| 29 | | | | | | | | | | | | | | | | | | |
| 30 | 231 | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | |
| 32 | | 4969 | 4809 | 4648 | 4487 | 4327 | 4166 | 4005 | 3844 | 3683 | 3523 | 3362 | 3201 | 3040 | 2879 | 2718 | 2557 | 2396 |
| 33 | | | | | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | | | | |
| 35 | 231 | | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | | | |
| 40 | 231 | | | | | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | | |
| 45 | 231 | | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | |
| 48 | | 9339 | 9176 | 9013 | 8850 | 8687 | 8524 | 8361 | 8198 | 8035 | 7872 | 7709 | 7546 | 7382 | 7219 | 7056 | | |
| 49 | | | | | | | | | | | | | | | | | | |
| 50 | 231 | | | | | | | | | | | | | | | | | |
| 51 | 232 (231) | 0158 | 9994 | 9831 | 9667 | 9504 | 9340 | 9177 | 9014 | 8850 | 8687 | 8523 | 8359 | 8196 | 8032 | 7869 | 77 | |
| 52 | | 0430 | 0267 | 0103 | 9940 | 9776 | 9613 | 9449 | 9285 | 9122 | 8958 | 8794 | 8631 | 8467 | 8303 | 8139 | 79 | |
| 53 | | 0703 | 0539 | 0376 | 0212 | 0048 | 9885 | 9721 | 9557 | 9393 | 9230 | 9066 | 8902 | 8738 | 8574 | 8410 | 82 | |
| 54 | | 0975 | 0812 | 0648 | 0484 | 0320 | 0157 | 9993 | 9829 | 9665 | | | | | | 8681 | 851 | |
| 55 | 232 (231) | 1248 | 1084 | 0920 | 0756 | 0593 | 0429 | 0265 | 0101 | 9937 | 9773 | 9608 | 9444 | | | | | |
| 56 | | 1521 | 1357 | 1193 | 1029 | 0865 | 0701 | 0536 | 0372 | 0208 | 0044 | 9880 | 9715 | 9551 | 9387 | 922 | | |
| 57 | | 1793 | 1629 | 1465 | 1301 | 1137 | 0972 | 0808 | 0644 | 0480 | | 0151 | 9987 | 9822 | 9658 | 9493 | | |
| 58 | | 2066 | 1902 | 1737 | 1573 | 1409 | 1244 | 1080 | 0916 | 0751 | 0587 | 0422 | 0258 | 0093 | 9929 | 9764 | | |
| 59 | | 2339 | 2174 | 2010 | 1845 | 1681 | 1516 | 1352 | 1187 | 1023 | 0858 | 0693 | 0529 | 0364 | 0199 | | | |

| Sums | Sums |
|---|---|
| 0 | 531 |
| 1 | |
| 2 | |
| 3 | |
| 4 | 531 |
| 5 | 531 |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | 531 |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | 531 |
| 16 | |
| 17 | |
| 18 | |
| 19 | |
| 20 | 531 |
| 21 | |
| 22 | |
| 23 | |
| 24 | |
| 25 | 531 |
| 26 | |
| 27 | |
| 28 | |
| 29 | |
| 30 | 531 |
| 31 | |
| 32 | |
| 33 | |
| 34 | |
| 35 | 531 |
| 36 | |
| 37 | |
| 38 | |
| 39 | |
| 40 | 532 |
| 41 | |
| 42 | |
| 43 | |
| 44 | |
| 45 | 532 |
| 46 | |
| 47 | |
| 48 | |
| 49 | |
| 50 | 532 |
| 51 | |
| 52 | |
| 53 | |
| 54 | |
| 55 | 532 |
| 56 | |
| 57 | |
| 58 | |
| 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| Page for Second of Auxiliary Argument | Numbers |
|---|---|
| 160 | 0 |
| 160 | 1 |
| 163 | 2 |
| 160 | 3 |
| 157 | 4 |
| 154 | 5 |
| 152 | 6 |
| 149 | 7 |
| 146 | 8 |
| 143 | 9 |
| 140 | 10 |
| 138 | 11 |
| 135 | 12 |
| 132 | 13 |
| 129 | 14 |
| 126 | 15 |
| 123 | 16 |
| 121 | 17 |
| 118 | 18 |
| 115 | 19 |
| 112 | 20 |
| 110 | 21 |
| 107 | 22 |
| 104 | 23 |
| 101 | 24 |
| 98 | 25 |
| 95 | 26 |
| 93 | 27 |
| 90 | 28 |
| 87 | 29 |
| 84 | 30 |
| 81 | 31 |
| 78 | 32 |
| 76 | 33 |
| 73 | 34 |
| 70 | 35 |
| 67 | 36 |
| 65 | 37 |
| 62 | 38 |
| 59 | 39 |
| 56 | 40 |
| 53 | 41 |
| 51 | 42 |
| 48 | 43 |
| 45 | 44 |
| 42 | 45 |
| 39 | 46 |
| 36 | 47 |
| 34 | 48 |
| 31 | 49 |
| 28 | 50 |
| 25 | 51 |
| 22 | 52 |
| 20 | 53 |
| 17 | 54 |
| 14 | 55 |
| 11 | 56 |
| 9 | 57 |
| 6 | 58 |
| 3 | 59 |

| Arc. | Auxiliary Arguments. | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A. D. | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 232 54 | 5240 | 5076 | 4912 | 4748 | 4584 | 4419 | 4255 | 4091 | 3927 | 3762 | 3598 | 3433 | 3269 | 3104 | 2940 | 2775 |
| 1 | 56 | 5515 | 5351 | 5187 | 5023 | 4858 | 4694 | 4530 | 4366 | 4201 | 4037 | 3873 | 3708 | 3544 | 3379 | 3215 | 3050 |
| 2 | 59 | 5790 | 5626 | 5462 | 5297 | 5133 | 4969 | 4805 | 4640 | 4476 | 4312 | 4147 | 3983 | 3818 | 3654 | 3489 | 3325 |
| 3 | 62 | 6064 | 5900 | 5736 | 5571 | 5406 | 5241 | 5077 | 4912 | 4747 | 4583 | 4418 | 4253 | 4088 | 3923 | 3758 | 3593 |
| 4 | 65 | 6339 | 6174 | 6010 | 5845 | 5680 | 5516 | 5351 | 5186 | 5021 | 4856 | 4691 | 4526 | 4361 | 4196 | 4031 | 3866 |
| 5 | 232 67 | 6614 | 6449 | 6284 | 6119 | 5954 | 5789 | 5624 | 5459 | 5294 | 5129 | 4964 | 4799 | 4634 | 4469 | 4304 | 4139 |
| 6 | 70 | 6888 | 6723 | 6558 | 6393 | 6228 | 6063 | 5898 | 5733 | 5568 | 5403 | 5238 | 5072 | 4907 | 4742 | 4577 | 4411 |
| 7 | 73 | 7163 | 6998 | 6833 | 6668 | 6502 | 6337 | 6172 | 6007 | 5841 | 5676 | 5511 | 5345 | 5180 | 5015 | 4849 | 4684 |
| 8 | 76 | 7437 | 7272 | 7107 | 6942 | 6776 | 6611 | 6446 | 6280 | 6115 | 5949 | 5784 | 5618 | 5453 | 5287 | 5122 | 4956 |
| 9 | 79 | 7712 | 7547 | 7381 | 7216 | 7050 | 6885 | 6719 | 6554 | 6388 | 6223 | 6057 | 5891 | 5726 | 5560 | 5394 | 5229 |
| 10 | 232 82 | 7986 | 7821 | 7655 | 7490 | 7324 | 7158 | 6992 | 6827 | 6661 | 6495 | 6329 | 6163 | 5998 | 5832 | 5666 | 5500 |
| 11 | 85 | 8261 | 8095 | 7930 | 7764 | 7598 | 7432 | 7266 | 7100 | 6934 | 6768 | 6602 | 6436 | 6270 | 6104 | 5938 | 5772 |
| 12 | 88 | 8535 | 8370 | 8204 | 8038 | 7872 | 7706 | 7540 | 7374 | 7208 | 7042 | 6876 | 6710 | 6544 | 6378 | 6212 | 6046 |
| 13 | 91 | 8810 | 8644 | 8478 | 8312 | 8146 | 7980 | 7814 | 7648 | 7482 | 7316 | 7150 | 6984 | 6817 | 6651 | 6485 | 6319 |
| 14 | 94 | 9084 | 8918 | 8752 | 8586 | 8420 | 8254 | 8088 | 7922 | 7756 | 7589 | 7423 | 7257 | 7091 | 6925 | 6759 | 6592 |
| 15 | 232 97 | 9358 | 9192 | 9026 | 8860 | 8693 | 8527 | 8361 | 8195 | 8029 | 7863 | 7697 | 7531 | 7365 | 7199 | 7032 | 6866 |
| 16 | 99 | 9633 | 9466 | 9300 | 9134 | 8967 | 8801 | 8634 | 8468 | 8301 | 8135 | 7969 | 7803 | 7636 | 7470 | 7304 | 7138 |
| 17 | 233 (232) 02 | 9907 | 9741 | 9574 | 9408 | 9241 | 9074 | 8908 | 8741 | 8574 | 8408 | 8241 | 8075 | 7908 | 7741 | 7574 | 7407 |
| 18 | 05 | 0182 | 0015 | 9848 | 9681 | 9515 | 9348 | 9181 | 9015 | 8848 | 8681 | 8514 | 8347 | 8180 | 8013 | 7846 | 7679 |
| 19 | 08 | 0456 | 0289 | 0122 | 9955 | 9788 | 9622 | 9455 | 9288 | 9121 | 8954 | 8787 | 8620 | 8453 | 8286 | 8119 | 7952 |
| 20 | 233 (232) 11 | 0730 | 0563 | 0396 | 0229 | 0062 | 9895 | 9728 | 9561 | 9394 | 9227 | 9060 | 8893 | 8726 | 8559 | 8392 | 8225 |
| 21 | 14 | 1004 | 0837 | 0670 | 0503 | 0336 | 0169 | 0002 | 9835 | 9667 | 9500 | 9333 | 9166 | 8999 | 8832 | 8665 | 8498 |
| 22 | 17 | 1278 | 1111 | 0944 | 0777 | 0609 | 0442 | 0275 | 0108 | 9940 | 9773 | 9605 | 9438 | 9271 | 9103 | 8936 | 8768 |
| 23 | 20 | 1552 | 1385 | 1218 | 1050 | 0883 | 0716 | 0548 | 0381 | 0213 | 0046 | 9878 | 9711 | 9543 | 9375 | 9208 | 9040 |
| 24 | 23 | 1826 | 1659 | 1491 | 1324 | 1157 | 0989 | 0821 | 0654 | 0486 | 0319 | 0151 | 9983 | 9815 | 9648 | 9480 | 9312 |
| 25 | 233 (232) 26 | 2100 | 1933 | 1765 | 1598 | 1430 | 1262 | 1095 | 0927 | 0759 | 0591 | 0424 | 0256 | 0088 | 9920 | 9752 | 9584 |
| 26 | 29 | 2375 | 2207 | 2039 | 1871 | 1704 | 1536 | 1368 | 1200 | 1032 | 0864 | 0696 | 0528 | 0360 | 0192 | 0024 | 9856 |
| 27 | 233 32 | 2649 | 2481 | 2313 | 2145 | 1977 | 1809 | 1641 | 1473 | 1305 | 1137 | 0969 | 0801 | 0633 | 0464 | 0296 | 0128 |
| 28 | 35 | 2923 | 2755 | 2587 | 2419 | 2251 | 2082 | 1914 | 1746 | 1578 | 1410 | 1241 | 1073 | 0905 | 0737 | 0569 | 0401 |
| 29 | 38 | 3196 | 3028 | 2860 | 2692 | 2524 | 2356 | 2187 | 2019 | 1851 | 1682 | 1514 | 1346 | 1177 | 1009 | 0841 | 0673 |
| 30 | 233 41 | 3470 | 3302 | 3134 | 2966 | 2797 | 2629 | 2461 | 2293 | 2124 | 1955 | 1787 | 1618 | 1450 | 1281 | 1113 | 0945 |
| 31 | 44 | 3744 | 3576 | 3408 | 3239 | 3071 | 2902 | 2734 | 2566 | 2396 | 2227 | 2059 | 1890 | 1722 | 1553 | 1385 | 1216 |
| 32 | 47 | 4018 | 3850 | 3681 | 3513 | 3344 | 3175 | 3007 | 2838 | 2669 | 2501 | 2332 | 2164 | 1995 | 1827 | 1658 | 1490 |
| 33 | 50 | 4292 | 4124 | 3955 | 3787 | 3618 | 3448 | 3280 | 3111 | 2942 | 2774 | 2605 | 2437 | 2268 | 2100 | 1931 | 1763 |
| 34 | 53 | 4566 | 4397 | 4229 | 4060 | 3891 | 3722 | 3553 | 3384 | 3215 | 3046 | 2878 | 2709 | 2540 | 2372 | 2203 | 2035 |
| 35 | 233 56 | 4840 | 4671 | 4502 | 4333 | 4164 | 3995 | 3826 | 3657 | 3487 | 3318 | 3149 | 2980 | 2812 | 2643 | 2474 | 2306 |
| 36 | 59 | 5114 | 4944 | 4775 | 4606 | 4437 | 4268 | 4099 | 3929 | 3760 | 3591 | 3422 | 3253 | 3084 | 2915 | 2746 | 2578 |
| 37 | 62 | 5387 | 5218 | 5049 | 4880 | 4710 | 4541 | 4372 | 4203 | 4033 | 3864 | 3695 | 3526 | 3357 | 3188 | 3019 | 2850 |
| 38 | 65 | 5661 | 5492 | 5322 | 5153 | 4984 | 4814 | 4644 | 4475 | 4305 | 4136 | 3967 | 3798 | 3629 | 3460 | 3291 | 3122 |
| 39 | 68 | 5935 | 5765 | 5596 | 5426 | 5257 | 5087 | 4917 | 4748 | 4578 | 4409 | 4240 | 4071 | 3902 | 3733 | 3564 | 3395 |
| 40 | 233 71 | 6208 | 6039 | 5869 | 5699 | 5530 | 5360 | 5190 | 5021 | 4851 | 4682 | 4513 | 4344 | 4175 | 4006 | 3837 | 3668 |
| 41 | 74 | 6482 | 6312 | 6142 | 5972 | 5803 | 5633 | 5463 | 5293 | 5123 | 4954 | 4785 | 4616 | 4447 | 4278 | 4109 | 3940 |
| 42 | 77 | 6756 | 6586 | 6416 | 6246 | 6076 | 5906 | 5736 | 5566 | 5395 | 5226 | 5057 | 4888 | 4719 | 4550 | 4381 | 4212 |
| 43 | 80 | 7029 | 6859 | 6689 | 6519 | 6349 | 6179 | 6009 | 5839 | 5668 | 5499 | 5330 | 5161 | 4992 | 4823 | 4654 | 4485 |
| 44 | 83 | 7303 | 7133 | 6962 | 6792 | 6622 | 6451 | 6281 | 6111 | 5940 | 5771 | 5602 | 5433 | 5264 | 5095 | 4926 | 4757 |
| 45 | 233 86 | 7576 | 7406 | 7235 | 7065 | 6895 | 6724 | 6554 | 6383 | 6213 | 6044 | 5875 | 5706 | 5537 | 5368 | 5199 | 5030 |
| 46 | 89 | 7850 | 7679 | 7509 | 7338 | 7168 | 6997 | 6827 | 6656 | 6485 | 6316 | 6147 | 5978 | 5809 | 5640 | 5471 | 5302 |
| 47 | 92 | 8123 | 7953 | 7782 | 7611 | 7441 | 7270 | 7099 | 6929 | 6757 | 6588 | 6419 | 6250 | 6081 | 5912 | 5743 | 5574 |
| 48 | 95 | 8397 | 8226 | 8055 | 7884 | 7713 | 7543 | 7372 | 7201 | 7030 | 6860 | 6691 | 6522 | 6353 | 6184 | 6015 | 5846 |
| 49 | 98 | 8670 | 8499 | 8328 | 8157 | 7986 | 7815 | 7644 | 7473 | 7302 | 7132 | 6962 | 6793 | 6624 | 6455 | 6286 | 6117 |
| 50 | 233 901 | 8943 | 8772 | 8601 | 8430 | 8259 | 8088 | 7917 | 7746 | 7574 | 7404 | 7234 | 7065 | 6896 | 6727 | 6558 | 6389 |
| 51 | 904 | 9217 | 9046 | 8874 | 8703 | 8532 | 8361 | 8189 | 8018 | 7847 | 7676 | 7506 | 7336 | 7167 | 6998 | 6829 | 6660 |
| 52 | 907 | 9490 | 9319 | 9147 | 8976 | 8805 | 8633 | 8462 | 8290 | 8119 | 7948 | 7778 | 7608 | 7438 | 7269 | 7100 | 6931 |
| 53 | 910 | 9763 | 9592 | 9420 | 9249 | 9077 | 8906 | 8734 | 8563 | 8391 | 8220 | 8050 | 7879 | 7709 | 7540 | 7371 | 7202 |
| 54 | 234 233 913 | 0037 | 9865 | 9693 | 9522 | 9350 | 9178 | 9007 | 8835 | 8663 | 8492 | 8321 | 8151 | 7981 | 7811 | 7642 | 7473 |
| 55 | 234 233 916 | 0310 | 0138 | 9966 | 9794 | 9623 | 9451 | 9279 | 9107 | 8935 | 8763 | 8592 | 8421 | 8251 | 8081 | 7912 | 7743 |
| 56 | 919 | 0583 | 0411 | 0239 | 0067 | 9895 | 9723 | 9551 | 9379 | 9207 | 9035 | 8863 | 8691 | 8519 | 8349 | 8179 | 8010 |
| 57 | 922 | 0857 | 0684 | 0512 | 0340 | 0168 | 9996 | 9824 | 9651 | 9479 | 9307 | 9135 | 8963 | 8791 | 8619 | 8448 | 8278 |
| 58 | 925 | 1130 | 0957 | 0785 | 0613 | 0441 | 0268 | 0096 | 9924 | 9752 | 9579 | 9407 | 9235 | 9063 | 8891 | 8719 | 8547 |
| 59 | 928 | 1403 | 1230 | 1058 | 0885 | 0713 | 0541 | 0368 | 0196 | 0024 | 9851 | 9679 | 9507 | 9335 | 9163 | 8991 | 8819 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Seconds of Auxil. Argum. additive | S. A. A. & A. D. 109° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 169 | 0 | 232 2611 | 2447 | 2282 | 2117 | 1953 | 1788 | 1623 | 1458 | 1293 | 1129 | 0965 | 0800 | 0635 | 0470 | 0305 | 0141 | 9975 |
| 166 | 1 | 2884 | 2719 | 2554 | 2390 | 2225 | 2060 | 1895 | 1730 | 1565 | 1401 | 1236 | 1071 | 0906 | 0741 | 0576 | 0411 | 0246 |
| 163 | 2 | 3156 | | | | | | | | | | | | | | | | |
| 160 | 3 | 3429 | | | | | | | | | | | | | | | | |
| 157 | 4 | 3701 | | | | | | | | | | | | | | | | |
| 154 | 5 | 132 | | | | | | | | | | | | | | | | |
| 152 | 6 | 4246 | 4081 | 3915 | 3750 | 3584 | 3419 | 3253 | 3088 | 2922 | 2757 | 2591 | 2425 | 2260 | 2094 | 1928 | 1762 | 1597 |
| 149 | 7 | 4518 | 4353 | 4187 | 4022 | 3856 | 3690 | 3525 | 3359 | 3193 | 3028 | 2862 | 2696 | 2530 | 2364 | 2199 | 2033 | 1867 |
| 147 | 8 | 4791 | 4625 | 4459 | 4294 | 4128 | 3962 | 3796 | 3631 | 3465 | 3299 | 3133 | 2966 | 2801 | 2635 | 2469 | 2303 | 2137 |
| 144 | 9 | | | | | | | | | | | | | | | | | |
| 141 | 10 | 232 | | | | | | | | | | | | | | | | |
| 138 | 11 | | | | | | | | | | | | | | | | | |
| 135 | 12 | | | | | | | | | | | | | | | | | |
| 132 | 13 | | | | | | | | | | | | | | | | | |
| 130 | 14 | | | 6091 | 5925 | 5758 | 5591 | 5425 | 5258 | 5091 | 4925 | 4758 | 4591 | 4424 | 4258 | 4091 | 3924 | 3757 |
| 127 | 15 | 232 | 6530 | 6363 | 6196 | 6030 | 5863 | 5696 | 5529 | 5362 | 5196 | 5029 | 4862 | 4695 | 4528 | 4361 | 4194 | 4027 |
| 124 | 16 | | | 6635 | 6468 | 6301 | 6134 | 5967 | | | | | | | | | | |
| 121 | 17 | 724 | | 6907 | 6740 | 6573 | 6406 | 6239 | 6072 | 5904 | 5737 | 5570 | 5403 | 5236 | 5068 | 4901 | 4734 | 4567 |
| 118 | 18 | 7512 | 7345 | 7178 | 7011 | 6844 | 6677 | 6510 | 6343 | 6175 | 6008 | 5841 | 5674 | 5506 | 5339 | 5171 | 5004 | 4837 |
| 116 | 19 | 7784 | | 7450 | 7283 | 7116 | 6948 | 6781 | 6614 | 6446 | 6279 | 6112 | 594 | | | | | |
| 113 | 20 | 232 | | | | | | | | | | | | | | | | |
| 110 | 21 | | | | | 7659 | 7491 | 7323 | 7156 | 6988 | 6820 | 6653 | 6485 | 6317 | 6149 | 5982 | 5814 | 5646 |
| 107 | 22 | | | | | | | | | | | | | | | | | |
| 104 | 23 | | | | 8369 | 8201 | 8033 | 7866 | 7698 | 7530 | 7362 | 7194 | 7026 | 6858 | 6690 | 652 | | |
| 101 | 24 | | | | 8641 | 8473 | 8305 | 8137 | 7969 | 7801 | 7632 | 7464 | 7296 | 7128 | 6960 | 679 | | |
| 99 | 25 | 232 | | | 8912 | 8744 | 8576 | 8408 | 8240 | 8071 | 7903 | 7735 | 7567 | 7398 | 7230 | 7061 | 6893 | 6725 |
| 96 | 26 | | | | 9183 | 9015 | 8847 | 8679 | 8510 | 8342 | 8174 | 8005 | 7837 | 7668 | 7500 | 7331 | 7163 | 6994 |
| 93 | 27 | | | | 9455 | 9286 | 9118 | 8950 | 8781 | 8613 | 8444 | 8276 | 8107 | 7938 | 7770 | 7601 | 7433 | 7264 |
| 90 | 28 | 232 | | | | | | | | | | | | | | | | |
| 87 | 29 | | | | | | | | | | | | | | | | | |
| 85 | 30 | | | | | | | | | | | | | | | | | |
| 82 | 31 | | | | | | | | | | | | | | | | | |
| 79 | 32 | | | | | | | | | | | | | | | | | |
| 76 | 33 | | | | | | | | | | | | | | | | | |
| 73 | 34 | | | | | | | | | | | | | | | | | |
| 70 | 35 | 233 (232) | 2133 | 1964 | 1794 | 1625 | 1455 | 1286 | 1116 | 0947 | 0777 | 0608 | 0438 | 0268 | 0099 | 9929 | 9759 | 9589 | 942 |
| 68 | 36 | | | | | | | | | | | | | | | | | |
| 65 | 37 | | | | | | | | | | | | | | | | | |
| 62 | 38 | 233 | 2948 | 2778 | 2608 | 2438 | 2268 | 2099 | 1929 | 1759 | 1589 | 1419 | 1248 | 1078 | 0908 | 0738 | 0568 | 039 |
| 59 | 39 | | 3216 | 3049 | 2879 | 2709 | 2539 | 2369 | 2199 | 2029 | 1859 | 1689 | 1519 | 134 | | | | |
| 56 | 40 | 233 | | | | | | | | | | | | | | | | |
| 54 | 41 | | | | | | | | | | | | | | | | | |
| 51 | 42 | | | | | | | | | | | | | | | | | |
| 48 | 43 | | | | | | | | | | | | | | | | | |
| 45 | 44 | | | | | | | | | | | | | | | | | |
| 42 | 45 | | | | | | | | | | | | | | | | | |
| 39 | 46 | | 5116 | 4945 | 4777 | 4606 | 4435 | 4264 | 4093 | 3922 | 3751 | 3580 | 3408 | 3237 | | | | |
| 37 | 47 | | 5390 | 5219 | 5048 | 4877 | 4706 | 4535 | 4363 | 4192 | 4021 | 3850 | 3678 | 3507 | | | | |
| 34 | 48 | | 5661 | 5490 | 5319 | 5148 | 4976 | 4805 | 4634 | 4462 | 4291 | 4120 | 3948 | 3777 | | | | |
| 31 | 49 | | 5933 | 5761 | 5590 | 5418 | 5247 | 5076 | 4904 | 4733 | 4561 | 4390 | 4218 | 4046 | 3875 | 3703 | 3531 | 3359 | 3188 |
| 28 | 50 | 233 | | | | | | | | | | | | | | | | |
| 25 | 51 | | 6475 | 6303 | 6132 | 5960 | 5788 | 5617 | 5445 | 5273 | 5101 | 4929 | 4757 | 4586 | 4414 | 4242 | 4070 | 3898 | 3726 |
| 22 | 52 | | | | | | | | | | | | | | | | | |
| 20 | 53 | | 7017 | 6845 | 6673 | 6501 | 6329 | 6157 | 5985 | 5813 | 5641 | 5469 | 5297 | 5125 | 4952 | 4780 | 4608 | 4436 | 4263 |
| 17 | 54 | | | | | | | | | | | | | | | | | |
| 14 | 55 | 233 | | | | | | | | | | | | | | | | |
| 11 | 56 | | | | | | | | | | | | | | | | | |
| 8 | 57 | | | | | | | | | | | | | | | | | |
| 6 | 58 | | | | | | | | | | | | | | | | | |
| 3 | 59 | | | | | | | | | | | | | | | | | |

Sums for finding the Corrected Distances.

| Parts for Sec. of C. D. additive | C. D. 109° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 532 55 |
| 5 | 1 | 584 |
| 9 | 2 | |
| 14 | 3 | |
| 19 | 4 | |
| 24 | 5 | 532 |
| 27 | 6 | 72 |
| 32 | 7 | 749 |
| 36 | 8 | 77 |
| 41 | 9 | |
| 46 | 10 | 532 |
| 50 | 11 | |
| 55 | 12 | |
| 59 | 13 | |
| 64 | 14 | |
| 68 | 15 | 532 |
| 73 | 16 | |
| 77 | 17 | |
| 82 | 18 | 533 |
| 86 | 19 | |
| 91 | 20 | |
| 95 | 21 | |
| 100 | 22 | |
| 104 | 23 | |
| 109 | 24 | |
| 113 | 25 | 533 |
| 118 | 26 | |
| 122 | 27 | |
| 127 | 28 | |
| 131 | 29 | |
| 136 | 30 | |
| 140 | 31 | |
| 145 | 32 | |
| 149 | 33 | |
| 154 | 34 | |
| 158 | 35 | 534 |
| 163 | 36 | |
| 167 | 37 | |
| 172 | 38 | |
| 176 | 39 | |
| 181 | 40 | 534 |
| 185 | 41 | |
| 190 | 42 | |
| 194 | 43 | |
| 199 | 44 | |
| 203 | 45 | |
| 208 | 46 | |
| 212 | 47 | |
| 217 | 48 | |
| 221 | 49 | |
| 224 | 49 | 9812 |
| 230 | 50 | |
| 233 | 51 | 9559 |
| 237 | 52 | |
| 242 | 53 | 534 0106 |
| 246 | 54 | 0380 |
| 251 | 55 | |
| 255 | 56 | |
| 260 | 57 | |
| 264 | 58 | |
| 269 | 59 | |
| 273 | 60 | |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances ------ }

Numbers II. for Corrected Sums of Altitudes.

| C. S. A | 110° | Numbers |
|---|---|---|
| 274 | 0 | 7 4137 |
| 269 | 1 | 3882 |
| 265 | 2 | 3607 |
| 260 | 3 | 3322 |
| 255 | 4 | 3027 |
| 251 | 5 | 7 2723 |
| 246 | 6 | 2407 |
| 242 | 7 | 2083 |
| 237 | 8 | 1748 |
| 233 | 9 | 1403 |
| 228 | 10 | 7 1047 |
| 224 | 11 | 0683 |
| 219 | 12 | 0859 |
| 215 | 13 | 6504 |
| 210 | 14 | 6098 |
| 206 | 15 | 7 5685 |
| 201 | 16 | 5261 |
| 197 | 17 | 4827 |
| 192 | 18 | 4381 |
| 188 | 19 | 8937 |
| 183 | 20 | 7 3482 |
| 179 | 21 | 8988 |
| 174 | 22 | 8483 |
| 170 | 23 | 7970 |
| 165 | 24 | 7448 |
| 161 | 25 | 7 6917 |
| 156 | 26 | 7376 |
| 152 | 27 | 6824 |
| 147 | 28 | 6263 |
| 143 | 29 | 5691 |
| 138 | 30 | 7 5110 |
| 134 | 31 | 4518 |
| 129 | 32 | 5371 |
| 125 | 33 | 3715 |
| 120 | 34 | 3049 |
| 116 | 35 | 7 2374 |
| 111 | 36 | 1689 |
| 107 | 37 | 0994 |
| 102 | 38 | 0289 |
| 098 | 39 | 7 9574 |
| 093 | 40 | 8849 |
| 089 | 41 | 8114 |
| 084 | 42 | 2031 |
| 080 | 43 | 2357 |
| 075 | 44 | 1644 |
| 071 | 45 | 0921 |
| 066 | 46 | 7 0188 |
| 062 | 47 | 1202 |
| 057 | 48 | 0988 |
| 053 | 49 | 0715 |
| 048 | 50 | 066 0441 |
| 044 | 51 | 0168 |
| 039 | 52 | 065 9894 |
| 035 | 53 | 9620 |
| 030 | 54 | 9347 |
| 026 | 55 | 9075 |
| 021 | 56 | 8804 |
| 017 | 57 | 8527 |
| 012 | 58 | 8253 |
| 008 | 59 | 7980 |

| Seconds of Auxil. Argum. | A. D. 110° | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
| | | Numbers. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 179 | 0 | 1334 (1335) | 1298 | 1275 | 1253 | 1231 | 1208 | 1186 | 1163 | 1141 | 1118 | 1096 | 1073 | 1051 | 1028 | 1006 | 0983 | 0961 |
| 174 | 1 | | 2122 | 1944 | 1767 | 1589 | 1431 | 1274 | 1116 | 0958 | 0800 | 0641 | 0483 | 0325 | 0166 | 0008 | 1849 | 1691 |
| 171 | 2 | | 2394 | 2222 | 2049 | 1876 | 1703 | 1531 | 1358 | 1185 | 1012 | 0839 | 0667 | 0494 | 0321 | 0148 | 9976 | 9803 |
| 168 | 3 | | 2667 | 2495 | 2322 | 2149 | 1976 | 1803 | 1630 | 1457 | 1284 | 1111 | 0938 | 0765 | 0592 | 0419 | 0246 | 0073 |
| 166 | 4 | 1334 | 2940 | 2768 | 2595 | 2422 | 2249 | 2077 | 1904 | 1732 | 1559 | 1387 | 1214 | 1042 | 0869 | 0697 | 0524 | 0352 |
| 162 | 5 | 1334 | 3214 | 3042 | 2869 | 2697 | 2524 | 2352 | 2179 | 2007 | 1835 | 1662 | 1490 | 1318 | 1145 | 0973 | 0801 | 0629 |
| 159 | 6 | | 3487 | 3315 | 3143 | 2971 | 2799 | 2627 | 2455 | 2283 | 2111 | 1939 | 1767 | 1595 | 1423 | 1251 | 1079 | 0907 |
| 156 | 7 | | 3760 | 3588 | 3416 | 3244 | 3072 | 2900 | 2728 | 2556 | 2384 | 2212 | 2040 | 1868 | 1696 | 1524 | 1352 | 1180 |
| 153 | 8 | | 4033 | 3861 | 3689 | 3517 | 3345 | 3173 | 3001 | 2829 | 2657 | 2485 | 2313 | 2141 | 1969 | 1797 | 1625 | 1453 |
| 150 | 9 | | 4306 | 4134 | 3962 | 3790 | 3618 | 3446 | 3274 | 3102 | 2930 | 2758 | 2586 | 2414 | 2242 | 2070 | 1898 | 1726 |
| 147 | 10 | 1334 | 4578 | 4406 | 4234 | 4062 | 3890 | 3718 | 3546 | 3374 | 3202 | 3030 | 2858 | 2686 | 2514 | 2342 | 2170 | 1998 |
| 144 | 11 | | 4851 | 4679 | 4507 | 4335 | 4163 | 3991 | 3819 | 3647 | 3475 | 3303 | 3131 | 2959 | 2787 | 2615 | 2443 | 2271 |
| 141 | 12 | | 5124 | 4950 | 4776 | 4602 | 4428 | 4254 | 4080 | 3906 | 3731 | 3557 | 3383 | 3208 | 3034 | 2860 | 2685 | 2511 | 2336 |
| 138 | 13 | | 5397 | 5223 | 5049 | 4875 | 4701 | 4527 | 4353 | 4179 | 4005 | 3831 | 3657 | 3483 | 3309 | 3135 | 2961 | 2787 |
| 135 | 14 | | 5671 | 5497 | 5323 | 5149 | 4975 | 4801 | 4627 | 4453 | 4279 | 4105 | 3931 | 3757 | 3583 | 3409 | 3235 | 3061 |
| 133 | 15 | 1334 | 5944 | 5770 | 5596 | 5422 | 5248 | 5074 | 4900 | 4726 | 4552 | 4378 | 4204 | 4030 | 3856 | 3682 | 3508 | 3334 |
| 130 | 16 | | 6217 | 6043 | 5869 | 5695 | 5521 | 5347 | 5173 | 4999 | 4825 | 4651 | 4477 | 4303 | 4129 | 3955 | 3781 | 3607 |
| 127 | 17 | | 6490 | 6316 | 6142 | 5968 | 5794 | 5620 | 5446 | 5272 | 5098 | 4924 | 4750 | 4576 | 4402 | 4228 | 4054 | 3880 |
| 124 | 18 | | 6763 | 6589 | 6415 | 6241 | 6067 | 5893 | 5719 | 5545 | 5371 | 5197 | 5023 | 4849 | 4675 | 4501 | 4327 | 4153 |
| 121 | 19 | | 7034 | 6859 | 6684 | 6509 | 6333 | 6158 | 5983 | 5808 | 5633 | 5458 | 5284 | 5109 | 4934 | 4759 | 4584 | 4410 |
| 118 | 20 | 1334 | 7306 | 7131 | 6956 | 6781 | 6606 | 6431 | 6256 | 6081 | 5906 | 5731 | 5554 | 5379 | 5204 | 5027 | 4852 | 4677 |
| 115 | 21 | | 7579 | 7404 | 7229 | 7054 | 6879 | 6704 | 6529 | 6354 | 6179 | 6004 | 5829 | 5654 | 5479 | 5304 | 5129 | 4954 |
| 113 | 22 | | 7851 | 7676 | 7501 | 7326 | 7151 | 6976 | 6801 | 6626 | 6451 | 6276 | 6101 | 5926 | 5751 | 5576 | 5401 | 5226 |
| 110 | 23 | | 8124 | 7948 | 7773 | 7597 | 7422 | 7247 | 7072 | 6896 | 6721 | 6546 | 6371 | 6196 | 6021 | 5846 | 5671 | 5496 |
| 107 | 24 | | 8396 | 8221 | 8045 | 7870 | 7695 | 7519 | 7344 | 7169 | 6993 | 6818 | 6643 | 6468 | 6293 | 6118 | 5943 | 5768 |
| 105 | 25 | 1334 | 8669 | 8493 | 8317 | 8141 | 7965 | 7789 | 7614 | 7438 | 7263 | 7087 | 6912 | 6737 | 6562 | 6387 | 6212 | 6037 |
| 102 | 26 | | 8941 | 8765 | 8589 | 8414 | 8238 | 8062 | 7886 | 7710 | 7535 | 7359 | 7183 | 7008 | 6833 | 6658 | 6483 | 6308 |
| 099 | 27 | | 9213 | 9037 | 8861 | 8686 | 8510 | 8334 | 8157 | 7981 | 7805 | 7629 | 7453 | 7278 | 7103 | 6928 | 6753 | 6578 |
| 097 | 28 | | 9485 | 9309 | 9133 | 8957 | 8781 | 8605 | 8429 | 8253 | 8077 | 7901 | 7725 | 7549 | 7374 | 7199 | 7024 | 6849 |
| 094 | 29 | | 9757 | 9581 | 9405 | 9229 | 9053 | 8877 | 8701 | 8525 | 8349 | 8173 | 7997 | 7821 | 7645 | 7469 | 7294 | 7119 |
| 092 | 30 | | 0029 | 9853 | 9677 | 9501 | 9325 | 9149 | 8973 | 8797 | 8621 | 8445 | 8269 | 8093 | 7917 | 7741 | 7565 | 7389 |
| 089 | 31 | | 0301 | 0125 | 9949 | 9773 | 9597 | 9421 | 9245 | 9069 | 8893 | 8717 | 8541 | 8365 | 8189 | 8013 | 7837 | 7661 |
| 087 | 32 | | 0573 | 0397 | 0222 | 0045 | 9868 | 9691 | 9515 | 9338 | 9161 | 8984 | 8807 | 8630 | 8452 | 8275 | 8098 | 7921 |
| 084 | 33 | | 0845 | 0669 | 0493 | 0317 | 0141 | 9964 | 9788 | 9612 | 9436 | 9260 | 9083 | 8906 | 8729 | 8552 | 8375 | 8198 |
| 082 | 34 | | 1117 | 0941 | 0765 | 0589 | 0413 | 0237 | 0061 | 9884 | 9708 | 9532 | 9356 | 9179 | 9002 | 8825 | 8648 | 8471 |
| 080 | 35 | 1334 | 1389 | 1213 | 1037 | 0861 | 0685 | 0509 | 0333 | 0157 | 9980 | 9804 | 9628 | 9452 | 9275 | 9098 | 8921 | 8744 |
| 077 | 36 | | 1661 | 1485 | 1309 | 1133 | 0957 | 0781 | 0605 | 0429 | 0253 | 0076 | 9900 | 9724 | 9548 | 9371 | 9194 | 9017 |
| 075 | 37 | | 1933 | 1757 | 1581 | 1405 | 1229 | 1053 | 0877 | 0701 | 0525 | 0349 | 0173 | 9997 | 9820 | 9644 | 9467 | 9290 |
| 073 | 38 | | 2205 | 2029 | 1853 | 1677 | 1501 | 1325 | 1149 | 0973 | 0797 | 0621 | 0445 | 0269 | 0093 | 9916 | 9740 | 9563 |
| 071 | 39 | | 2477 | 2301 | 2125 | 1949 | 1773 | 1597 | 1421 | 1245 | 1069 | 0893 | 0717 | 0541 | 0365 | 0189 | 0012 | 9836 |
| 069 | 40 | | 2749 | 2573 | 2397 | 2221 | 2045 | 1869 | 1693 | 1517 | 1341 | 1165 | 0989 | 0813 | 0637 | 0461 | 0285 | 0108 |
| 067 | 41 | 1334 | 3021 | 2845 | 2669 | 2493 | 2317 | 2141 | 1965 | 1789 | 1613 | 1437 | 1261 | 1085 | 0909 | 0733 | 0557 | 0381 |
| 065 | 42 | | 3293 | 3117 | 2941 | 2765 | 2589 | 2413 | 2237 | 2061 | 1885 | 1709 | 1533 | 1357 | 1181 | 1005 | 0829 | 0653 |
| 063 | 43 | | 3565 | 3389 | 3212 | 3034 | 2856 | 2677 | 2499 | 2320 | 2142 | 1963 | 1785 | 1606 | 1428 | 1249 | 1071 | 0892 |
| 061 | 44 | | 3837 | 3661 | 3484 | 3306 | 3128 | 2949 | 2771 | 2592 | 2414 | 2235 | 2057 | 1878 | 1700 | 1521 | 1343 | 1164 |
| 059 | 45 | | 4109 | 3933 | 3756 | 3578 | 3400 | 3221 | 3043 | 2864 | 2686 | 2507 | 2329 | 2150 | 1972 | 1793 | 1615 | 1436 |
| 057 | 46 | | 4381 | 4205 | 4028 | 3850 | 3672 | 3493 | 3315 | 3136 | 2958 | 2779 | 2601 | 2422 | 2244 | 2065 | 1887 | 1708 |
| 056 | 47 | | 4653 | 4477 | 4299 | 4120 | 3941 | 3762 | 3583 | 3404 | 3225 | 3046 | 2867 | 2688 | 2508 | 2329 | 2150 | 1971 | 1792 |
| 054 | 48 | | 4925 | 4749 | 4570 | 4391 | 4212 | 4033 | 3854 | 3675 | 3496 | | | | | | | |
| 052 | 49 | | 5197 | 5021 | 4842 | 4663 | 4483 | 4304 | 4125 | 3946 | 3766 | | | | | | | |
| 050 | 50 | 1335 | 5472 | 5292 | 5113 | 4934 | 4755 | 4575 | 4396 | 4216 | 4037 | | | | | | | |
| 048 | 51 | | 5743 | 5564 | 5385 | 5205 | 5026 | 4846 | 4667 | 4487 | 4307 | 4128 | 3948 | 3769 | 3589 | 3409 | 3229 | 3050 | 2870 |
| 046 | 52 | | 6015 | 5835 | 5656 | 5476 | 5297 | 5117 | 4938 | 4758 | 4578 | 4398 | 4219 | 4039 | 3859 | 3679 | 3499 | 3319 | 3139 |
| 044 | 53 | | 6287 | 6107 | 5927 | 5748 | 5568 | 5388 | 5208 | 5029 | 4849 | 4669 | 4489 | 4309 | 4129 | 3949 | 3769 | 3589 | 3409 |
| 043 | 54 | | 6558 | 6379 | 6199 | 6019 | 5839 | 5659 | 5479 | 5299 | 5119 | 4939 | 4759 | 4579 | 4399 | 4219 | | | |
| 041 | 55 | 1335 | | | | | | | | | | | | | | | | | |
| 039 | 56 | | 7131 | | | | | | | | | | | | | | | | |
| 038 | 57 | | 7373 | 7193 | 7013 | 6832 | 6652 | 6472 | 6291 | 6111 | 5931 | 5751 | | | | | | | |
| 036 | 58 | | 7646 | | | | | | | | | | | | | | | | |
| 035 | 59 | | 7910 | 7730 | 7555 | 7375 | 7194 | 7013 | 6833 | 6652 | 6471 | 6291 | 6110 | 5929 | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. additive | Auxiliary Arguments. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 177 | 0 | 233 | 8514 | 8741 | 8967 | 9192 | 9416 | 9639 | 9861 | 0082 | 0302 | 0521 | 0739 | 0956 | 1172 | 1387 | 1601 | 1814 |
| 176 | 1 | | 9185 | 9412 | 9638 | 9863 | 0087 | 0310 | 0532 | 0753 | 0973 | 1192 | 1410 | 1627 | 1843 | 2058 | 2272 | 2485 |
| 175 | 2 | | 9855 | 0082 | 0308 | 0533 | 0757 | 0980 | 1202 | 1423 | 1643 | 1862 | 2080 | 2297 | 2513 | 2728 | 2942 | 3155 |
| 174 | 3 | | 0526 | 0753 | 0979 | 1204 | 1428 | 1651 | 1873 | 2094 | 2314 | 2533 | 2751 | 2968 | 3184 | 3399 | 3613 | 3826 |
| 173 | 4 | | 1197 | 1424 | 1650 | 1875 | 2099 | 2322 | 2544 | 2765 | 2985 | 3204 | 3422 | 3639 | 3855 | 4070 | 4284 | 4497 |
| 172 | 5 | 234(233) | 1868 | 2094 | 2321 | 2547 | 2771 | 2994 | 3216 | 3437 | 3657 | 3876 | 4094 | 4311 | 4527 | 4742 | 4956 | 5169 |
| 171 | 6 | | 2538 | 2765 | 2991 | 3217 | 3443 | 3667 | 3889 | 4110 | 4330 | 4549 | 4767 | 4984 | 5200 | 5415 | 5629 | 5842 |
| 170 | 7 | | 3209 | 3435 | 3662 | 3888 | 4113 | 4337 | 4560 | 4782 | 5002 | 5221 | 5439 | 5656 | 5872 | 6087 | 6301 | 6514 |
| 169 | 8 | | 3880 | 4106 | 4332 | 4558 | 4783 | 5007 | 5230 | 5451 | 5671 | 5890 | 6108 | 6325 | 6541 | 6756 | 6970 | 7183 |
| 168 | 9 | | 4551 | 4777 | 5003 | 5228 | 5453 | 5677 | 5900 | 6121 | 6341 | 6560 | 6778 | 6995 | 7211 | 7426 | 7640 | 7853 |
| 167 | 10 | 234(233) | 5221 | 5447 | 5673 | 5898 | 6123 | 6347 | 6569 | 6791 | 7011 | 7230 | 7448 | 7665 | 7881 | 8096 | 8310 | 8523 |
| 166 | 11 | | 5892 | 6118 | 6343 | 6569 | 6793 | 7016 | 7239 | 7460 | 7680 | 7899 | 8117 | 8334 | 8550 | 8765 | 8979 | 9192 |
| 165 | 12 | | 6562 | 6788 | 7013 | 7238 | 7463 | 7686 | 7908 | 8129 | 8349 | 8568 | 8786 | 9003 | 9219 | 9434 | 9648 | 9861 |
| 164 | 13 | | 7232 | 7458 | 7683 | 7908 | 8132 | 8355 | 8577 | 8798 | 9018 | 9237 | 9455 | 9672 | 9888 | 0103 | 0317 | 0530 |
| 163 | 14 | | 7902 | 8127 | 8352 | 8577 | 8801 | 9024 | 9246 | 9467 | 9687 | 9906 | 0124 | 0341 | 0557 | 0772 | 0986 | 1199 |
| 162 | 15 | 234 | 8571 | 8796 | 9021 | 9246 | 9470 | 9693 | 9915 | 0136 | 0356 | 0575 | 0793 | 1010 | 1226 | 1441 | 1655 | 1868 |
| 161 | 16 | | 9240 | 9465 | 9690 | 9915 | 0139 | 0362 | 0584 | 0805 | 1025 | 1244 | 1462 | 1679 | 1895 | 2110 | 2324 | 2537 |
| 160 | 17 | | 9909 | 0134 | 0359 | 0584 | 0808 | 1031 | 1253 | 1474 | 1694 | 1913 | 2131 | 2348 | 2564 | 2779 | 2993 | 3206 |
| 159 | 18 | | 0578 | 0803 | 1028 | 1253 | 1477 | 1700 | 1922 | 2143 | 2363 | 2582 | 2800 | 3017 | 3233 | 3448 | 3662 | 3875 |
| 158 | 19 | | 1247 | 1472 | 1697 | 1922 | 2146 | 2369 | 2591 | 2812 | 3032 | 3251 | 3469 | 3686 | 3902 | 4117 | 4331 | 4544 |
| 157 | 20 | 234 | 1916 | 2141 | 2366 | 2591 | 2815 | 3038 | 3260 | 3481 | 3701 | 3920 | 4138 | 4355 | 4571 | 4786 | 5000 | 5213 |
| 156 | 21 | | 2585 | 2810 | 3035 | 3260 | 3484 | 3707 | 3929 | 4150 | 4370 | 4589 | 4807 | 5024 | 5240 | 5455 | 5669 | 5882 |
| 155 | 22 | | 3254 | 3479 | 3704 | 3929 | 4153 | 4376 | 4598 | 4819 | 5039 | 5258 | 5476 | 5693 | 5909 | 6124 | 6338 | 6551 |
| 154 | 23 | | 3923 | 4148 | 4373 | 4598 | 4822 | 5045 | 5267 | 5488 | 5708 | 5927 | 6145 | 6362 | 6578 | 6793 | 7007 | 7220 |
| 153 | 24 | | 4592 | 4817 | 5042 | 5267 | 5491 | 5714 | 5936 | 6157 | 6377 | 6596 | 6814 | 7031 | 7247 | 7462 | 7676 | 7889 |
| 152 | 25 | 234 | 5261 | 5486 | 5711 | 5936 | 6160 | 6383 | 6605 | 6826 | 7046 | 7265 | 7483 | 7700 | 7916 | 8131 | 8345 | 8558 |
| 151 | 26 | | 5930 | 6155 | 6380 | 6605 | 6829 | 7052 | 7274 | 7495 | 7715 | 7934 | 8152 | 8369 | 8585 | 8800 | 9014 | 9227 |
| 150 | 27 | | 6599 | 6824 | 7049 | 7274 | 7498 | 7721 | 7943 | 8164 | 8384 | 8603 | 8821 | 9038 | 9254 | 9469 | 9683 | 9896 |
| 149 | 28 | | 7268 | 7493 | 7718 | 7943 | 8167 | 8390 | 8612 | 8833 | 9053 | 9272 | 9490 | 9707 | 9923 | 0138 | 0352 | 0565 |
| 148 | 29 | | 7937 | 8162 | 8387 | 8612 | 8836 | 9059 | 9281 | 9502 | 9722 | 9941 | 0159 | 0376 | 0592 | 0807 | 1021 | 1234 |
| 147 | 30 | 234 | 8606 | 8831 | 9056 | 9281 | 9505 | 9728 | 9950 | 0171 | 0391 | 0610 | 0828 | 1045 | 1261 | 1476 | 1690 | 1903 |
| 146 | 31 | | 9275 | 9500 | 9725 | 9950 | 0174 | 0397 | 0619 | 0840 | 1060 | 1279 | 1497 | 1714 | 1930 | 2145 | 2359 | 2572 |
| 145 | 32 | | 9944 | 0169 | 0394 | 0619 | 0843 | 1066 | 1288 | 1509 | 1729 | 1948 | 2166 | 2383 | 2599 | 2814 | 3028 | 3241 |
| 144 | 33 | | 0613 | 0838 | 1063 | 1288 | 1512 | 1735 | 1957 | 2178 | 2398 | 2617 | 2835 | 3052 | 3268 | 3483 | 3697 | 3910 |
| 143 | 34 | 234 | 1282 | 1507 | 1732 | 1957 | 2181 | 2404 | 2626 | 2847 | 3067 | 3286 | 3504 | 3721 | 3937 | 4152 | 4366 | 4579 |
| 142 | 35 | | 1951 | 2176 | 2401 | 2626 | 2850 | 3073 | 3295 | 3516 | 3736 | 3955 | 4173 | 4390 | 4606 | 4821 | 5035 | 5248 |
| 141 | 36 | | 2620 | 2845 | 3070 | 3295 | 3519 | 3742 | 3964 | 4185 | 4405 | 4624 | 4842 | 5059 | 5275 | 5490 | 5704 | 5917 |
| 140 | 37 | | 3289 | 3514 | 3739 | 3964 | 4188 | 4411 | 4633 | 4854 | 5074 | 5293 | 5511 | 5728 | 5944 | 6159 | 6373 | 6586 |
| 139 | 38 | | 3958 | 4183 | 4408 | 4633 | 4857 | 5080 | 5302 | 5523 | 5743 | 5962 | 6180 | 6397 | 6613 | 6828 | 7042 | 7255 |
| 138 | 39 | | 4627 | 4852 | 5077 | 5302 | 5526 | 5749 | 5971 | 6192 | 6412 | 6631 | 6849 | 7066 | 7282 | 7497 | 7711 | 7924 |
| 137 | 40 | 234 | 5296 | 5521 | 5746 | 5971 | 6195 | 6418 | 6640 | 6861 | 7081 | 7300 | 7518 | 7735 | 7951 | 8166 | 8380 | 8593 |
| 136 | 41 | | 5965 | 6190 | 6415 | 6640 | 6864 | 7087 | 7309 | 7530 | 7750 | 7969 | 8187 | 8404 | 8620 | 8835 | 9049 | 9262 |
| 135 | 42 | 235(234) | 6634 | 6859 | 7084 | 7309 | 7533 | 7756 | 7978 | 8199 | 8419 | 8638 | 8856 | 9073 | 9289 | 9504 | 9718 | 9931 |
| 134 | 43 | | 7303 | 7528 | 7753 | 7978 | 8202 | 8425 | 8647 | 8868 | 9088 | 9307 | 9525 | 9742 | 9958 | 0173 | 0387 | 0600 |
| 133 | 44 | | 7972 | 8197 | 8422 | 8647 | 8871 | 9094 | 9316 | 9537 | 9757 | 9976 | 0194 | 0411 | 0627 | 0842 | 1056 | 1269 |
| 132 | 45 | 235(234) | 8641 | 8866 | 9091 | 9316 | 9540 | 9763 | 9985 | 0206 | 0426 | 0645 | 0863 | 1080 | 1296 | 1511 | 1725 | 1938 |
| 131 | 46 | | 9310 | 9535 | 9760 | 9985 | 0209 | 0432 | 0654 | 0875 | 1095 | 1314 | 1532 | 1749 | 1965 | 2180 | 2394 | 2607 |
| 130 | 47 | | 9979 | 0204 | 0429 | 0654 | 0878 | 1101 | 1323 | 1544 | 1764 | 1983 | 2201 | 2418 | 2634 | 2849 | 3063 | 3276 |
| 129 | 48 | | 0648 | 0873 | 1098 | 1323 | 1547 | 1770 | 1992 | 2213 | 2433 | 2652 | 2870 | 3087 | 3303 | 3518 | 3732 | 3945 |
| 128 | 49 | | 1317 | 1542 | 1767 | 1992 | 2216 | 2439 | 2661 | 2882 | 3102 | 3321 | 3539 | 3756 | 3972 | 4187 | 4401 | 4614 |
| 127 | 50 | 235 | 1986 | 2211 | 2436 | 2661 | 2885 | 3108 | 3330 | 3551 | 3771 | 3990 | 4208 | 4425 | 4641 | 4856 | 5070 | 5283 |
| 126 | 51 | | 2655 | 2880 | 3105 | 3330 | 3554 | 3777 | 3999 | 4220 | 4440 | 4659 | 4877 | 5094 | 5310 | 5525 | 5739 | 5952 |
| 125 | 52 | 235 | 3324 | 3549 | 3774 | 3999 | 4223 | 4446 | 4668 | 4889 | 5109 | 5328 | 5546 | 5763 | 5979 | 6194 | 6408 | 6621 |
| 124 | 53 | | 3993 | 4218 | 4443 | 4668 | 4892 | 5115 | 5337 | 5558 | 5778 | 5997 | 6215 | 6432 | 6648 | 6863 | 7077 | 7290 |
| 123 | 54 | | 4662 | 4887 | 5112 | 5337 | 5561 | 5784 | 6006 | 6227 | 6447 | 6666 | 6884 | 7101 | 7317 | 7532 | 7746 | 7959 |
| 122 | 55 | 235 | 5331 | 5556 | 5781 | 6006 | 6230 | 6453 | 6675 | 6896 | 7116 | 7335 | 7553 | 7770 | 7986 | 8201 | 8415 | 8628 |
| 121 | 56 | | 6000 | 6225 | 6450 | 6675 | 6899 | 7122 | 7344 | 7565 | 7785 | 8004 | 8222 | 8439 | 8655 | 8870 | 9084 | 9297 |
| 120 | 57 | | 6669 | 6894 | 7119 | 7344 | 7568 | 7791 | 8013 | 8234 | 8454 | 8673 | 8891 | 9108 | 9324 | 9539 | 9753 | 9966 |
| 119 | 58 | | 7338 | 7563 | 7788 | 8013 | 8237 | 8460 | 8682 | 8903 | 9123 | 9342 | 9560 | 9777 | 9993 | 0208 | 0422 | 0635 |
| 118 | 59 | | 8007 | 8232 | 8457 | 8682 | 8906 | 9129 | 9351 | 9572 | 9792 | 0011 | 0229 | 0446 | 0662 | 0877 | 1091 | 1304 |
| 117 | 60 | 235 | 8676 | 8901 | 9126 | 9351 | 9575 | 9798 | 0020 | 0241 | 0461 | 0680 | 0898 | 1115 | 1331 | 1546 | 1760 | 1973 |
| 116 | 61 | | 9345 | 9570 | 9795 | 0020 | 0244 | 0467 | 0689 | 0910 | 1130 | 1349 | 1567 | 1784 | 2000 | 2215 | 2429 | 2642 |
| 115 | 62 | | 0014 | 0239 | 0464 | 0689 | 0913 | 1136 | 1358 | 1579 | 1799 | 2018 | 2236 | 2453 | 2669 | 2884 | 3098 | 3311 |
| 114 | 63 | | 0683 | 0908 | 1133 | 1358 | 1582 | 1805 | 2027 | 2248 | 2468 | 2687 | 2905 | 3122 | 3338 | 3553 | 3767 | 3980 |
| 113 | 64 | | 1352 | 1577 | 1802 | 2027 | 2251 | 2474 | 2696 | 2917 | 3137 | 3356 | 3574 | 3791 | 4007 | 4222 | 4436 | 4649 |
| 112 | 65 | 235 | 2021 | 2246 | 2471 | 2696 | 2920 | 3143 | 3365 | 3586 | 3806 | 4025 | 4243 | 4460 | 4676 | 4891 | 5105 | 5318 |
| 111 | 66 | | 2690 | 2915 | 3140 | 3365 | 3589 | 3812 | 4034 | 4255 | 4475 | 4694 | 4912 | 5129 | 5345 | 5560 | 5774 | 5987 |
| 110 | 67 | | 3359 | 3584 | 3809 | 4034 | 4258 | 4481 | 4703 | 4924 | 5144 | 5363 | 5581 | 5798 | 6014 | 6229 | 6443 | 6656 |
| 109 | 68 | | 4028 | 4253 | 4478 | 4703 | 4927 | 5150 | 5372 | 5593 | 5813 | 6032 | 6250 | 6467 | 6683 | 6898 | 7112 | 7325 |
| 108 | 69 | | 4697 | 4922 | 5147 | 5372 | 5596 | 5819 | 6041 | 6262 | 6482 | 6701 | 6919 | 7136 | 7352 | 7567 | 7781 | 7994 |
| 107 | 70 | 235 | 5366 | 5591 | 5816 | 6041 | 6265 | 6488 | 6710 | 6931 | 7151 | 7370 | 7588 | 7805 | 8021 | 8236 | 8450 | 8663 |
| 106 | 71 | | 6035 | 6260 | 6485 | 6710 | 6934 | 7157 | 7379 | 7600 | 7820 | 8039 | 8257 | 8474 | 8690 | 8905 | 9119 | 9332 |
| 105 | 72 | | 6704 | 6929 | 7154 | 7379 | 7603 | 7826 | 8048 | 8269 | 8489 | 8708 | 8926 | 9143 | 9359 | 9574 | 9788 | 0001 |
| 104 | 73 | | 7373 | 7598 | 7823 | 8048 | 8272 | 8495 | 8717 | 8938 | 9158 | 9377 | 9595 | 9812 | 0028 | 0243 | 0457 | 0670 |
| 103 | 74 | 235 | 8042 | 8267 | 8492 | 8717 | 8941 | 9164 | 9386 | 9607 | 9827 | 0046 | 0264 | 0481 | 0697 | 0912 | 1126 | 1339 |
| 102 | 75 | | 8711 | 8936 | 9161 | 9386 | 9610 | 9833 | 0055 | 0276 | 0496 | 0715 | 0933 | 1150 | 1366 | 1581 | 1795 | 2008 |
| 101 | 76 | | 9380 | 9605 | 9830 | 0055 | 0279 | 0502 | 0724 | 0945 | 1165 | 1384 | 1602 | 1819 | 2035 | 2250 | 2464 | 2677 |
| 100 | 77 | | 0049 | 0274 | 0499 | 0724 | 0948 | 1171 | 1393 | 1614 | 1834 | 2053 | 2271 | 2488 | 2704 | 2919 | 3133 | 3346 |
| 99 | 78 | | 0718 | 0943 | 1168 | 1393 | 1617 | 1840 | 2062 | 2283 | 2503 | 2722 | 2940 | 3157 | 3373 | 3588 | 3802 | 4015 |
| 98 | 79 | | 1387 | 1612 | 1837 | 2062 | 2286 | 2509 | 2731 | 2952 | 3172 | 3391 | 3609 | 3826 | 4042 | 4257 | 4471 | 4684 |
| 97 | 80 | 235 | 2056 | 2281 | 2506 | 2731 | 2955 | 3178 | 3400 | 3621 | 3841 | 4060 | 4278 | 4495 | 4711 | 4926 | 5140 | 5353 |
| 96 | 81 | | 2725 | 2950 | 3175 | 3400 | 3624 | 3847 | 4069 | 4290 | 4510 | 4729 | 4947 | 5164 | 5380 | 5595 | 5809 | 6022 |
| 95 | 82 | | 3394 | 3619 | 3844 | 4069 | 4293 | 4516 | 4738 | 4959 | 5179 | 5398 | 5616 | 5833 | 6049 | 6264 | 6478 | 6691 |
| 94 | 83 | | 4063 | 4288 | 4513 | 4738 | 4962 | 5185 | 5407 | 5628 | 5848 | 6067 | 6285 | 6502 | 6718 | 6933 | 7147 | 7360 |
| 93 | 84 | | 4732 | 4957 | 5182 | 5407 | 5631 | 5854 | 6076 | 6297 | 6517 | 6736 | 6954 | 7171 | 7387 | 7602 | 7816 | 8029 |
| 92 | 85 | 235 | 5401 | 5626 | 5851 | 6076 | 6300 | 6523 | 6745 | 6966 | 7186 | 7405 | 7623 | 7840 | 8056 | 8271 | 8485 | 8698 |
| 91 | 86 | | 6070 | 6295 | 6520 | 6745 | 6969 | 7192 | 7414 | 7635 | 7855 | 8074 | 8292 | 8509 | 8725 | 8940 | 9154 | 9367 |
| 90 | 87 | | 6739 | 6964 | 7189 | 7414 | 7638 | 7861 | 8083 | 8304 | 8524 | 8743 | 8961 | 9178 | 9394 | 9609 | 9823 | 0036 |
| 89 | 88 | | 7408 | 7633 | 7858 | 8083 | 8307 | 8530 | 8752 | 8973 | 9193 | 9412 | 9630 | 9847 | 0063 | 0278 | 0492 | 0705 |
| 88 | 89 | | 8077 | 8302 | 8527 | 8752 | 8976 | 9199 | 9421 | 9642 | 9862 | 0081 | 0299 | 0516 | 0732 | 0947 | 1161 | 1374 |
| 87 | 90 | 235 | 8746 | 8971 | 9196 | 9421 | 9645 | 9868 | 0090 | 0311 | 0531 | 0750 | 0968 | 1185 | 1401 | 1616 | 1830 | 2043 |
| 86 | 91 | | 9415 | 9640 | 9865 | 0090 | 0314 | 0537 | 0759 | 0980 | 1200 | 1419 | 1637 | 1854 | 2070 | 2285 | 2499 | 2712 |
| 85 | 92 | | 0084 | 0309 | 0534 | 0759 | 0983 | 1206 | 1428 | 1649 | 1869 | 2088 | 2306 | 2523 | 2739 | 2954 | 3168 | 3381 |
| 84 | 93 | | 0753 | 0978 | 1203 | 1428 | 1652 | 1875 | 2097 | 2318 | 2538 | 2757 | 2975 | 3192 | 3408 | 3623 | 3837 | 4050 |
| 83 | 94 | | 1422 | 1647 | 1872 | 2097 | 2321 | 2544 | 2766 | 2987 | 3207 | 3426 | 3644 | 3861 | 4077 | 4292 | 4506 | 4719 |
| 82 | 95 | 235 | 2091 | 2316 | 2541 | 2766 | 2990 | 3213 | 3435 | 3656 | 3876 | 4095 | 4313 | 4530 | 4746 | 4961 | 5175 | 5388 |
| 81 | 96 | | 2760 | 2985 | 3210 | 3435 | 3659 | 3882 | 4104 | 4325 | 4545 | 4764 | 4982 | 5199 | 5415 | 5630 | 5844 | 6057 |
| 80 | 97 | | 3429 | 3654 | 3879 | 4104 | 4328 | 4551 | 4773 | 4994 | 5214 | 5433 | 5651 | 5868 | 6084 | 6299 | 6513 | 6726 |
| 79 | 98 | | 4098 | 4323 | 4548 | 4773 | 4997 | 5220 | 5442 | 5663 | 5883 | 6102 | 6320 | 6537 | 6753 | 6968 | 7182 | 7395 |
| 78 | 99 | | 4767 | 4992 | 5217 | 5442 | 5666 | 5889 | 6111 | 6332 | 6552 | 6771 | 6989 | 7206 | 7422 | 7637 | 7851 | 8064 |
| 77 | 100 | 235 | 5436 | 5661 | 5886 | 6111 | 6335 | 6558 | 6780 | 7001 | 7221 | 7440 | 7658 | 7875 | 8091 | 8306 | 8520 | 8733 |
| 76 | 101 | | 6105 | 6330 | 6555 | 6780 | 7004 | 7227 | 7449 | 7670 | 7890 | 8109 | 8327 | 8544 | 8760 | 8975 | 9189 | 9402 |
| 75 | 102 | | 6774 | 6999 | 7224 | 7449 | 7673 | 7896 | 8118 | 8339 | 8559 | 8778 | 8996 | 9213 | 9429 | 9644 | 9858 | 0071 |
| 74 | 103 | | 7443 | 7668 | 7893 | 8118 | 8342 | 8565 | 8787 | 9008 | 9228 | 9447 | 9665 | 9882 | 0098 | 0313 | 0527 | 0740 |
| 73 | 104 | | 8112 | 8337 | 8562 | 8787 | 9011 | 9234 | 9456 | 9677 | 9897 | 0116 | 0334 | 0551 | 0767 | 0982 | 1196 | 1409 |
| 72 | 105 | 235 | 8781 | 9006 | 9231 | 9456 | 9680 | 9903 | 0125 | 0346 | 0566 | 0785 | 1003 | 1220 | 1436 | 1651 | 1865 | 2078 |
| 71 | 106 | | 9450 | 9675 | 9900 | 0125 | 0349 | 0572 | 0794 | 1015 | 1235 | 1454 | 1672 | 1889 | 2105 | 2320 | 2534 | 2747 |
| 70 | 107 | | 0119 | 0344 | 0569 | 0794 | 1018 | 1241 | 1463 | 1684 | 1904 | 2123 | 2341 | 2558 | 2774 | 2989 | 3203 | 3416 |
| 69 | 108 | | 0788 | 1013 | 1238 | 1463 | 1687 | 1910 | 2132 | 2353 | 2573 | 2792 | 3010 | 3227 | 3443 | 3658 | 3872 | 4085 |
| 68 | 109 | | 1457 | 1682 | 1907 | 2132 | 2356 | 2579 | 2801 | 3022 | 3242 | 3461 | 3679 | 3896 | 4112 | 4327 | 4541 | 4754 |
| 67 | 110 | 235 | 2126 | 2351 | 2576 | 2801 | 3025 | 3248 | 3470 | 3691 | 3911 | 4130 | 4348 | 4565 | 4781 | 4996 | 5210 | 5423 |
| 66 | 111 | | 2795 | 3020 | 3245 | 3470 | 3694 | 3917 | 4139 | 4360 | 4580 | 4799 | 5017 | 5234 | 5450 | 5665 | 5879 | 6092 |
| 65 | 112 | | 3464 | 3689 | 3914 | 4139 | 4363 | 4586 | 4808 | 5029 | 5249 | 5468 | 5686 | 5903 | 6119 | 6334 | 6548 | 6761 |
| 64 | 113 | | 4133 | 4358 | 4583 | 4808 | 5032 | 5255 | 5477 | 5698 | 5918 | 6137 | 6355 | 6572 | 6788 | 7003 | 7217 | 7430 |
| 63 | 114 | | 4802 | 5027 | 5252 | 5477 | 5701 | 5924 | 6146 | 6367 | 6587 | 6806 | 7024 | 7241 | 7457 | 7672 | 7886 | 8099 |
| 62 | 115 | 235 | 5471 | 5696 | 5921 | 6146 | 6370 | 6593 | 6815 | 7036 | 7256 | 7475 | 7693 | 7910 | 8126 | 8341 | 8555 | 8768 |
| 61 | 116 | | 6140 | 6365 | 6590 | 6815 | 7039 | 7262 | 7484 | 7705 | 7925 | 8144 | 8362 | 8579 | 8795 | 9010 | 9224 | 9437 |
| 60 | 117 | | 6809 | 7034 | 7259 | 7484 | 7708 | 7931 | 8153 | 8374 | 8594 | 8813 | 9031 | 9248 | 9464 | 9679 | 9893 | 0106 |
| 59 | 118 | | 7478 | 7703 | 7928 | 8153 | 8377 | 8600 | 8822 | 9043 | 9263 | 9482 | 9700 | 9917 | 0133 | 0348 | 0562 | 0775 |
| 58 | 119 | | 8147 | 8372 | 8597 | 8822 | 9046 | 9269 | 9491 | 9712 | 9932 | 0151 | 0369 | 0586 | 0802 | 1017 | 1231 | 1444 |
| 57 | 120 | 235 | 8816 | 9041 | 9266 | 9491 | 9715 | 9938 | 0160 | 0381 | 0601 | 0820 | 1038 | 1255 | 1471 | 1686 | 1900 | 2113 |
| 56 | 121 | | 9485 | 9710 | 9935 | 0160 | 0384 | 0607 | 0829 | 1050 | 1270 | 1489 | 1707 | 1924 | 2140 | 2355 | 2569 | 2782 |
| 55 | 122 | | 0154 | 0379 | 0604 | 0829 | 1053 | 1276 | 1498 | 1719 | 1939 | 2158 | 2376 | 2593 | 2809 | 3024 | 3238 | 3451 |
| 54 | 123 | | 0823 | 1048 | 1273 | 1498 | 1722 | 1945 | 2167 | 2388 | 2608 | 2827 | 3045 | 3262 | 3478 | 3693 | 3907 | 4120 |
| 53 | 124 | | 1492 | 1717 | 1942 | 2167 | 2391 | 2614 | 2836 | 3057 | 3277 | 3496 | 3714 | 3931 | 4147 | 4362 | 4576 | 4789 |
| 52 | 125 | 235 | 2161 | 2386 | 2611 | 2836 | 3060 | 3283 | 3505 | 3726 | 3946 | 4165 | 4383 | 4600 | 4816 | 5031 | 5245 | 5458 |
| 51 | 126 | | 2830 | 3055 | 3280 | 3505 | 3729 | 3952 | 4174 | 4395 | 4615 | 4834 | 5052 | 5269 | 5485 | 5700 | 5914 | 6127 |
| 50 | 127 | | 3499 | 3724 | 3949 | 4174 | 4398 | 4621 | 4843 | 5064 | 5284 | 5503 | 5721 | 5938 | 6154 | 6369 | 6583 | 6796 |
| 49 | 128 | | 4168 | 4393 | 4618 | 4843 | 5067 | 5290 | 5512 | 5733 | 5953 | 6172 | 6390 | 6607 | 6823 | 7038 | 7252 | 7465 |
| 48 | 129 | | 4837 | 5062 | 5287 | 5512 | 5736 | 5959 | 6181 | 6402 | 6622 | 6841 | 7059 | 7276 | 7492 | 7707 | 7921 | 8134 |
| 47 | 130 | 235 | 5506 | 5731 | 5956 | 6181 | 6405 | 6628 | 6850 | 7071 | 7291 | 7510 | 7728 | 7945 | 8161 | 8376 | 8590 | 8803 |
| 46 | 131 | | 6175 | 6400 | 6625 | 6850 | 7074 | 7297 | 7519 | 7740 | 7960 | 8179 | 8397 | 8614 | 8830 | 9045 | 9259 | 9472 |
| 45 | 132 | | 6844 | 7069 | 7294 | 7519 | 7743 | 7966 | 8188 | 8409 | 8629 | 8848 | 9066 | 9283 | 9499 | 9714 | 9928 | 0141 |
| 44 | 133 | | 7513 | 7738 | 7963 | 8188 | 8412 | 8635 | 8857 | 9078 | 9298 | 9517 | 9735 | 9952 | 0168 | 0383 | 0597 | 0810 |
| 43 | 134 | | 8182 | 8407 | 8632 | 8857 | 9081 | 9304 | 9526 | 9747 | 9967 | 0186 | 0404 | 0621 | 0837 | 1052 | 1266 | 1479 |
| 42 | 135 | 235 | 8851 | 9076 | 9301 | 9526 | 9750 | 9973 | 0195 | 0416 | 0636 | 0855 | 1073 | 1290 | 1506 | 1721 | 1935 | 2148 |
| 41 | 136 | | 9520 | 9745 | 9970 | 0195 | 0419 | 0642 | 0864 | 1085 | 1305 | 1524 | 1742 | 1959 | 2175 | 2390 | 2604 | 2817 |
| 40 | 137 | | 0189 | 0414 | 0639 | 0864 | 1088 | 1311 | 1533 | 1754 | 1974 | 2193 | 2411 | 2628 | 2844 | 3059 | 3273 | 3486 |
| 39 | 138 | | 0858 | 1083 | 1308 | 1533 | 1757 | 1980 | 2202 | 2423 | 2643 | 2862 | 3080 | 3297 | 3513 | 3728 | 3942 | 4155 |
| 38 | 139 | | 1527 | 1752 | 1977 | 2202 | 2426 | 2649 | 2871 | 3092 | 3312 | 3531 | 3749 | 3966 | 4182 | 4397 | 4611 | 4824 |
| 37 | 140 | 235 | 2196 | 2421 | 2646 | 2871 | 3095 | 3318 | 3540 | 3761 | 3981 | 4200 | 4418 | 4635 | 4851 | 5066 | 5280 | 5493 |
| 36 | 141 | | 2865 | 3090 | 3315 | 3540 | 3764 | 3987 | 4209 | 4430 | 4650 | 4869 | 5087 | 5304 | 5520 | 5735 | 5949 | 6162 |
| 35 | 142 | | 3534 | 3759 | 3984 | 4209 | 4433 | 4656 | 4878 | 5099 | 5319 | 5538 | 5756 | 5973 | 6189 | 6404 | 6618 | 6831 |
| 34 | 143 | | 4203 | 4428 | 4653 | 4878 | 5102 | 5325 | 5547 | 5768 | 5988 | 6207 | 6425 | 6642 | 6858 | 7073 | 7287 | 7500 |
| 33 | 144 | | 4872 | 5097 | 5322 | 5547 | 5771 | 5994 | 6216 | 6437 | 6657 | 6876 | 7094 | 7311 | 7527 | 7742 | 7956 | 8169 |
| 32 | 145 | 235 | 5541 | 5766 | 5991 | 6216 | 6440 | 6663 | 6885 | 7106 | 7326 | 7545 | 7763 | 7980 | 8196 | 8411 | 8625 | 8838 |
| 31 | 146 | | 6210 | 6435 | 6660 | 6885 | 7109 | 7332 | 7554 | 7775 | 7995 | 8214 | 8432 | 8649 | 8865 | 9080 | 9294 | 9507 |
| 30 | 147 | | 6879 | 7104 | 7329 | 7554 | 7778 | 8001 | 8223 | 8444 | 8664 | 8883 | 9101 | 9318 | 9534 | 9749 | 9963 | 0176 |
| 29 | 148 | | 7548 | 7773 | 7998 | 8223 | 8447 | 8670 | 8892 | 9113 | 9333 | 9552 | 9770 | 9987 | 0203 | 0418 | 0632 | 0845 |
| 28 | 149 | | 8217 | 8442 | 8667 | 8892 | 9116 | 9339 | 9561 | 9782 | 0002 | 0221 | 0439 | 0656 | 0872 | 1087 | 1301 | 1514 |
| 27 | 150 | 235 | 8886 | 9111 | 9336 | 9561 | 9785 | 0008 | 0230 | 0451 | 0671 | 0890 | 1108 | 1325 | 1541 | 1756 | 1970 | 2183 |
| 26 | 151 | | 9555 | 9780 | 0005 | 0230 | 0454 | 0677 | 0899 | 1120 | 1340 | 1559 | 1777 | 1994 | 2210 | 2425 | 2639 | 2852 |
| 25 | 152 | | 0224 | 0449 | 0674 | 0899 | 1123 | 1346 | 1568 | 1789 | 2009 | 2228 | 2446 | 2663 | 2879 | 3094 | 3308 | 3521 |
| 24 | 153 | | 0893 | 1118 | 1343 | 1568 | 1792 | 2015 | 2237 | 2458 | 2678 | 2897 | 3115 | 3332 | 3548 | 3763 | 3977 | 4190 |
| 23 | 154 | | 1562 | 1787 | 2012 | 2237 | 2461 | 2684 | 2906 | 3127 | 3347 | 3566 | 3784 | 4001 | 4217 | 4432 | 4646 | 4859 |
| 22 | 155 | 235 | 2231 | 2456 | 2681 | 2906 | 3130 | 3353 | 3575 | 3796 | 4016 | 4235 | 4453 | 4670 | 4886 | 5101 | 5315 | 5528 |
| 21 | 156 | | 2900 | 3125 | 3350 | 3575 | 3799 | 4022 | 4244 | 4465 | 4685 | 4904 | 5122 | 5339 | 5555 | 5770 | 5984 | 6197 |
| 20 | 157 | | 3569 | 3794 | 4019 | 4244 | 4468 | 4691 | 4913 | 5134 | 5354 | 5573 | 5791 | 6008 | 6224 | 6439 | 6653 | 6866 |
| 19 | 158 | | 4238 | 4463 | 4688 | 4913 | 5137 | 5360 | 5582 | 5803 | 6023 | 6242 | 6460 | 6677 | 6893 | 7108 | 7322 | 7535 |
| 18 | 159 | | 4907 | 5132 | 5357 | 5582 | 5806 | 6029 | 6251 | 6472 | 6692 | 6911 | 7129 | 7346 | 7562 | 7777 | 7991 | 8204 |
| 17 | 160 | 235 | 5576 | 5801 | 6026 | 6251 | 6475 | 6698 | 6920 | 7141 | 7361 | 7580 | 7798 | 8015 | 8231 | 8446 | 8660 | 8873 |
| 16 | 161 | | 6245 | 6470 | 6695 | 6920 | 7144 | 7367 | 7589 | 7810 | 8030 | 8249 | 8467 | 8684 | 8900 | 9115 | 9329 | 9542 |
| 15 | 162 | | 6914 | 7139 | 7364 | 7589 | 7813 | 8036 | 8258 | 8479 | 8699 | 8918 | 9136 | 9353 | 9569 | 9784 | 9998 | 0211 |
| 14 | 163 | | 7583 | 7808 | 8033 | 8258 | 8482 | 8705 | 8927 | 9148 | 9368 | 9587 | 9805 | 0022 | 0238 | 0453 | 0667 | 0880 |
| 13 | 164 | | 8252 | 8477 | 8702 | 8927 | 9151 | 9374 | 9596 | 9817 | 0037 | 0256 | 0474 | 0691 | 0907 | 1122 | 1336 | 1549 |
| 12 | 165 | 235 | 8921 | 9146 | 9371 | 9596 | 9820 | 0043 | 0265 | 0486 | 0706 | 0925 | 1143 | 1360 | 1576 | 1791 | 2005 | 2218 |
| 11 | 166 | | 9590 | 9815 | 0040 | 0265 | 0489 | 0712 | 0934 | 1155 | 1375 | 1594 | 1812 | 2029 | 2245 | 2460 | 2674 | 2887 |
| 10 | 167 | | 0259 | 0484 | 0709 | 0934 | 1158 | 1381 | 1603 | 1824 | 2044 | 2263 | 2481 | 2698 | 2914 | 3129 | 3343 | 3556 |
| 9 | 168 | | 0928 | 1153 | 1378 | 1603 | 1827 | 2050 | 2272 | 2493 | 2713 | 2932 | 3150 | 3367 | 3583 | 3798 | 4012 | 4225 |
| 8 | 169 | | 1597 | 1822 | 2047 | 2272 | 2496 | 2719 | 2941 | 3162 | 3382 | 3601 | 3819 | 4036 | 4252 | 4467 | 4681 | 4894 |
| 7 | 170 | 235 | 2266 | 2491 | 2716 | 2941 | 3165 | 3388 | 3610 | 3831 | 4051 | 4270 | 

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| for Seconds of Auxil. Argum. | N.A.A. & A. D. III° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 195 | 0 | 235 | 8187 | 8007 | 7826 | 7646 | 7465 | 7284 | 7103 | 6923 | 6742 | 6561 | 6380 | 6199 | 6018 | 5837 | 5656 | 5475 |
| 182 | 1 | | 8459 | 8278 | 8097 | 7917 | 7736 | 7555 | 7374 | 7193 | 7012 | 6831 | | | | | | |
| 170 | 2 | | 8730 | 8549 | 8368 | 8188 | 8007 | 7826 | 7645 | 7463 | 7282 | 7101 | | | | | | |
| 160 | 3 | | 9002 | 8821 | 8640 | 8459 | 8277 | | 7915 | 7734 | 7553 | 7371 | | | | | | |
| 151 | 4 | | 9273 | 9092 | 8911 | 8730 | 8549 | 8367 | 8186 | 8004 | 7823 | 7641 | | | | | | |
| 143 | 5 | 235 | 9544 | 9363 | 9182 | 9000 | | | | | | | | | | | | |
| 135 | 6 | | 9815 | 9634 | 9453 | 9271 | | | | | | | | | | | | |
| 128 | 7 | 236 (235) | 0087 | | | | | | | | | | | | | | | |
| 122 | 8 | | 0358 | | | | | | | | | | | | | | | |
| 117 | 9 | | 0629 | | | | | | | | | | | | | | | |
| 111 | 10 | 236 (235) | | | | | | | | | | | | | | | | |
| 106 | 11 | | | | | | | | | | | | | | | | | |
| 101 | 12 | | | | | | | | | | | | | | | | | |
| 96 | 13 | | | | | | | | | | | | | | | | | |
| 92 | 14 | | | | | | | | | | | | | | | | | |
| 88 | 15 | 236 (235) | | | | | | | | | | | | | | | | |
| 84 | 16 | | | | | | | | | | | | | | | | | |
| 81 | 17 | | | | | | | | | | | | | | | | | |
| 77 | 18 | 236 | | | | | | | | | | | | | | | | |
| 74 | 19 | | | | | | | | | | | | | | | | | |
| 71 | 20 | 236 | | | | | | | | | | | | | | | | |
| 68 | 21 | | | | | | | | | | | | | | | | | |
| 65 | 22 | | | | | | | | | | | | | | | | | |
| 63 | 23 | | | | | | | | | | | | | | | | | |
| 60 | 24 | | | | | | | | | | | | | | | | | |
| 108 | 25 | 236 | 4964 | 4780 | 4596 | 4411 | 4227 | 4043 | 3859 | 3675 | 3491 | 3306 | 3122 | 2938 | 2753 | 2569 | 2385 | 2200 | 2016 |
| 105 | 26 | | 5234 | 5050 | 4866 | 4682 | 4497 | 4313 | 4129 | 3945 | 3760 | 3576 | 3391 | 3207 | 3022 | 2838 | 2653 | 2469 | 2284 |
| 102 | 27 | | | | | | | | | | | | | | | | | | |
| 99 | 28 | | 5775 | 5591 | 5407 | 5222 | 5038 | 4853 | 4668 | 4484 | 4299 | 4115 | 3930 | 3745 | 3560 | 3376 | 3191 | 3006 | 2821 |
| 96 | 29 | | | | | | | | | | | | | | | | | | |
| 93 | 30 | | | | | | | | | | | | | | | | | | |
| 91 | 31 | | | | | | | | | | | | | | | | | | |
| 88 | 32 | | | | | | | | | | | | | | | | | | |
| 86 | 33 | | | | | | | | | | | | | | | | | | |
| 84 | 34 | | | | | | | | | | | | | | | | | | |
| 77 | 35 | 236 | 7669 | 7483 | 7298 | 7112 | 6927 | 6742 | 6556 | 6370 | 6185 | 5999 | 5814 | 5628 | 5442 | 5256 | 5071 | 4885 | 4699 |
| 74 | 36 | | 7939 | 7754 | 7568 | 7382 | 7197 | 7011 | 6825 | 6640 | 6454 | 6268 | 6083 | 5897 | 5711 | 5525 | 5339 | 5153 | 4967 |
| 71 | 37 | | | | | | | | | | | | | | | | | | |
| 68 | 38 | | | | | | | | | | | | | | | | | | |
| 65 | 39 | | | | | | | | | | | | | | | | | | |
| 63 | 40 | | | | | | | | | | | | | | | | | | |
| 59 | 41 | | 9290 | 9104 | 8918 | 8732 | 8545 | 8359 | 8173 | 7986 | 7800 | 7613 | 7427 | 7241 | 7054 | 6867 | 6681 | 6494 | 6307 |
| 57 | 42 | | | | | | | | | | | | | | | | | | |
| 55 | 43 | | | | | | | | | | | | | | | | | | |
| 53 | 44 | | | | | | | | | | | | | | | | | | |
| 51 | 45 | 237 (236) | | | | | | | | | | | | | | | | | |
| 49 | 46 | | | | | | | | | | | | | | | | | | |
| 47 | 47 | | | | | | | | | | | | | | | | | | |
| 45 | 48 | | | | | | | | | | | | | | | | | | |
| 43 | 49 | | | | | | | | | | | | | | | | | | |
| 42 | 50 | 237 (236) | | | | | | | | | | | | | | | | | |
| 40 | 51 | | | | | | | | | | | | | | | | | | |
| 39 | 52 | | | | | | | | | | | | | | | | | | |
| 37 | 53 | | | | | | | | | | | | | | | | | | |
| 36 | 54 | | | | | | | | | | | | | | | | | | |
| 35 | 55 | 237 | 3670 | 3501 | 3333 | 3165 | 2997 | 2829 | 2661 | 2493 | 2325 | 2157 | 1989 | 1821 | 1653 | 1485 | 1317 | 1149 | 0981 |
| 33 | 56 | | 3339 | 3171 | 2903 | 2775 | 2586 | 2398 | 2209 | 2021 | 1832 | 1644 | 1456 | 1267 | 1078 | 0890 | 0701 | 0512 | 0324 |
| 32 | 57 | | | | | | | | | | | | | | | | | | |
| 31 | 58 | | | | | | | | | | | | | | | | | | |
| 30 | 59 | | | | | | | | | | | | | | | | | | |

# C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distances.

Parts for Seconds of Auxil. Argum.

S. A. A. & A. D. III°

Auxiliary Arguments.

| 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 235 | 5113 | 4930 | 4751 | 4579 | 4408 | 4242 | 4078 | 3916 | 3758 | 3602 | 3449 | 3301 | 3156 | 3014 | 2875 | 2738 | 2605 |
| 1 | | 5381 | 5201 | 5024 | 4853 | 4687 | 4527 | 4370 | 4218 | 4070 | 3926 | 3787 | 3652 | 3520 | 3392 | 3268 | 3147 | 3030 |
| 2 | | 5651 | 5472 | 5298 | 5129 | 4965 | 4806 | 4652 | 4502 | 4357 | 4217 | 4081 | 3950 | 3823 | 3700 | 3581 | 3466 | 3355 |
| 3 | | 5922 | 5745 | 5573 | 5406 | 5244 | 5087 | 4935 | 4787 | 4645 | 4508 | 4376 | 4249 | 4127 | 4009 | 3895 | 3786 | 3681 |
| 4 | | 6194 | 6020 | 5850 | 5685 | 5525 | 5370 | 5220 | 5074 | 4934 | 4800 | 4671 | 4548 | 4431 | 4319 | 4211 | 4108 | 4009 |
| 5 | 235 | 6467 | 6296 | 6130 | 5967 | 5810 | 5657 | 5509 | 5365 | 5227 | 5094 | 4967 | 4846 | 4731 | 4620 | 4515 | 4414 | 4319 |
| 6 | | 6741 | 6574 | 6411 | 6252 | 6098 | 5948 | 5803 | 5663 | 5528 | 5398 | 5274 | 5156 | 5043 | 4936 | 4834 | 4738 | 4647 |
| 7 | | 7016 | 6853 | 6693 | 6539 | 6389 | 6244 | 6104 | 5969 | 5839 | 5715 | 5597 | 5485 | 5378 | 5277 | 5182 | 5093 | 5009 |
| 8 | | 7292 | 7133 | 6978 | 6828 | 6683 | 6543 | 6408 | 6278 | 6153 | 6034 | 5921 | 5814 | 5714 | 5620 | 5532 | 5450 | 5374 |
| 9 | | 7568 | 7414 | 7265 | 7120 | 6980 | 6845 | 6715 | 6590 | 6470 | 6356 | 6248 | 6146 | 6051 | 5963 | 5882 | 5808 | 5741 |
| 10 | 235 | 7846 | 7697 | 7553 | 7414 | 7280 | 7150 | 7026 | 6907 | 6793 | 6685 | 6583 | 6488 | 6399 | 6318 | 6244 | 6178 | 6120 |
| 11 | | 8125 | 7982 | 7843 | 7710 | 7581 | 7458 | 7339 | 7226 | 7118 | 7017 | 6922 | 6833 | 6751 | 6677 | 6611 | 6553 | 6504 |
| 12 | | 8405 | 8268 | 8136 | 8008 | 7885 | 7768 | 7655 | 7548 | 7447 | 7351 | 7263 | 7181 | 7107 | 7041 | 6983 | 6933 | 6892 |
| 13 | | 8687 | 8556 | 8430 | 8309 | 8193 | 8082 | 7977 | 7877 | 7783 | 7696 | 7615 | 7541 | 7475 | 7417 | 7367 | 7326 | 7294 |
| 14 | | 8970 | 8846 | 8726 | 8612 | 8503 | 8399 | 8301 | 8208 | 8121 | 8041 | 7968 | 7903 | 7845 | 7795 | 7754 | 7722 | 7699 |
| 15 | 235 | 9254 | 9137 | 9025 | 8918 | 8816 | 8720 | 8629 | 8544 | 8465 | 8393 | 8328 | 8270 | 8220 | 8178 | 8145 | 8121 | 8107 |
| 16 | | 9540 | 9430 | 9326 | 9227 | 9134 | 9047 | 8966 | 8891 | 8822 | 8760 | 8705 | 8658 | 8618 | 8587 | 8564 | 8550 | 8546 |
| 17 | | 9827 | 9725 | 9628 | 9538 | 9454 | 9376 | 9305 | 9240 | 9182 | 9130 | 9085 | 9048 | 9018 | 8997 | 8984 | 8980 | 8986 |
| 18 | | 10116 | 10021 | 9933 | 9852 | 9777 | 9708 | 9647 | 9592 | 9544 | 9503 | 9469 | 9442 | 9423 | 9411 | 9407 | 9412 | 9427 |
| 19 | 236 (235) | 0221 | 0037 | 9853 | 9669 | 9486 | 9302 | 9118 | 8934 | 8750 | 8566 | 8382 | 8198 | 8014 | 7830 | 7646 | 7462 | 7277 |
| 20 | 236 (235) | 0508 | 0328 | 0154 | 9987 | 9826 | 9672 | 9526 | 9387 | 9256 | 9132 | 9016 | 8907 | 8806 | 8712 | 8626 | 8548 | 8478 |
| 21 | | 0797 | 0621 | 0456 | 0299 | 0150 | 0010 | 9878 | 9754 | 9639 | 9533 | 9436 | 9348 | 9269 | 9199 | 9138 | 9086 | 9043 |
| 22 | | 1088 | 0917 | 0760 | 0612 | 0476 | 0350 | 0234 | 0128 | 0033 | 9948 | 9874 | 9810 | 9756 | 9712 | 9678 | 9654 | 9640 |
| 23 | | 1380 | 1216 | 1067 | 0929 | 0805 | 0693 | 0594 | 0506 | 0430 | 0366 | 0314 | 0273 | 0244 | 0227 | 0221 | 0226 | 0243 |
| 24 | | 1674 | 1518 | 1377 | 1250 | 1138 | 1040 | 0956 | 0886 | 0830 | 0787 | 0757 | 0740 | 0736 | 0744 | 0765 | 0798 | 0844 |
| 25 | 236 (235) | 1971 | 1822 | 1690 | 1574 | 1475 | 1391 | 1322 | 1268 | 1230 | 1208 | 1201 | 1208 | 1230 | 1265 | 1314 | 1376 | 1450 |
| 26 | | 2270 | 2129 | 2006 | 1901 | 1815 | 1745 | 1692 | 1654 | 1633 | 1629 | 1641 | 1669 | 1714 | 1774 | 1849 | 1939 | 2044 |
| 27 | | 2571 | 2439 | 2325 | 2232 | 2158 | 2103 | 2066 | 2047 | 2045 | 2060 | 2092 | 2140 | 2205 | 2286 | 2384 | 2498 | 2628 |
| 28 | | 2875 | 2753 | 2649 | 2568 | 2507 | 2466 | 2445 | 2444 | 2463 | 2500 | 2554 | 2624 | 2710 | 2813 | 2931 | 3066 | 3217 |
| 29 | | 3182 | 3072 | 2980 | 2911 | 2862 | 2835 | 2829 | 2844 | 2880 | 2937 | 3015 | 3113 | 3230 | 3367 | 3523 | 3698 | 3892 |
| 30 | 236 | 3492 | 3395 | 3317 | 3261 | 3224 | 3211 | 3220 | 3250 | 3302 | 3376 | 3472 | 3590 | 3730 | 3891 | 4074 | 4279 | 4506 |
| 31 | | 3805 | 3723 | 3661 | 3618 | 3594 | 3594 | 3618 | 3663 | 3730 | 3819 | 3930 | 4064 | 4220 | 4398 | 4598 | 4821 | 5066 |
| 32 | | 4121 | 4057 | 4012 | 3984 | 3973 | 3985 | 4024 | 4085 | 4167 | 4270 | 4396 | 4544 | 4714 | 4906 | 5121 | 5359 | 5620 |
| 33 | | 4441 | 4397 | 4371 | 4359 | 4362 | 4385 | 4439 | 4516 | 4614 | 4731 | 4871 | 5033 | 5216 | 5420 | 5646 | 5895 | 6166 |
| 34 | | 4765 | 4744 | 4739 | 4744 | 4761 | 4795 | 4864 | 4957 | 5071 | 5203 | 5357 | 5532 | 5728 | 5945 | 6183 | 6443 | 6725 |
| 35 | 236 | 5093 | 5098 | 5116 | 5140 | 5172 | 5217 | 5300 | 5410 | 5540 | 5687 | 5854 | 6041 | 6249 | 6478 | 6729 | 7002 | 7298 |
| 36 | | 5427 | 5460 | 5503 | 5548 | 5596 | 5653 | 5749 | 5876 | 6021 | 6184 | 6367 | 6571 | 6796 | 7043 | 7312 | 7604 | 7919 |
| 37 | | 5766 | 5830 | 5900 | 5967 | 6033 | 6104 | 6213 | 6356 | 6516 | 6694 | 6894 | 7116 | 7360 | 7626 | 7916 | 8229 | 8566 |
| 38 | | 6112 | 6208 | 6307 | 6398 | 6484 | 6570 | 6693 | 6851 | 7026 | 7219 | 7436 | 7677 | 7941 | 8229 | 8541 | 8877 | 9238 |
| 39 | | 6466 | 6595 | 6725 | 6841 | 6947 | 7051 | 7190 | 7362 | 7552 | 7760 | 7994 | 8255 | 8542 | 8854 | 9192 | 9556 | 9947 |
| 40 | 236 | 6829 | 6992 | 7154 | 7296 | 7422 | 7547 | 7704 | 7890 | 8095 | 8318 | 8569 | 8850 | 9160 | 9499 | 9867 | 0263 | 0688 |
| 41 | | 7202 | 7400 | 7595 | 7763 | 7909 | 8054 | 8234 | 8436 | 8656 | 8895 | 9162 | 9461 | 9790 | 0149 | 0539 | 0959 | 1410 |
| 42 | | 7587 | 7822 | 8050 | 8245 | 8410 | 8574 | 8780 | 9000 | 9236 | 9491 | 9774 | 0090 | 0438 | 0818 | 1230 | 1674 | 2151 |
| 43 | | 7985 | 8260 | 8522 | 8744 | 8929 | 9113 | 9344 | 9584 | 9835 | 0106 | 0406 | 0740 | 1106 | 1505 | 1937 | 2402 | 2900 |
| 44 | | 8398 | 8715 | 9013 | 9261 | 9466 | 9671 | 9927 | 0189 | 0459 | 0741 | 1057 | 1409 | 1795 | 2214 | 2667 | 3153 | 3673 |
| 45 | 236 | 8828 | 9189 | 9525 | 9799 | 0023 | 0249 | 0531 | 0815 | 1104 | 1400 | 1732 | 2100 | 2503 | 2940 | 3412 | 3918 | 4459 |
| 46 | | 9277 | 9683 | 0059 | 0359 | 0602 | 0848 | 1157 | 1465 | 1774 | 2083 | 2430 | 2815 | 3238 | 3698 | 4195 | 4729 | 5300 |
| 47 | | 9747 | 0200 | 0617 | 0943 | 1205 | 1471 | 1806 | 2139 | 2469 | 2795 | 3161 | 3567 | 4012 | 4495 | 5016 | 5575 | 6172 |
| 48 | | 0241 | 0742 | 1201 | 1554 | 1836 | 2120 | 2480 | 2837 | 3189 | 3535 | 3924 | 4356 | 4830 | 5344 | 5898 | 6492 | 7126 |
| 49 | | 0762 | 1312 | 1814 | 2195 | 2500 | 2805 | 3189 | 3569 | 3941 | 4303 | 4710 | 5162 | 5657 | 6194 | 6773 | 7394 | 8057 |
| 50 | 236 | 1313 | 1914 | 2463 | 2875 | 3205 | 3535 | 3953 | 4365 | 4767 | 5157 | 5594 | 6077 | 6605 | 7176 | 7790 | 8447 | 9147 |
| 51 | | 1899 | 2553 | 3151 | 3599 | 3958 | 4318 | 4774 | 5224 | 5664 | 6089 | 6567 | 7098 | 7680 | 8312 | 8993 | 9723 | 0501 |
| 52 | | 2523 | 3232 | 3882 | 4370 | 4761 | 5154 | 5653 | 6147 | 6628 | 7090 | 7610 | 8189 | 8825 | 9517 | 0264 | 1066 | 1923 |
| 53 | | 3191 | 3957 | 4661 | 5191 | 5617 | 6045 | 6589 | 7128 | 7653 | 8154 | 8720 | 9350 | 0043 | 0798 | 1614 | 2490 | 3425 |
| 54 | | 3911 | 4737 | 5497 | 6071 | 6535 | 7000 | 7592 | 8179 | 8750 | 9295 | 9909 | 0591 | 1340 | 2155 | 3035 | 3980 | 4988 |
| 55 | 236 | 4688 | 5577 | 6397 | 7018 | 7521 | 8026 | 8669 | 9307 | 9930 | 0525 | 1187 | 1917 | 2715 | 3580 | 4512 | 5511 | 6575 |
| 56 | 237 (236) | 5528 | 6485 | 7367 | 8036 | 8580 | 9126 | 9824 | 0516 | 1191 | 1843 | 2553 | 3330 | 4173 | 5082 | 6057 | 7098 | 8204 |
| 57 | | 6437 | 7466 | 8414 | 9136 | 9725 | 0317 | 1069 | 1817 | 2544 | 3248 | 4016 | 4847 | 5742 | 6701 | 7725 | 8813 | 9966 |
| 58 | | 7422 | 8527 | 9548 | 0327 | 0961 | 1598 | 2409 | 3214 | 3999 | 4761 | 5588 | 6479 | 7434 | 8453 | 9536 | 0683 | 1894 |
| 59 | | 8492 | 9678 | 0771 | 1610 | 2294 | 2977 | 3846 | 4709 | 5553 | 6375 | 7261 | 8211 | 9225 | 0303 | 1445 | 2651 | 3921 |
| 60 | 237 | 9657 | 0923 | 2085 | 2991 | 3726 | 4459 | 5381 | 6302 | 7206 | 8088 | 9035 | 0047 | 1124 | 2265 | 3470 | 4739 | 6071 |

| ′ | Sums |
|---|---|
| 0 | 8760 |
| 1 | 8640 |
| 2 | 8521 |
| 3 | 8403 |
| 4 | 8286 |
| 5 | 8170 |
| 6 | 8055 |
| 7 | 7941 |
| 8 | 7828 |
| 9 | 7716 |
| 10 | 7605 |
| 11 | 7495 |
| 12 | 7386 |
| 13 | 7278 |
| 14 | 7171 |
| 15 | 7065 |
| 16 | 6960 |
| 17 | 6856 |
| 18 | 6753 |
| 19 | 6651 |
| 20 | 6550 |
| 21 | 6450 |
| 22 | 6351 |
| 23 | 6253 |
| 24 | 6156 |
| 25 | 6060 |
| 26 | 5965 |
| 27 | 5871 |
| 28 | 5778 |
| 29 | 5686 |
| 30 | 5595 |
| 31 | 5505 |
| 32 | 5416 |
| 33 | 5328 |
| 34 | 5241 |
| 35 | 5155 |
| 36 | 5070 |
| 37 | 4986 |
| 38 | 4903 |
| 39 | 4821 |
| 40 | 4740 |
| 41 | 4660 |
| 42 | 4581 |
| 43 | 4503 |
| 44 | 4426 |
| 45 | 4350 |
| 46 | 4275 |
| 47 | 4201 |
| 48 | 4128 |
| 49 | 4056 |
| 50 | 3985 |
| 51 | 3915 |
| 52 | 3846 |
| 53 | 3778 |
| 54 | 3711 |
| 55 | 3645 |
| 56 | 3580 |
| 57 | 3516 |
| 58 | 3453 |
| 59 | 3391 |
| 60 | 3330 |

Numbers II. for Corrected Sums of Altitudes.

| Prop. of Auxil. | A.D. 112° | Numbers |
|---|---|---|
| | | |
| 27 | 0 | 0817 |
| 26 | 1 | |
| 25 | 2 | 0817 |
| 24 | 3 | 9346 |
| 23 | 4 | 9875 |
| 22 | 5 | 9404 |
| 21 | 6 | 8933 9732 |
| 20 | 7 | 9460 |
| 19 | 8 | 9189 |
| 18 | 9 | 8718 |
| 17 | 10 | 8247 |
| 16 | 11 | 8375 |
| 15 | 12 | 8104 |
| 14 | 13 | 7833 |
| 13 | 14 | 7562 |
| 12 | 15 | 7291 |
| 11 | 16 | 7020 |
| 10 | 17 | 6749 |
| 9 | 18 | 6478 |
| 8 | 19 | 6207 |
| 7 | 20 | 5936 |
| 6 | 21 | 5665 |
| 5 | 22 | 5394 |
| 4 | 23 | 5123 |
| 3 | 24 | 4852 |
| 2 | 25 | 4582 |
| 1 | 26 | 4311 |
| 0 | 27 | 4040 |
| 1 | 28 | 3769 |
| 2 | 29 | 3498 |
| 3 | 30 | 3227 |
| 4 | 31 | 2958 |
| 5 | 32 | 2687 |
| 6 | 33 | 2416 |
| 7 | 34 | 2146 |
| 8 | 35 | 1875 |
| 9 | 36 | 1605 |
| 10 | 37 | 1335 |
| 11 | 38 | 1064 |
| 12 | 39 | 0794 |
| 13 | 40 | 0524 |
| 14 | 41 | 0253 |
| 15 | 42 | 9983 |
| 16 | 43 | 9713 |
| 17 | 44 | 9443 |
| 18 | 45 | 9172 |
| 19 | 46 | 8902 |
| 20 | 47 | 8632 |
| 21 | 48 | 8362 |
| 22 | 49 | 8092 |
| 23 | 50 | 7822 |
| 24 | 51 | 7552 |
| 25 | 52 | 7282 |
| 26 | 53 | 7012 |
| 27 | 54 | 6742 |
| 28 | 55 | 6472 |
| 29 | 56 | 6203 |
| 30 | 57 | 5933 |
| 31 | 58 | 5663 |
| 32 | 59 | 5393 |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| Prop. of Auxil. | A.D. 112° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 27 | 0 | 4418 | 4228 | 4037 | 3851 | 3663 | 3474 | 3285 | 3096 | 2907 | 2718 | 2529 | 2339 | 2152 | 1961 | 1772 | 1583 | 1394 |
| 26 | 1 | 4407 | 4217 | 4027 | 3841 | 3653 | 3464 | 3275 | 3086 | 2897 | 2708 | 2518 | 2329 | 2142 | 1951 | 1762 | 1573 | 1384 |
| 25 | 2 | 4957 | 4768 | 4579 | 4390 | 4201 | 4011 | 3822 | 3633 | 3444 | 3254 | 3065 | 2876 | 2686 | 2497 | 2307 | 2118 | 1928 |
| 24 | 3 | 4946 | 4757 | 4568 | 4379 | 4191 | 4001 | 3812 | 3623 | 3434 | 3244 | 3055 | 2866 | 2676 | 2487 | 2297 | 2108 | 1918 |
| 23 | 4 | 5496 | 5307 | 5117 | 4928 | 4738 | 4549 | 4360 | 4170 | 3981 | 3792 | 3603 | 3413 | 3224 | 3034 | 2845 | 2655 | 2466 |
| 22 | 5 | 5485 | 5296 | 5106 | 4917 | 4727 | 4538 | 4348 | 4159 | 3970 | 3781 | 3591 | 3402 | 3213 | 3023 | 2834 | 2644 | 2455 |
| 21 | 6 | 6035 | 5845 | 5655 | 5466 | 5276 | 5086 | 4897 | 4707 | 4517 | 4327 | 4137 | 3947 | 3757 | 3567 | 3377 | 3187 | 2997 |
| 20 | 7 | 6304 | 6114 | 5925 | 5735 | 5545 | 5355 | 5165 | 4975 | 4785 | 4595 | 4405 | 4215 | 4025 | 3835 | 3645 | 3455 | 3265 |
| 19 | 8 | 6573 | 6384 | 6194 | 6004 | 5814 | 5624 | 5434 | 5244 | 5054 | 4863 | 4673 | 4483 | 4293 | 4103 | 3912 | 3722 | 3532 |
| 18 | 9 | 6842 | 6653 | 6463 | 6273 | 6082 | 5892 | 5702 | 5512 | 5322 | 5131 | 4941 | 4751 | 4561 | 4370 | 4180 | 3990 | 3800 |
| 17 | 10 | 7112 | 6922 | 6732 | 6541 | 6351 | 6161 | 5971 | 5781 | 5590 | 5400 | 5210 | 5019 | 4828 | 4638 | 4447 | 4257 | 4067 |
| 16 | 11 | 7381 | 7191 | 7001 | 6811 | 6620 | 6430 | 6239 | 6049 | 5858 | 5668 | 5477 | 5287 | 5096 | 4905 | 4714 | 4524 | 4333 |
| 15 | 12 | 7650 | 7460 | 7270 | 7079 | 6889 | 6698 | 6507 | 6317 | 6126 | 5936 | 5745 | 5554 | 5363 | 5173 | 4982 | 4791 | 4600 |
| 14 | 13 | 7920 | 7729 | 7539 | 7348 | 7157 | 6967 | 6776 | 6585 | 6394 | 6203 | 6013 | 5822 | 5631 | 5440 | 5249 | 5058 | 4867 |
| 13 | 14 | 8189 | 7998 | 7807 | 7617 | 7426 | 7235 | 7044 | 6853 | 6662 | 6471 | 6280 | 6089 | 5898 | 5707 | 5516 | 5325 | 5134 |
| 12 | 15 | 8458 | 8267 | 8076 | 7885 | 7694 | 7503 | 7312 | 7121 | 6930 | 6739 | 6548 | 6357 | 6166 | 5975 | 5783 | 5592 | 5401 |
| 11 | 16 | 8727 | 8536 | 8345 | 8154 | 7963 | 7772 | 7581 | 7390 | 7198 | 7007 | 6816 | 6625 | 6433 | 6242 | 6051 | 5859 | 5668 |
| 10 | 17 | 8996 | 8805 | 8614 | 8423 | 8231 | 8040 | 7849 | 7658 | 7467 | 7275 | 7084 | 6893 | 6701 | 6509 | 6318 | 6126 | 5935 |
| 9 | 18 | 9265 | 9074 | 8882 | 8691 | 8500 | 8308 | 8117 | 7926 | 7734 | 7543 | 7351 | 7160 | 6968 | 6776 | 6585 | 6393 | 6202 |
| 8 | 19 | 9534 | 9343 | 9151 | 8960 | 8768 | 8577 | 8385 | 8194 | 8002 | 7811 | 7619 | 7427 | 7235 | 7044 | 6852 | 6660 | 6469 |
| 7 | 20 | 9803 | 9611 | 9420 | 9228 | 9037 | 8845 | 8653 | 8462 | 8270 | 8078 | 7886 | 7695 | 7503 | 7311 | 7119 | 6927 | 6735 |
| 6 | 21 | 0072 | 9880 | 9689 | 9497 | 9305 | 9113 | 8922 | 8730 | 8538 | 8346 | 8154 | 7962 | 7770 | 7578 | 7386 | 7194 | 7002 |
| 5 | 22 | 0341 | 0149 | 9957 | 9765 | 9573 | 9382 | 9190 | 8998 | 8806 | 8614 | 8422 | 8230 | 8037 | 7845 | 7653 | 7461 | 7269 |
| 4 | 23 | 0610 | 0418 | 0226 | 0034 | 9842 | 9650 | 9458 | 9266 | 9073 | 8881 | 8689 | 8497 | 8305 | 8112 | 7920 | 7728 | 7535 |
| 3 | 24 | 0878 | 0686 | 0494 | 0302 | 0110 | 9918 | 9726 | 9533 | 9341 | 9149 | 8957 | 8764 | 8572 | 8379 | 8187 | 7994 | 7802 |
| 2 | 25 | 1147 | 0955 | 0763 | 0571 | 0378 | 0186 | 9994 | 9801 | 9609 | 9416 | 9224 | 9031 | 8839 | 8646 | 8454 | 8261 | 8068 |
| 1 | 26 | 1416 | 1224 | 1031 | 0839 | 0647 | 0454 | 0262 | 0069 | 9877 | 9684 | 9491 | 9299 | 9106 | 8913 | 8721 | 8528 | 8335 |
| 0 | 27 | 1685 | 1492 | 1300 | 1107 | 0915 | 0722 | 0530 | 0337 | 0144 | 9951 | 9759 | 9566 | 9373 | 9180 | 8987 | 8795 | 8602 |
| 1 | 28 | 1953 | 1761 | 1568 | 1375 | 1183 | 0990 | 0797 | 0605 | 0412 | 0219 | 0026 | 9833 | 9640 | 9447 | 9254 | 9061 | 8868 |
| 2 | 29 | 2222 | 2030 | 1837 | 1644 | 1451 | 1258 | 1065 | 0872 | 0679 | 0486 | 0293 | 0100 | 9907 | 9714 | 9521 | 9328 | 9135 |
| 3 | 30 | 2491 | 2298 | 2105 | 1912 | 1719 | 1526 | 1333 | 1140 | 0947 | 0754 | 0561 | 0367 | 0174 | 9981 | 9788 | 9594 | 9401 |
| 4 | 31 | 2759 | 2566 | 2373 | 2180 | 1987 | 1794 | 1601 | 1408 | 1214 | 1021 | 0828 | 0635 | 0441 | 0248 | 0054 | 9861 | 9667 |
| 5 | 32 | 3028 | 2835 | 2642 | 2448 | 2255 | 2062 | 1869 | 1675 | 1482 | 1288 | 1095 | 0902 | 0708 | 0515 | 0321 | 0127 | 9934 |
| 6 | 33 | 3296 | 3103 | 2910 | 2716 | 2523 | 2330 | 2136 | 1943 | 1749 | 1556 | 1362 | 1169 | 0975 | 0781 | 0588 | 0394 | 0200 |
| 7 | 34 | 3565 | 3371 | 3178 | 2985 | 2791 | 2598 | 2404 | 2210 | 2017 | 1823 | 1629 | 1436 | 1242 | 1048 | 0854 | 0660 | 0467 |
| 8 | 35 | 3833 | 3640 | 3446 | 3253 | 3059 | 2865 | 2672 | 2478 | 2284 | 2090 | 1897 | 1703 | 1509 | 1315 | 1121 | 0927 | 0733 |
| 9 | 36 | 4102 | 3908 | 3714 | 3521 | 3327 | 3133 | 2939 | 2745 | 2551 | 2358 | 2164 | 1970 | 1776 | 1581 | 1387 | 1193 | 0999 |
| 10 | 37 | 4370 | 4176 | 3983 | 3789 | 3595 | 3401 | 3207 | 3013 | 2819 | 2625 | 2431 | 2236 | 2042 | 1848 | 1654 | 1460 | 1265 |
| 11 | 38 | 4639 | 4445 | 4251 | 4057 | 3863 | 3668 | 3474 | 3280 | 3086 | 2892 | 2698 | 2503 | 2309 | 2115 | 1920 | 1726 | 1532 |
| 12 | 39 | 4907 | 4713 | 4519 | 4325 | 4131 | 3937 | 3742 | 3548 | 3353 | 3159 | 2965 | 2770 | 2576 | 2381 | 2187 | 1993 | 1798 |
| 13 | 40 | 5175 | 4981 | 4787 | 4592 | 4398 | 4204 | 4009 | 3815 | 3621 | 3426 | 3232 | 3037 | 2842 | 2648 | 2453 | 2259 | 2064 |
| 14 | 41 | 5443 | 5249 | 5055 | 4860 | 4666 | 4471 | 4277 | 4082 | 3888 | 3693 | 3499 | 3304 | 3110 | 2914 | 2720 | 2525 | 2330 |
| 15 | 42 | 5712 | 5517 | 5323 | 5128 | 4934 | 4739 | 4544 | 4350 | 4155 | 3960 | 3765 | 3571 | 3376 | 3181 | 2986 | 2791 | 2596 |
| 16 | 43 | 5980 | 5785 | 5591 | 5396 | 5201 | 5007 | 4812 | 4617 | 4422 | 4227 | 4032 | 3837 | 3642 | 3447 | 3252 | 3057 | 2862 |
| 17 | 44 | 6248 | 6053 | 5858 | 5664 | 5469 | 5274 | 5079 | 4884 | 4689 | 4494 | 4299 | 4104 | 3909 | 3714 | 3519 | 3324 | 3128 |
| 18 | 45 | 6516 | 6321 | 6126 | 5931 | 5736 | 5541 | 5346 | 5151 | 4956 | 4761 | 4566 | 4371 | 4175 | 3980 | 3785 | 3589 | 3394 |
| 19 | 46 | 6784 | 6589 | 6394 | 6199 | 6004 | 5808 | 5613 | 5418 | 5223 | 5028 | 4833 | 4637 | 4442 | 4247 | 4051 | 3856 | 3660 |
| 20 | 47 | 7052 | 6857 | 6662 | 6467 | 6272 | 6076 | 5881 | 5686 | 5490 | 5295 | 5099 | 4904 | 4708 | 4513 | 4317 | 4122 | 3926 |
| 21 | 48 | 7320 | 7125 | 6930 | 6734 | 6539 | 6344 | 6148 | 5953 | 5757 | 5562 | 5366 | 5170 | 4975 | 4779 | 4583 | 4388 | 4192 |
| 22 | 49 | 7588 | 7393 | 7198 | 7002 | 6806 | 6611 | 6415 | 6220 | 6024 | 5828 | 5633 | 5437 | 5241 | 5045 | 4849 | 4654 | 4458 |
| 23 | 50 | 7856 | 7661 | 7465 | 7270 | 7074 | 6878 | 6682 | 6487 | 6291 | 6095 | 5899 | 5703 | 5507 | 5312 | 5116 | 4920 | 4724 |
| 24 | 51 | 8124 | 7929 | 7733 | 7537 | 7341 | 7145 | 6950 | 6754 | 6558 | 6362 | 6166 | 5970 | 5774 | 5578 | 5382 | 5186 | 4990 |
| 25 | 52 | 8392 | 8196 | 8001 | 7805 | 7609 | 7413 | 7217 | 7021 | 6825 | 6629 | 6432 | 6236 | 6040 | 5844 | 5648 | 5451 | 5255 |
| 26 | 53 | 8660 | 8464 | 8268 | 8072 | 7876 | 7680 | 7484 | 7287 | 7091 | 6895 | 6699 | 6503 | 6306 | 6110 | 5914 | 5717 | 5521 |
| 27 | 54 | 8928 | 8732 | 8536 | 8340 | 8143 | 7947 | 7751 | 7555 | 7358 | 7162 | 6965 | 6769 | 6572 | 6376 | 6179 | 5983 | 5787 |
| 28 | 55 | 9196 | 9000 | 8804 | 8608 | 8411 | 8214 | 8018 | 7821 | 7625 | 7428 | 7232 | 7035 | 6839 | 6642 | 6445 | 6249 | 6052 |
| 29 | 56 | 9463 | 9267 | 9071 | 8874 | 8678 | 8481 | 8285 | 8088 | 7892 | 7695 | 7498 | 7302 | 7105 | 6908 | 6711 | 6514 | 6318 |
| 30 | 57 | 9731 | 9535 | 9338 | 9142 | 8945 | 8748 | 8552 | 8355 | 8158 | 7961 | 7765 | 7568 | 7371 | 7174 | 6977 | 6780 | 6583 |
| 31 | 58 | 9999 | 9802 | 9606 | 9409 | 9212 | 9015 | 8819 | 8622 | 8425 | 8228 | 8031 | 7834 | 7637 | 7440 | 7243 | 7046 | 6849 |
| 32 | 59 | 0267 | 0070 | 9873 | 9676 | 9479 | 9282 | 9085 | 8888 | 8692 | 8494 | 8297 | 8100 | 7903 | 7706 | 7509 | 7312 | 7114 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Auxiliary Arguments.

| A. | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 237 (238) 1224 | 1 | 2 | 3 | 447 | 0257 | 0068 | 9878 | 9689 | 9499 | 9310 | 9120 | 8930 | 8741 | 8551 | 8361 | 8171 |
| 1 | 1471 | 1 | 1 | 1 | 713 | 0524 | 0334 | 0145 | 9955 | 9765 | 9576 | 9386 | 9196 | 9006 | 8817 | 8627 | 8437 |
| 2 | 1736 | 1541 | 1350 | 117 | 98 | 0790 | 0601 | 0411 | 0221 | 0031 | 9842 | 9651 | 9461 | 9271 | 9082 | 8892 | 8702 |
| 3 | 2000 | 1811 | 1620 | 1427 | 1247 | 1057 | 0867 | 0677 | 0487 | 0297 | 0107 | 9917 | 9727 | 9537 | 9347 | 9157 | 8967 |
| 4 | 2264 | 2074 | 1883 | 1693 | 1513 | 1323 | 1133 | 0943 | 0753 | 0563 | 0373 | 0183 | 9993 | 9802 | 9612 | 9422 | 9232 |
| 5 | 237 (238) 2529 | 2338 | 2147 | 1957 | 1780 | 1590 | 1400 | 1209 | 1019 | 0829 | 0639 | 0448 | 0258 | 0068 | 9878 | 9688 | 9497 |
| 6 | 2794 | 2603 | 2412 | 2223 | 2046 | 1856 | 1666 | 1476 | 1285 | 1095 | 0904 | 0714 | 0523 | 0333 | 0143 | 9953 | 9762 |
| 7 | 237 3059 | 2868 | 2677 | 2488 | 2313 | 2123 | 1932 | 1742 | 1551 | 1361 | 1170 | 0980 | 0789 | 0598 | 0408 | 0217 | 0026 |
| 8 | 3324 | 3133 | 2942 | 2753 | 2579 | 2389 | 2198 | 2008 | 1817 | 1626 | 1436 | 1245 | 1054 | 0863 | 0673 | 0482 | 0291 |
| 9 | 3589 | 3398 | 3207 | 3018 | 2846 | 2655 | 2465 | 2274 | 2083 | 1892 | 1701 | 1510 | 1320 | 1129 | 0938 | 0747 | 0556 |
| 10 | 237 3854 | 3663 | 3472 | 3283 | 3112 | 2921 | 2731 | 2540 | 2349 | 2158 | 1967 | 1776 | 1585 | 1394 | 1203 | 1012 | 0820 |
| 11 | 4142 | 3951 | 3761 | 3570 | 3379 | 3188 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1277 | 1085 |
| 12 | 4429 | 4238 | 4047 | 3856 | 3645 | 3454 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1541 | 1350 |
| 13 | 4716 | 4525 | 4334 | 4143 | 3951 | 3760 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1806 | 1615 |
| 14 | 5003 | 4812 | 4621 | 4430 | 4238 | 4047 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 237 5290 | 5098 | 4907 | 4716 | 4525 | 4334 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | 5578 | 5387 | 5196 | 5004 | 4813 | 4621 | 4527 | 4135 | 3943 | 3752 | 3560 | [illegible] | 3176 | 2984 | 2793 | [illegible] | [illegible] |
| 17 | 5866 | 5675 | 5484 | 5293 | 5101 | 4909 | 4716 | 4524 | 4332 | 4140 | 3948 | [illegible] | 3441 | 3249 | 3057 | [illegible] | [illegible] |
| 18 | 6155 | 5964 | 5773 | 5582 | 5390 | 5198 | 5006 | 4813 | 4621 | 4429 | 4237 | [illegible] | 3706 | 3514 | 3322 | [illegible] | [illegible] |
| 19 | 6444 | 6253 | 6062 | 5871 | 5679 | 5487 | 5295 | 5102 | 4910 | 4718 | 4526 | [illegible] | 3971 | 3779 | 3587 | [illegible] | [illegible] |
| 20 | 237 6733 | 6542 | 6351 | 6159 | 5967 | 5775 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4429 | 4237 | [illegible] | [illegible] | [illegible] | [illegible] |
| 21 | 7023 | 6832 | 6641 | 6449 | 6257 | 6065 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4694 | 4502 | [illegible] | [illegible] | [illegible] | [illegible] |
| 22 | 7313 | 7122 | 6931 | 6740 | 6548 | 6356 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 23 | 7603 | 7412 | 7221 | 7030 | 6838 | 6646 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | 7894 | 7703 | 7512 | 7321 | 7129 | 6937 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 237 8185 | 7994 | 7803 | 7612 | 7420 | 7228 | 7036 | 6843 | 6651 | 6459 | 6267 | [illegible] | 5754 | 5561 | 5369 | [illegible] | [illegible] |
| 26 | 8476 | 8285 | 8094 | 7903 | 7711 | 7519 | 7327 | 7134 | 6942 | 6750 | 6558 | [illegible] | 6019 | 5826 | 5633 | [illegible] | [illegible] |
| 27 | 8767 | 8576 | 8385 | 8194 | 8002 | 7810 | 7618 | 7425 | 7233 | 7041 | 6849 | [illegible] | 6284 | 6091 | 5897 | [illegible] | [illegible] |
| 28 | 9059 | 8868 | 8677 | 8486 | 8294 | 8102 | 7910 | 7717 | 7525 | 7333 | 7141 | [illegible] | 6549 | 6355 | 6162 | [illegible] | [illegible] |
| 29 | 9351 | 9160 | 8969 | 8778 | 8586 | 8394 | 8202 | 8009 | 7817 | 7625 | 7433 | [illegible] | 6814 | 6620 | 6426 | [illegible] | [illegible] |
| 30 | 237 9643 | 9452 | 9261 | 9070 | 8878 | 8686 | 8494 | 8301 | 8109 | 7917 | 7725 | [illegible] | [illegible] | 6885 | 6691 | 6497 | 6304 |
| 31 | 9936 | 9745 | 9554 | 9363 | 9171 | 8979 | 8787 | 8594 | 8402 | 8210 | 8018 | 7537 | 7343 | 7149 | 6955 | 6761 | 6568 | 6374 |
| 32 | 9740 | 9547 | 9353 | 9159 | 8965 | 8772 | 8578 | 8384 | 8190 | 7996 | 7802 | 7608 | 7414 | 7220 | 7026 | [illegible] | [illegible] |
| 33 | 238 (237) 0006 | 9813 | 9619 | 9425 | 9231 | 9037 | 8843 | 8649 | 8455 | 8261 | 8067 | 7873 | 7679 | 7484 | 7290 | 7096 | 6902 |
| 34 | 0273 | 0079 | 9885 | 9691 | 9497 | 9303 | 9109 | 8914 | 8720 | 8526 | 8332 | 8137 | 7943 | 7749 | 7554 | 7360 | 7166 |
| 35 | 238 (237) 0539 | 0345 | 0151 | 9956 | 9762 | 9568 | 9374 | [illegible] | [illegible] | [illegible] | [illegible] | 8402 | 8208 | 8013 | 7819 | 7624 | 7430 |
| 36 | 0805 | 0611 | 0416 | 0222 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8278 | 8083 | 7888 | 7694 |
| 37 | 1071 | 0877 | 0682 | 0488 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8542 | 8347 | 8152 | 7957 |
| 38 | 1337 | 1143 | 0948 | 0754 | 0559 | 0364 | 0170 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9001 | 8806 | 8611 | 8416 | 8221 |
| 39 | 1603 | 1409 | 1214 | 1019 | 0824 | 0630 | 0435 | 0240 | 0045 | 9850 | 9655 | [illegible] | 9265 | 9071 | 8875 | 8680 | 8485 |
| 40 | 238 (237) 1869 | 1674 | 1480 | 1285 | 1090 | 0895 | [illegible] | 0505 | 0310 | 0115 | 9920 | [illegible] | [illegible] | [illegible] | 9140 | 8944 | 8749 |
| 41 | 2135 | 1940 | 1745 | 1550 | 1355 | 1160 | 0965 | 0770 | 0575 | 0380 | 185 | 989 | 9794 | 9599 | 9404 | [illegible] | [illegible] |
| 42 | 2401 | 2206 | 2011 | 1816 | 1621 | 1426 | 1230 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 43 | [illegible] | [illegible] | 2277 | 2081 | 1886 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 44 | [illegible] | 2737 | 2542 | 2347 | 2151 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 45 | 238 3199 | 3003 | 2808 | 2612 | [illegible] | [illegible] | [illegible] | [illegible] | 1034 | 1439 | 1243 | 1047 | 0851 | [illegible] | [illegible] | [illegible] | [illegible] |
| 46 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 899 | 1703 | 1507 | 1311 | 1115 | 0919 | 072[illegible] | [illegible] | [illegible] |
| 47 | 3730 | 3534 | 3339 | 3143 | [illegible] | [illegible] | [illegible] | [illegible] | 2164 | 1968 | 1772 | 1576 | 1380 | 1183 | 098[illegible] | 791 | 0595 |
| 48 | 3996 | 3800 | 3604 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1055 | 0858 |
| 49 | 4262 | 4066 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2104 | 1908 | 1712 | 1515 | 1318 | 1122 |
| 50 | 238 4527 | 4331 | 4135 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1975 | 1779 | 1582 | 1386 |
| 51 | 4793 | 4597 | 4400 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2239 | 2042 | 1846 | 1649 |
| 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 5590 | 5393 | 5196 | [illegible] | [illegible] | [illegible] | 4606 | 4409 | 4212 | 4016 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | 238 5855 | 5658 | 5462 | [illegible] | [illegible] | 5068 | 4871 | 4674 | 4477 | 4280 | 4083 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 56 | 6121 | 5924 | 5727 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | 6386 | 6189 | 5992 | [illegible] | [illegible] | [illegible] | [illegible] | 5203 | 5006 | 4809 | 4611 | 4414 | 4217 | 4019 | 3822 | 3624 | [illegible] |
| 58 | 6652 | 6454 | 6257 | [illegible] | [illegible] | [illegible] | [illegible] | 5468 | 5270 | 5073 | [illegible] | 4678 | 4481 | 4283 | 4085 | 3888 | [illegible] |
| 59 | 6917 | 6720 | 6522 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4942 | 4744 | 4547 | 4349 | 4151 | [illegible] |

Sums for finding the Corrected Distances.

| A. | 112′ | Sums |
|---|---|---|
| 0 | 0 | [illegible] |
| 1 | 1 | [illegible] |
| 2 | 2 | [illegible] |
| 3 | 3 | [illegible] |
| 4 | 4 | [illegible] |
| 5 | 5 | [illegible] |
| 6 | 6 | [illegible] |
| 7 | 7 | 6494 |
| 8 | 8 | 6763 |
| 9 | 9 | 7[illegible] |
| 10 | 10 | 537 7[illegible] |
| 11 | 11 | 7[illegible] |
| 12 | 12 | 7[illegible] |
| 13 | 13 | 8[illegible] |
| 14 | 14 | 8379 |
| 15 | 15 | 8649 |
| 16 | 16 | 8918 |
| 17 | 17 | 9187 |
| 18 | 18 | 945[illegible] |
| 19 | 19 | 9725 |
| 20 | 20 | 537 9994 |
| 21 | 21 | 538 020[illegible] |
| 22 | 22 | 053[illegible] |
| 23 | 23 | 0801 |
| 24 | 24 | 1070 |
| 25 | 25 | 538 1339 |
| 26 | 26 | 1608 |
| 27 | 27 | 1877 |
| 28 | 28 | 2146 |
| 29 | 29 | 2415 |
| 30 | 30 | 538 2683 |
| 31 | 31 | 2952 |
| 32 | 32 | 3221 |
| 33 | 33 | 3490 |
| 34 | 34 | 3758 |
| 35 | 35 | 538 4027 |
| 36 | 36 | 4295 |
| 37 | 37 | 4564 |
| 38 | 38 | 4832 |
| 39 | 39 | 5101 |
| 40 | 40 | 538 5369 |
| 41 | [illegible] | [illegible] |
| 42 | [illegible] | [illegible] |
| 43 | [illegible] | [illegible] |
| 44 | [illegible] | [illegible] |
| 45 | [illegible] | [illegible] |
| 46 | 46 | 6979 |
| 47 | 47 | 7247 |
| 48 | 48 | 751[illegible] |
| 49 | 49 | 7784 |
| 50 | 50 | 538 8052 |
| 51 | 51 | 8320 |
| 52 | 52 | 8588 |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| Par. for Sec. of C. S. A. addit. | C. S. A. 113° | Numbers |
|---|---|---|
| 269 | 0′ | 062 5124 |
| 264 | 1 | 4854 |
| 260 | 2 | 4584 |
| 256 | 3 | 4315 |
| 251 | 4 | 4045 |
| 247 | 5 | 062 3776 |
| 242 | 6 | 3506 |
| 238 | 7 | 3237 |
| 233 | 8 | 2968 |
| 229 | 9 | 2698 |
| 224 | 10 | 062 2429 |
| 220 | 11 | 2159 |
| 215 | 12 | 1890 |
| 211 | 13 | 1621 |
| 206 | 14 | 1351 |
| 202 | 15 | 062 1082 |
| 197 | 16 | 0813 |
| 193 | 17 | 0544 |
| 188 | 18 | 0275 |
| 184 | 19 | 0006 |
| 179 | 20 | 061 9737 |
| 175 | 21 | 9468 |
| 170 | 22 | 9199 |
| 166 | 23 | 8930 |
| 161 | 24 | 8661 |
| 157 | 25 | 061 8392 |
| 152 | 26 | 8123 |
| 148 | 27 | 7854 |
| 143 | 28 | 7585 |
| 139 | 29 | 7317 |
| 134 | 30 | 061 7048 |
| 130 | 31 | 6779 |
| 125 | 32 | 6510 |
| 121 | 33 | 6242 |
| 117 | 34 | 5973 |
| 112 | 35 | 061 5705 |
| 108 | 36 | 5436 |
| 103 | 37 | 5168 |
| 99 | 38 | 4899 |
| 94 | 39 | 4631 |
| 90 | 40 | 061 4362 |
| 85 | 41 | 4094 |
| 81 | 42 | 3826 |
| 76 | 43 | 3557 |
| 72 | 44 | 3289 |
| 67 | 45 | 061 3021 |
| 63 | 46 | 2753 |
| 58 | 47 | 2485 |
| 54 | 48 | 2216 |
| 49 | 49 | 1948 |
| 45 | 50 | 061 1680 |
| 40 | 51 | 1412 |
| 36 | 52 | 1144 |
| 31 | 53 | 0876 |
| 27 | 54 | 0608 |
| 22 | 55 | 0340 |
| 18 | 56 | 0072 |
| 13 | 57 | 060 9804 |
| 9 | 58 | 9536 |
| 4 | 59 | 9268 |
| 0 | 60 | 060 9000 |

| C. S. A. & A.D. 113 | ′ | Auxiliary Arguments. 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| | 0 | 239(238) 0534 | | 0140 | 9943 | 9746 | 9549 | 9352 | 9155 | 8958 | 8761 | 8564 | 8366 | 8169 | 7972 | 7774 | |
| | 1 | | | 0211 | 0013 | 9816 | 9619 | 9422 | 9225 | 9027 | 8830 | 8633 | 8436 | 8238 | 8041 | 7844 | |
| | 2 | | | 0275 | 0478 | 0281 | 0083 | 9886 | 9689 | 9491 | 9294 | 9096 | 8899 | 8701 | 8504 | 8307 | |
| | 3 | | | 0342 | 0745 | 0548 | 0350 | 0153 | 9955 | 9757 | 9560 | 9362 | 9165 | 8967 | 8770 | 8573 | |
| | 4 | | | | | | | | | | | | | | | | |
| | 5 | 119(238) 1147 | | | | | | | | | | | | | | | |
| | 6 | | | 1741 | 1546 | 1348 | 1151 | 0953 | 0755 | 0557 | 0359 | 0161 | 9963 | 9765 | 9567 | 9368 | 9170 |
| | 7 | | | | 1813 | 1615 | 1417 | 1219 | 1021 | 0823 | 0625 | 0427 | 0229 | 0030 | 9832 | 9634 | 9436 |
| | 8 | | | 2275 | 2080 | 1882 | 1684 | 1486 | 1288 | 1089 | 0891 | 0693 | 0495 | 0296 | 0098 | 9899 | 9701 |
| | 9 | | | 2543 | 2347 | 2149 | 1951 | 1752 | 1554 | 1356 | 1157 | 0959 | 0760 | 0562 | 0363 | 0165 | 9966 |
| | 10 | 239 | 3012 | 2812 | 2614 | 2416 | 2217 | 2019 | 1820 | 1622 | 1423 | 1225 | 1026 | 0828 | 0629 | 0430 | 0232 |
| | 11 | | | | 2682 | 2484 | 2285 | 2087 | 1888 | 1689 | 1491 | | | | | | |
| | 12 | | | | | | 2552 | 2353 | 2154 | | | | | | | | |
| | 13 | | 3613 | 3415 | 3216 | | 2818 | 2619 | 2420 | 2221 | 2023 | | | | | | |
| | 14 | | 3880 | 3681 | 3482 | | | 2886 | 2687 | 2487 | 2288 | | | | | | |
| | 15 | 239 | 4147 | 3948 | 3749 | | | | 2953 | 2753 | 2554 | 2355 | 2156 | 1956 | 1757 | | |
| | 16 | | 4414 | 4215 | 4016 | | | | | | | | | | | | |
| | 17 | | 4681 | 4482 | 4282 | 4083 | 3884 | 3684 | 3485 | | | | | | | | |
| | 18 | | 4948 | 4748 | 4549 | 4349 | 4150 | 3950 | 3751 | 3551 | | | | | | | |
| | 19 | | 5214 | 5015 | 4815 | 4616 | 4416 | 4216 | 4017 | 3817 | | | | | | | |
| | 20 | 239 | 5481 | 5281 | 5082 | 4882 | 4682 | 4482 | 4282 | 4083 | 3883 | 3683 | 3483 | | | | |
| | 21 | | 5748 | 5548 | 5348 | 5148 | 4948 | 4748 | 4548 | 4348 | 4148 | 3948 | 3748 | 3548 | | | |
| | 22 | | 6014 | 5814 | | | | | | | | | | 3813 | | | |
| | 23 | | 6281 | 6081 | 5881 | 5681 | 5480 | 5280 | 5080 | 4880 | 4679 | 4479 | 4279 | 4078 | | | |
| | 24 | | 6548 | 6347 | 6147 | 5947 | 5746 | 5546 | 5346 | 5145 | 4945 | 4744 | 4544 | 4343 | | | |
| | 25 | 239 | | | 6614 | 6413 | 6213 | | | | | | | | | | |
| | 26 | | 7281 | 7081 | 6880 | 6680 | 6479 | 6278 | 6078 | 5877 | 5676 | 5476 | 5275 | 5074 | 4873 | | |
| | 27 | | | | | | | | | | | | | | | | |
| | 28 | | | | | | | | | | | | | | | | |
| | 29 | | 8081 | | 7679 | 7478 | 7277 | 7076 | 6875 | 6674 | 6473 | 6272 | 6071 | 5870 | 5668 | 5467 | 5266 |
| | 30 | 239 | 8347 | 8146 | 7945 | 7745 | 7543 | 7342 | 7141 | 6940 | 6738 | 6537 | 6336 | 6135 | 5933 | 5732 | 5530 |
| | 31 | | 8614 | 8413 | 8211 | 8010 | 7809 | 7608 | 7406 | 7205 | 7004 | 6802 | 6601 | 6400 | 6198 | 5997 | 5795 |
| | 32 | | | | | | | | | | | | | | | | |
| | 33 | | | | | | | | | | | | | | | | |
| | 34 | | 9147 | | | | | | | | | | | | | | |
| | 35 | 239 | | | | | | | | | | | | | | | |
| | 36 | 240(239) 0147 | 9946 | 9744 | 9542 | 9340 | 9138 | 8936 | 8734 | | | | | | | | |
| | 37 | 0414 | 0212 | 0010 | 9808 | 9606 | 9404 | 9202 | 9000 | | | | | | | | |
| | 38 | 0680 | 0478 | 0276 | 0074 | 9872 | 9670 | 9468 | 9265 | 9063 | 8861 | 8658 | 8456 | 8254 | | | |
| | 39 | 0946 | 0744 | 0542 | 0340 | 0138 | 9935 | 9733 | 9531 | 9328 | 9126 | 8923 | 8721 | 8518 | 8316 | | |
| | 40 | 240(239) 1213 | 1010 | 0808 | 0606 | 0403 | 0201 | 9998 | 9796 | 9593 | 9391 | 9188 | 8986 | 8783 | 8580 | 8378 | |
| | 41 | 1479 | 1277 | 1074 | 0872 | 0669 | 0467 | 0264 | 0061 | 9859 | 9656 | 9453 | 9250 | 9048 | 8845 | 8642 | 8439 |
| | 42 | 1745 | 1543 | 1340 | 1138 | 0935 | 0732 | 0529 | 0327 | 0124 | 9921 | 9718 | 9515 | 9312 | 9109 | 8906 | 8703 |
| | 43 | 2011 | 1809 | 1606 | 1403 | 1201 | 0998 | 0795 | 0592 | 0389 | 0186 | 9983 | 9780 | 9577 | 9374 | 9171 | 8967 |
| | 44 | | | | | | | | | | | | | | | | |
| | 45 | | 2341 | 2138 | 1935 | 1732 | 1529 | 1326 | 1122 | 0919 | 0716 | 0513 | 0309 | 0106 | 9903 | 9699 | 9496 |
| | 46 | | 2607 | 2404 | 2200 | 1997 | 1794 | 1591 | 1387 | 1184 | 0981 | 0777 | 0574 | 0370 | 0167 | 9963 | 9760 |
| | 47 | | 2873 | 2669 | 2466 | 2263 | 2059 | 1856 | 1652 | 1449 | 1246 | 1042 | 0838 | 0635 | 0431 | 0228 | 0024 |
| | 48 | | | | | | | | | | | | | | | | |
| | 49 | | | | | | | | 2182 | 1979 | 1775 | 1571 | 1368 | 1164 | 0960 | 0757 | |
| | 50 | | | | | | | | | | | | | | | | |
| | 51 | | 3930 | 37 | | 3 | | | 2713 | 2509 | 2305 | 2100 | 1896 | 1692 | 1488 | 1284 | 1081 |
| | 52 | | 4202 | 3998 | | 5 | | | 2774 | 2570 | 2365 | 2161 | 1957 | 1753 | 1548 | 1344 | |
| | 53 | | 4468 | 4264 | | | | | | | | | | | | | |
| | 54 | | | | | | | | | | | | | | | | |
| | 55 | | | | | | | | | | | | | | | | |
| | 56 | | | | | | | | | | | | | | | | |
| | 57 | | | | | | | | | | | | | | | | |
| | 58 | | | | | | | | | | | | | | | | |
| | 59 | | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Year of A. | A.A. & A.D. 113 | Auxiliary Arguments. 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 2 | 0 | 038 | 7102 | 6985 | 6787 | 6590 | 6392 | 6195 | 5997 | 5799 | 5602 | 5404 | 5206 | 5008 | 4811 | 4613 | 4415 | |
| 1 | 1 | | 7447 | | 7052 | 6855 | 6657 | 6459 | 6262 | 6064 | 5866 | 5668 | 5470 | 5272 | 5074 | 4876 | | |
| 1 | 2 | | 7712 | | 7317 | 7120 | 6922 | 6724 | 6526 | 6328 | 6130 | 5932 | 5734 | 5536 | | | | |
| 1 | 3 | | 7907 | | 7582 | 7384 | 7186 | 6988 | 6790 | 6592 | 6394 | 6196 | 5998 | 5800 | | | | |
| 1 | 4 | | | | 7847 | 7649 | 7451 | 7253 | 7055 | 6857 | 6658 | 6460 | 6262 | 6063 | | | | |
| 1 | 5 | 238 | | | | | | | | | | | | | | | | |
| 1 | 6 | | 8774 | | 8377 | 8179 | 7980 | 7782 | 7584 | 7385 | 7186 | 6988 | 6789 | | | | | |
| 1 | 7 | | | | 8642 | 8443 | 8245 | 8046 | 7848 | 7640 | 7450 | 7252 | 7053 | | | | | |
| 1 | 8 | | 9304 | 9105 | 8907 | | | | | | | 7516 | 7317 | 7118 | 6919 | | | |
| 1 | 9 | | 9569 | 9370 | 917 | | | | | | | 7780 | 7581 | 7382 | 7182 | | | |
| 1 | 10 | 238 | 9834 | 9635 | 9436 | 9237 | | | | | | | | | | | | |
| 1 | 11 | 239 (238) | 0099 | 9900 | 9701 | 9502 | 9303 | 9104 | 8905 | 8706 | 8506 | 8307 | 8108 | 7909 | 77 | | | |
| 1 | 12 | | 0364 | 0165 | 9966 | 9767 | 9567 | 9368 | 9169 | 8970 | 8770 | 8571 | 8371 | 8172 | 797 | | | |
| 1 | 13 | | 0629 | 0430 | 0230 | 0031 | 9832 | 9632 | 9433 | 9234 | 9034 | 8835 | 8635 | 8436 | | | | |
| 1 | 14 | | 0894 | 0694 | 0495 | 0296 | 0096 | 9897 | 9697 | 9497 | 9298 | 9098 | 8899 | 8699 | 84 | | | |
| 1 | 15 | 239 (238) | 1159 | 0959 | 0760 | 0560 | 0360 | 0161 | 0061 | 0561 | 0362 | 0162 | 9962 | 9762 | 956 | | | |
| 1 | 16 | | 1424 | | | | | | | | 9625 | 9426 | 92 | | | | | |
| 1 | 17 | | | | | | | | | 0089 | 9889 | 9689 | 9489 | 9289 | | | | |
| 1 | 18 | | | 1755 | 1555 | 1355 | | | | | 0153 | 0052 | 9752 | 9552 | 933 | | | |
| 1 | 19 | | | | | | | | | | | 216 | 0015 | 9815 | 9615 | 9414 | | |
| 1 | 20 | 239 (238) | | | 2082 | 1882 | 1682 | 1481 | 1281 | 1080 | 0880 | | | 0078 | 9877 | 9677 | 947 | |
| 1 | 21 | | 2747 | 2547 | 2346 | 2146 | 1946 | 1745 | 1545 | 1344 | 1144 | | | | | | | |
| 1 | 22 | | | 2811 | 2611 | 2410 | 2210 | 2009 | 1809 | 1608 | 1407 | | | | | | | |
| 1 | 23 | 239 | | | | | | | | | | | | | | | | |
| 1 | 24 | | | | | | | | | | | | | | | | | |
| 1 | 25 | 239 | | | | | | | | | | | | | | | | |
| 1 | 26 | | | | | | | | | | | | | | | | | |
| 1 | 27 | | | | | | | | | | | | | | | | | |
| 1 | 28 | | | | | | | | | | | | | | | | | |
| 1 | 29 | | | | | | | | | | | | | | | | | |
| 1 | 30 | | | | | | | | | | | | | | | | | |
| 1 | 31 | | 5392 | 5190 | 4988 | 4787 | 4585 | 4383 | 4181 | | | | | | | | | |
| 1 | 32 | | | | | 51 | 4849 | 4647 | 4445 | | | | | | | | | |
| 1 | 33 | | | | | 5114 | 5112 | 4910 | 47 | | | | | | | | | |
| 1 | 34 | | | | | | | | | | | | | | | | | |
| 1 | 35 | 239 | | | | | | | | | | | | | | | | |
| 1 | 36 | | | | | | | | | | | | | | | | | |
| 1 | 37 | | | | | | | | | | | | | | | | | |
| 1 | 38 | | | | 6836 | 6633 | 643 | | | | | | | | | | | |
| 1 | 39 | | | | | | | | | | | | | | | | | |
| 1 | 40 | | | | 7363 | 7160 | 6957 | 6754 | 6551 | 6349 | 6145 | 5942 | 5739 | 53 | | | | |
| 1 | 41 | | | 10 | 7627 | 7424 | 7221 | 7018 | 6815 | 6611 | 6408 | 6205 | 6002 | 57 | | | | |
| 1 | 42 | | | | | | | | | | | | | | | | | |
| 1 | 43 | | | | | | | | | | | | | | | | | |
| 1 | 44 | | | | | | | | | | | | | | | | | |
| 1 | 45 | 239 | | | | | | | | | | | | | | | | |
| 1 | 46 | | | | | | | | | | | | | | | | | |
| 1 | 47 | | | | | | | | | | | | | | | | | |
| 1 | 48 | | | | | | | | | | | | | | | | | |
| 1 | 49 | | | | | | | | | | | | | | | | | |
| 1 | 50 | | | | | | | | | | | | | | | | | |
| 1 | 51 | | | | | | | | | | | | | | | | | |
| 1 | 52 | | | | | | | | | | | | | | | | | |
| 1 | 53 | | 1198 | 0994 | 0780 | 0584 | 0380 | 0175 | 9970 | 9765 | 9560 | 9356 | 9151 | 8946 | 8741 | 8536 | 8 | |
| 1 | 54 | | 1462 | 1257 | 1052 | 0847 | 0643 | 0438 | 0233 | 0028 | 9823 | 9618 | 9413 | 9208 | 9003 | 870 | | |
| 1 | 55 | 240 (239) | 1725 | 1520 | 1316 | 1111 | 0906 | 07 | | | | | | | | | | |
| 1 | 56 | | 1989 | 1784 | 1579 | 1374 | 1169 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | 1900 | 1694 | 1489 | 1283 | 1078 | | | | | | | | |
| | | | | | 368 | 2163 | 1957 | 1752 | 1546 | 1340 | | | | | | | | |

| Year of A. | A.A. & A.D. 113 | Sums |
|---|---|---|
| 2 | 0 | 339 |
| 1 | 1 | |
| 1 | 2 | |
| 1 | 3 | |
| 1 | 4 | |
| 1 | 5 | |
| 1 | 6 | |
| 1 | 7 | |
| 1 | 8 | |
| 1 | 9 | |
| 1 | 10 | |
| 1 | 11 | |
| 1 | 12 | |
| 1 | 13 | |
| 1 | 14 | |
| 1 | 15 | 339 4741 |
| 1 | 16 | |
| 1 | 17 | |
| 1 | 18 | |
| 1 | 19 | |
| 1 | 20 | |
| 1 | 21 | |
| 1 | 22 | |
| 1 | 23 | |
| 1 | 24 | |
| 1 | 25 | |
| 1 | 26 | |
| 1 | 27 | |
| 1 | 28 | |
| 1 | 29 | |
| 1 | 30 | |
| 1 | 31 | |
| 1 | 32 | |
| 1 | 33 | |
| 1 | 34 | |
| 1 | 35 | |
| 1 | 36 | |
| 1 | 37 | |
| 1 | 38 | |
| 1 | 39 | |
| 1 | 40 | |
| 1 | 41 | |
| 1 | 42 | |
| 1 | 43 | |
| 1 | 44 | |
| 1 | 45 | |
| 1 | 46 | |
| 1 | 47 | |
| 1 | 48 | |
| 1 | 49 | |
| 1 | 50 | |
| 1 | 51 | |
| 1 | 52 | |
| 1 | 53 | |
| 1 | 54 | |
| 1 | 55 | |
| 1 | 56 | |
| | | |
| | | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes, and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. of C.S.A. | C.S.A. 114° | Numbers |
|---|---|---|
| 0 | 0 | 8000 |
| 1 | 1 | 7995 |
| 2 | 2 | 7980 |
| 3 | 3 | 7955 |
| 4 | 4 | 7930 |
| 5 | 5 | 7895 |
| 6 | 6 | 7850 |
| 7 | 7 | 7795 |
| 8 | 8 | 7730 |
| 9 | 9 | 7655 |
| 10 | 10 | 7570 |
| 11 | 11 | 7475 |
| 12 | 12 | 7370 |
| 13 | 13 | 7255 |
| 14 | 14 | 7130 |
| 15 | 15 | 6995 |
| 16 | 16 | 6850 |
| 17 | 17 | 6695 |
| 18 | 18 | 6530 |
| 19 | 19 | 6355 |
| 20 | 20 | 6170 |
| 21 | 21 | 5975 |
| 22 | 22 | 5770 |
| 23 | 23 | 5555 |
| 24 | 24 | 5330 |
| 25 | 25 | 5095 |
| 26 | 26 | 4850 |
| 27 | 27 | 4595 |
| 28 | 28 | 4330 |
| 29 | 29 | 4055 |
| 30 | 30 | 3770 |
| 31 | 31 | 3475 |
| 32 | 32 | 3170 |
| 33 | 33 | 2855 |
| 34 | 34 | 2530 |
| 35 | 35 | 2195 |
| 36 | 36 | 1850 |
| 37 | 37 | 1495 |
| 38 | 38 | 1130 |
| 39 | 39 | 1255 |
| 40 | 40 | 970 |
| 41 | 41 | 675 |
| 42 | 42 | 370 |
| 43 | 43 | 7520 |
| 44 | 44 | 7200 |
| 45 | 45 | 6870 |
| 46 | 46 | 6530 |
| 47 | 47 | 6180 |
| 48 | 48 | 5820 |
| 49 | 49 | 5450 |
| 50 | 50 | 5070 |
| 51 | 51 | 4680 |
| 52 | 52 | 4280 |
| 53 | 53 | 3870 |
| 54 | 54 | 3450 |
| 55 | 55 | 3020 |
| 56 | 56 | 2580 |
| 57 | 57 | 2130 |
| 58 | 58 | 1670 |
| 59 | 59 | 3263 |

| Parts for Seconds of Auxil. Argum. | S.A.S. & A. D. 114° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 8000 | 7995 | 7980 | 7955 | 7930 | 7895 | 7850 | 7795 | 7730 | 7655 | 7570 | 7475 | 7370 | 7255 | 7130 | 6995 | 6850 |
| 1 | 1 | 7995 | 7990 | 7975 | 7950 | 7925 | 7890 | 7845 | 7790 | 7725 | 7650 | 7565 | 7470 | 7365 | 7250 | 7125 | 6990 | 6845 |
| 2 | 2 | 7980 | 7975 | 7960 | 7935 | 7910 | 7875 | 7830 | 7775 | 7710 | 7635 | 7550 | 7455 | 7350 | 7235 | 7110 | 6975 | 6830 |
| 3 | 3 | 7955 | 7950 | 7935 | 7910 | 7885 | 7850 | 7805 | 7750 | 7685 | 7610 | 7525 | 7430 | 7325 | 7210 | 7085 | 6950 | 6805 |
| 4 | 4 | 7930 | 7925 | 7910 | 7885 | 7860 | 7825 | 7780 | 7725 | 7660 | 7585 | 7500 | 7405 | 7300 | 7185 | 7060 | 6925 | 6780 |
| 5 | 5 | 7895 | 7890 | 7875 | 7850 | 7825 | 7790 | 7745 | 7690 | 7625 | 7550 | 7465 | 7370 | 7265 | 7150 | 7025 | 6890 | 6745 |
| 6 | 6 | 7850 | 7845 | 7830 | 7805 | 7780 | 7745 | 7700 | 7645 | 7580 | 7505 | 7420 | 7325 | 7220 | 7105 | 6980 | 6845 | 6700 |
| 7 | 7 | 7795 | 7790 | 7775 | 7750 | 7725 | 7690 | 7645 | 7590 | 7525 | 7450 | 7365 | 7270 | 7165 | 7050 | 6925 | 6790 | 6645 |
| 8 | 8 | 7730 | 7725 | 7710 | 7685 | 7660 | 7625 | 7580 | 7525 | 7460 | 7385 | 7300 | 7205 | 7100 | 6985 | 6860 | 6725 | 6580 |
| 9 | 9 | 7655 | 7650 | 7635 | 7610 | 7585 | 7550 | 7505 | 7450 | 7385 | 7310 | 7225 | 7130 | 7025 | 6910 | 6785 | 6650 | 6505 |
| 10 | 10 | 7570 | 7565 | 7550 | 7525 | 7500 | 7465 | 7420 | 7365 | 7300 | 7225 | 7140 | 7045 | 6940 | 6825 | 6700 | 6565 | 6420 |
| 11 | 11 | 7475 | 7470 | 7455 | 7430 | 7405 | 7370 | 7325 | 7270 | 7205 | 7130 | 7045 | 6950 | 6845 | 6730 | 6605 | 6470 | 6325 |
| 12 | 12 | 7370 | 7365 | 7350 | 7325 | 7300 | 7265 | 7220 | 7165 | 7100 | 7025 | 6940 | 6845 | 6740 | 6625 | 6500 | 6365 | 6220 |
| 13 | 13 | 7255 | 7250 | 7235 | 7210 | 7185 | 7150 | 7105 | 7050 | 6985 | 6910 | 6825 | 6730 | 6625 | 6510 | 6385 | 6250 | 6105 |
| 14 | 14 | 7130 | 7125 | 7110 | 7085 | 7060 | 7025 | 6980 | 6925 | 6860 | 6785 | 6700 | 6605 | 6500 | 6385 | 6260 | 6125 | 5980 |
| 15 | 15 | 6995 | 6990 | 6975 | 6950 | 6925 | 6890 | 6845 | 6790 | 6725 | 6650 | 6565 | 6470 | 6365 | 6250 | 6125 | 5990 | 5845 |
| 16 | 16 | 6850 | 6845 | 6830 | 6805 | 6780 | 6745 | 6700 | 6645 | 6580 | 6505 | 6420 | 6325 | 6220 | 6105 | 5980 | 5845 | 5700 |
| 17 | 17 | 6695 | 6690 | 6675 | 6650 | 6625 | 6590 | 6545 | 6490 | 6425 | 6350 | 6265 | 6170 | 6065 | 5950 | 5825 | 5690 | 5545 |
| 18 | 18 | 6530 | 6525 | 6510 | 6485 | 6460 | 6425 | 6380 | 6325 | 6260 | 6185 | 6100 | 6005 | 5900 | 5785 | 5660 | 5525 | 5380 |
| 19 | 19 | 6355 | 6350 | 6335 | 6310 | 6285 | 6250 | 6205 | 6150 | 6085 | 6010 | 5925 | 5830 | 5725 | 5610 | 5485 | 5350 | 5205 |
| 20 | 20 | 6170 | 6165 | 6150 | 6125 | 6100 | 6065 | 6020 | 5965 | 5900 | 5825 | 5740 | 5645 | 5540 | 5425 | 5300 | 5165 | 5020 |
| 21 | 21 | 5975 | 5970 | 5955 | 5930 | 5905 | 5870 | 5825 | 5770 | 5705 | 5630 | 5545 | 5450 | 5345 | 5230 | 5105 | 4970 | 4825 |
| 22 | 22 | 5770 | 5765 | 5750 | 5725 | 5700 | 5665 | 5620 | 5565 | 5500 | 5425 | 5340 | 5245 | 5140 | 5025 | 4900 | 4765 | 4620 |
| 23 | 23 | 5555 | 5550 | 5535 | 5510 | 5485 | 5450 | 5405 | 5350 | 5285 | 5210 | 5125 | 5030 | 4925 | 4810 | 4685 | 4550 | 4405 |
| 24 | 24 | 5330 | 5325 | 5310 | 5285 | 5260 | 5225 | 5180 | 5125 | 5060 | 4985 | 4900 | 4805 | 4700 | 4585 | 4460 | 4325 | 4180 |
| 25 | 25 | 5095 | 5090 | 5075 | 5050 | 5025 | 4990 | 4945 | 4890 | 4825 | 4750 | 4665 | 4570 | 4465 | 4350 | 4225 | 4090 | 3945 |
| 26 | 26 | 4850 | 4845 | 4830 | 4805 | 4780 | 4745 | 4700 | 4645 | 4580 | 4505 | 4420 | 4325 | 4220 | 4105 | 3980 | 3845 | 3700 |
| 27 | 27 | 4595 | 4590 | 4575 | 4550 | 4525 | 4490 | 4445 | 4390 | 4325 | 4250 | 4165 | 4070 | 3965 | 3850 | 3725 | 3590 | 3445 |
| 28 | 28 | 4330 | 4325 | 4310 | 4285 | 4260 | 4225 | 4180 | 4125 | 4060 | 3985 | 3900 | 3805 | 3700 | 3585 | 3460 | 3325 | 3180 |
| 29 | 29 | 4055 | 4050 | 4035 | 4010 | 3985 | 3950 | 3905 | 3850 | 3785 | 3710 | 3625 | 3530 | 3425 | 3310 | 3185 | 3050 | 2905 |
| 30 | 30 | 3770 | 3765 | 3750 | 3725 | 3700 | 3665 | 3620 | 3565 | 3500 | 3425 | 3340 | 3245 | 3140 | 3025 | 2900 | 2765 | 2620 |
| 31 | 31 | 3475 | 3470 | 3455 | 3430 | 3405 | 3370 | 3325 | 3270 | 3205 | 3130 | 3045 | 2950 | 2845 | 2730 | 2605 | 2470 | 2325 |
| 32 | 32 | 3170 | 3165 | 3150 | 3125 | 3100 | 3065 | 3020 | 2965 | 2900 | 2825 | 2740 | 2645 | 2540 | 2425 | 2300 | 2165 | 2020 |
| 33 | 33 | 2855 | 2850 | 2835 | 2810 | 2785 | 2750 | 2705 | 2650 | 2585 | 2510 | 2425 | 2330 | 2225 | 2110 | 1985 | 1850 | 1705 |
| 34 | 34 | 2530 | 2525 | 2510 | 2485 | 2460 | 2425 | 2380 | 2325 | 2260 | 2185 | 2100 | 2005 | 1900 | 1785 | 1660 | 1525 | 1380 |
| 35 | 35 | 2195 | 2190 | 2175 | 2150 | 2125 | 2090 | 2045 | 1990 | 1925 | 1850 | 1765 | 1670 | 1565 | 1450 | 1325 | 1190 | 1045 |
| 36 | 36 | 1850 | 1845 | 1830 | 1805 | 1780 | 1745 | 1700 | 1645 | 1580 | 1505 | 1420 | 1325 | 1220 | 1105 | 980 | 845 | 700 |
| 37 | 37 | 1495 | 1490 | 1475 | 1450 | 1425 | 1390 | 1345 | 1290 | 1225 | 1150 | 1065 | 970 | 865 | 750 | 625 | 490 | 345 |
| 38 | 38 | 1130 | 1125 | 1110 | 1085 | 1060 | 1025 | 980 | 925 | 860 | 785 | 700 | 605 | 500 | 385 | 260 | 125 | 980 |
| 39 | 39 | 1255 | 1250 | 1235 | 1210 | 1185 | 1150 | 1105 | 1050 | 985 | 910 | 825 | 730 | 625 | 510 | 385 | 250 | 105 |
| 40 | 40 | 970 | 965 | 950 | 925 | 900 | 865 | 820 | 765 | 700 | 625 | 540 | 445 | 340 | 225 | 100 | 965 | 820 |
| 41 | 41 | 675 | 670 | 655 | 630 | 605 | 570 | 525 | 470 | 405 | 330 | 245 | 150 | 45 | 930 | 805 | 670 | 525 |
| 42 | 42 | 370 | 365 | 350 | 325 | 300 | 265 | 220 | 165 | 100 | 25 | 940 | 845 | 740 | 625 | 500 | 365 | 220 |
| 43 | 43 | 7520 | 7515 | 7500 | 7475 | 7450 | 7415 | 7370 | 7315 | 7250 | 7175 | 7090 | 6995 | 6890 | 6775 | 6650 | 6515 | 6370 |
| 44 | 44 | 7200 | 7195 | 7180 | 7155 | 7130 | 7095 | 7050 | 6995 | 6930 | 6855 | 6770 | 6675 | 6570 | 6455 | 6330 | 6195 | 6050 |
| 45 | 45 | 6870 | 6865 | 6850 | 6825 | 6800 | 6765 | 6720 | 6665 | 6600 | 6525 | 6440 | 6345 | 6240 | 6125 | 6000 | 5865 | 5720 |
| 46 | 46 | 6530 | 6525 | 6510 | 6485 | 6460 | 6425 | 6380 | 6325 | 6260 | 6185 | 6100 | 6005 | 5900 | 5785 | 5660 | 5525 | 5380 |
| 47 | 47 | 6180 | 6175 | 6160 | 6135 | 6110 | 6075 | 6030 | 5975 | 5910 | 5835 | 5750 | 5655 | 5550 | 5435 | 5310 | 5175 | 5030 |
| 48 | 48 | 5820 | 5815 | 5800 | 5775 | 5750 | 5715 | 5670 | 5615 | 5550 | 5475 | 5390 | 5295 | 5190 | 5075 | 4950 | 4815 | 4670 |
| 49 | 49 | 5450 | 5445 | 5430 | 5405 | 5380 | 5345 | 5300 | 5245 | 5180 | 5105 | 5020 | 4925 | 4820 | 4705 | 4580 | 4445 | 4300 |
| 50 | 50 | 5070 | 5065 | 5050 | 5025 | 5000 | 4965 | 4920 | 4865 | 4800 | 4725 | 4640 | 4545 | 4440 | 4325 | 4200 | 4065 | 3920 |
| 51 | 51 | 4680 | 4675 | 4660 | 4635 | 4610 | 4575 | 4530 | 4475 | 4410 | 4335 | 4250 | 4155 | 4050 | 3935 | 3810 | 3675 | 3530 |
| 52 | 52 | 4280 | 4275 | 4260 | 4235 | 4210 | 4175 | 4130 | 4075 | 4010 | 3935 | 3850 | 3755 | 3650 | 3535 | 3410 | 3275 | 3130 |
| 53 | 53 | 3870 | 3865 | 3850 | 3825 | 3800 | 3765 | 3720 | 3665 | 3600 | 3525 | 3440 | 3345 | 3240 | 3125 | 3000 | 2865 | 2720 |
| 54 | 54 | 3450 | 3445 | 3430 | 3405 | 3380 | 3345 | 3300 | 3245 | 3180 | 3105 | 3020 | 2925 | 2820 | 2705 | 2580 | 2445 | 2300 |
| 55 | 55 | 3020 | 3015 | 3000 | 2975 | 2950 | 2915 | 2870 | 2815 | 2750 | 2675 | 2590 | 2495 | 2390 | 2275 | 2150 | 2015 | 1870 |
| 56 | 56 | 2580 | 2575 | 2560 | 2535 | 2510 | 2475 | 2430 | 2375 | 2310 | 2235 | 2150 | 2055 | 1950 | 1835 | 1710 | 1575 | 1430 |
| 57 | 57 | 2130 | 2125 | 2110 | 2085 | 2060 | 2025 | 1980 | 1925 | 1860 | 1785 | 1700 | 1605 | 1500 | 1385 | 1260 | 1125 | 980 |
| 58 | 58 | 1670 | 1665 | 1650 | 1625 | 1600 | 1565 | 1520 | 1465 | 1400 | 1325 | 1240 | 1145 | 1040 | 925 | 800 | 665 | 520 |
| 59 | 59 | 3263 | 2142 | 1929 | 1710 | 1503 | 1290 | 1077 | 0864 | 0651 | 0438 | 0225 | 0012 | 9799 | 9585 | 9372 | 9159 | 8945 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds of Apparent Altitudes | S. A. & A. D. 114 | Auxiliary Arguments. 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | Sums 114 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | |
| 210 | 0 | 240 (239) | 3042 | | | | | 2014 | 1809 | 1003 | 1397 | 1191 | 0985 | 0779 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| 207 | 1 | 240 | 3206 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| 203 | 2 | | | 3157 | 2951 | 2745 | 2539 | 2334 | 2128 | 1921 | 1715 | 1509 | 1303 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 200 | 3 | | | | | | | | 2596 | 2390 | 2184 | 1977 | 1771 | 1565 | 1358 | 1152 | 0946 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 196 | 4 | | | | | | 3271 | 3065 | | 2652 | 2446 | 2239 | 2033 | 1827 | 1620 | 1413 | 1207 | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 193 | 5 | 240 | 4359 | 4152 | 3946 | 3740 | 3534 | 3327 | 3121 | 2914 | 2708 | 2501 | 2295 | 2088 | 1882 | 1675 | 1468 | 1262 | | | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 189 | 6 | | 4622 | 4415 | 4209 | 4003 | 3796 | 3590 | 3383 | 3176 | 2970 | 2763 | 2557 | 2350 | 2143 | 1936 | 1729 | 1523 | | | | | | | | | | | | | | | | | | | | | | | | | | 6 |
| 186 | 7 | | 4885 | 4678 | 4472 | 4265 | 4059 | 3852 | 3645 | 3439 | 3232 | 3025 | 2818 | 2612 | 2405 | 2198 | 1991 | 1784 | 1577 | | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 182 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 179 | 9 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 175 | 10 | 240 | 5674 | 5467 | 5260 | 5053 | 4846 | 4639 | 4432 | 4225 | 4018 | 3811 | 3603 | 3396 | 3189 | 2982 | 2774 | 2567 | 2360 | | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 172 | 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 168 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 165 | 13 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 161 | 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 158 | 15 | 240 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 15 |
| 154 | 16 | | 7251 | 7044 | 6836 | 6628 | 6420 | 6212 | 6004 | 5797 | 5589 | 5381 | 5173 | 4965 | 4757 | 4548 | 4340 | 4132 | 3924 | | | | | | | | | | | | | | | | | | | | | | | | | 16 |
| 151 | 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 17 |
| 147 | 18 | | 7777 | 7569 | 7361 | 7153 | 6945 | 6737 | 6528 | 6320 | 6112 | 5904 | 5695 | 5487 | 5279 | 5070 | 4862 | 4654 | 4445 | | | | | | | | | | | | | | | | | | | | | | | | | 18 |
| 144 | 19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 19 |
| 140 | 20 | 240 | 8302 | 8094 | 7886 | 7677 | 7469 | 7261 | 7052 | 6844 | 6635 | 6427 | 6218 | 6010 | 5801 | 5592 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 137 | 21 | | 8565 | 8356 | 8148 | 7939 | 7731 | 7523 | 7314 | 7105 | 6897 | 6688 | 6479 | 6271 | 6062 | 5853 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 21 |
| 133 | 22 | | 8827 | 8619 | 8410 | 8202 | 7993 | 7784 | 7576 | 7367 | 7158 | 6949 | 6740 | 6532 | 6323 | 6114 | 5905 | 5696 | 5487 | | | | | | | | | | | | | | | | | | | | | | | | | 22 |
| 130 | 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 23 |
| 126 | 24 | | 9352 | 9144 | 8935 | 8726 | 8517 | 8308 | 8099 | 7890 | 7681 | 7472 | 7263 | 7054 | 6845 | 6636 | 6426 | 6217 | 6008 | | | | | | | | | | | | | | | | | | | | | | | | | 24 |
| 123 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 25 |
| 119 | 26 | | | 0668 | 0458 | 0250 | 0041 | 8832 | 8622 | 8413 | 8204 | 7995 | 7785 | 7576 | 7366 | 7157 | 6947 | 6738 | 6528 | | | | | | | | | | | | | | | | | | | | | | | | | 26 |
| 116 | 27 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 27 |
| 112 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 28 |
| 109 | 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 29 |
| 105 | 30 | 241 (240) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 30 |
| 102 | 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 31 |
| 98 | 32 | | | 1241 | 1032 | 0822 | 0612 | 0402 | 0192 | 9982 | 9771 | 9561 | 9351 | 9141 | 8931 | 8721 | 8510 | 8300 | 8090 | | | | | | | | | | | | | | | | | | | | | | | | | 32 |
| 95 | 33 | | | 1504 | 1294 | 1083 | 0873 | 0663 | 0453 | 0243 | 0032 | 9822 | 9612 | 9402 | 9191 | 8981 | 8771 | 8560 | 8350 | | | | | | | | | | | | | | | | | | | | | | | | | 33 |
| 91 | 34 | | | 1766 | 1555 | 1345 | 1135 | 0925 | 0714 | 0504 | 0294 | 0083 | 9873 | 9662 | 9452 | 9241 | 9031 | 8820 | 8610 | | | | | | | | | | | | | | | | | | | | | | | | | 34 |
| 88 | 35 | | | 2028 | 1817 | 1607 | 1397 | 1186 | 0976 | 0765 | 0555 | 0344 | 0134 | 9923 | 9712 | 9502 | 9291 | 9080 | 8870 | | | | | | | | | | | | | | | | | | | | | | | | | 35 |
| 84 | 36 | | | | 2079 | 1869 | 1658 | 1448 | 1237 | 1026 | 0816 | 0605 | 0394 | 0184 | 9973 | 9762 | 9551 | 9341 | 9130 | | | | | | | | | | | | | | | | | | | | | | | | | 36 |
| 81 | 37 | | | | 2341 | 2130 | 1920 | 1709 | 1498 | 1288 | 1077 | 0866 | 0655 | 0444 | 0233 | 0022 | 9812 | 9601 | 9390 | | | | | | | | | | | | | | | | | | | | | | | | | 37 |
| 77 | 38 | | | | | 2392 | 2181 | 1970 | 1760 | 1549 | 1338 | 1127 | 0916 | 0705 | 0494 | 0283 | 0072 | 9861 | 9649 | | | | | | | | | | | | | | | | | | | | | | | | | 38 |
| 74 | 39 | | | | 3075 | 2864 | 2654 | 2443 | 2232 | 2021 | 1810 | 1599 | 1388 | 1177 | 0965 | 0754 | 0543 | 0332 | 0121 | 9909 | | | | | | | | | | | | | | | | | | | | | | | | | 39 |
| 70 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 40 |
| 67 | 41 | | | | | 3388 | 3177 | 2965 | 2754 | 2543 | 2332 | 2120 | 1909 | 1698 | 1486 | 1275 | 1064 | 0852 | 0640 | 0429 | | | | | | | | | | | | | | | | | | | | | | | | | 41 |
| 63 | 42 | | | | 3649 | 3438 | 3227 | 3015 | 2804 | 2593 | 2381 | 2170 | 1958 | 1747 | 1535 | 1324 | 1112 | 0900 | 0689 | | | | | | | | | | | | | | | | | | | | | | | | | 42 |
| 60 | 43 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 43 |
| 56 | 44 | | | 4384 | 4172 | 3961 | 3749 | 3538 | 3326 | 3115 | 2903 | 2691 | 2479 | 2268 | 2056 | 1844 | 1632 | 1420 | 1208 | | | | | | | | | | | | | | | | | | | | | | | | | 44 |
| 53 | 45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 45 |
| 49 | 46 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 46 |
| 46 | 47 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 47 |
| 42 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 48 |
| 39 | 49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 49 |
| 35 | 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 50 |
| 32 | 51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 51 |
| 28 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 52 |
| 25 | 53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 53 |
| 21 | 54 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 54 |
| 18 | 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 55 |
| 14 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 56 |
| 11 | 57 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 57 |
| 7 | 58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 58 |
| 4 | 59 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 59 |
| | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 60 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| A.A. & A.D. 115° | Numbers |
|---|---|
| ′ | |
| 0 | 59 2998 |
| 1 | 2732 |
| 2 | 2466 |
| 3 | 2201 |
| 4 | 1935 |
| 5 | 59 1670 |
| 6 | 1404 |
| 7 | 1139 |
| 8 | 0873 |
| 9 | 0608 |
| 10 | 59 0342 |
| 11 | 0077 |
| 12 | 58 9812 |
| 13 | 9546 |
| 14 | 9281 |
| 15 | 59 9016 |
| 16 | 8751 |
| 17 | 8486 |
| 18 | 8221 |
| 19 | 7955 |
| 20 | 58 7690 |
| 21 | 7425 |
| 22 | 7160 |
| 23 | 6896 |
| 24 | 6631 |
| 25 | 58 6367 |
| 26 | 6102 |
| 27 | 5838 |
| 28 | 5573 |
| 29 | 5309 |
| 30 | 58 5045 |
| 31 | 4777 |
| 32 | 4513 |
| 33 | 4248 |
| 34 | 3984 |
| 35 | 58 3719 |
| 36 | 3455 |
| 37 | 3191 |
| 38 | 2927 |
| 39 | 2663 |
| 40 | 58 2399 |
| 41 | 2135 |
| 42 | 1871 |
| 43 | 1607 |
| 44 | 1343 |
| 45 | 58 1079 |
| 46 | 0815 |
| 47 | 0551 |
| 48 | 0287 |
| 49 | 58 0023 |
| 50 | 57 9759 |
| 51 | 9496 |
| 52 | 9232 |
| 53 | 8968 |
| 54 | 8705 |
| 55 | 57 8441 |
| 56 | 8178 |
| 57 | 7914 |
| 58 | 7651 |
| 59 | 7387 |

| A.A. & A.D. 115° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 242 (241) 2405 | 2192 | 1979 | 1766 | 1553 | 1340 | 1127 | 0914 | 0701 | 0487 | 0274 | 0061 | 9847 | 9634 | 9420 | 9207 | 8993 |
| 1 | 2669 | 2456 | 2243 | 2029 | 1816 | 1603 | 1390 | 1176 | 0963 | 0750 | 0536 | 0323 | 0109 | 9896 | 9682 | 9468 | 9255 |
| 2 | 2932 | 2719 | 2506 | 2292 | 2079 | 1866 | 1652 | 1439 | 1225 | 1012 | 0798 | 0585 | 0371 | 0157 | 9944 | 9730 | 9516 |
| 3 | 3196 | 2982 | 2769 | 2555 | 2342 | 2128 | 1915 | 1701 | 1488 | 1274 | 1060 | 0847 | 0633 | 0419 | 0205 | 9991 | 9777 |
| 4 | 242 3459 | 3246 | 3032 | 2818 | 2605 | 2391 | 2177 | 1964 | 1750 | 1536 | 1322 | 1108 | 0895 | 0681 | 0467 | 0253 | 0039 |
| 5 | 242 3723 | 3509 | 3295 | 3081 | 2867 | 2654 | 2440 | 2226 | 2012 | 1798 | 1584 | 1370 | 1156 | 0942 | 0728 | 0514 | 0300 |
| 6 | 3986 | 3772 | 3558 | 3344 | 3130 | 2917 | 2703 | 2489 | 2274 | 2060 | 1846 | 1632 | 1418 | 1204 | 0990 | 0775 | 0561 |
| 7 | 4249 | 4035 | 3821 | 3607 | 3393 | 3179 | 2965 | 2751 | 2537 | 2322 | 2108 | 1894 | 1680 | 1465 | 1251 | 1037 | 0822 |
| 8 | 4512 | 4298 | 4084 | 3870 | 3656 | 3442 | 3227 | 3013 | 2799 | 2584 | 2370 | 2156 | 1941 | 1727 | 1512 | 1298 | 1083 |
| 9 | 4775 | 4561 | 4347 | 4133 | 3919 | 3704 | 3490 | 3275 | 3061 | 2846 | 2632 | 2417 | 2203 | 1988 | 1774 | 1559 | 1344 |
| 10 | 242 5039 | 4824 | 4610 | 4396 | 4182 | 3967 | 3752 | 3538 | 3323 | 3108 | 2894 | 2679 | 2465 | 2250 | 2035 | 1820 | 1605 |
| 11 | 5302 | 5087 | 4873 | 4658 | 4444 | 4229 | 4015 | 3800 | 3585 | 3370 | 3156 | 2941 | 2726 | 2511 | 2296 | 2081 | 1866 |
| 12 | 5565 | 5350 | 5135 | 4921 | 4706 | 4492 | 4277 | 4062 | 3847 | 3632 | 3417 | 3203 | 2988 | 2773 | 2557 | 2342 | 2127 |
| 13 | 5828 | 5613 | 5398 | 5184 | 4969 | 4754 | 4539 | 4324 | 4109 | 3894 | 3679 | 3464 | 3249 | 3034 | 2819 | 2603 | 2388 |
| 14 | 6091 | 5876 | 5661 | 5446 | 5231 | 5016 | 4801 | 4586 | 4371 | 4156 | 3941 | 3726 | 3510 | 3295 | 3080 | 2864 | 2649 |
| 15 | 242 6354 | 6139 | 5924 | 5709 | 5494 | 5279 | 5064 | 4848 | 4633 | 4418 | 4203 | 3987 | 3772 | 3556 | 3341 | 3125 | 2910 |
| 16 | 6617 | 6402 | 6187 | 5971 | 5756 | 5541 | 5325 | 5110 | 4895 | 4680 | 4464 | 4249 | 4033 | 3818 | 3602 | 3387 | 3171 |
| 17 | 6880 | 6665 | 6449 | 6234 | 6019 | 5803 | 5588 | 5372 | 5157 | 4941 | 4726 | 4510 | 4294 | 4079 | 3863 | 3647 | 3432 |
| 18 | 7143 | 6927 | 6712 | 6496 | 6281 | 6065 | 5850 | 5634 | 5419 | 5203 | 4987 | 4771 | 4556 | 4340 | 4124 | 3908 | 3692 |
| 19 | 7405 | 7190 | 6974 | 6759 | 6543 | 6328 | 6112 | 5896 | 5680 | 5465 | 5249 | 5033 | 4817 | 4601 | 4385 | 4169 | 3953 |
| 20 | 242 7668 | 7453 | 7237 | 7021 | 6805 | 6590 | 6374 | 6158 | 5942 | 5726 | 5510 | 5294 | 5078 | 4862 | 4646 | 4430 | 4214 |
| 21 | 7931 | 7715 | 7499 | 7284 | 7068 | 6852 | 6636 | 6420 | 6204 | 5988 | 5772 | 5556 | 5339 | 5123 | 4907 | 4691 | 4474 |
| 22 | 8194 | 7978 | 7762 | 7546 | 7330 | 7114 | 6898 | 6682 | 6466 | 6249 | 6033 | 5817 | 5601 | 5384 | 5168 | 4951 | 4735 |
| 23 | 8457 | 8241 | 8024 | 7808 | 7592 | 7376 | 7160 | 6943 | 6727 | 6511 | 6294 | 6078 | 5862 | 5645 | 5429 | 5212 | 4996 |
| 24 | 8720 | 8503 | 8287 | 8071 | 7854 | 7638 | 7421 | 7205 | 6988 | 6772 | 6555 | 6339 | 6123 | 5906 | 5690 | 5473 | 5256 |
| 25 | 242 8982 | 8765 | 8549 | 8333 | 8116 | 7900 | 7683 | 7467 | 7250 | 7034 | 6817 | 6600 | 6384 | 6167 | 5950 | 5733 | 5517 |
| 26 | 9245 | 9028 | 8811 | 8595 | 8378 | 8162 | 7945 | 7729 | 7512 | 7295 | 7079 | 6862 | 6645 | 6428 | 6211 | 5995 | 5778 |
| 27 | 9507 | 9290 | 9074 | 8857 | 8640 | 8424 | 8207 | 7990 | 7773 | 7556 | 7340 | 7123 | 6906 | 6689 | 6472 | 6255 | 6037 |
| 28 | 9769 | 9553 | 9336 | 9119 | 8902 | 8686 | 8469 | 8252 | 8035 | 7818 | 7601 | 7384 | 7167 | 6949 | 6732 | 6515 | 6298 |
| 29 | 243 (242) 0031 | 9814 | 9597 | 9380 | 9163 | 8947 | 8730 | 8513 | 8296 | 8079 | 7862 | 7645 | 7427 | 7210 | 6993 | 6776 | 6559 |
| 30 | 243 (242) 0294 | 0077 | 9860 | 9643 | 9426 | 9209 | 8992 | 8775 | 8557 | 8340 | 8123 | 7906 | 7688 | 7471 | 7253 | 7036 | 6818 |
| 31 | 0556 | 0339 | 0122 | 9905 | 9688 | 9471 | 9254 | 9037 | 8819 | 8602 | 8385 | 8167 | 7949 | 7732 | 7514 | 7297 | 7079 |
| 32 | 0818 | 0601 | 0385 | 0167 | 9950 | 9732 | 9515 | 9298 | 9080 | 8863 | 8645 | 8428 | 8210 | 7992 | 7774 | 7557 | 7339 |
| 33 | 1080 | 0863 | 0646 | 0428 | 0211 | 9993 | 9776 | 9558 | 9341 | 9123 | 8906 | 8688 | 8471 | 8253 | 8035 | 7817 | 7600 |
| 34 | 1344 | 1126 | 0909 | 0691 | 0473 | 0256 | 0038 | 9820 | 9603 | 9385 | 9167 | 8949 | 8731 | 8513 | 8295 | 8077 | 7859 |
| 35 | 243 (244) 1607 | 1389 | 1171 | 0953 | 0735 | 0517 | 0299 | 0081 | 9863 | 9645 | 9427 | 9209 | 8991 | 8773 | 8555 | 8337 | 8119 |
| 36 | 1870 | 1652 | 1434 | 1216 | 0998 | 0780 | 0562 | 0344 | 0126 | 9908 | 9690 | 9472 | 9253 | 9035 | 8817 | 8599 | 8381 |
| 37 | 2130 | 1912 | 1694 | 1477 | 1258 | 1040 | 0822 | 0604 | 0386 | 0168 | 9950 | 9731 | 9513 | 9295 | 9077 | 8858 | 8640 |
| 38 | 2392 | 2174 | 1956 | 1738 | 1520 | 1302 | 1084 | 0866 | 0647 | 0429 | 0211 | 9992 | 9774 | 9555 | 9337 | 9118 | 8900 |
| 39 | 2654 | 2436 | 2218 | 2000 | 1781 | 1563 | 1345 | 1127 | 0908 | 0690 | 0472 | 0253 | 0035 | 9816 | 9598 | 9379 | 9161 |
| 40 | 243 (244) 2916 | 2698 | 2479 | 2261 | 2043 | 1824 | 1606 | 1387 | 1169 | 0951 | 0732 | 0514 | 0295 | 0077 | 9858 | 9640 | 9421 |
| 41 | 3178 | 2959 | 2741 | 2522 | 2304 | 2085 | 1867 | 1648 | 1430 | 1211 | 0993 | 0774 | 0555 | 0337 | 0118 | 9899 | 9681 |
| 42 | 3441 | 3222 | 3004 | 2785 | 2566 | 2348 | 2129 | 1910 | 1692 | 1473 | 1255 | 1036 | 0817 | 0599 | 0380 | 0161 | 9942 |
| 43 | 243 3703 | 3484 | 3265 | 3046 | 2828 | 2609 | 2390 | 2171 | 1952 | 1733 | 1514 | 1295 | 1076 | 0857 | 0638 | 0419 | 0199 |
| 44 | 3965 | 3746 | 3527 | 3308 | 3089 | 2870 | 2651 | 2432 | 2213 | 1994 | 1775 | 1556 | 1337 | 1117 | 0898 | 0679 | 0460 |
| 45 | 243 4226 | 4007 | 3789 | 3569 | 3350 | 3131 | 2912 | 2693 | 2474 | 2255 | 2035 | 1816 | 1597 | 1377 | 1158 | 0938 | 0719 |
| 46 | 4488 | 4269 | 4050 | 3831 | 3611 | 3392 | 3173 | 2953 | 2734 | 2515 | 2295 | 2076 | 1857 | 1637 | 1418 | 1198 | 0979 |
| 47 | 4751 | 4531 | 4312 | 4092 | 3873 | 3654 | 3434 | 3215 | 2995 | 2776 | 2556 | 2337 | 2117 | 1898 | 1678 | 1458 | 1239 |
| 48 | 5013 | 4793 | 4574 | 4354 | 4134 | 3915 | 3695 | 3476 | 3256 | 3036 | 2817 | 2597 | 2377 | 2158 | 1938 | 1718 | 1498 |
| 49 | 5275 | 5056 | 4836 | 4616 | 4397 | 4177 | 3957 | 3737 | 3517 | 3297 | 3077 | 2858 | 2638 | 2418 | 2198 | 1978 | 1758 |
| 50 | 243 5535 | 5316 | 5096 | 4876 | 4657 | 4437 | 4217 | 3997 | 3777 | 3558 | 3338 | 3118 | 2898 | 2678 | 2458 | 2237 | 2017 |
| 51 | 5797 | 5577 | 5357 | 5138 | 4918 | 4698 | 4478 | 4258 | 4038 | 3818 | 3598 | 3378 | 3158 | 2938 | 2717 | 2497 | 2277 |
| 52 | 6059 | 5839 | 5619 | 5399 | 5179 | 4959 | 4739 | 4519 | 4299 | 4079 | 3858 | 3638 | 3418 | 3197 | 2977 | 2757 | 2536 |
| 53 | 6320 | 6100 | 5880 | 5660 | 5440 | 5220 | 5000 | 4779 | 4559 | 4339 | 4119 | 3898 | 3678 | 3457 | 3237 | 3016 | 2796 |
| 54 | 6582 | 6361 | 6141 | 5921 | 5700 | 5480 | 5259 | 5039 | 4818 | 4598 | 4377 | 4157 | 3936 | 3716 | 3495 | 3275 | 3054 |
| 55 | 243 6843 | 6623 | 6403 | 6182 | 5962 | 5742 | 5521 | 5301 | 5080 | 4860 | 4639 | 4418 | 4198 | 3977 | 3756 | 3535 | 3315 |
| 56 | 7105 | 6884 | 6664 | 6444 | 6223 | 6002 | 5782 | 5561 | 5341 | 5120 | 4899 | 4678 | 4458 | 4237 | 4016 | 3795 | 3574 |
| 57 | 7366 | 7146 | 6925 | 6705 | 6484 | 6263 | 6043 | 5822 | 5601 | 5381 | 5160 | 4939 | 4718 | 4497 | 4276 | 4055 | 3834 |
| 58 | 7628 | 7407 | 7186 | 6965 | 6745 | 6524 | 6303 | 6082 | 5862 | 5641 | 5420 | 5199 | 4978 | 4757 | 4536 | 4315 | 4094 |
| 59 | 7889 | 7668 | 7447 | 7226 | 7006 | 6785 | 6564 | 6343 | 6122 | 5901 | 5679 | 5458 | 5237 | 5016 | 4795 | 4573 | 4352 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Prop. for Seconds of Auxil. Argum. *additive* | A. M. & A.D. 115° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 213 | 0 | 241 | 8753 | 8566 | 8383 | 8196 | 8025 | 7711 | 7498 | 7284 | 7072 | 6856 | 6644 | 6428 | 6214 | 5998 | 5786 | 5572 | 5358 |
| 214 | 1 | | 9041 | 8857 | 8674 | 8488 | 8317 | 8007 | 7798 | 7588 | 7380 | 7169 | 6961 | 6750 | 6541 | 6330 | 6122 | 5912 | 5702 |
| 211 | 2 | | 9329 | 9148 | 8966 | 8780 | 8609 | 8303 | 8098 | 7892 | 7688 | 7482 | 7278 | 7072 | 6868 | 6662 | 6458 | 6252 | 6046 |
| 207 | 3 | | 9618 | 9439 | 9259 | 9073 | 8901 | 8599 | 8398 | 8196 | 7996 | 7795 | 7595 | 7394 | 7195 | 6994 | 6795 | 6593 | 6390 |
| 204 | 4 | | 9906 | 9730 | 9551 | 9365 | 9193 | 8895 | 8698 | 8500 | 8304 | 8108 | 7912 | 7716 | 7522 | 7326 | 7131 | 6933 | 6734 |
| 201 | 5 | 242 (241) | 0195 | 0021 | 9844 | 9658 | 9486 | 9191 | 8998 | 8805 | 8613 | 8421 | 8229 | 8038 | 7849 | 7658 | 7468 | 7274 | 7078 |
| 198 | 6 | | 0483 | 0312 | 0140 | 9951 | 9778 | 9487 | 9298 | 9109 | 8921 | 8734 | 8546 | 8360 | 8176 | 7990 | 7804 | 7615 | 7422 |
| 195 | 7 | | 0772 | 0603 | 0433 | 0244 | 0071 | 9783 | 9598 | 9413 | 9229 | 9047 | 8863 | 8682 | 8503 | 8322 | 8141 | 7956 | 7766 |
| 192 | 8 | | 1060 | 0894 | 0727 | 0537 | 0364 | 0079 | 9898 | 9717 | 9537 | 9360 | 9180 | 9004 | 8830 | 8654 | 8477 | 8297 | 8110 |
| 189 | 9 | | 1348 | 1185 | 1021 | 0830 | 0657 | 0375 | 0198 | 0021 | 9845 | 9673 | 9497 | 9326 | 9157 | 8986 | 8814 | 8638 | 8454 |
| 186 | 10 | 242 (241) | 1636 | 1476 | 1315 | 1123 | 0950 | 0671 | 0498 | 0325 | 0153 | 9986 | 9814 | 9648 | 9484 | 9318 | 9150 | 8979 | 8798 |
| 183 | 11 | | 1924 | 1767 | 1608 | 1416 | 1243 | 0967 | 0798 | 0629 | 0461 | 0299 | 0131 | 9970 | 9811 | 9650 | 9487 | 9320 | 9142 |
| 180 | 12 | | 2212 | 2058 | 1902 | 1709 | 1536 | 1263 | 1098 | 0933 | 0769 | 0612 | 0448 | 0292 | 0138 | 9982 | 9824 | 9662 | 9486 |
| 177 | 13 | | 2500 | 2349 | 2196 | 2002 | 1829 | 1559 | 1398 | 1237 | 1077 | 0925 | 0765 | 0614 | 0465 | 0314 | 0161 | 0003 | 9830 |
| 174 | 14 | | 2788 | 2640 | 2490 | 2295 | 2122 | 1855 | 1698 | 1541 | 1385 | 1238 | 1082 | 0936 | 0792 | 0646 | 0498 | 0345 | 0174 |
| 171 | 15 | 242 (241) | 3076 | 2931 | 2784 | 2588 | 2415 | 2151 | 1998 | 1845 | 1693 | 1551 | 1399 | 1258 | 1119 | 0978 | 0835 | 0686 | 0518 |
| 168 | 16 | | 3364 | 3222 | 3078 | 2881 | 2708 | 2447 | 2298 | 2149 | 2001 | 1864 | 1716 | 1580 | 1446 | 1310 | 1172 | 1028 | 0862 |
| 165 | 17 | | 3652 | 3513 | 3372 | 3174 | 3001 | 2743 | 2598 | 2453 | 2309 | 2177 | 2033 | 1902 | 1773 | 1642 | 1509 | 1370 | 1206 |
| 162 | 18 | 242 | 3940 | 3804 | 3666 | 3467 | 3294 | 3039 | 2898 | 2757 | 2617 | 2490 | 2350 | 2224 | 2100 | 1974 | 1846 | 1712 | 1550 |
| 159 | 19 | | 4228 | 4095 | 3960 | 3760 | 3587 | 3335 | 3198 | 3061 | 2925 | 2803 | 2667 | 2546 | 2427 | 2306 | 2183 | 2054 | 1894 |
| 156 | 20 | 242 | 4516 | 4386 | 4254 | 4053 | 3880 | 3631 | 3498 | 3365 | 3233 | 3116 | 2984 | 2868 | 2754 | 2638 | 2520 | 2396 | 2238 |
| 153 | 21 | | 4804 | 4677 | 4548 | 4346 | 4173 | 3927 | 3798 | 3669 | 3541 | 3429 | 3301 | 3190 | 3081 | 2970 | 2857 | 2738 | 2582 |
| 150 | 22 | | 5092 | 4968 | 4842 | 4639 | 4466 | 4223 | 4098 | 3973 | 3849 | 3742 | 3618 | 3512 | 3408 | 3302 | 3194 | 3080 | 2926 |
| 147 | 23 | | 5380 | 5259 | 5136 | 4932 | 4759 | 4519 | 4398 | 4277 | 4157 | 4055 | 3935 | 3834 | 3735 | 3634 | 3531 | 3422 | 3270 |
| 144 | 24 | | 5668 | 5550 | 5430 | 5225 | 5052 | 4815 | 4698 | 4581 | 4465 | 4368 | 4252 | 4156 | 4062 | 3966 | 3868 | 3764 | 3614 |
| 141 | 25 | 242 | 5956 | 5841 | 5724 | 5518 | 5345 | 5111 | 4998 | 4885 | 4773 | 4681 | 4569 | 4478 | 4389 | 4298 | 4205 | 4106 | 3958 |
| 138 | 26 | | 6244 | 6132 | 6018 | 5811 | 5638 | 5407 | 5298 | 5189 | 5081 | 4994 | 4886 | 4800 | 4716 | 4630 | 4542 | 4448 | 4302 |
| 135 | 27 | | 6532 | 6423 | 6312 | 6104 | 5931 | 5703 | 5598 | 5493 | 5389 | 5307 | 5203 | 5122 | 5043 | 4962 | 4879 | 4790 | 4646 |
| 132 | 28 | | 6820 | 6714 | 6606 | 6397 | 6224 | 5999 | 5898 | 5797 | 5697 | 5620 | 5520 | 5444 | 5370 | 5294 | 5216 | 5132 | 4990 |
| 129 | 29 | | 7108 | 7005 | 6900 | 6690 | 6517 | 6295 | 6198 | 6101 | 6005 | 5933 | 5837 | 5766 | 5697 | 5626 | 5553 | 5474 | 5334 |
| 126 | 30 | 242 | 7396 | 7296 | 7194 | 6983 | 6810 | 6591 | 6498 | 6405 | 6313 | 6246 | 6154 | 6088 | 6024 | 5958 | 5890 | 5816 | 5678 |
| 123 | 31 | | 7684 | 7587 | 7488 | 7276 | 7103 | 6887 | 6798 | 6709 | 6621 | 6559 | 6471 | 6410 | 6351 | 6290 | 6227 | 6158 | 6022 |
| 120 | 32 | | 7972 | 7878 | 7782 | 7569 | 7396 | 7183 | 7098 | 7013 | 6929 | 6872 | 6788 | 6732 | 6678 | 6622 | 6564 | 6500 | 6366 |
| 117 | 33 | | 8260 | 8169 | 8076 | 7862 | 7689 | 7479 | 7398 | 7317 | 7237 | 7185 | 7105 | 7054 | 7005 | 6954 | 6901 | 6842 | 6710 |
| 114 | 34 | | 8548 | 8460 | 8370 | 8155 | 7982 | 7775 | 7698 | 7621 | 7545 | 7498 | 7422 | 7376 | 7332 | 7286 | 7238 | 7184 | 7054 |
| 111 | 35 | 242 | 8836 | 8751 | 8664 | 8448 | 8275 | 8071 | 7998 | 7925 | 7853 | 7811 | 7739 | 7698 | 7659 | 7618 | 7575 | 7526 | 7398 |
| 108 | 36 | | 9124 | 9042 | 8958 | 8741 | 8568 | 8367 | 8298 | 8229 | 8161 | 8124 | 8056 | 8020 | 7986 | 7950 | 7912 | 7868 | 7742 |
| 105 | 37 | | 9412 | 9333 | 9252 | 9034 | 8861 | 8663 | 8598 | 8533 | 8469 | 8437 | 8373 | 8342 | 8313 | 8282 | 8249 | 8210 | 8086 |
| 102 | 38 | | 9700 | 9624 | 9546 | 9327 | 9154 | 8959 | 8898 | 8837 | 8777 | 8750 | 8690 | 8664 | 8640 | 8614 | 8586 | 8552 | 8430 |
| 99 | 39 | | 9988 | 9915 | 9840 | 9620 | 9447 | 9255 | 9198 | 9141 | 9085 | 9063 | 9007 | 8986 | 8967 | 8946 | 8923 | 8894 | 8774 |
| 96 | 40 | 242 | 0276 | 0206 | 0134 | 9913 | 9740 | 9551 | 9498 | 9445 | 9393 | 9376 | 9324 | 9308 | 9294 | 9278 | 9260 | 9236 | 9118 |
| 93 | 41 | | 0564 | 0497 | 0428 | 0206 | 0033 | 9847 | 9798 | 9749 | 9701 | 9689 | 9641 | 9630 | 9621 | 9610 | 9597 | 9578 | 9462 |
| 90 | 42 | | 0852 | 0788 | 0722 | 0499 | 0326 | 0143 | 0098 | 0053 | 0009 | 0002 | 9958 | 9952 | 9948 | 9942 | 9934 | 9920 | 9806 |
| 87 | 43 | | 1140 | 1079 | 1016 | 0792 | 0619 | 0439 | 0398 | 0357 | 0317 | 0315 | 0275 | 0274 | 0275 | 0274 | 0271 | 0262 | 0150 |
| 84 | 44 | 243 (242) | 1428 | 1370 | 1310 | 1085 | 0912 | 0735 | 0698 | 0661 | 0625 | 0628 | 0592 | 0596 | 0602 | 0606 | 0608 | 0604 | 0494 |
| 81 | 45 | | 1716 | 1661 | 1604 | 1378 | 1205 | 1031 | 0998 | 0965 | 0933 | 0941 | 0909 | 0918 | 0929 | 0938 | 0945 | 0946 | 0838 |
| 78 | 46 | | 2004 | 1952 | 1898 | 1671 | 1498 | 1327 | 1298 | 1269 | 1241 | 1254 | 1226 | 1240 | 1256 | 1270 | 1282 | 1288 | 1182 |
| 75 | 47 | | 2292 | 2243 | 2192 | 1964 | 1791 | 1623 | 1598 | 1573 | 1549 | 1567 | 1543 | 1562 | 1583 | 1602 | 1619 | 1630 | 1526 |
| 72 | 48 | | 2580 | 2534 | 2486 | 2257 | 2084 | 1919 | 1898 | 1877 | 1857 | 1880 | 1860 | 1884 | 1910 | 1934 | 1956 | 1972 | 1870 |
| 69 | 49 | | 2868 | 2825 | 2780 | 2550 | 2377 | 2215 | 2198 | 2181 | 2165 | 2193 | 2177 | 2206 | 2237 | 2266 | 2293 | 2314 | 2214 |
| 66 | 50 | 243 (242) | 3156 | 3116 | 3074 | 2843 | 2670 | 2511 | 2498 | 2485 | 2473 | 2506 | 2494 | 2528 | 2564 | 2598 | 2630 | 2656 | 2558 |
| 63 | 51 | | 3444 | 3407 | 3368 | 3136 | 2963 | 2807 | 2798 | 2789 | 2781 | 2819 | 2811 | 2850 | 2891 | 2930 | 2967 | 2998 | 2902 |
| 60 | 52 | | 3732 | 3698 | 3662 | 3429 | 3256 | 3103 | 3098 | 3093 | 3089 | 3132 | 3128 | 3172 | 3218 | 3262 | 3304 | 3340 | 3246 |
| 57 | 53 | | 4020 | 3989 | 3956 | 3722 | 3549 | 3399 | 3398 | 3397 | 3397 | 3445 | 3445 | 3494 | 3545 | 3594 | 3641 | 3682 | 3590 |
| 54 | 54 | | 4308 | 4280 | 4250 | 4015 | 3842 | 3695 | 3698 | 3701 | 3705 | 3758 | 3762 | 3816 | 3872 | 3926 | 3978 | 4024 | 3934 |
| 51 | 55 | 243 (242) | 4596 | 4571 | 4544 | 4308 | 4135 | 3991 | 3998 | 4005 | 4013 | 4071 | 4079 | 4138 | 4199 | 4258 | 4315 | 4366 | 4278 |
| 48 | 56 | | 4884 | 4862 | 4838 | 4601 | 4428 | 4287 | 4298 | 4309 | 4321 | 4384 | 4396 | 4460 | 4526 | 4590 | 4652 | 4708 | 4622 |
| 45 | 57 | | 5172 | 5153 | 5132 | 4894 | 4721 | 4583 | 4598 | 4613 | 4629 | 4697 | 4713 | 4782 | 4853 | 4922 | 4989 | 5050 | 4966 |
| 42 | 58 | | 5460 | 5444 | 5426 | 5187 | 5014 | 4879 | 4898 | 4917 | 4937 | 5010 | 5030 | 5104 | 5180 | 5254 | 5326 | 5392 | 5310 |
| 39 | 59 | | 5748 | 5735 | 5720 | 5480 | 5307 | 5175 | 5198 | 5221 | 5245 | 5323 | 5347 | 5426 | 5507 | 5586 | 5663 | 5734 | 5654 |
| 36 | 60 | 243 (242) | 6036 | 6026 | 6014 | 5773 | 5600 | 5471 | 5498 | 5525 | 5553 | 5636 | 5664 | 5748 | 5834 | 5918 | 6000 | 6076 | 5998 |
| 33 | 61 | | 6324 | 6317 | 6308 | 6066 | 5893 | 5767 | 5798 | 5829 | 5861 | 5949 | 5981 | 6070 | 6161 | 6250 | 6337 | 6418 | 6342 |
| 30 | 62 | | 6612 | 6608 | 6602 | 6359 | 6186 | 6063 | 6098 | 6133 | 6169 | 6262 | 6298 | 6392 | 6488 | 6582 | 6674 | 6760 | 6686 |
| 27 | 63 | | 6900 | 6899 | 6896 | 6652 | 6479 | 6359 | 6398 | 6437 | 6477 | 6575 | 6615 | 6714 | 6815 | 6914 | 7011 | 7102 | 7030 |
| 24 | 64 | | 7188 | 7190 | 7190 | 6945 | 6772 | 6655 | 6698 | 6741 | 6785 | 6888 | 6932 | 7036 | 7142 | 7246 | 7348 | 7444 | 7374 |
| 21 | 65 | 243 (242) | 7476 | 7481 | 7484 | 7238 | 7065 | 6951 | 6998 | 7045 | 7093 | 7201 | 7249 | 7358 | 7469 | 7578 | 7685 | 7786 | 7718 |
| 18 | 66 | | 7764 | 7772 | 7778 | 7531 | 7358 | 7247 | 7298 | 7349 | 7401 | 7514 | 7566 | 7680 | 7796 | 7910 | 8022 | 8128 | 8062 |
| 15 | 67 | | 8052 | 8063 | 8072 | 7824 | 7651 | 7543 | 7598 | 7653 | 7709 | 7827 | 7883 | 8002 | 8123 | 8242 | 8359 | 8470 | 8406 |
| 12 | 68 | | 8340 | 8354 | 8366 | 8117 | 7944 | 7839 | 7898 | 7957 | 8017 | 8140 | 8200 | 8324 | 8450 | 8574 | 8696 | 8812 | 8750 |
| 9 | 69 | | 8628 | 8645 | 8660 | 8410 | 8237 | 8135 | 8198 | 8261 | 8325 | 8453 | 8517 | 8646 | 8777 | 8906 | 9033 | 9154 | 9094 |
| 6 | 70 | 243 (242) | 8916 | 8936 | 8954 | 8703 | 8530 | 8431 | 8498 | 8565 | 8633 | 8766 | 8834 | 8968 | 9104 | 9238 | 9370 | 9496 | 9438 |
| 3 | 71 | | 9204 | 9227 | 9248 | 8996 | 8823 | 8727 | 8798 | 8869 | 8941 | 9079 | 9151 | 9290 | 9431 | 9570 | 9707 | 9838 | 9782 |
| 0 | 72 | | 9492 | 9518 | 9542 | 9289 | 9116 | 9023 | 9098 | 9173 | 9249 | 9392 | 9468 | 9612 | 9758 | 9902 | 0044 | 0180 | 0126 |

Sums for finding the Corrected Distances.

| Prop. for Sec. of C. D *addit.* | A. M. 115 | Sums |
|---|---|---|
| ′ | | |
| 0 | 0 | 342 2618 |
| 1 | | 2802 |
| 2 | 2 | 3136 |
| 3 | 3 | 3470 |
| 4 | 4 | 3654 |
| 5 | 5 | 3838 |
| 6 | 6 | 4022 |
| 7 | 7 | 4206 |
| 8 | 8 | 4390 |
| 9 | 9 | 4574 |
| 10 | 10 | 4758 |
| 11 | 11 | 4942 |
| 12 | 12 | 5126 |
| 13 | 13 | 5310 |
| 14 | 14 | 5494 |
| 15 | 15 | 5678 |
| 16 | 16 | 5862 |
| 17 | 17 | 6046 |
| 18 | 18 | 6230 |
| 19 | 19 | 6414 |
| 20 | 20 | 6598 |
| 21 | 21 | 6782 |
| 22 | 22 | 6966 |
| 23 | 23 | 7150 |
| 24 | 24 | 7334 |
| 25 | 25 | 7518 |
| 26 | 26 | 7702 |
| 27 | 27 | 7886 |
| 28 | 28 | 8070 |
| 29 | 29 | 8254 |
| 30 | 30 | 8438 |
| 31 | 31 | 8622 |
| 32 | 32 | 8806 |
| 33 | 33 | 8990 |
| 34 | 34 | 9174 |
| 35 | 35 | 9358 |
| 36 | 36 | 9542 |
| 37 | 37 | 9726 |
| 38 | 38 | 9910 |
| 39 | 39 | 0094 |
| 40 | 40 | 0278 |
| 41 | 41 | 0462 |
| 42 | 42 | 0646 |
| 43 | 43 | 0830 |
| 44 | 44 | 1014 |
| 45 | 45 | 1198 |
| 46 | 46 | 1382 |
| 47 | 47 | 1566 |
| 48 | 48 | 1750 |
| 49 | 49 | 1934 |
| 50 | 50 | 2118 |
| 51 | 51 | 2302 |
| 52 | 52 | 2486 |
| 53 | 53 | 2670 |
| 54 | 54 | 2854 |
| 55 | 55 | 3038 |
| 56 | 56 | 3222 |
| 57 | 57 | 3406 |
| 58 | 58 | 3590 |
| 59 | 59 | 3774 |
| 60 | 60 | 3958 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| ′ & ″ | Auxiliary Arguments. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0′ | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 243 | | | | | | | | | | | | | | | | |
| 1 | | 8412 | 8191 | 7969 | 7748 | 7527 | 7306 | 7085 | 6864 | 6642 | 6421 | 6199 | 5978 | 5757 | 5535 | 5313 | 5092 | |
| 2 | | 8673 | | 8230 | 8009 | 7788 | 7566 | 7345 | 7124 | 6902 | 6681 | 6459 | 6238 | 6016 | 5795 | 5573 | 5351 | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |
| 5 | 243 | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | |
| 8 | 242 243 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | |
| 10 | 244 243 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | |
| 15 | 244 243 | 2066 | 1843 | 1620 | 1397 | 1174 | 0951 | 0728 | 0505 | 0282 | 0059 | 9835 | 9612 | 9389 | 9165 | 8942 | 8719 | 8495 |
| 16 | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | |
| 20 | 244 243 | | | | | | | | | | | | | | | | | |
| 21 | 243 | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | |
| 27 | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | |
| 29 | | 5713 | 5488 | 5263 | 5039 | 4814 | 4589 | 4364 | 4139 | 3914 | 3689 | 3464 | 3239 | 3014 | 2788 | 2563 | 2338 | 2113 |
| 30 | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | |
| 33 | | 6753 | 6528 | 6303 | 6078 | 5852 | 5627 | 5401 | 5176 | 4950 | 4725 | 4499 | | | | | | |
| 34 | | | | | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | | | | |
| 36 | | 7534 | 7308 | 7082 | 6856 | 6631 | 6405 | 6179 | 5953 | 5727 | 5501 | 5275 | | | | | | |
| 37 | | 7794 | 7568 | 7342 | 7116 | 6890 | 6664 | 6438 | 6212 | 5986 | 5760 | 5534 | 5308 | 5082 | 4855 | | | |
| 38 | | | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | | | | | | |
| 42 | | 9293 | 8866 | 8640 | 8413 | 8187 | 7960 | 7733 | 7507 | 7280 | 7053 | 6827 | 6600 | 6373 | 6146 | 5919 | 5692 | 5465 |
| 43 | | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | | | | |
| 50 | 245(244) | 1169 | 0942 | 0715 | 0487 | 0259 | 0032 | 9804 | 9576 | 9348 | 9121 | 8893 | 8665 | 8437 | 8209 | 7981 | 775 | |
| 51 | | | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | | | |
| 55 | | | | | | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | | | |

L. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts for 1′ of Auxil. Argum. | A. & A. D. 116° | Auxiliary Arguments. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
| Altitudes | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 243 | 4390 | 4168 | 3946 | 3725 | 3503 | 3281 | 3060 | 2838 | 2617 | 2395 | 2174 | 1952 | 1731 | 1509 | 1287 | 1066 | 0844 |
| 2 | 1 | | 4649 | 4427 | 4205 | 3983 | 3762 | 3540 | 3318 | 3096 | 2874 | 2652 | 2430 | 2208 | 1986 | 1764 | 1542 | 1320 | 1097 |
| 4 | 2 | | 4908 | 4686 | 4464 | 4242 | 4021 | 3798 | 3576 | 3354 | 3132 | 2910 | 2688 | 2466 | 2243 | 2021 | 1799 | 1577 | 1354 |
| 6 | 3 | | 5167 | 4945 | 4723 | 4501 | 4279 | 4057 | 3834 | 3612 | 3390 | 3168 | 2946 | 2723 | 2501 | 2279 | 2056 | 1834 | 1611 |
| 8 | 4 | | 5426 | 5204 | 4981 | 4759 | 4537 | 4315 | 4093 | 3871 | 3648 | 3426 | 3204 | 2981 | 2759 | 2537 | 2315 | 2092 | 1869 |
| 10 | 5 | 243 | 5685 | 5462 | 5240 | 5018 | 4795 | 4573 | 4351 | 4128 | 3906 | 3683 | 3461 | 3238 | 3016 | 2793 | 2571 | 2348 | 2125 |
| 12 | 6 | | 5943 | 5721 | 5499 | 5277 | 5054 | 4831 | 4609 | 4386 | 4164 | 3941 | 3718 | 3496 | 3273 | 3050 | 2828 | 2605 | 2382 |
| 14 | 7 | | 6202 | 5980 | 5757 | 5535 | 5312 | 5090 | 4867 | 4644 | 4421 | 4199 | 3976 | 3753 | 3531 | 3308 | 3085 | 2862 | 2639 |
| 16 | 8 | | 6461 | 6238 | 6016 | 5793 | 5570 | 5347 | 5125 | 4902 | 4679 | 4456 | 4233 | 4011 | 3788 | 3565 | 3342 | 3119 | 2896 |
| 18 | 9 | | 6720 | 6497 | 6274 | 6051 | 5829 | 5606 | 5383 | 5160 | 4937 | 4714 | 4491 | 4268 | 4045 | 3821 | 3598 | 3375 | 3152 |
| 20 | 10 | 243 | 6979 | 6756 | 6533 | 6310 | 6087 | 5864 | 5641 | 5418 | 5195 | 4971 | 4748 | 4525 | 4302 | 4079 | 3855 | 3632 | 3409 |
| 22 | 11 | | 7237 | 7014 | 6791 | 6568 | 6345 | 6122 | 5899 | 5675 | 5452 | 5229 | 5006 | 4782 | 4559 | 4335 | 4112 | 3888 | 3665 |
| 24 | 12 | | 7496 | 7273 | 7050 | 6826 | 6603 | 6380 | 6156 | 5933 | 5710 | 5486 | 5263 | 5039 | 4816 | 4592 | 4369 | 4145 | 3921 |
| 26 | 13 | | 7754 | 7531 | 7308 | 7085 | 6861 | 6638 | 6414 | 6191 | 5967 | 5744 | 5520 | 5297 | 5073 | 4849 | 4625 | 4402 | 4178 |
| 28 | 14 | | 8013 | 7790 | 7567 | 7343 | 7119 | 6895 | 6672 | 6448 | 6225 | 6001 | 5777 | 5553 | 5330 | 5106 | 4882 | 4658 | 4434 |
| 30 | 15 | 243 | 8272 | 8048 | 7824 | 7601 | 7377 | 7154 | 6930 | 6706 | 6482 | 6258 | 6034 | 5811 | 5587 | 5363 | 5139 | 4915 | 4691 |
| 32 | 16 | | 8530 | 8306 | 8083 | 7859 | 7635 | 7411 | 7188 | 6964 | 6740 | 6516 | 6292 | 6068 | 5844 | 5620 | 5396 | 5171 | 4947 |
| 34 | 17 | | 8789 | 8565 | 8341 | 8117 | 7893 | 7669 | 7445 | 7221 | 6997 | 6773 | 6549 | 6325 | 6101 | 5876 | 5652 | 5428 | 5203 |
| 36 | 18 | | 9047 | 8823 | 8599 | 8375 | 8151 | 7927 | 7703 | 7479 | 7255 | 7030 | 6806 | 6582 | 6357 | 6133 | 5909 | 5684 | 5460 |
| 38 | 19 | | 9305 | 9081 | 8857 | 8633 | 8409 | 8185 | 7960 | 7736 | 7512 | 7288 | 7063 | 6839 | 6614 | 6390 | 6165 | 5941 | 5716 |
| 40 | 20 | 243 | 9564 | 9340 | 9115 | 8891 | 8667 | 8443 | 8218 | 7994 | 7770 | 7545 | 7321 | 7096 | 6872 | 6647 | 6423 | 6198 | 5973 |
| 42 | 21 | | 9822 | 9598 | 9373 | 9149 | 8925 | 8701 | 8476 | 8252 | 8027 | 7803 | 7578 | 7353 | 7129 | 6904 | 6679 | 6455 | 6230 |
| 44 | 22 | 244(243) | 0080 | 9856 | 9631 | 9407 | 9182 | 8958 | 8733 | 8508 | 8284 | 8059 | 7834 | 7609 | 7384 | 7160 | 6935 | 6710 | 6485 |
| 46 | 23 | | 0339 | 0114 | 9889 | 9665 | 9440 | 9216 | 8991 | 8766 | 8541 | 8316 | 8091 | 7866 | 7641 | 7416 | 7191 | 6966 | 6741 |
| 48 | 24 | | 0597 | 0372 | 0147 | 9923 | 9698 | 9473 | 9248 | 9023 | 8798 | 8573 | 8348 | 8123 | 7898 | 7673 | 7447 | 7222 | 6997 |
| 50 | 25 | 244(243) | 0855 | 0630 | 0405 | 0181 | 9955 | 9730 | 9505 | 9280 | 9055 | 8830 | 8605 | 8380 | 8155 | 7929 | 7704 | 7479 | 7253 |
| 52 | 26 | | 1113 | 0888 | 0663 | 0438 | 0213 | 9988 | 9763 | 9537 | 9312 | 9087 | 8862 | 8637 | 8411 | 8186 | 7961 | 7735 | 7510 |
| 54 | 27 | | 1371 | 1146 | 0921 | 0696 | 0471 | 0245 | 0020 | 9795 | 9569 | 9344 | 9119 | 8893 | 8668 | 8443 | 8217 | 7992 | 7766 |
| 56 | 28 | | 1629 | 1404 | 1179 | 0953 | 0728 | 0503 | 0277 | 0052 | 9827 | 9601 | 9376 | 9150 | 8925 | 8699 | 8474 | 8248 | 8023 |
| 58 | 29 | | 1887 | 1662 | 1437 | 1211 | 0986 | 0760 | 0535 | 0309 | 0084 | 9858 | 9633 | 9407 | 9182 | 8956 | 8731 | 8505 | 8279 |
| 60 | 30 | 244(243) | 2145 | 1919 | 1694 | 1468 | 1243 | 1017 | 0792 | 0566 | 0341 | 0115 | 9889 | 9664 | 9438 | 9213 | 8987 | 8761 | 8536 |
| 62 | 31 | | 2403 | 2177 | 1952 | 1726 | 1500 | 1275 | 1049 | 0823 | 0598 | 0372 | 0146 | 9921 | 9695 | 9469 | 9244 | 9018 | 8792 |
| 64 | 32 | | 2661 | 2435 | 2209 | 1983 | 1758 | 1532 | 1306 | 1080 | 0855 | 0629 | 0403 | 0178 | 9952 | 9726 | 9500 | 9275 | 9049 |
| 66 | 33 | | 2919 | 2693 | 2467 | 2241 | 2015 | 1789 | 1563 | 1337 | 1111 | 0886 | 0660 | 0434 | 0208 | 9982 | 9757 | 9531 | 9305 |
| 68 | 34 | | 3177 | 2951 | 2725 | 2499 | 2273 | 2046 | 1820 | 1594 | 1368 | 1142 | 0916 | 0690 | 0464 | 0238 | 0012 | 9786 | 9560 |
| 70 | 35 | 244(243) | 3435 | 3209 | 2983 | 2757 | 2530 | 2304 | 2077 | 1851 | 1624 | 1398 | 1171 | 0945 | 0718 | 0492 | 0265 | 0039 | 9812 |
| 72 | 36 | 244 | 3692 | 3466 | 3240 | 3013 | 2787 | 2560 | 2334 | 2107 | 1881 | 1654 | 1428 | 1201 | 0974 | 0748 | 0521 | 0294 | 0068 |
| 74 | 37 | | 3950 | 3724 | 3497 | 3271 | 3044 | 2817 | 2591 | 2364 | 2138 | 1911 | 1684 | 1457 | 1230 | 1004 | 0777 | 0551 | 0324 |
| 76 | 38 | | 4208 | 3981 | 3755 | 3528 | 3301 | 3075 | 2848 | 2621 | 2394 | 2167 | 1940 | 1713 | 1487 | 1260 | 1033 | 0806 | 0580 |
| 78 | 39 | | 4465 | 4239 | 4012 | 3785 | 3558 | 3332 | 3105 | 2878 | 2651 | 2424 | 2197 | 1970 | 1743 | 1516 | 1289 | 1062 | 0835 |
| 80 | 40 | 244 | 4723 | 4496 | 4269 | 4042 | 3815 | 3588 | 3361 | 3134 | 2907 | 2680 | 2453 | 2226 | 1999 | 1772 | 1545 | 1318 | 1091 |
| 82 | 41 | | 4981 | 4754 | 4527 | 4299 | 4072 | 3845 | 3618 | 3390 | 3163 | 2936 | 2708 | 2481 | 2254 | 2027 | 1799 | 1572 | 1345 |
| 84 | 42 | | 5238 | 5011 | 4783 | 4556 | 4328 | 4101 | 3873 | 3646 | 3418 | 3191 | 2963 | 2736 | 2508 | 2281 | 2053 | 1826 | 1598 |
| 86 | 43 | | 5496 | 5268 | 5040 | 4813 | 4585 | 4357 | 4130 | 3902 | 3674 | 3446 | 3219 | 2991 | 2763 | 2535 | 2308 | 2080 | 1852 |
| 88 | 44 | | 5753 | 5525 | 5297 | 5069 | 4841 | 4613 | 4385 | 4157 | 3929 | 3701 | 3473 | 3245 | 3017 | 2789 | 2561 | 2333 | 2105 |
| 90 | 45 | 244 | 6010 | 5783 | 5555 | 5328 | 5100 | 4873 | 4645 | 4417 | 4190 | 3962 | 3734 | 3506 | 3278 | 3050 | 2822 | 2594 | 2366 |
| 92 | 46 | | 6268 | 6040 | 5813 | 5585 | 5357 | 5129 | 4902 | 4674 | 4446 | 4218 | 3990 | 3762 | 3534 | 3306 | 3078 | 2850 | 2622 |
| 94 | 47 | | 6525 | 6297 | 6070 | 5842 | 5614 | 5386 | 5158 | 4930 | 4702 | 4474 | 4246 | 4018 | 3790 | 3562 | 3334 | 3106 | 2877 |
| 96 | 48 | | 6783 | 6554 | 6326 | 6098 | 5870 | 5642 | 5414 | 5186 | 4958 | 4730 | 4502 | 4274 | 4046 | 3818 | 3590 | 3362 | 3133 |
| 98 | 49 | | 7040 | 6812 | 6583 | 6355 | 6127 | 5899 | 5671 | 5443 | 5215 | 4987 | 4759 | 4531 | 4303 | 4075 | 3846 | 3618 | 3389 |
| 100 | 50 | 244 | 7297 | 7069 | 6841 | 6612 | 6384 | 6156 | 5928 | 5699 | 5471 | 5243 | 5015 | 4787 | 4559 | 4330 | 4102 | 3874 | 3645 |
| 102 | 51 | | 7554 | 7326 | 7098 | 6869 | 6641 | 6412 | 6184 | 5955 | 5727 | 5499 | 5271 | 5042 | 4814 | 4586 | 4357 | 4129 | 3901 |
| 104 | 52 | | 7811 | 7583 | 7354 | 7126 | 6897 | 6669 | 6440 | 6212 | 5983 | 5755 | 5526 | 5298 | 5070 | 4841 | 4613 | 4385 | 4156 |
| 106 | 53 | | 8068 | 7840 | 7611 | 7383 | 7154 | 6925 | 6697 | 6468 | 6239 | 6011 | 5782 | 5554 | 5325 | 5097 | 4869 | 4640 | 4412 |
| 108 | 54 | | 8325 | 8097 | 7868 | 7639 | 7411 | 7182 | 6953 | 6724 | 6495 | 6267 | 6038 | 5809 | 5581 | 5352 | 5124 | 4896 | 4667 |
| 110 | 55 | 244 | 8582 | 8354 | 8125 | 7896 | 7667 | 7438 | 7209 | 6980 | 6751 | 6523 | 6294 | 6065 | 5837 | 5608 | 5380 | 5151 | 4923 |
| 112 | 56 | | 8839 | 8611 | 8382 | 8153 | 7924 | 7694 | 7465 | 7236 | 7007 | 6778 | 6549 | 6319 | 6090 | 5861 | 5631 | 5402 | 5174 |
| 114 | 57 | | 9096 | 8867 | 8638 | 8409 | 8180 | 7951 | 7722 | 7493 | 7263 | 7034 | 6805 | 6576 | 6346 | 6117 | 5888 | 5659 | 5429 |
| 116 | 58 | | 9353 | 9124 | 8895 | 8666 | 8436 | 8207 | 7978 | 7748 | 7519 | 7289 | 7060 | 6830 | 6601 | 6371 | 6142 | 5912 | 5683 |
| 118 | 59 | | 9610 | 9381 | 9152 | 8922 | 8693 | 8463 | 8234 | 8004 | 7775 | 7545 | 7315 | 7086 | 6856 | 6626 | 6397 | 6167 | 5937 |

Sums for finding the Corrected Distances.

| Parts for 1″ of C. D. | C. D. 116° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 543 8371 |
| 4 | 1 | 8633 |
| 9 | 2 | 8894 |
| 13 | 3 | 9155 |
| 17 | 4 | 9417 |
| 22 | 5 | 9678 |
| 26 | 6 | 9939 |
| 30 | 7 | 544 0200 |
| 35 | 8 | 0462 |
| 39 | 9 | 0723 |
| 43 | 10 | 0984 |
| 48 | 11 | 1245 |
| 52 | 12 | 1506 |
| 56 | 13 | 1767 |
| 61 | 14 | 2028 |
| 65 | 15 | 544 2289 |
| 69 | 16 | 2550 |
| 74 | 17 | 2811 |
| 78 | 18 | 3071 |
| 82 | 19 | 3332 |
| 87 | 20 | 3593 |
| 91 | 21 | 3854 |
| 95 | 22 | 4114 |
| 100 | 23 | 4375 |
| 104 | 24 | 4636 |
| 108 | 25 | 4897 |
| 113 | 26 | 5158 |
| 117 | 27 | 5417 |
| 121 | 28 | 5677 |
| 126 | 29 | 5937 |
| 130 | 30 | 544 6197 |
| 135 | 31 | 6457 |
| 139 | 32 | 6717 |
| 143 | 33 | 6979 |
| 147 | 34 | 7239 |
| 152 | 35 | 7499 |
| 156 | 36 | 7759 |
| 160 | 37 | 8019 |
| 165 | 38 | 8279 |
| 169 | 39 | 8539 |
| 173 | 40 | 8799 |
| 178 | 41 | 9059 |
| 182 | 42 | 9319 |
| 186 | 43 | 9579 |
| 191 | 44 | 9839 |
| 195 | 45 | 545 0099 |
| 199 | 46 | 0359 |
| 204 | 47 | 0619 |
| 208 | 48 | 0879 |
| 213 | 49 | 1137 |
| 217 | 50 | 1397 |
| 221 | 51 | 1656 |
| 226 | 52 | 1916 |
| 230 | 53 | 2175 |
| 234 | 54 | 2435 |
| 239 | 55 | 2695 |
| 243 | 56 | 2954 |
| 247 | 57 | 3214 |
| 252 | 58 | 3474 |
| 256 | 59 | 3734 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| Part. for Sec. of Auxil. Argum. | A & A. D. 117° | Numbers |
|---|---|---|
| ′ | ′ | |
| 269 | 0 | 1367 |
| 268 | 1 | 1140 |
| 267 | 2 | 0945 |
| 266 | 3 | 0783 |
| 265 | 4 | 0652 |
| 264 | 5 | 0551 |
| 263 | 6 | 0481 |
| 262 | 7 | 0441 |
| 261 | 8 | 0427 |
| 260 | 9 | 0441 |
| 259 | 10 | 8755 |
| 258 | 11 | 8494 |
| 257 | 12 | 8383 |
| 256 | 13 | 7973 |
| 255 | 14 | 7711 |
| 254 | 15 | 7449 |
| 253 | 16 | 7189 |
| 252 | 17 | 6931 |
| 251 | 18 | 6675 |
| 250 | 19 | 6421 |
| 249 | 20 | 6169 |
| 248 | 21 | 5919 |
| 247 | 22 | 5671 |
| 246 | 23 | 5425 |
| 245 | 24 | 5181 |
| 244 | 25 | 4939 |
| 243 | 26 | 4698 |
| 242 | 27 | 4459 |
| 241 | 28 | 4222 |
| 240 | 29 | 3987 |
| 239 | 30 | 3754 |
| 238 | 31 | 3523 |
| 237 | 32 | 3294 |
| 236 | 33 | 3067 |
| 235 | 34 | 2842 |
| 234 | 35 | 2619 |
| 233 | 36 | 2398 |
| 232 | 37 | 2179 |
| 231 | 38 | 1962 |
| 230 | 39 | 1747 |
| 229 | 40 | 1534 |
| 228 | 41 | 1323 |
| 227 | 42 | 1114 |
| 226 | 43 | 0907 |
| 225 | 44 | 0702 |
| 224 | 45 | 0499 |
| 223 | 46 | 0298 |
| 222 | 47 | 0099 |
| 221 | 48 | 8603 |
| 220 | 49 | 8408 |
| 219 | 50 | 8215 |
| 218 | 51 | 8024 |
| 217 | 52 | 7835 |
| 216 | 53 | 7648 |
| 215 | 54 | 7462 |
| 214 | 55 | 7279 |
| 213 | 56 | 7097 |
| 212 | 57 | 6917 |
| 211 | 58 | 6739 |
| 210 | 59 | 6563 |

| Part. for Sec. of Auxil. Argum. | A & A. D. 117° | Auxiliary Arguments. ó ′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 269 | 0 | 245 3762 | 3538 | 3324 | 3120 | 2926 | 2742 | 2568 | 2404 | 2250 | 2106 | 1972 | 1847 | 1732 | 1627 | 1532 | 1447 | 1372 |
| 268 | 1 | 4021 | 3797 | 3583 | 3379 | 3185 | 3001 | 2827 | 2663 | 2509 | 2365 | 2231 | 2106 | 1991 | 1886 | 1791 | 1706 | 1631 |
| 267 | 2 | 4281 | 4057 | 3843 | 3639 | 3445 | 3261 | 3087 | 2923 | 2769 | 2625 | 2491 | 2366 | 2251 | 2146 | 2051 | 1966 | 1891 |
| 266 | 3 | 4539 | 4315 | 4101 | 3897 | 3703 | 3519 | 3345 | 3181 | 3027 | 2883 | 2749 | 2624 | 2509 | 2404 | 2309 | 2224 | 2149 |
| 265 | 4 | 4797 | 4573 | 4359 | 4155 | 3961 | 3777 | 3603 | 3439 | 3285 | 3141 | 3007 | 2882 | 2767 | 2662 | 2567 | 2482 | 2407 |
| 264 | 5 | 245 5057 | 4833 | 4619 | 4415 | 4221 | 4037 | 3863 | 3699 | 3545 | 3401 | 3267 | 3142 | 3027 | 2922 | 2827 | 2742 | 2667 |
| 263 | 6 | 5315 | 5091 | 4877 | 4673 | 4479 | 4295 | 4121 | 3957 | 3803 | 3659 | 3525 | 3400 | 3285 | 3180 | 3085 | 3000 | 2925 |
| 262 | 7 | 5574 | 5350 | 5136 | 4932 | 4738 | 4554 | 4380 | 4216 | 4062 | 3918 | 3784 | 3659 | 3544 | 3439 | 3344 | 3259 | 3184 |
| 261 | 8 | 5833 | 5609 | 5395 | 5191 | 4997 | 4813 | 4639 | 4475 | 4321 | 4177 | 4043 | 3918 | 3803 | 3698 | 3603 | 3518 | 3443 |
| 260 | 9 | 6092 | 5868 | 5654 | 5450 | 5256 | 5072 | 4898 | 4734 | 4580 | 4436 | 4302 | 4177 | 4062 | 3957 | 3862 | 3777 | 3702 |
| 259 | 10 | 245 6350 | 6126 | 5912 | 5708 | 5514 | 5330 | 5156 | 4992 | 4838 | 4694 | 4560 | 4435 | 4320 | 4215 | 4120 | 4035 | 3960 |
| 258 | 11 | 6609 | 6385 | 6171 | 5967 | 5773 | 5589 | 5415 | 5251 | 5097 | 4953 | 4819 | 4694 | 4579 | 4474 | 4379 | 4294 | 4219 |
| 257 | 12 | 6868 | 6644 | 6430 | 6226 | 6032 | 5848 | 5674 | 5510 | 5356 | 5212 | 5078 | 4953 | 4838 | 4733 | 4638 | 4553 | 4478 |
| 256 | 13 | 7127 | 6903 | 6689 | 6485 | 6291 | 6107 | 5933 | 5769 | 5615 | 5471 | 5337 | 5212 | 5097 | 4992 | 4897 | 4812 | 4737 |
| 255 | 14 | 7385 | 7161 | 6947 | 6743 | 6549 | 6365 | 6191 | 6027 | 5873 | 5729 | 5595 | 5470 | 5355 | 5250 | 5155 | 5070 | 4995 |
| 254 | 15 | 245 7644 | 7420 | 7206 | 7002 | 6808 | 6624 | 6450 | 6286 | 6132 | 5988 | 5854 | 5729 | 5614 | 5509 | 5414 | 5329 | 5254 |
| 253 | 16 | 7903 | 7679 | 7465 | 7261 | 7067 | 6883 | 6709 | 6545 | 6391 | 6247 | 6113 | 5988 | 5873 | 5768 | 5673 | 5588 | 5513 |
| 252 | 17 | 8161 | 7937 | 7723 | 7519 | 7325 | 7141 | 6967 | 6803 | 6649 | 6505 | 6371 | 6246 | 6131 | 6026 | 5931 | 5846 | 5771 |
| 251 | 18 | 8420 | 8196 | 7982 | 7778 | 7584 | 7400 | 7226 | 7062 | 6908 | 6764 | 6630 | 6505 | 6390 | 6285 | 6190 | 6105 | 6030 |
| 250 | 19 | 8679 | 8455 | 8241 | 8037 | 7843 | 7659 | 7485 | 7321 | 7167 | 7023 | 6889 | 6764 | 6649 | 6544 | 6449 | 6364 | 6289 |
| 249 | 20 | 8938 | 8714 | 8500 | 8296 | 8102 | 7918 | 7744 | 7580 | 7426 | 7282 | 7148 | 7023 | 6908 | 6803 | 6708 | 6623 | 6548 |
| 248 | 21 | 9197 | 8973 | 8759 | 8555 | 8361 | 8177 | 8003 | 7839 | 7685 | 7541 | 7407 | 7282 | 7167 | 7062 | 6967 | 6882 | 6807 |
| 247 | 22 | 9455 | 9231 | 9017 | 8813 | 8619 | 8435 | 8261 | 8097 | 7943 | 7799 | 7665 | 7540 | 7425 | 7320 | 7225 | 7140 | 7065 |
| 246 | 23 | 9714 | 9490 | 9276 | 9072 | 8878 | 8694 | 8520 | 8356 | 8202 | 8058 | 7924 | 7799 | 7684 | 7579 | 7484 | 7399 | 7324 |
| 245 | 24 | 9973 | 9749 | 9535 | 9331 | 9137 | 8953 | 8779 | 8615 | 8461 | 8317 | 8183 | 8058 | 7943 | 7838 | 7743 | 7658 | 7583 |
| 244 | 25 | 245 0232 | 0008 | 9794 | 9590 | 9396 | 9212 | 9038 | 8874 | 8720 | 8576 | 8442 | 8317 | 8202 | 8097 | 8002 | 7917 | 7842 |
| 243 | 26 | 0490 | 0266 | 0052 | 9848 | 9654 | 9470 | 9296 | 9132 | 8978 | 8834 | 8700 | 8575 | 8460 | 8355 | 8260 | 8175 | 8100 |
| 242 | 27 | 0749 | 0525 | 0311 | 0107 | 9913 | 9729 | 9555 | 9391 | 9237 | 9093 | 8959 | 8834 | 8719 | 8614 | 8519 | 8434 | 8359 |
| 241 | 28 | 1008 | 0784 | 0570 | 0366 | 0172 | 9988 | 9814 | 9650 | 9496 | 9352 | 9218 | 9093 | 8978 | 8873 | 8778 | 8693 | 8618 |
| 240 | 29 | 1267 | 1043 | 0829 | 0625 | 0431 | 0247 | 0073 | 9909 | 9755 | 9611 | 9477 | 9352 | 9237 | 9132 | 9037 | 8952 | 8877 |
| 239 | 30 | 1526 | 1302 | 1088 | 0884 | 0690 | 0506 | 0332 | 0168 | 0014 | 9870 | 9736 | 9611 | 9496 | 9391 | 9296 | 9211 | 9136 |
| 238 | 31 | 1784 | 1560 | 1346 | 1142 | 0948 | 0764 | 0590 | 0426 | 0272 | 0128 | 9994 | 9869 | 9754 | 9649 | 9554 | 9469 | 9394 |
| 237 | 32 | 2043 | 1819 | 1605 | 1401 | 1207 | 1023 | 0849 | 0685 | 0531 | 0387 | 0253 | 0128 | 0013 | 9908 | 9813 | 9728 | 9653 |
| 236 | 33 | 2302 | 2078 | 1864 | 1660 | 1466 | 1282 | 1108 | 0944 | 0790 | 0646 | 0512 | 0387 | 0272 | 0167 | 0072 | 9987 | 9912 |
| 235 | 34 | 2561 | 2337 | 2123 | 1919 | 1725 | 1541 | 1367 | 1203 | 1049 | 0905 | 0771 | 0646 | 0531 | 0426 | 0331 | 0246 | 0171 |
| 234 | 35 | 2820 | 2596 | 2382 | 2178 | 1984 | 1800 | 1626 | 1462 | 1308 | 1164 | 1030 | 0905 | 0790 | 0685 | 0590 | 0505 | 0430 |
| 233 | 36 | 3078 | 2854 | 2640 | 2436 | 2242 | 2058 | 1884 | 1720 | 1566 | 1422 | 1288 | 1163 | 1048 | 0943 | 0848 | 0763 | 0688 |
| 232 | 37 | 3337 | 3113 | 2899 | 2695 | 2501 | 2317 | 2143 | 1979 | 1825 | 1681 | 1547 | 1422 | 1307 | 1202 | 1107 | 1022 | 0947 |
| 231 | 38 | 3596 | 3372 | 3158 | 2954 | 2760 | 2576 | 2402 | 2238 | 2084 | 1940 | 1806 | 1681 | 1566 | 1461 | 1366 | 1281 | 1206 |
| 230 | 39 | 3855 | 3631 | 3417 | 3213 | 3019 | 2835 | 2661 | 2497 | 2343 | 2199 | 2065 | 1940 | 1825 | 1720 | 1625 | 1540 | 1465 |
| 229 | 40 | 4114 | 3890 | 3676 | 3472 | 3278 | 3094 | 2920 | 2756 | 2602 | 2458 | 2324 | 2199 | 2084 | 1979 | 1884 | 1799 | 1724 |
| 228 | 41 | 4373 | 4149 | 3935 | 3731 | 3537 | 3353 | 3179 | 3015 | 2861 | 2717 | 2583 | 2458 | 2343 | 2238 | 2143 | 2058 | 1983 |
| 227 | 42 | 4631 | 4407 | 4193 | 3989 | 3795 | 3611 | 3437 | 3273 | 3119 | 2975 | 2841 | 2716 | 2601 | 2496 | 2401 | 2316 | 2241 |
| 226 | 43 | 4890 | 4666 | 4452 | 4248 | 4054 | 3870 | 3696 | 3532 | 3378 | 3234 | 3100 | 2975 | 2860 | 2755 | 2660 | 2575 | 2500 |
| 225 | 44 | 5149 | 4925 | 4711 | 4507 | 4313 | 4129 | 3955 | 3791 | 3637 | 3493 | 3359 | 3234 | 3119 | 3014 | 2919 | 2834 | 2759 |
| 224 | 45 | 5408 | 5184 | 4970 | 4766 | 4572 | 4388 | 4214 | 4050 | 3896 | 3752 | 3618 | 3493 | 3378 | 3273 | 3178 | 3093 | 3018 |
| 223 | 46 | 5667 | 5443 | 5229 | 5025 | 4831 | 4647 | 4473 | 4309 | 4155 | 4011 | 3877 | 3752 | 3637 | 3532 | 3437 | 3352 | 3277 |
| 222 | 47 | 5925 | 5701 | 5487 | 5283 | 5089 | 4905 | 4731 | 4567 | 4413 | 4269 | 4135 | 4010 | 3895 | 3790 | 3695 | 3610 | 3535 |
| 221 | 48 | 6184 | 5960 | 5746 | 5542 | 5348 | 5164 | 4990 | 4826 | 4672 | 4528 | 4394 | 4269 | 4154 | 4049 | 3954 | 3869 | 3794 |
| 220 | 49 | 6443 | 6219 | 6005 | 5801 | 5607 | 5423 | 5249 | 5085 | 4931 | 4787 | 4653 | 4528 | 4413 | 4308 | 4213 | 4128 | 4053 |
| 219 | 50 | 6702 | 6478 | 6264 | 6060 | 5866 | 5682 | 5508 | 5344 | 5190 | 5046 | 4912 | 4787 | 4672 | 4567 | 4472 | 4387 | 4312 |
| 218 | 51 | 6961 | 6737 | 6523 | 6319 | 6125 | 5941 | 5767 | 5603 | 5449 | 5305 | 5171 | 5046 | 4931 | 4826 | 4731 | 4646 | 4571 |
| 217 | 52 | 7219 | 6995 | 6781 | 6577 | 6383 | 6199 | 6025 | 5861 | 5707 | 5563 | 5429 | 5304 | 5189 | 5084 | 4989 | 4904 | 4829 |
| 216 | 53 | 7478 | 7254 | 7040 | 6836 | 6642 | 6458 | 6284 | 6120 | 5966 | 5822 | 5688 | 5563 | 5448 | 5343 | 5248 | 5163 | 5088 |
| 215 | 54 | 7737 | 7513 | 7299 | 7095 | 6901 | 6717 | 6543 | 6379 | 6225 | 6081 | 5947 | 5822 | 5707 | 5602 | 5507 | 5422 | 5347 |
| 214 | 55 | 7996 | 7772 | 7558 | 7354 | 7160 | 6976 | 6802 | 6638 | 6484 | 6340 | 6206 | 6081 | 5966 | 5861 | 5766 | 5681 | 5606 |
| 213 | 56 | 8255 | 8031 | 7817 | 7613 | 7419 | 7235 | 7061 | 6897 | 6743 | 6599 | 6465 | 6340 | 6225 | 6120 | 6025 | 5940 | 5865 |
| 212 | 57 | 8513 | 8289 | 8075 | 7871 | 7677 | 7493 | 7319 | 7155 | 7001 | 6857 | 6723 | 6598 | 6483 | 6378 | 6283 | 6198 | 6123 |
| 211 | 58 | 8772 | 8548 | 8334 | 8130 | 7936 | 7752 | 7578 | 7414 | 7260 | 7116 | 6982 | 6857 | 6742 | 6637 | 6542 | 6457 | 6382 |
| 210 | 59 | 9031 | 8807 | 8593 | 8389 | 8195 | 8011 | 7837 | 7673 | 7519 | 7375 | 7241 | 7116 | 7001 | 6896 | 6801 | 6716 | 6641 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Prop. of Seconds of Auxil. | A. & A. D. 117° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Additive | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 234 | 0 | 244 | 9807 | 9613 | 9418 | 9179 | 8941 | 8710 | 8480 | 8250 | 8031 | 7811 | 7591 | 7341 | 7111 | 6881 | 6641 | 6401 |
| [illegible] | 1 | 245(244) | 0124 | 0049 | 9855 | 9435 | 9205 | 8976 | 8746 | 8516 | 8286 | 8056 | 7826 | 7596 | 7366 | 7136 | 6906 | 6676 |
| 222 | 2 | | 0381 | 0151 | 9921 | 9691 | 9462 | 9232 | 9002 | 8772 | 8542 | 8312 | 8082 | 7852 | 7622 | 7392 | 7162 | 6932 |
| 204 | 3 | | 0637 | 0408 | 0178 | 9948 | 9718 | 9488 | 9258 | 9028 | 8798 | 8568 | 8337 | 8107 | 7877 | 7647 | 7417 | 7187 |
| 218 | 4 | | 0894 | 0664 | 0434 | 0204 | 9974 | 9744 | 9514 | 9284 | 9054 | 8823 | 8593 | 8363 | 8133 | 7903 | 7673 | 7443 |
| 214 | 5 | 245(244) | 1151 | 0921 | 0691 | 0461 | 0231 | 0001 | 9770 | 9540 | 9310 | 9080 | 8849 | 8619 | 8387 | 8157 | 7927 | 7697 |
| 210 | 6 | | 1407 | 1177 | 0947 | 0717 | 0487 | 0256 | 0026 | 9796 | 9566 | 9334 | 9104 | 8873 | 8643 | 8411 | 8181 | 7951 |
| 206 | 7 | | 1664 | 1434 | 1203 | 0973 | 0744 | 0514 | 0284 | 0053 | 9822 | 9592 | 9360 | 9130 | 8899 | 8667 | 8437 | 8207 |
| 202 | 8 | | 1921 | 1690 | 1460 | 1229 | 0999 | 0769 | 0537 | 0307 | 0077 | 9845 | 9614 | 9383 | 9152 | 8921 | 8690 | 8460 |
| 199 | 9 | | 2177 | 1947 | 1716 | 1485 | 1254 | 1024 | 0793 | 0561 | 0331 | 0100 | 9868 | 9638 | 9407 | 9176 | 8945 | 8714 |
| 198 | 10 | 245(244) | 2434 | 2203 | 1972 | 1741 | 1510 | 1279 | 1048 | 0817 | 0586 | 0355 | 0124 | 9893 | 9662 | 9431 | 9200 | 8967 |
| 191 | 11 | | 2690 | 2459 | 2228 | 1997 | 1766 | 1535 | 1304 | 1073 | 0842 | 0611 | 0379 | 0148 | 9917 | 9685 | 9454 | 9223 |
| 187 | 12 | | 2947 | 2715 | 2485 | 2253 | 2022 | 1791 | 1560 | 1328 | 1097 | 0866 | 0634 | 0403 | 0172 | 9940 | 9707 | 9475 |
| 183 | 13 | | 3203 | 2971 | 2741 | 2509 | 2277 | 2047 | 1815 | 1584 | 1353 | 1121 | 0890 | 0658 | 0426 | 0195 | 9963 | 9731 |
| 179 | 14 | | 3459 | 3228 | 2997 | 2765 | 2534 | 2303 | 2071 | 1839 | 1608 | 1377 | 1145 | 0913 | 0681 | 0449 | 0218 | 9986 |
| 175 | 15 | 245 | 3715 | 3484 | 3253 | 3021 | 2790 | 2559 | 2326 | 2095 | 1863 | 1631 | 1399 | 1167 | 0935 | 0703 | 0472 | 0240 |
| 171 | 16 | | 3971 | 3740 | 3508 | 3277 | 3045 | 2813 | 2582 | 2350 | 2118 | 1887 | 1654 | 1422 | 1191 | 0959 | 0727 | 0494 |
| 167 | 17 | | 4226 | 3996 | 3764 | 3533 | 3301 | 3069 | 2837 | 2605 | 2373 | 2141 | 1910 | 1677 | 1445 | 1213 | 0981 | 0749 |
| 163 | 18 | | 4482 | 4251 | 4020 | 3788 | 3556 | 3324 | 3092 | 2860 | 2628 | 2396 | 2164 | 1932 | 1700 | 1468 | 1236 | 1004 |
| 160 | 19 | | 4738 | 4507 | 4275 | 4044 | 3812 | 3580 | 3348 | 3116 | 2884 | 2651 | 2419 | 2187 | 1954 | 1722 | 1490 | 1257 |
| 156 | 20 | 245 | 4994 | 4762 | 4531 | 4300 | 4068 | 3836 | 3603 | 3371 | 3139 | 2907 | 2674 | 2441 | 2209 | 1977 | 1744 | 1511 |
| 152 | 21 | | 5250 | 5018 | 4787 | 4555 | 4323 | 4091 | 3858 | 3626 | 3393 | 3161 | 2928 | 2696 | 2463 | 2231 | 1998 | 1765 |
| 148 | 22 | | 5506 | 5274 | 5043 | 4811 | 4579 | 4347 | 4114 | 3882 | 3649 | 3416 | 3183 | 2951 | 2718 | 2485 | 2252 | 2019 |
| 144 | 23 | | 5762 | 5530 | 5299 | 5067 | 4834 | 4602 | 4369 | 4136 | 3903 | 3671 | 3438 | 3205 | 2972 | 2739 | 2506 | 2273 |
| 140 | 24 | | 6018 | 5787 | 5555 | 5323 | 5090 | 4858 | 4625 | 4392 | 4159 | 3926 | 3693 | 3460 | 3227 | 2994 | 2760 | 2527 |
| 137 | 25 | 245 | 6274 | 6043 | 5811 | 5579 | 5346 | 5114 | 4880 | 4648 | 4414 | 4182 | 3947 | 3714 | 3481 | 3248 | 3014 | 2781 |
| 133 | 26 | | 6530 | 6299 | 6067 | 5835 | 5602 | 5370 | 5136 | 4904 | 4670 | 4437 | 4203 | 3969 | 3735 | 3502 | 3268 | 3035 |
| 129 | 27 | | 6786 | 6555 | 6323 | 6091 | 5858 | 5626 | 5392 | 5159 | 4926 | 4693 | 4459 | 4225 | 3991 | 3757 | 3523 | 3289 |
| 125 | 28 | | 7042 | 6811 | 6579 | 6347 | 6114 | 5882 | 5648 | 5415 | 5182 | 4949 | 4714 | 4481 | 4247 | 4013 | 3778 | 3543 |
| 121 | 29 | | 7298 | 7067 | 6835 | 6603 | 6370 | 6138 | 5904 | 5671 | 5438 | 5205 | 4970 | 4737 | 4503 | 4269 | 4034 | 3797 |
| 117 | 30 | 245 | 7554 | 7323 | 7091 | 6859 | 6626 | 6394 | 6160 | 5927 | 5694 | 5461 | 5226 | 4993 | 4759 | 4525 | 4290 | 4055 |
| 113 | 31 | | 7811 | 7579 | 7348 | 7116 | 6883 | 6650 | 6416 | 6183 | 5950 | 5717 | 5482 | 5249 | 5015 | 4781 | 4546 | 4311 |
| 109 | 32 | | 8066 | 7832 | 7599 | 7365 | 7131 | 6898 | 6664 | 6430 | 6196 | 5962 | 5728 | 5494 | 5260 | 5026 | 4792 | 4558 |
| 105 | 33 | | 8322 | 8088 | 7854 | 7620 | 7386 | 7152 | 6919 | 6685 | 6450 | 6216 | 5982 | 5748 | 5514 | 5280 | 5045 | 4811 |
| 101 | 34 | | 8577 | 8343 | 8110 | 7875 | 7641 | 7407 | 7173 | 6939 | 6705 | 6471 | 6237 | 6003 | 5768 | 5534 | 5300 | 5065 |
| 97 | 35 | 245 | 8833 | 8599 | 8365 | 8131 | 7896 | 7662 | 7428 | 7194 | 6960 | 6725 | 6491 | 6257 | 6023 | 5787 | 5553 | 5318 |
| 93 | 36 | | 9088 | 8854 | 8620 | 8386 | 8151 | 7917 | 7683 | 7448 | 7214 | 6980 | 6745 | 6511 | 6277 | 6041 | 5807 | 5572 |
| 89 | 37 | | 9344 | 9110 | 8875 | 8641 | 8406 | 8172 | 7937 | 7703 | 7468 | 7234 | 7000 | 6764 | 6530 | 6295 | 6060 | 5825 |
| 85 | 38 | | 9599 | 9365 | 9131 | 8896 | 8661 | 8426 | 8192 | 7957 | 7723 | 7488 | 7253 | 7018 | 6783 | 6548 | 6313 | 6078 |
| 81 | 39 | | 9854 | 9620 | 9386 | 9151 | 8916 | 8681 | 8446 | 8211 | 7977 | 7742 | 7507 | 7272 | 7037 | 6802 | 6566 | 6331 |
| 77 | 40 | 245(244) | 0110 | 9875 | 9641 | 9406 | 9171 | 8936 | 8701 | 8466 | 8231 | 7996 | 7761 | 7526 | 7291 | 7056 | 6821 | 6585 |
| 74 | 41 | | 0365 | 0130 | 9896 | 9661 | 9426 | 9191 | 8956 | 8721 | 8485 | 8250 | 8015 | 7780 | 7545 | 7310 | 7074 | 6839 |
| 70 | 42 | | 0620 | 0385 | 0151 | 9916 | 9681 | 9446 | 9211 | 8975 | 8740 | 8504 | 8269 | 8034 | 7799 | 7563 | 7328 | 7092 |
| 66 | 43 | | 0875 | 0640 | 0406 | 0171 | 9936 | 9701 | 9465 | 9230 | 8994 | 8759 | 8523 | 8288 | 8052 | 7817 | 7581 | 7345 |
| 62 | 44 | | 1130 | 0895 | 0660 | 0426 | 0191 | 9955 | 9720 | 9484 | 9249 | 9013 | 8777 | 8541 | 8306 | 8070 | 7834 | 7598 |
| 58 | 45 | 245(244) | 1385 | 1150 | 0915 | 0680 | 0445 | 0210 | 9974 | 9739 | 9503 | 9267 | 9031 | 8795 | 8559 | 8323 | 8087 | 7850 |
| 54 | 46 | | 1640 | 1405 | 1170 | 0935 | 0700 | 0464 | 0229 | 9993 | 9757 | 9521 | 9285 | 9049 | 8813 | 8577 | 8341 | 8105 |
| 50 | 47 | | 1895 | 1660 | 1425 | 1190 | 0954 | 0719 | 0483 | 0248 | 0012 | 9775 | 9539 | 9303 | 9067 | 8830 | 8594 | 8358 |
| 46 | 48 | | 2151 | 1915 | 1680 | 1444 | 1209 | 0973 | 0738 | 0502 | 0266 | 0030 | 9793 | 9557 | 9321 | 9084 | 8848 | 8612 |
| 43 | 49 | | 2406 | 2170 | 1935 | 1699 | 1463 | 1228 | 0992 | 0756 | 0520 | 0284 | 0048 | 9811 | 9575 | 9338 | 9102 | 8865 |
| 39 | 50 | 245(244) | 2661 | 2425 | 2189 | 1953 | 1718 | 1482 | 1246 | 1010 | 0774 | 0538 | 0302 | 0066 | 9829 | 9593 | 9356 | 9119 |
| 35 | 51 | | 2916 | 2680 | 2444 | 2208 | 1972 | 1736 | 1500 | 1264 | 1028 | 0792 | 0556 | 0320 | 0084 | 9847 | 9610 | 9373 |
| 31 | 52 | | 3171 | 2935 | 2699 | 2463 | 2226 | 1990 | 1754 | 1518 | 1282 | 1046 | 0810 | 0574 | 0338 | 0102 | 9865 | 9628 |
| 27 | 53 | | 3426 | 3190 | 2954 | 2717 | 2481 | 2245 | 2009 | 1772 | 1536 | 1300 | 1064 | 0828 | 0592 | 0356 | 0120 | 9883 |
| 23 | 54 | | 3681 | 3445 | 3208 | 2972 | 2736 | 2499 | 2263 | 2027 | 1790 | 1554 | 1318 | 1082 | 0846 | 0610 | 0374 | 0138 |
| 19 | 55 | 245 | 3936 | 3700 | 3463 | 3227 | 2990 | 2754 | 2517 | 2281 | 2045 | 1808 | 1572 | 1336 | 1100 | 0864 | 0628 | 0392 |
| 15 | 56 | | 4191 | 3955 | 3718 | 3482 | 3245 | 3009 | 2772 | 2536 | 2299 | 2063 | 1826 | 1590 | 1354 | 1118 | 0882 | 0646 |
| 11 | 57 | | 4446 | 4210 | 3973 | 3736 | 3500 | 3263 | 3026 | 2790 | 2553 | 2317 | 2080 | 1844 | 1608 | 1372 | 1136 | 0900 |
| 8 | 58 | | 4701 | 4464 | 4228 | 3991 | 3754 | 3518 | 3281 | 3044 | 2808 | 2571 | 2335 | 2098 | 1862 | 1626 | 1390 | 1154 |
| 4 | 59 | | 4956 | 4719 | 4483 | 4246 | 4009 | 3772 | 3536 | 3299 | 3062 | 2826 | 2589 | 2353 | 2116 | 1880 | 1644 | 1408 |

Sums for finding the Corrected Distances.

| Prop. of Seconds of Auxil. | A. & A. D. 117° | Sums |
|---|---|---|
| Additive | ′ | |
| 0 | 0 | 545 3900 |
| 1 | 1 | 4250 |
| 2 | 2 | 4599 |
| 3 | 3 | 4949 |
| 4 | 4 | 5297 |
| 5 | 5 | 5646 5280 |
| 6 | 6 | 5995 |
| 7 | 7 | 6343 |
| 8 | 8 | 6692 |
| 9 | 9 | 7041 |
| 10 | 10 | 7389 |
| 11 | 11 | 7738 |
| 12 | 12 | 8086 |
| 13 | 13 | 8435 |
| 14 | 14 | 8784 |
| 15 | 15 | 9132 |
| 16 | 16 | 9481 |
| 17 | 17 | 9829 |
| 18 | 18 | 547 0178 |
| 19 | 19 | 0526 |
| 20 | 20 | 0875 |
| 21 | 21 | 1223 |
| 22 | 22 | 1572 |
| 23 | 23 | 1920 |
| 24 | 24 | 546 2269 |
| 25 | 25 | 2617 |
| 26 | 26 | 2966 |
| 27 | 27 | 3314 |
| 28 | 28 | 3663 |
| 29 | 29 | 4011 |
| 30 | 30 | 4360 |
| 31 | 31 | 4708 |
| 32 | 32 | 5057 |
| 33 | 33 | 5405 |
| 34 | 34 | 5754 |
| 35 | 35 | 6102 |
| 36 | 36 | 6451 |
| 37 | 37 | 6799 |
| 38 | 38 | 7148 |
| 39 | 39 | 7496 |
| 40 | 40 | 7845 |
| 41 | 41 | 8193 |
| 42 | 42 | 8542 |
| 43 | 43 | 8890 |
| 44 | 44 | 9239 |
| 45 | 45 | 9587 |
| 46 | 46 | 9936 |
| 47 | 47 | 548 0284 |
| 48 | 48 | 0633 |
| 49 | 49 | 0981 |
| 50 | 50 | 1330 |
| 51 | 51 | 1678 |
| 52 | 52 | 2027 |
| 53 | 53 | 2375 |
| 54 | 54 | 2724 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----> } and Auxiliary Arguments.

| Parts for Sec. of C.S.A. | C.S.A. 118° | Numbers | Part for Seconds of Auxil. Argum. | S.S.A. & A.D. 118° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | | | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 258 | 0 | 554 5754 | 241 | 0 | 246 9235 | 8999 | 8762 | 8525 | 8288 | 8052 | 7815 | 7578 | 7341 | 7104 | 6867 | 6630 | 6393 | 6156 | 5919 | 5682 | 5445 |
| 254 | 1 | 5494 | 237 | 1 | 9494 | 9258 | 9021 | 8784 | 8547 | 8310 | 8073 | 7836 | 7599 | 7362 | 7125 | 6888 | 6651 | 6414 | 6177 | 5940 | 5703 |
| 250 | 2 | 5434 | 233 | 2 | 9748 9512 | 9275 | 9038 | 8801 | 8564 | 8327 | 8090 | 7852 | 7615 | 7378 | 7141 | 6904 | 6666 | 6429 | 6191 | 5954 | |
| 246 | 3 | 4974 | 229 | 3 | 247 (246) | | | | | | | | | | | | | | | | |
| 241 | 4 | 4714 | 224 | 4 | | | | | | | | | | | | | | | | | |
| 236 | 5 | 554 4455 | 220 | 5 | 247 (246) | | | | | | | | | 8382 | 8144 | 7906 | 7668 | 7431 | 7193 | 6955 | 6717 |
| 231 | 6 | 4197 | 215 | 6 | 0775 | 0537 | 0300 | 0062 | 9825 | 9587 | 9350 | 9112 | 8875 | 8637 | 8399 | 8161 | 7923 | 7686 | | | |
| 227 | 7 | 3937 | 211 | 7 | 1031 | | | | | | | | | | | | | | | | |
| 223 | 8 | 3677 | 207 | 8 | 1287 | | | | | | | | | | | | | | | | |
| 219 | 9 | 3417 | 202 | 9 | | | | | | | | | | | | | | | | | |
| 215 | 10 | 554 3161 | 198 | 10 | 247 (246) | | | | | | | | | | | | | | | | |
| 211 | 11 | 2904 | 193 | 11 | 2056 | 1818 | 1580 | 1342 | 1104 | 0866 | 0628 | 0389 | 0151 | 9913 | 9674 | 9436 | 9198 | 8959 | 8721 | 8482 | 8243 |
| 207 | 12 | 2643 | 189 | 12 | | | | | | | | | | | | | | | | | |
| 203 | 13 | 2385 | 185 | 13 | | | | | | | | | | | | | | | | | |
| 199 | 14 | 2127 | 180 | 14 | | | | | | | | | | | | | | | | | |
| 195 | 15 | 554 1867 | 176 | 15 | 247 (246) | | | | | | | | | | | | | | | | |
| 191 | 16 | 1610 | 171 | 16 | | 3099 | 2860 | 2621 | 2382 | 2144 | 1905 | 1666 | 1427 | 1188 | 0949 | 0710 | 0471 | 0232 | 9992 | 9753 | 9514 |
| 187 | 17 | 1352 | 167 | 17 | | | | | | | | | | | | | | | | | |
| 183 | 18 | 1093 | 163 | 18 | 247 | 3611 | 3372 | 3133 | 2894 | 2654 | 2415 | 2176 | 1937 | 1698 | 1458 | | | | | | |
| 176 | 19 | 834 | 159 | 19 | | 3866 | 3627 | 3388 | 3149 | 2910 | 2670 | 2431 | 2192 | 1952 | 1713 | | | | | | |
| 172 | 20 | 554 0575 | 154 | 20 | 247 | | | | | | | | | | | | | | | | |
| 168 | 21 | 0317 | 150 | 21 | | | | | | | | | | | | | | | | | |
| 164 | 22 | 0058 | 146 | 22 | | | | | | | | | | | | | | | | | |
| 160 | 23 | 553 9800 | 141 | 23 | | | | | | | | | | | | | | | | | |
| 156 | 24 | 9541 | 137 | 24 | | | | | | | | | | | | | | | | | |
| 152 | 25 | 553 9283 | 133 | 25 | 247 | | | | | | | | | | | | | | | | |
| 148 | 26 | 9024 | 128 | 26 | | 5656 | 5416 | 5176 | 4936 | 4696 | 4456 | 4215 | 3975 | 3735 | 3495 | 3254 | 3014 | 2773 | 2533 | 2292 | 2052 |
| 144 | 27 | 8767 | 124 | 27 | | | | | | | | | | | | | | | | | |
| 140 | 28 | 8508 | 120 | 28 | | | | | | | | | | | | | | | | | |
| 136 | 29 | 8251 | 115 | 29 | | | | | | | | | | | | | | | | | |
| 132 | 30 | 553 7993 | 120 | 30 | 247 | 6678 | 6437 | 6197 | 5956 | 5716 | 5475 | 5234 | 4993 | 4753 | 4512 | 4271 | 4030 | 3789 | 3548 | 3307 | 3066 |
| 128 | 31 | 7735 | 116 | 31 | | | | | | | | | | | | | | | | | |
| 124 | 32 | 7477 | 112 | 32 | | | | | | | | | | | | | | | | | |
| 120 | 33 | 7219 | 108 | 33 | 7685 | 7444 | 7203 | 6962 | 6721 | 6480 | 6239 | 5998 | 5757 | 5516 | 5274 | 5033 | 4792 | 4550 | 4309 | 4068 | 3827 |
| 116 | 34 | 6961 | 104 | 34 | | | | | | | | | | | | | | | | | |
| 112 | 35 | 553 6703 | 100 | 35 | 247 | | | | | | | | | | | | | | | | |
| 108 | 36 | 6446 | 96 | 36 | 8451 | 8210 | 7968 | 7727 | 7486 | 7244 | 7003 | 6761 | 6520 | 6278 | 6036 | 5795 | 5553 | 5311 | 5070 | 4828 | 4586 |
| 104 | 37 | 6188 | 92 | 37 | | | | | | | | | | | | | | | | | |
| 100 | 38 | 5930 | 88 | 38 | | | | | | | | | | | | | | | | | |
| 96 | 39 | 5672 | 84 | 39 | 9216 | 8975 | 8733 | 8491 | 8250 | | | | | | | | | | | | |
| 92 | 40 | 553 5416 | 80 | 40 | 247 | 9230 | 8988 | 8746 | 8504 | | | | | | 7052 | 6810 | 6568 | | | | |
| 88 | 41 | 5158 | 76 | 41 | | 9485 | 9243 | 9001 | 8759 | | | | | | 7306 | 7064 | 6821 | 79 | 6336 | 6094 | 5852 |
| 84 | 42 | 4900 | 72 | 42 | | 9740 | 9497 | 9255 | 9013 | | | | | | 7560 | 7317 | 7075 | 5832 | 6590 | 6347 | 6105 |
| 80 | 43 | 4643 | 68 | 43 | 24 (247) | 9994 | 9752 | 9510 | 9268 | | | | | | 7813 | 7571 | 7328 | 7086 | 6843 | 6600 | 6357 |
| 76 | 44 | 4385 | 64 | 44 | | 0249 | 0007 | 9765 | 9522 | 9280 | 9037 | 8795 | | | | | 7824 | 7582 | 7330 | 7096 | 6853 |
| 72 | 45 | 553 4127 | 60 | 45 | 248 (247) | 0504 | 0262 | 0019 | 9777 | 9534 | 9291 | 9049 | | | | | | | | | |
| 68 | 46 | 3870 | 56 | 46 | | 0759 | 0516 | 0274 | 0031 | 9788 | 9546 | 9303 | 9060 | | | | | | | | |
| 64 | 47 | 3612 | 52 | 47 | | | | | | | | | | | | | | | | | |
| 60 | 48 | 3354 | 48 | 48 | | | | | | | | | | | | | | | | | |
| 56 | 49 | 3096 | 44 | 49 | | | | | | | | | | | | | | | | | |
| 52 | 50 | 553 2838 | 40 | 50 | | | | | | | | | | | | | | | | | |
| 48 | 51 | 2580 | 36 | 51 | | | | 1291 | 1048 | 0805 | 0562 | 0318 | 0075 | 9832 | 9588 | 9345 | 9101 | | | | |
| 44 | 52 | 2322 | 32 | 52 | | | | 1546 | 1302 | 1059 | 0816 | | | | | | | | | | |
| 40 | 53 | 2064 | 28 | 53 | | | | | 1556 | 1313 | 1069 | | | | | 9851 | 9607 | 9364 | 9120 | | |
| 36 | 54 | 1806 | 24 | 54 | | | | | | | | | | | | 0104 | 9861 | 9617 | 9373 | 9129 | 8885 |
| 32 | 55 | 1548 | 20 | 55 | | | | | | 2064 | 1821 | 1577 | | | | 0358 | 0114 | 9870 | 9625 | 9381 | 9137 |
| 28 | 56 | 1290 | 16 | 56 | 247 | | | | | | | | 1587 | 1343 | 1099 | 0855 | 0611 | 0367 | 0122 | 9878 | 9634 | 9390 |
| 24 | 57 | 1032 | 12 | 57 | | | | | | | | | 1840 | 1596 | 1352 | 1108 | 0864 | | | 0131 | 9886 | 9642 |
| 20 | 58 | 0774 | 8 | 58 | | | | | | | | | 2094 | 1850 | 1605 | 1361 | 1117 | | | 0388 | 0139 | 9894 |
| 16 | 59 | 0516 | 4 | 59 | 249 | | | | | | | | 2347 | 2103 | 1859 | 1614 | 1370 | 1125 | 0881 | | |
| 12 | 60 | 0258 | 0 | 60 | | | | | | | | | 2601 | 2356 | 2112 | 1867 | 1623 | 1378 | 1133 | 0889 | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

| Parts for Seconds of Appt. Argum. | Sums & A. D 118° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 241 | 0 | 240 | 5 | 4907 | 4738 | 4570 | 4401 | 4233 | 4064 | 3896 | 3728 | 3559 | 3391 | 3222 | 3054 | 2885 | 2717 | 2548 |
| 237 | 1 | | 5 | 4823 | 4654 | 4486 | 4317 | 4149 | 3980 | 3812 | 3643 | 3475 | 3306 | 3138 | 2969 | 2801 | 2632 | 2464 |
| 233 | 2 | | 5 | 4739 | 4571 | 4402 | 4234 | 4065 | 3897 | 3728 | 3560 | 3391 | 3223 | 3054 | 2886 | 2717 | 2549 | 2380 |
| 229 | 3 | | 5 | 5971 | 5733 | 5496 | 5258 | 5020 | 4782 | 4544 | 4306 | 4069 | 3831 | 3593 | 3354 | 3116 | 2878 | 2640 | 2402 | 2164 |
| 225 | 4 | | 6 | 6235 | 5988 | 5741 | 5494 | 5247 | 5000 | 4753 | 4506 | 4259 | 4012 | 3765 | 3518 | 3271 | 3024 | 2777 | 2530 | 2283 |
| 221 | 5 | 240 | 6 | 6150 | 5903 | 5656 | 5409 | 5162 | 4915 | 4668 | 4421 | 4174 | 3927 | 3680 | 3433 | 3186 | 2939 | 2692 | 2445 | 2198 |
| 217 | 6 | | 6 | 6734 | 6496 | 6258 | 6020 | 5781 | 5543 | 5305 | 5067 | 4828 | 4590 | 4352 | 4113 | 3875 | 3636 | 3398 | 3159 | 2920 |
| 213 | 7 | | 6 | 6648 | 6410 | 6173 | 5935 | 5697 | 5459 | 5221 | 4983 | 4745 | 4507 | 4269 | 4031 | 3793 | 3555 | 3317 | 3079 | 2841 |
| 209 | 8 | | 6 | 7448 | 7211 | 6974 | 6737 | 6500 | 6263 | 6026 | 5789 | 5552 | 5315 | 5078 | 4841 | 4604 | 4367 | 4130 | 3893 | 3656 |
| 205 | 9 | | 7 | 7407 | 7167 | 6927 | 6687 | 6447 | 6207 | 5967 | 5727 | 5487 | 5247 | 5007 | 4767 | 4527 | 4287 | 4047 | 3807 | 3567 |
| 201 | 10 | 240 | 7 | 7751 | 7511 | 7272 | 7032 | 6792 | 6553 | 6313 | 6073 | 5834 | 5594 | 5354 | 5115 | 4875 | 4635 | 4396 | 4156 | 3916 |
| 197 | 11 | | 7 | 8005 | 7765 | 7525 | 7285 | 7045 | 6805 | 6565 | 6325 | 6085 | 5845 | 5605 | 5365 | 5125 | 4885 | 4645 | 4405 | 4165 |
| 193 | 12 | | 8 | 8259 | 8020 | 7781 | 7542 | 7303 | 7064 | 6825 | 6586 | 6347 | 6108 | 5869 | 5630 | 5391 | 5151 | 4912 | 4672 | 4433 |
| 189 | 13 | | 8 | 8513 | 8274 | 8035 | 7796 | 7557 | 7318 | 7079 | 6840 | 6601 | 6362 | 6123 | 5884 | 5645 | 5406 | 5167 | 4928 | 4689 |
| 185 | 14 | | 8 | 8767 | 8528 | 8289 | 8050 | 7811 | 7571 | 7332 | 7093 | 6854 | 6615 | 6374 | 6135 | 5896 | 5657 | 5418 | 5179 | 4940 |
| 181 | 15 | 240 | 9 | 9021 | 8782 | 8543 | 8303 | 8064 | 7825 | 7585 | 7346 | 7107 | 6868 | 6627 | 6387 | 6148 | 5909 | 5669 | 5430 | 5191 |
| 177 | 16 | | 9 | 9275 | 9036 | 8796 | 8557 | 8317 | 8078 | 7838 | 7599 | 7359 | 7119 | 6880 | 6640 | 6401 | 6161 | 5922 | 5682 | 5443 |
| 173 | 17 | | 9 | 9529 | 9289 | 9050 | 8810 | 8571 | 8331 | 8091 | 7851 | 7612 | 7372 | 7132 | 6893 | 6653 | 6413 | 6174 | 5934 | 5694 |
| 169 | 18 | | 9 | 9783 | 9543 | 9304 | 9064 | 8824 | 8584 | 8344 | 8104 | 7864 | 7624 | 7385 | 7145 | 6905 | 6666 | 6426 | 6186 | 5946 |
| 165 | 19 | 240 | 10 | 10037 | 9797 | 9557 | 9317 | 9077 | 8837 | 8597 | 8357 | 8117 | 7877 | 7637 | 7397 | 7157 | 6917 | 6678 | 6438 | 6198 |
| 161 | 20 | 240 | 10 | 10291 | 10051 | 9810 | 9570 | 9330 | 9090 | 8850 | 8610 | 8370 | 8130 | 7889 | 7649 | 7409 | 7170 | 6930 | 6688 | 6447 |
| 157 | 21 | | 10 | 10545 | 10305 | 10064 | 9823 | 9583 | 9343 | 9103 | 8863 | 8622 | 8382 | 8142 | 7901 | 7661 | 7421 | 7181 | 6941 | 6700 |
| 153 | 22 | | 10 | 10799 | 10558 | 10317 | 10077 | 9836 | 9596 | 9355 | 9115 | 8875 | 8635 | 8394 | 8154 | 7913 | 7673 | 7433 | 7192 | 6952 |
| 149 | 23 | | 11 | 11053 | 10812 | 10571 | 10330 | 10089 | 9849 | 9608 | 9367 | 9127 | 8886 | 8646 | 8405 | 8165 | 7924 | 7684 | 7443 | 7203 |
| 145 | 24 | | 11 | 11307 | 11066 | 10825 | 10584 | 10343 | 10102 | 9861 | 9621 | 9380 | 9139 | 8899 | 8658 | 8417 | 8177 | 7936 | 7695 | 7455 |
| 141 | 25 | 240 | 11 | 11561 | 11320 | 11078 | 10837 | 10596 | 10355 | 10114 | 9873 | 9633 | 9392 | 9151 | 8911 | 8670 | 8429 | 8189 | 7948 | 7707 |
| 137 | 26 | | 11 | 11815 | 11574 | 11332 | 11091 | 10850 | 10608 | 10367 | 10126 | 9886 | 9645 | 9404 | 9163 | 8923 | 8682 | 8441 | 8200 | 7960 |
| 133 | 27 | | 12 | 12069 | 11828 | 11586 | 11345 | 11103 | 10862 | 10621 | 10380 | 10139 | 9898 | 9657 | 9416 | 9176 | 8935 | 8694 | 8453 | 8212 |
| 129 | 28 | | 12 | 12323 | 12081 | 11840 | 11598 | 11357 | 11116 | 10874 | 10633 | 10392 | 10151 | 9910 | 9669 | 9428 | 9188 | 8947 | 8706 | 8465 |
| 125 | 29 | | 12 | 12577 | 12335 | 12094 | 11852 | 11611 | 11369 | 11128 | 10886 | 10645 | 10404 | 10163 | 9922 | 9681 | 9441 | 9200 | 8959 | 8718 |
| 121 | 30 | 240 | 12 | 12831 | 12589 | 12347 | 12106 | 11864 | 11623 | 11381 | 11140 | 10898 | 10657 | 10416 | 10175 | 9934 | 9693 | 9453 | 9212 | 8971 |
| 117 | 31 | | 13 | 13085 | 12843 | 12601 | 12359 | 12118 | 11876 | 11634 | 11393 | 11151 | 10910 | 10669 | 10427 | 10186 | 9946 | 9705 | 9464 | 9223 |
| 113 | 32 | | 13 | 13339 | 13097 | 12855 | 12613 | 12371 | 12129 | 11888 | 11646 | 11404 | 11163 | 10922 | 10680 | 10439 | 10198 | 9958 | 9717 | 9476 |
| 109 | 33 | | 13 | 13593 | 13351 | 13109 | 12867 | 12625 | 12383 | 12141 | 11899 | 11658 | 11416 | 11175 | 10933 | 10692 | 10451 | 10211 | 9970 | 9729 |
| 105 | 34 | | 13 | 13847 | 13605 | 13363 | 13121 | 12879 | 12637 | 12395 | 12153 | 11911 | 11669 | 11428 | 11186 | 10945 | 10704 | 10463 | 10223 | 9982 |
| 101 | 35 | 240 | 14 | 14101 | 13859 | 13617 | 13375 | 13133 | 12891 | 12648 | 12406 | 12164 | 11922 | 11681 | 11439 | 11198 | 10957 | 10716 | 10475 | 10235 |
| 97 | 36 | | 14 | 14355 | 14113 | 13871 | 13629 | 13387 | 13144 | 12902 | 12660 | 12418 | 12176 | 11934 | 11693 | 11451 | 11210 | 10969 | 10728 | 10488 |
| 93 | 37 | | 14 | 14609 | 14367 | 14125 | 13883 | 13640 | 13398 | 13156 | 12914 | 12672 | 12430 | 12188 | 11946 | 11705 | 11463 | 11222 | 10981 | 10741 |
| 89 | 38 | | 14 | 14863 | 14621 | 14379 | 14136 | 13894 | 13652 | 13410 | 13168 | 12926 | 12684 | 12442 | 12200 | 11958 | 11717 | 11475 | 11234 | 10994 |
| 85 | 39 | | 15 | 15117 | 14875 | 14633 | 14390 | 14148 | 13906 | 13664 | 13422 | 13180 | 12938 | 12696 | 12454 | 12212 | 11970 | 11729 | 11488 | 11247 |
| 81 | 40 | 240 | 15 | 15371 | 15129 | 14887 | 14644 | 14402 | 14160 | 13918 | 13676 | 13434 | 13192 | 12950 | 12708 | 12466 | 12224 | 11982 | 11741 | 11500 |
| 77 | 41 | | 15 | 15625 | 15383 | 15141 | 14898 | 14656 | 14414 | 14172 | 13930 | 13688 | 13446 | 13204 | 12962 | 12720 | 12478 | 12236 | 11994 | 11753 |
| 73 | 42 | | 15 | 15879 | 15637 | 15395 | 15152 | 14910 | 14668 | 14426 | 14184 | 13942 | 13700 | 13458 | 13216 | 12974 | 12732 | 12490 | 12248 | 12006 |
| 69 | 43 | | 16 | 16133 | 15891 | 15649 | 15406 | 15164 | 14922 | 14680 | 14438 | 14196 | 13954 | 13712 | 13470 | 13228 | 12986 | 12744 | 12502 | 12260 |
| 65 | 44 | | 16 | 16387 | 16145 | 15903 | 15660 | 15418 | 15176 | 14934 | 14692 | 14450 | 14208 | 13966 | 13724 | 13482 | 13240 | 12998 | 12756 | 12514 |
| 61 | 45 | 240 | 16 | 16641 | 16399 | 16157 | 15914 | 15672 | 15430 | 15188 | 14946 | 14704 | 14462 | 14220 | 13978 | 13736 | 13494 | 13252 | 13010 | 12768 |
| 57 | 46 | | 16 | 16895 | 16653 | 16411 | 16168 | 15926 | 15684 | 15442 | 15200 | 14958 | 14716 | 14474 | 14232 | 13990 | 13748 | 13506 | 13264 | 13022 |
| 53 | 47 | | 17 | 17149 | 16907 | 16665 | 16422 | 16180 | 15938 | 15696 | 15454 | 15212 | 14970 | 14728 | 14486 | 14244 | 14002 | 13760 | 13518 | 13276 |
| 49 | 48 | | 17 | 17403 | 17161 | 16919 | 16676 | 16434 | 16192 | 15950 | 15708 | 15466 | 15224 | 14982 | 14740 | 14498 | 14256 | 14014 | 13772 | 13530 |
| 45 | 49 | | 17 | 17657 | 17415 | 17173 | 16930 | 16688 | 16446 | 16204 | 15962 | 15720 | 15478 | 15236 | 14994 | 14752 | 14510 | 14268 | 14026 | 13784 |
| 41 | 50 | 240 | 17 | 17911 | 17669 | 17427 | 17184 | 16942 | 16700 | 16458 | 16216 | 15974 | 15732 | 15490 | 15248 | 15006 | 14764 | 14522 | 14280 | 14038 |
| 37 | 51 | | 18 | 18165 | 17923 | 17681 | 17438 | 17196 | 16954 | 16712 | 16470 | 16228 | 15986 | 15744 | 15502 | 15260 | 15018 | 14776 | 14534 | 14292 |
| 33 | 52 | | 18 | 18419 | 18177 | 17935 | 17692 | 17450 | 17208 | 16966 | 16724 | 16482 | 16240 | 15998 | 15756 | 15514 | 15272 | 15030 | 14788 | 14546 |
| 29 | 53 | | 18 | 18673 | 18431 | 18189 | 17946 | 17704 | 17462 | 17220 | 16978 | 16736 | 16494 | 16252 | 16010 | 15768 | 15526 | 15284 | 15042 | 14800 |
| 25 | 54 | | 18 | 18927 | 18685 | 18443 | 18200 | 17958 | 17716 | 17474 | 17232 | 16990 | 16748 | 16506 | 16264 | 16022 | 15780 | 15538 | 15296 | 15054 |
| 21 | 55 | 240 | 19 | 19181 | 18939 | 18697 | 18454 | 18212 | 17970 | 17728 | 17486 | 17244 | 17002 | 16760 | 16518 | 16276 | 16034 | 15792 | 15550 | 15308 |
| 17 | 56 | | 19 | 19435 | 19193 | 18951 | 18708 | 18466 | 18224 | 17982 | 17740 | 17498 | 17256 | 17014 | 16772 | 16530 | 16288 | 16046 | 15804 | 15562 |
| 13 | 57 | | 19 | 19689 | 19447 | 19205 | 18962 | 18720 | 18478 | 18236 | 17994 | 17752 | 17510 | 17268 | 17026 | 16784 | 16542 | 16300 | 16058 | 15816 |
| 9 | 58 | | 19 | 19943 | 19701 | 19459 | 19216 | 18974 | 18732 | 18490 | 18248 | 18006 | 17764 | 17522 | 17280 | 17038 | 16796 | 16554 | 16312 | 16070 |
| 5 | 59 | 240 | 20 | 20197 | 19955 | 19713 | 19470 | 19228 | 18986 | 18744 | 18502 | 18260 | 18018 | 17776 | 17534 | 17292 | 17050 | 16808 | 16566 | 16324 |

| Parts for Sec | Sums & A. D 118° | Sums |
|---|---|---|
| ″ | ′ | |
| 0 | 0 | 540 0172 |
| 1 | 1 | 9748 |
| 2 | 2 | 9324 |
| 3 | 3 | 547 0044 |
| 4 | 4 | 8620 |
| 5 | 5 | 547 0196 |
| 6 | 6 | 1772 |
| 7 | 7 | 1348 |
| 8 | 8 | 1525 |
| 9 | 9 | 1782 |
| 10 | 10 | 547 2038 |
| 11 | 11 | 2294 |
| 12 | 12 | 2550 |
| 13 | 13 | 2806 |
| 14 | 14 | 3062 |
| 15 | 15 | 547 3318 |
| 16 | 16 | 3574 |
| 17 | 17 | 3830 |
| 18 | 18 | 4086 |
| 19 | 19 | 4342 |
| 20 | 20 | 547 4598 |
| 21 | 21 | 4854 |
| 22 | 22 | 5110 |
| 23 | 23 | 5366 |
| 24 | 24 | 5622 |
| 25 | 25 | 547 5878 |
| 26 | 26 | 6134 |
| 27 | 27 | 6390 |
| 28 | 28 | 6646 |
| 29 | 29 | 6902 |
| 30 | 30 | 547 7158 |
| 31 | 31 | 7414 |
| 32 | 32 | 7670 |
| 33 | 33 | 7926 |
| 34 | 34 | 8182 |
| 35 | 35 | 547 8438 |
| 36 | 36 | 8694 |
| 37 | 37 | 8950 |
| 38 | 38 | 9206 |
| 39 | 39 | 9462 |
| 40 | 40 | 547 9718 |
| 41 | 41 | 9974 |
| 42 | 42 | 548 0230 |
| 43 | 43 | 0487 |
| 44 | 44 | 0743 |
| 45 | 45 | 548 0999 |
| 46 | 46 | 1255 |
| 47 | 47 | 1511 |
| 48 | 48 | 1767 |
| 49 | 49 | 2023 |
| 50 | 50 | 548 2279 |
| 51 | 51 | 2535 |
| 52 | 52 | 2791 |
| 53 | 53 | 3047 |
| 54 | 54 | 3303 |
| 55 | 55 | 548 3559 |
| 56 | 56 | 3815 |
| 57 | 57 | 4071 |
| 58 | 58 | 4327 |
| 59 | 59 | 4583 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| P. S. C. C. S. A addn. | ′ | Numbers | Parts for 1′ | Auxiliary Arguments. ′ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 255 | 0 | 053 0272 | 248 | 0 | 248 | 4565 | 4321 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2365 | 2120 | 1876 | 1631 | 1386 | 1141 | 0896 | 0651 |
| 251 | 1 | 0015 | 244 | 1 | | 4820 | 4585 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2618 | 2373 | 2128 | 1884 | 1639 | 1394 | 1149 | 0904 |
| 247 | 2 | 052 9758 | 240 | 2 | | 5074 | 4829 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2871 | 2626 | 2381 | 2136 | 1891 | 1646 | 1401 | 1156 |
| 243 | 3 | 9501 | 236 | 3 | | 5328 | 5083 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3124 | 2879 | 2634 | 2389 | 2144 | 1898 | 1653 | 1408 |
| 238 | 4 | 9245 | 232 | 4 | | 5581 | 5337 | [illegible] | [illegible] | 4003 | 4358 | 4113 | 3867 | 3622 | 3377 | 3132 | 2887 | 2641 | 2396 | 2151 | 1905 | 1660 |
| 234 | 5 | 052 8988 | 228 | 5 | 248 | 5836 | 5591 | 5346 | 5101 | 4856 | 4611 | 4366 | 4121 | 3875 | 3630 | 3385 | 3139 | 2894 | 2649 | 2403 | 2158 | 1913 |
| 230 | 6 | 8732 | 224 | 6 | | 6090 | 5845 | 5600 | 5355 | 5110 | 4864 | 4619 | 4374 | 4128 | 3883 | 3638 | 3392 | 3147 | 2901 | 2655 | 2410 | 2164 |
| 226 | 7 | 8475 | 220 | 7 | | 6344 | 6099 | 5854 | 5609 | 5363 | 5118 | 4872 | 4627 | 4381 | 4136 | 3890 | 3645 | 3399 | 3153 | 2908 | 2662 | 2417 |
| 221 | 8 | 8218 | 216 | 8 | | 6598 | 6353 | [illegible] | [illegible] | 5617 | 5371 | 5126 | 4880 | 4634 | 4389 | 4143 | 3897 | 3652 | 3406 | 3160 | 2914 | 2669 |
| 217 | 9 | 7962 | 212 | 9 | | 6852 | 6607 | 6361 | 6116 | 5870 | 5624 | 5379 | 5133 | 4887 | 4642 | 4396 | 4150 | 3904 | 3658 | 3412 | 3166 | 2921 |
| 213 | 10 | 052 7706 | 208 | 10 | 248 | 7106 | 6861 | 6615 | 6369 | 6124 | 5878 | 5632 | 5386 | 5140 | 4894 | 4648 | 4402 | 4156 | 3910 | 3664 | 3418 | 3173 |
| 209 | 11 | 7449 | 204 | 11 | | 7360 | 7114 | 6869 | 6623 | 6377 | 6131 | 5885 | 5639 | 5393 | 5147 | 4901 | 4655 | 4409 | 4162 | 3916 | 3670 | 3425 |
| 204 | 12 | 7193 | 200 | 12 | | 7614 | 7368 | 7122 | 6876 | 6630 | 6384 | 6138 | 5892 | 5646 | 5400 | 5153 | 4907 | 4661 | 4414 | 4168 | 3922 | 3677 |
| 200 | 13 | 6937 | 196 | 13 | | 7868 | 7622 | 7376 | 7130 | 6884 | 6637 | 6391 | 6145 | 5899 | 5652 | 5406 | 5160 | 4913 | 4667 | 4420 | 4173 | 3927 |
| 196 | 14 | 6680 | 192 | 14 | | 8121 | 7875 | 7629 | 7383 | 7137 | 6890 | 6644 | 6398 | 6151 | 5905 | 5658 | 5412 | 5165 | 4919 | 4672 | 4425 | 4179 |
| 192 | 15 | 052 6424 | 188 | 15 | 248 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 187 | 16 | 6168 | 184 | 16 | | 8629 | 8382 | 8136 | 7889 | 7643 | 7396 | 7150 | 6903 | 6657 | 6410 | 6163 | 5916 | 5669 | 5423 | 5176 | [illegible] | [illegible] |
| 183 | 17 | 5912 | 180 | 17 | | 8882 | 8636 | 8389 | 8143 | 7896 | 7649 | 7403 | 7156 | 6909 | 6662 | 6415 | 6169 | 5922 | 5675 | 5428 | [illegible] | [illegible] |
| 179 | 18 | 5656 | 176 | 18 | | 9136 | 8889 | 8643 | 8396 | 8149 | 7902 | 7656 | 7409 | 7162 | 6915 | 6668 | 6421 | 6174 | 5926 | 5679 | 5432 | 5185 |
| 175 | 19 | 5400 | 172 | 19 | | 9389 | 9143 | 8896 | 8649 | 8402 | 8155 | 7908 | 7661 | 7414 | 7167 | 6920 | 6673 | 6426 | 6178 | 5931 | 5684 | [illegible] |
| 170 | 20 | 052 5144 | 168 | 20 | 248 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 166 | 21 | 4888 | 164 | 21 | | [illegible] | [illegible] | [illegible] | [illegible] | 8908 | 8661 | 8414 | 8166 | 7919 | 7672 | 7424 | 7177 | 6929 | 6682 | 6434 | 6187 | 5939 |
| 162 | 22 | 4632 | 160 | 22 | 249 (248) | 0150 | 9903 | 9655 | 9408 | 9161 | 8914 | 8666 | 8419 | 8171 | 7924 | 7677 | 7429 | 7181 | 6934 | 6686 | 6438 | 6191 |
| 158 | 23 | 4376 | 156 | 23 | | [illegible] | [illegible] | [illegible] | [illegible] | 9414 | 9166 | 8919 | 8671 | 8424 | 8176 | 7929 | 7681 | 7433 | 7185 | 6938 | 6690 | 6442 |
| 153 | 24 | 4120 | 152 | 24 | | 0656 | 0409 | 0162 | 9914 | 9667 | 9419 | 9171 | 8924 | 8676 | 8428 | 8181 | 7933 | 7685 | 7437 | 7189 | 6941 | 6693 |
| 149 | 25 | 052 3864 | 148 | 25 | 249 (248) | [illegible] | [illegible] | [illegible] | [illegible] | 9919 | 9672 | 9424 | 9176 | 8928 | 8681 | 8433 | 8185 | 7937 | 7689 | 7441 | 7192 | 6944 |
| 145 | 26 | 3608 | 144 | 26 | | 1163 | 0915 | 0668 | 0420 | 0172 | 9924 | 9676 | 9429 | 9181 | 8933 | 8685 | 8436 | 8188 | 7940 | 7693 | [illegible] | [illegible] |
| 141 | 27 | 3353 | 140 | 27 | | 1416 | 1168 | 0921 | 0673 | 0425 | 0177 | 9929 | 9681 | 9433 | 9185 | 8936 | 8688 | 8440 | 8192 | 7943 | 7695 | 7447 |
| 136 | 28 | 3097 | 136 | 28 | | 1669 | 1421 | 1173 | 0925 | 0677 | 0430 | 0181 | 9933 | 9686 | [illegible] | 9437 | 9188 | 8940 | 8692 | 8443 | 8195 | 7946 | 7698 |
| 132 | 29 | 2841 | 132 | 29 | | 1922 | 1674 | 1426 | 1179 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 128 | 30 | 052 2586 | 128 | 30 | 249 (248) | 2175 | 1927 | 1679 | 1431 | 1183 | 0934 | 0686 | 0437 | 0189 | 9941 | 9692 | 9443 | 9195 | 8946 | 8697 | 8449 | 8200 |
| 123 | 31 | 2330 | 124 | 31 | | 2428 | 2180 | 1932 | 1684 | 1435 | 1187 | 0938 | 0690 | 0441 | 0192 | 9944 | 9695 | 9446 | 9198 | 8949 | 8700 | 8451 |
| 119 | 32 | 2075 | 120 | 32 | | 2681 | 2433 | 2185 | 1936 | 1688 | 1439 | 1190 | 0942 | 0693 | 0444 | 0195 | 9947 | 9698 | 9449 | 9200 | 8951 | 8702 |
| 115 | 33 | 1819 | 116 | 33 | | 2934 | 2686 | 2437 | 2189 | [illegible] | 1691 | 1443 | 1194 | 0945 | 0696 | 0447 | 0198 | 9949 | 9700 | 9451 | 9202 | 8953 |
| 111 | 34 | 1564 | 112 | 34 | | 3187 | 2939 | 2690 | 2441 | [illegible] | [illegible] | [illegible] | [illegible] | 1197 | 0948 | 0699 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 106 | 35 | 052 1308 | 108 | 35 | 249 (248) | 3440 | 3191 | 2943 | 2694 | [illegible] | 2196 | 1947 | 1698 | 1449 | 1200 | 0950 | [illegible] | [illegible] | [illegible] | 9953 | 9704 | 9455 |
| 102 | 36 | 1053 | 104 | 36 | | 3693 | 3444 | 3195 | 2946 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0953 | 0703 | 0454 | 0204 | 9955 | 9705 |
| 98 | 37 | 0797 | 100 | 37 | | 3946 | 3697 | 3448 | 3198 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0705 | 0455 | 0206 | 9956 |
| 94 | 38 | 0542 | 96 | 38 | 248 | [illegible] | [illegible] | [illegible] | [illegible] | 3202 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 89 | 39 | 0287 | 92 | 39 | | 4452 | 4202 | 3953 | 3703 | 3454 | 3204 | 2955 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0707 | 0457 |
| 85 | 40 | 052 0032 | 88 | 40 | 249 | 4704 | 4454 | 4205 | 3955 | 3706 | 3456 | 3207 | 2957 | 2708 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0958 | 0708 |
| 81 | 41 | 051 9777 | 84 | 41 | | 4957 | 4707 | 4457 | 4208 | 3958 | 3708 | 3458 | 3209 | 2959 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1709 | 1459 | 1209 | 0958 |
| 77 | 42 | 9521 | 80 | 42 | | 5209 | 4959 | 4710 | 4460 | 4210 | 3960 | 3710 | 3460 | 3210 | 2960 | 2710 | 2460 | [illegible] | [illegible] | [illegible] | 1709 | 1459 | 1209 |
| 72 | 43 | 9266 | 76 | 43 | | 5462 | 5212 | 4962 | 4712 | 4462 | 4212 | 3962 | 3712 | 3462 | 3212 | 2962 | 2711 | 2461 | 2211 | 1960 | 1710 | 1459 |
| 68 | 44 | 9011 | 72 | 44 | | 5714 | 5464 | 5214 | 4964 | 4714 | 4464 | 4214 | 3964 | 3714 | [illegible] | [illegible] | 2712 | 2461 | [illegible] | 1960 | 1710 | [illegible] |
| 64 | 45 | 051 8756 | 68 | 45 | [illegible] | 5967 | 5716 | 5466 | 5216 | 4966 | 4716 | 4465 | 4215 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 60 | 46 | 8501 | 64 | 46 | [illegible] | 6219 | 5969 | 5718 | 5468 | 5218 | 4968 | 4717 | 4467 | 4216 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | 47 | 8246 | 60 | 47 | [illegible] | 6471 | 6221 | 5971 | 5720 | 5470 | 5219 | 4969 | 4718 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | 48 | 7991 | 56 | 48 | [illegible] | 6724 | 6473 | 6223 | 5972 | 5722 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2062 | 2711 | [illegible] |
| 47 | 49 | 7737 | 52 | 49 | [illegible] | 6976 | 6725 | 6475 | 6224 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3213 | 2962 | [illegible] |
| 43 | 50 | 051 7482 | 48 | 50 | [illegible] | 7226 | 6977 | 6727 | 6476 | 6225 | 5974 | 5723 | 5473 | [illegible] | [illegible] | [illegible] | [illegible] | 4217 | 3966 | 3714 | 3463 | 3212 |
| 38 | 51 | 7227 | 44 | 51 | [illegible] | 7480 | 7229 | 6979 | 6728 | 6477 | 6226 | 5975 | 5724 | [illegible] | [illegible] | [illegible] | [illegible] | 4467 | 4216 | 3965 | 3713 | 3462 |
| 34 | 52 | 6971 | 40 | 52 | [illegible] | [illegible] | 7481 | 7231 | 6979 | 6728 | 6477 | 6226 | 5975 | [illegible] | [illegible] | [illegible] | 4970 | 4718 | 4467 | 4215 | 3964 | 3712 |
| 30 | 53 | 6718 | 36 | 53 | [illegible] | [illegible] | 7733 | 7482 | 7231 | 6980 | 6729 | 6477 | 6226 | [illegible] | [illegible] | [illegible] | [illegible] | 4969 | 4717 | 4465 | 4214 | 3962 |
| 26 | 54 | 6463 | 32 | 54 | [illegible] | 8237 | 7985 | [illegible] | [illegible] | [illegible] | 6980 | 6729 | 6477 | [illegible] | [illegible] | [illegible] | [illegible] | 5219 | 4968 | 4716 | 4464 | 4212 |
| 21 | 55 | 051 6208 | 28 | 55 | 249 | [illegible] | 8489 | 8237 | 7986 | 7735 | 7483 | 7232 | 6980 | 6728 | 6477 | 6225 | 5973 | 5721 | 5470 | 5218 | 4966 | 4714 | 4462 |
| 17 | 56 | 5954 | 24 | 56 | | 8743 | 8489 | 8238 | 7986 | 7735 | 7483 | 7231 | 6979 | 6728 | 6476 | 6224 | 5972 | 5720 | 5468 | 5216 | 4964 | 4712 |
| 13 | 57 | 5699 | 20 | 57 | | 8993 | 8741 | 8490 | 8238 | 7986 | 7734 | 7482 | 7230 | 6979 | 6727 | 6475 | 6223 | 5971 | 5718 | 5466 | 5214 | 4962 |
| 8 | 58 | 5445 | 16 | 58 | | 9244 | 8993 | 8741 | 8489 | 8237 | 7985 | 7733 | 7481 | 7229 | 6977 | 6725 | 6473 | 6221 | 5969 | 5716 | 5464 | 5212 |
| 4 | 59 | 5190 | 12 | 59 | | [illegible] | [illegible] | [illegible] | 8741 | 8489 | 8237 | 7985 | 7732 | 7480 | [illegible] | 6976 | 6724 | 6471 | 6219 | 5967 | 5714 | 5462 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

| Tens or Seconds of Auxil. Argum. additive | Auxiliary Arguments. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ∞ A. D. 119° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| | 0 | 248 (247) | | | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | | |
| | 3 | | | | | | | | | | | | | | | | | |
| | 4 | | | | | | | | | | | | | | | | | |
| | 5 | 248 (247) | | | | | | | | | | | | | | | | |
| | 6 | | | | | | | | | | | | | | | | | |
| | 7 | | | | | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | | | | | |
| | 9 | | | | | | | | | | | | | | | | | |
| | 10 | 248 (247) | | | | | | | | | | | | | | | | |
| | 11 | | | | | | | | | | | | | | | | | |
| | 12 | | | | | | | | | | | | | | | | | |
| | 13 | | | | | | | | | | | | | | | | | |
| | 14 | | | | | | | | | | | | | | | | | |
| | 15 | 248 | | | | | | | | | | | | | | | | |
| | 16 | | | | | | | | | | | | | | | | | |
| | 17 | | | | | | | | | | | | | | | | | |
| | 18 | | | | | | | | | | | | | | | | | |
| | 19 | | | | | | | | | | | | | | | | | |
| | 20 | 248 | | | | | | | | | | | | | | | | |
| | 21 | | | | | | | | | | | | | | | | | |
| | 22 | | | | | | | | | | | | | | | | | |
| | 23 | | | | | | | | | | | | | | | | | |
| | 24 | | | | | | | | | | | | | | | | | |
| 141 | 25 | 248 | | | | | | | | | | | | | | | | |
| 141 | 26 | 6947 | 6699 | 6450 | 6202 | 5954 | 5705 | 5457 | 5208 | 4959 | 4711 | 4462 | 4213 | 3964 | 3715 | 3467 | 3218 | 2969 |
| | 27 | | | | | | | | | | | | | | | | | |
| | 28 | | | | | | | | | | | | | | | | | |
| | 29 | | | | | | | | | | | | | | | | | |
| | 30 | 248 | | | | | | | | | | | | | | | | |
| | 31 | | | | | | | | | | | | | | | | | |
| | 32 | | | | | | | | | | | | | | | | | |
| | 33 | | | | | | | | | | | | | | | | | |
| | 34 | | | | | | | | | | | | | | | | | |
| 100 | 35 | 248 | | | | | | | | | | | | | | | | |
| 100 | 36 | 9456 | 9206 | 8956 | 8707 | 8457 | 8207 | 7957 | 7707 | 7457 | 7207 | 6957 | 6707 | 6457 | 6207 | 5957 | 5707 | 5457 |
| | 37 | | | | | | | | | | | | | | | | | |
| | 38 | | | | | | | | | | | | | | | | | |
| | 39 | | | | | | | | | | | | | | | | | |
| 83 | 40 | 249 (248) | 0458 | 0208 | 9957 | 9707 | 9457 | 9207 | 8956 | 8706 | 8455 | 8205 | 7954 | 7704 | 7453 | 7203 | 6952 | 6701 | 6450 |
| | 41 | | | | | | | | | | | | | | | | | |
| | 42 | | | | | | | | | | | | | | | | | |
| | 43 | | | | | | | | | | | | | | | | | |
| | 44 | | | | | | | | | | | | | | | | | |
| | 45 | 249 (248) | | | | | | | | | | | | | | | | |
| | 46 | | | | | | | | | | | | | | | | | |
| 54 | 47 | 2210 | 1959 | 1708 | 1457 | 1206 | 0954 | 0703 | 0452 | 0200 | 9949 | 9698 | 9446 | 9195 | 8943 | 8692 | 8440 | 8188 |
| | 48 | | | | | | | | | | | | | | | | | |
| | 49 | | | | | | | | | | | | | | | | | |
| 42 | 50 | 249 (248) | 2960 | 2709 | 2457 | 2206 | 1954 | 1703 | 1451 | 1200 | 0948 | 0696 | 0444 | 0192 | 9941 | 9689 | 9437 | 9185 | 8933 |
| 37 | 51 | 3210 | 2959 | 2707 | 2456 | 2204 | 1952 | 1700 | 1446 | 1197 | 0945 | 0693 | 0441 | 0189 | 9937 | 9685 | 9433 | 9181 | |
| | 52 | | | | | | | | | | | | | | | | | |
| | 53 | | | | | | | | | | | | | | | | | |
| | 54 | | | | | | | | | | | | | | | | | |
| | 55 | 249 | | | | | | | | | | | | | | | | |
| | 56 | | | | | | | | | | | | | | | | | |
| | 57 | | | | | | | | | | | | | | | | | |
| | 58 | | | | | | | | | | | | | | | | | |
| 4 | 59 | 5206 | 4957 | 4704 | 4451 | 4199 | 3946 | 3693 | 3440 | 3187 | 2934 | 2682 | 2428 | 2175 | 1922 | 1669 | 1416 | 1163 |

| Tens for Secs. of C.D. additive | C. D. 119° | Sums |
|---|---|---|
| | 0 | 548 |
| | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | 543 |
| | 6 | |
| | 7 | |
| | 8 | |
| | 9 | |
| | 10 | |
| | 11 | |
| | 12 | |
| | 13 | |
| | 14 | |
| | 15 | |
| | 16 | |
| | 17 | |
| | 18 | |
| | 19 | |
| | 20 | 540 |
| | 21 | |
| | 22 | |
| | 23 | |
| | 24 | |
| | 25 | 540 |
| 110 | 26 | |
| | 27 | |
| | 28 | |
| | 29 | |
| | 30 | |
| | 31 | |
| | 32 | |
| | 33 | |
| | 34 | |
| | 35 | 540 |
| | 36 | |
| | 37 | |
| | 38 | |
| | 39 | |
| | 40 | |
| | 41 | |
| | 42 | |
| | 43 | |
| | 44 | |
| | 45 | |
| | 46 | |
| | 47 | |
| | 48 | |
| | 49 | |
| 211 | 50 | |
| 215 | 51 | |
| | 52 | |
| | 53 | |
| | 54 | |
| | 55 | |
| | 56 | |
| | 57 | |
| | 58 | |
| | 59 | |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts in Sec. of Arg. | Sums of 120° | Numbers. |
|---|---|---|
| 253 | 0 | 0510 4936 |
| 249 | 1 | 4982 |
| 245 | 2 | 4427 |
| 241 | 3 | 4173 |
| 237 | 4 | 3919 |
| 233 | 5 | 0510 3665 |
| 229 | 6 | 3410 |
| 224 | 7 | 3156 |
| 220 | 8 | 2902 |
| 216 | 9 | 2648 |
| 211 | 10 | 0510 2394 |
| 207 | 11 | 2141 |
| 203 | 12 | 1887 |
| 199 | 13 | 1633 |
| 194 | 14 | 1379 |
| 190 | 15 | 0510 1125 |
| 186 | 16 | 0871 |
| 182 | 17 | 0617 |
| 177 | 18 | 0364 |
| 173 | 19 | 0110 |
| 169 | 20 | 0510 0857 |
| 165 | 21 | 0603 |
| 161 | 22 | 0350 |
| 156 | 23 | 0096 |
| 152 | 24 | 0510 9842 |
| 148 | 25 | 0510 9588 |
| 144 | 26 | 9334 |
| 140 | 27 | 9080 |
| 135 | 28 | 8826 |
| 131 | 29 | 8572 |
| 127 | 30 | 0510 8318 |
| 123 | 31 | 7064 |
| 119 | 32 | 6811 |
| 114 | 33 | 6557 |
| 110 | 34 | 6303 |
| 106 | 35 | 0510 6049 |
| 102 | 36 | 5795 |
| 97 | 37 | 5542 |
| 93 | 38 | 5288 |
| 89 | 39 | 5034 |
| 84 | 40 | 0510 4780 |
| 80 | 41 | 4541 |
| 76 | 42 | 4289 |
| 72 | 43 | 4036 |
| 68 | 44 | 3783 |
| 63 | 45 | 0510 3531 |
| 59 | 46 | 3278 |
| 55 | 47 | 3026 |
| 51 | 48 | 2774 |
| 47 | 49 | 2521 |
| 42 | 50 | 0510 2269 |
| 38 | 51 | 2017 |
| 34 | 52 | 1765 |
| 30 | 53 | 1513 |
| 26 | 54 | 1261 |
| 21 | 55 | 1009 |
| 17 | 56 | 0757 |
| 13 | 57 | 0505 |
| 9 | 58 | 0253 |
| 4 | 59 | 0000 |

| Parts in Sec. of Arg. | Sums of 120° & Apparent Argum. | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 253 | 0 | 249 | 9748 | 9496 | 9243 | 8991 | 8739 | 8487 | 8234 | 7982 | 7729 | 7477 | 7224 | 6972 | 6719 | 6467 | 6214 | 5961 |
| 249 | 1 | 250 (249) | 0000 | 9748 | 9496 | 9243 | 8991 | 8739 | 8487 | 8234 | 7982 | 7729 | 7477 | 7224 | 6972 | 6719 | 6467 | 6214 | 5961 |
| 245 | 2 | | 0252 | 9999 | 9747 | 9495 | 9242 | 8990 | 8738 | 8485 | 8233 | 7980 | 7727 | 7475 | 7222 | 6969 | 6717 | 6464 | 6211 |
| 241 | 3 | | 0503 | 0251 | 9999 | 9746 | 9494 | 9241 | 8989 | 8737 | 8484 | 8232 | 7979 | 7726 | 7474 | 7221 | 6968 | 6715 | 6463 |
| 237 | 4 | | 0755 | 0502 | 0250 | 9997 | 9745 | 9492 | 9239 | 8987 | 8734 | 8481 | 8228 | 7975 | 7722 | 7469 | 7216 | 6963 | 6710 |
| 233 | 5 | 250 (249) | 1007 | 0754 | 0502 | 0249 | 9997 | 9744 | 9491 | 9238 | 8986 | 8733 | 8480 | 8227 | 7974 | 7721 | 7466 | 7213 | 6960 |
| 228 | 6 | | 1258 | 1005 | 0753 | 0500 | 0247 | 9995 | 9741 | 9488 | 9235 | 8982 | 8729 | 8476 | 8222 | 7969 | 7716 | 7463 | 7209 |
| 224 | 7 | | 1510 | 1257 | 1004 | 0751 | 0498 | 0245 | 9992 | 9739 | 9486 | 9232 | 8979 | 8726 | 8472 | 8219 | 7966 | 7712 | 7459 |
| 220 | 8 | | 1761 | 1508 | 1255 | 1002 | 0749 | 0496 | 0242 | 9989 | 9736 | 9483 | 9229 | 8976 | 8722 | 8469 | 8215 | 7962 | 7708 |
| 215 | 9 | | 2013 | 1759 | 1506 | 1253 | 1000 | 0746 | 0493 | 0240 | 9986 | 9730 | 9476 | 9223 | 8972 | 8719 | 8465 | 8211 | 7957 |
| 211 | 10 | 250 (249) | 2264 | 2011 | 1757 | 1504 | 1251 | 0997 | 0744 | 0490 | 0237 | 9983 | 9729 | 9476 | 9222 | 8968 | 8715 | 8461 | 8207 |
| 207 | 11 | | 2515 | 2262 | 2008 | 1755 | 1502 | 1248 | 0994 | 0741 | 0487 | 0233 | 9980 | 9726 | 9472 | 9218 | 8964 | 8710 | 8456 |
| 203 | 12 | | 2766 | 2513 | 2260 | 2006 | 1752 | 1499 | 1245 | 0991 | 0737 | 0483 | 0230 | 9976 | 9722 | 9468 | 9214 | 8960 | 8705 |
| 199 | 13 | | 3018 | 2764 | 2511 | 2257 | 2003 | 1749 | 1495 | 1241 | 0988 | 0734 | 0480 | 0226 | 9971 | 9717 | 9463 | 9209 | 8955 |
| 194 | 14 | | 3269 | 3015 | 2761 | 2508 | 2254 | 2000 | 1746 | 1492 | 1238 | 0984 | 0730 | 0475 | 0221 | 9967 | 9713 | 9458 | 9204 |
| 190 | 15 | 250 (249) | 3520 | 3266 | 3012 | 2758 | 2504 | 2250 | 1996 | 1742 | 1488 | 1234 | 0979 | 0725 | 0471 | 0216 | 9962 | 9707 | 9453 |
| 186 | 16 | | 3771 | 3517 | 3263 | 3009 | 2755 | 2501 | 2247 | 1992 | 1738 | 1484 | 1229 | 0975 | 0720 | 0466 | 0211 | 9957 | 9702 |
| 182 | 17 | | 4022 | 3768 | 3514 | 3260 | 3006 | 2751 | 2497 | 2243 | 1989 | 1735 | 1480 | 1225 | 0971 | 0715 | 0461 | 9952 | 9697 |
| 177 | 18 | 250 | 4273 | 4019 | 3765 | 3511 | 3256 | 3002 | 2747 | 2493 | 2238 | 1984 | 1729 | 1474 | 1219 | 0965 | 0710 | 0455 | 0200 |
| 173 | 19 | | 4524 | 4270 | 4016 | 3762 | 3507 | 3253 | 2998 | 2744 | 2489 | 2235 | 1980 | 1725 | 1470 | 1214 | 0959 | 0704 | 0449 |
| 169 | 20 | 250 | 4775 | 4521 | 4266 | 4012 | 3757 | 3502 | 3248 | 2993 | 2738 | 2483 | 2228 | 1973 | 1718 | 1463 | 1208 | 0953 | 0698 |
| 165 | 21 | | 5026 | 4772 | 4517 | 4262 | 4008 | 3753 | 3498 | 3243 | 2988 | 2733 | 2478 | 2223 | 1968 | 1713 | 1458 | 1202 | 0947 |
| 161 | 22 | | 5277 | 5022 | 4768 | 4513 | 4258 | 4003 | 3748 | 3493 | 3238 | 2983 | 2728 | 2472 | 2217 | 1962 | 1707 | 1451 | 1196 |
| 156 | 23 | | 5528 | 5273 | 5018 | 4763 | 4508 | 4253 | 3998 | 3743 | 3488 | 3233 | 2977 | 2722 | 2467 | 2211 | 1956 | 1700 | 1445 |
| 152 | 24 | | 5779 | 5524 | 5269 | 5014 | 4758 | 4503 | 4248 | 3993 | 3737 | 3482 | 3227 | 2971 | 2716 | 2460 | 2205 | 1949 | 1693 |
| 148 | 25 | 250 | 6030 | 5774 | 5520 | 5265 | 5009 | 4753 | 4498 | 4243 | 3987 | 3732 | 3476 | 3221 | 2965 | 2709 | 2454 | 2198 | 1942 |
| 144 | 26 | | 6280 | 6025 | 5770 | 5514 | 5259 | 5003 | 4748 | 4492 | 4237 | 3981 | 3726 | 3470 | 3214 | 2958 | 2703 | 2447 | 2191 |
| 140 | 27 | | 6531 | 6276 | 6020 | 5765 | 5509 | 5253 | 4998 | 4742 | 4487 | 4231 | 3975 | 3719 | 3463 | 3207 | 2951 | 2695 | 2439 |
| 135 | 28 | | 6782 | 6526 | 6270 | 6015 | 5759 | 5503 | 5248 | 4992 | 4736 | 4480 | 4225 | 3968 | 3712 | 3456 | 3200 | 2944 | 2688 |
| 131 | 29 | | 7033 | 6777 | 6521 | 6266 | 6009 | 5753 | 5498 | 5242 | 4986 | 4730 | 4474 | 4218 | 3961 | 3705 | 3449 | 3193 | 2937 |
| 127 | 30 | 250 | 7284 | 7027 | 6771 | 6515 | 6259 | 6003 | 5747 | 5491 | 5235 | 4979 | 4723 | 4467 | 4210 | 3954 | 3698 | 3442 | 3185 |
| 123 | 31 | | 7535 | 7277 | 7021 | 6765 | 6509 | 6253 | 5997 | 5741 | 5485 | 5228 | 4972 | 4715 | 4459 | 4203 | 3947 | 3690 | 3434 |
| 118 | 32 | | 7786 | 7528 | 7271 | 7015 | 6759 | 6503 | 6247 | 5991 | 5734 | 5478 | 5221 | 4965 | 4708 | 4452 | 4195 | 3939 | 3683 |
| 114 | 33 | | 8037 | 7778 | 7521 | 7265 | 7009 | 6753 | 6496 | 6240 | 5984 | 5727 | 5471 | 5214 | 4957 | 4701 | 4444 | 4187 | 3930 |
| 110 | 34 | | 8288 | 8029 | 7771 | 7515 | 7259 | 7003 | 6746 | 6490 | 6233 | 5976 | 5720 | 5463 | 5206 | 4949 | 4692 | 4436 | 4179 |
| 106 | 35 | 250 | 8539 | 8280 | 8022 | 7765 | 7509 | 7252 | 6996 | 6739 | 6482 | 6225 | 5969 | 5712 | 5455 | 5198 | 4941 | 4684 | 4427 |
| 102 | 36 | | 8790 | 8528 | 8272 | 8015 | 7759 | 7502 | 7245 | 6989 | 6731 | 6475 | 6218 | 5961 | 5704 | 5447 | 5190 | 4932 | 4675 |
| 97 | 37 | | 9041 | 8779 | 8522 | 8265 | 8008 | 7751 | 7495 | 7238 | 6981 | 6724 | 6467 | 6210 | 5952 | 5695 | 5438 | 5181 | 4923 |
| 93 | 38 | | 9285 | 9029 | 8772 | 8515 | 8258 | 8001 | 7744 | 7487 | 7230 | 6973 | 6716 | 6458 | 6201 | 5944 | 5686 | 5429 | 5172 |
| 89 | 39 | | 9536 | 9279 | 9022 | 8765 | 8508 | 8251 | 7993 | 7736 | 7479 | 7222 | 6964 | 6707 | 6450 | 6192 | 5935 | 5677 | 5420 |
| 84 | 40 | 250 | 9786 | 9529 | 9272 | 9014 | 8757 | 8500 | 8243 | 7985 | 7728 | 7471 | 7213 | 6956 | 6698 | 6441 | 6183 | 5925 | 5668 |
| 80 | 41 | 251 (250) | 0036 | 9779 | 9521 | 9264 | 9007 | 8750 | 8492 | 8235 | 7977 | 7720 | 7462 | 7205 | 6947 | 6689 | 6431 | 6174 | 5916 |
| 76 | 42 | | 0286 | 0028 | 9771 | 9514 | 9256 | 8999 | 8741 | 8484 | 8226 | 7969 | 7711 | 7453 | 7195 | 6938 | 6680 | 6422 | 6164 |
| 72 | 43 | | 0536 | 0278 | 0021 | 9763 | 9506 | 9249 | 8990 | 8733 | 8475 | 8217 | 7960 | 7702 | 7444 | 7186 | 6928 | 6670 | 6412 |
| 68 | 44 | | 0786 | 0528 | 0270 | 0013 | 9755 | 9498 | 9240 | 8982 | 8724 | 8466 | 8208 | 7950 | 7692 | 7434 | 7176 | 6918 | 6660 |
| 63 | 45 | 251 (250) | 1036 | 0778 | 0520 | 0262 | 0005 | 9747 | 9489 | 9231 | 8973 | 8715 | 8457 | 8199 | 7941 | 7682 | 7424 | 7166 | 6908 |
| 59 | 46 | | 1285 | 1028 | 0770 | 0512 | 0254 | 9996 | 9738 | 9480 | 9222 | 8964 | 8706 | 8447 | 8189 | 7931 | 7672 | 7414 | 7155 |
| 55 | 47 | | 1535 | 1277 | 1019 | 0761 | 0503 | 0245 | 9987 | 9729 | 9471 | 9212 | 8954 | 8696 | 8437 | 8179 | 7920 | 7662 | 7403 |
| 51 | 48 | | 1785 | 1527 | 1269 | 1011 | 0753 | 0495 | 0237 | 9978 | 9719 | 9461 | 9202 | 8944 | 8685 | 8427 | 8168 | 7910 | 7651 |
| 47 | 49 | | 2035 | 1776 | 1518 | 1260 | 1002 | 0743 | 0485 | 0226 | 9968 | 9709 | 9451 | 9192 | 8934 | 8675 | 8416 | 8158 | 7899 |
| 42 | 50 | 251 (250) | 2284 | 2026 | 1768 | 1509 | 1251 | 0992 | 0734 | 0475 | 0217 | 9958 | 9699 | 9441 | 9182 | 8923 | 8664 | 8406 | 8147 |
| 38 | 51 | | 2534 | 2276 | 2017 | 1758 | 1500 | 1241 | 0983 | 0724 | 0465 | 0207 | 9948 | 9689 | 9430 | 9171 | 8912 | 8653 | 8394 |
| 34 | 52 | | 2784 | 2525 | 2266 | 2008 | 1749 | 1490 | 1232 | 0973 | 0714 | 0455 | 0196 | 9937 | 9678 | 9419 | 9160 | 8901 | 8641 |
| 30 | 53 | | 3033 | 2774 | 2516 | 2257 | 1998 | 1739 | 1480 | 1221 | 0962 | 0705 | 0444 | 0185 | 9926 | 9667 | 9408 | 9148 | 8889 |
| 26 | 54 | | 3283 | 3024 | 2765 | 2506 | 2247 | 1988 | 1720 | 1470 | 1211 | 0952 | 0692 | 0433 | 0174 | 9915 | 9656 | 9396 | 9136 |
| 21 | 55 | 251 | 3533 | 3273 | 3014 | 2755 | 2496 | 2237 | 1978 | 1719 | 1459 | 1200 | 0941 | 0681 | 0422 | 0163 | 9904 | 9644 | 9385 |
| 17 | 56 | | 3782 | 3523 | 3264 | 3005 | 2746 | 2487 | 2228 | 1969 | 1710 | 1451 | 1192 | 0932 | 0673 | 0414 | 0155 | 9893 | 9631 |
| 13 | 57 | | 4032 | 3772 | 3513 | 3254 | 2995 | 2736 | 2477 | 2218 | 1959 | 1697 | 1437 | 1177 | 0918 | 0658 | 0398 | 0138 | 9879 |
| 8 | 58 | 251 | 4281 | 4021 | 3761 | 3502 | 3243 | 2984 | 2725 | 2466 | 2204 | 1945 | 1685 | 1425 | 1166 | 0906 | 0646 | 0386 | 0126 |
| 4 | 59 | | 4531 | 4270 | 4010 | 3751 | 3492 | 3233 | 2974 | 2712 | 2453 | 2193 | 1933 | 1673 | 1413 | 1153 | 0893 | 0633 | 0373 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

Auxiliary Arguments.

| App. Alt. | ′ | Diff. | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 249 | | | | | | | | | | | | | | | | |
| | 1 | | | 5203 | 4950 | 4697 | 4444 | 4191 | 3938 | 3685 | 3431 | 3178 | 2925 | 2672 | 2418 | 2165 | 1912 | 1658 |
| | 2 | | | | | | | | | | | | | | | | | |
| | 3 | | | | | | | | | | | | | | | | | |
| | 4 | | | | | | | | | | | | | | | | | |
| 5 | 5 | 249 | | | 199 | 5946 | 5693 | 5439 | 5186 | 4932 | 4678 | 4425 | 4171 | 3917 | 3664 | 3410 | 3156 | 2902 | 2648 |
| | 6 | | | | | | | | | | | | | | | | | | |
| | 7 | | | | | | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | | | | | | |
| | 9 | | | | | | | | | | | | | | | | | | |
| 10 | 10 | 249 | | | | | | | | | | | | | | | | | |
| | 11 | | 8202 | 7948 | 7694 | 7440 | 7185 | 6931 | 6677 | 6423 | 6168 | 5914 | 5659 | 5405 | 5150 | 4896 | 4641 | 4386 | 4132 |
| | 12 | | | | | | | | | | | | | | | | | | |
| | 13 | | 8700 | 8446 | 8192 | 7937 | 7683 | 7428 | 7174 | 6919 | 6664 | 6410 | 6155 | 5900 | 5645 | 5391 | 5136 | 4881 | 4626 |
| | 14 | | | | | | | | | | | | | | | | | | |
| 15 | 15 | 249 | | | | | | | | | | | | | | | | | |
| | 16 | | 9447 | 9193 | 8938 | 8683 | 8428 | 8173 | 7918 | 7663 | 7408 | 7153 | 6898 | 6643 | 6388 | 6133 | 5877 | 5622 | 5367 |
| | 17 | | | | | | | | | | | | | | | | | | |
| | 18 | | | | | | | | | | | | | | | | | | |
| | 19 | 250 | 249 | | | | | | | | | | | | | | | | |
| 20 | 20 | 250 | 249 | | | | | | | | | | | | | | | | |
| | 21 | | | | | | | | | | | | | | | | | | |
| | 22 | | | | | | | | | | | | | | | | | | |
| | 23 | | | | | | | | | | | | | | | | | | |
| | 24 | | | | | | | | | | | | | | | | | | |
| 25 | 25 | 250 | 249 | | | | | | | | | | | | | | | | |
| | 26 | | | | | | | | | | | | | | | | | | |
| | 27 | | | | | | | | | | | | | | | | | | |
| | 28 | | | | | | | | | | | | | | | | | | |
| | 29 | | | | | | | | | | | | | | | | | | |
| 30 | 30 | 250 | 249 | | | | | | | | | | | | | | | | |
| | 31 | | 3177 | 2920 | 2664 | 2407 | 2150 | 1893 | 1637 | 1380 | 1123 | 0866 | 0609 | 0352 | 0095 | 9837 | 9580 | 9323 | 9066 |
| | 32 | | | | | | | | | | | | | | | | | | |
| | 33 | | 3673 | 3417 | 3160 | 2903 | 2646 | 2389 | 2132 | 1874 | 1617 | 1360 | 1103 | 0845 | 0588 | 0331 | 0073 | 9816 | 9558 |
| | 34 | | | | | | | | | | | | | | | | | | |
| 35 | 35 | 250 | | | | | | | | | | | | | | | | | |
| | 36 | | | | | | | | | | | | | | | | | | |
| | 37 | | 4666 | 4409 | 4151 | 3894 | 3636 | 3379 | 3121 | 2863 | 2606 | 2348 | 2090 | 1832 | 1575 | 1317 | 1059 | 0801 | 0543 |
| | 38 | | 4914 | 4657 | 4399 | 4141 | 3884 | 3626 | 3368 | 3111 | 2853 | 2595 | 2337 | 2079 | 1821 | 1563 | 1305 | 1047 | 0789 |
| | 39 | | | | | | | | | | | | | | | | | | |
| 40 | 40 | 250 | | | | 4895 | 4637 | 4379 | 4121 | 3863 | 3605 | 3347 | | | | | | | |
| | 41 | | | | | | | | | 594 | | | | | | | | | |
| | 42 | | | | | | | | | 841 | | | | | | | | | |
| | 43 | | | | | | | | | 087 | | | | | | | | | |
| | 44 | | 6402 | | | | | | | | | | | | | | | | |
| 45 | 45 | 250 | 6649 | 6391 | 6132 | 5874 | 5615 | 5357 | 5098 | 4840 | | | | | | | | | |
| 60 | 46 | | 6897 | 6638 | 6380 | 6121 | 5863 | 5604 | 5345 | 5086 | | | | | | | | | |
| | 47 | | 7145 | 6886 | 6627 | 6369 | 6110 | 5851 | 559 | | | | | | | | | | |
| 50 | 48 | | 7392 | 7133 | 6875 | 6616 | 6357 | 6098 | 5839 | 55 | | | | | | | | | |
| | 49 | | 7640 | 7381 | 7122 | 6863 | 6604 | 6345 | 6086 | 58 | | | | | | | | | |
| | 50 | 250 | 7887 | 7628 | 7369 | 7110 | 6851 | 6592 | 6332 | 6073 | 5814 | 5554 | 529 | | | | | | |
| | 51 | | 8135 | 7876 | 7616 | 7357 | 7098 | 6839 | 6579 | 6320 | 6060 | 5801 | 5541 | | | | | | |
| | 52 | | 8382 | 8123 | 7864 | 7604 | 7345 | 7085 | 6826 | 6566 | 6307 | 6047 | 5787 | | | | | | |
| | 53 | | | | | | | | | | | | | | | | | | |
| | 54 | | | | | | | | | | | | | | | | | | |
| 55 | 55 | 250 | | | | | | | | | | | | | | | | | |
| | 56 | | | | | | | | | | | | | | | | | | |
| | 57 | | 9610 | 9359 | 9099 | 8839 | 8579 | 8319 | 8059 | 7799 | 7538 | 7278 | 7018 | 6757 | 6497 | 6237 | 5976 | 5715 | 5455 |
| | 58 | | | | | | | | | | | | | | | | | | |
| | 59 | | | | | | | | | | | | | | | | | | |

| App. Alt. | ′ | Diff. | Sums |
|---|---|---|---|
| | | | C. D. addit. |
| 0 | 0 | 250 | 0000 |
| | 1 | | 0252 |
| | 2 | | 0504 |
| | 3 | | 0756 |
| | 4 | | 1008 |
| 5 | 5 | 250 | 1259 |
| | 6 | | 1511 |
| | 7 | | 1762 |
| | 8 | | 2014 |
| | 9 | | 2265 |
| 10 | 10 | 250 | 2517 |
| | 11 | | 2769 |
| | 12 | | 3020 |
| | 13 | | 3271 |
| | 14 | | 3523 |
| 15 | 15 | 250 | 3774 |
| | 16 | | 4025 |
| | 17 | | 4276 |
| | 18 | | 4528 |
| | 19 | | 4779 |
| 20 | 20 | 250 | 5030 |
| | 21 | | 5281 |
| | 22 | | 5532 |
| | 23 | | 5783 |
| | 24 | | 6034 |
| 25 | 25 | 250 | 6285 |
| | 26 | | 6536 |
| | 27 | | 6787 |
| | 28 | | 7037 |
| | 29 | | 7288 |
| 30 | 30 | 250 | 7539 |
| | 31 | | 7789 |
| | 32 | | 8040 |
| | 33 | | 8290 |
| | 34 | | 8541 |
| 35 | 35 | 250 | 8791 |
| | 36 | | 9041 |
| | 37 | | 9291 |
| | 38 | | 9541 |
| | 39 | | 9791 |
| 40 | 40 | 250 | 0041 |
| | 41 | | 0291 |
| | 42 | | 0541 |
| | 43 | | 0791 |
| | 44 | | 1041 |
| 45 | 45 | 250 | 1291 |
| 60 | 46 | | 1541 |
| | 47 | | 1791 |
| 50 | 48 | | 2041 |
| | 49 | | 2291 |
| | 50 | 250 | 2541 |
| | 51 | | 2791 |
| | 52 | | 3041 |
| | 53 | | 3291 |
| | 54 | | 3541 |
| 55 | 55 | 250 | 3791 |
| | 56 | | 4041 |
| | 57 | | 4291 |
| | 58 | | 4541 |
| | 59 | | 4791 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Argum. | Numbers | Argum. | Auxiliary Arguments. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0948 9748 | 0 | 0 | 481 | 4519 | 4228 | 3937 | 3646 | 3355 | 3064 | 2773 | 2482 | 2191 | 1900 | 1609 | 1318 | 1027 | 0736 |
| 1 | 9447 | 1 | 1 | 5208 | 4708 | 4508 | 4217 | 3926 | 3635 | 3344 | 3053 | 2762 | 2471 | 2180 | 1889 | 1598 | 1307 | 1016 |
| 2 | 9944 | 2 | 2 | 5277 | 5017 | 4757 | 4497 | 4237 | 3977 | 3717 | 3457 | 3197 | 2937 | 2677 | 2417 | 2156 | 1896 | 1636 |
| 3 | 8438 | 3 | 3 | 5546 | 5286 | 5026 | 4766 | 4506 | 4246 | 3986 | 3726 | 3465 | 3205 | 2945 | 2685 | 2424 | 2164 | 1903 |
| 4 | 8941 | 4 | 4 | 5775 | 5515 | 5255 | 4995 | 4735 | 4474 | 4214 | 3954 | 3693 | 3433 | 3173 | 2912 | 2651 | 2391 | 2130 |
| 5 | 8439 | 5 | 5 | 6024 | 5764 | 5504 | 5243 | 4983 | 4723 | 4462 | 4202 | 3941 | 3681 | 3420 | 3160 | 2899 | 2638 | 2377 |
| 6 | 8938 | 6 | 6 | 6273 | 6013 | 5752 | 5492 | 5232 | 4971 | 4711 | 4450 | 4190 | 3929 | 3668 | 3407 | 3147 | 2886 | 2625 |
| 7 | 7986 | 7 | 7 | 6522 | 6262 | 6001 | 5741 | 5480 | 5219 | 4959 | 4698 | 4437 | 4176 | 3916 | 3655 | 3394 | 3133 | 2872 |
| 8 | 7734 | 8 | 8 | 6771 | 6510 | 6250 | 5989 | 5728 | 5468 | 5207 | 4946 | 4685 | 4424 | 4163 | 3902 | 3641 | 3380 | 3119 |
| 9 | 7483 | 9 | 9 | 7020 | 6759 | 6498 | 6238 | 5977 | 5716 | 5455 | 5194 | 4933 | 4672 | 4411 | 4150 | 3889 | 3627 | 3366 |
| 10 | 7231 | 10 | 10 | 7269 | 7007 | 6747 | 6486 | 6225 | 5964 | 5703 | 5442 | 5181 | 4920 | 4658 | 4397 | 4136 | 3875 | 3613 |
| 11 | 6980 | 11 | 11 | 7517 | 7256 | 6995 | 6734 | 6473 | 6211 | 5950 | 5689 | 5427 | 5166 | 4905 | 4643 | 4382 | 4120 | 3859 |
| 12 | 6728 | 12 | 12 | 7766 | 7505 | 7244 | 6983 | 6721 | 6460 | 6198 | 5937 | 5675 | 5414 | 5152 | 4891 | 4629 | 4367 | 4106 |
| 13 | 6477 | 13 | 13 | 8015 | 7753 | 7492 | 7231 | 6970 | 6708 | 6447 | 6185 | 5924 | 5662 | 5401 | 5139 | 4877 | 4616 | 4354 |
| 14 | 6225 | 14 | 14 | 8263 | 8002 | 7741 | 7479 | 7218 | 6956 | 6695 | 6433 | 6171 | 5910 | 5648 | 5386 | 5125 | 4863 | 4601 |
| 15 | 5973 | 15 | 15 | 8512 | 8250 | 7989 | 7727 | 7466 | 7204 | 6942 | 6681 | 6419 | 6157 | 5896 | 5634 | 5372 | 5110 | 4848 |
| 16 | 5722 | 16 | 16 | 8760 | 8499 | 8237 | 7976 | 7714 | 7452 | 7191 | 6929 | 6667 | 6405 | 6143 | 5881 | 5619 | 5357 | 5095 |
| 17 | 5470 | 17 | 17 | 9009 | 8747 | 8485 | 8224 | 7962 | 7700 | 7438 | 7177 | 6915 | 6653 | 6391 | 6128 | 5866 | 5604 | 5341 |
| 18 | 5218 | 18 | 18 | 9257 | 8995 | 8734 | 8472 | 8210 | 7948 | 7686 | 7424 | 7162 | 6900 | 6638 | 6375 | 6113 | 5851 | 5588 |
| 19 | 4966 | 19 | 19 | 9505 | 9244 | 8982 | 8720 | 8458 | 8196 | 7933 | 7671 | 7409 | 7147 | 6884 | 6622 | 6360 | 6097 | 5835 |
| 20 | 4715 | 20 | 20 | 9753 | 9492 | 9230 | 8968 | 8706 | 8443 | 8181 | 7919 | 7657 | 7394 | 7132 | 6870 | 6607 | 6345 | 6082 |
| 21 | 4463 | 21 | 21 | 0001 | 9740 | 9478 | 9216 | 8953 | 8691 | 8429 | 8166 | 7904 | 7642 | 7379 | 7117 | 6854 | 6592 | 6329 |
| 22 | 4211 | 22 | 22 | 0249 | 9988 | 9726 | 9463 | 9201 | 8938 | 8676 | 8413 | 8151 | 7888 | 7626 | 7363 | 7101 | 6838 | 6575 |
| 23 | 3966 | 23 | 23 | 0499 | 0236 | 9974 | 9712 | 9449 | 9186 | 8924 | 8661 | 8398 | 8135 | 7873 | 7610 | 7347 | 7084 | 6821 |
| 24 | 3715 | 24 | 24 | 0747 | 0485 | 0222 | 9960 | 9697 | 9434 | 9171 | 8909 | 8646 | 8383 | 8120 | 7857 | 7594 | 7331 | 7068 |
| 25 | 3463 | 25 | 25 | 0995 | 0733 | 0471 | 0208 | 9945 | 9682 | 9419 | 9156 | 8893 | 8630 | 8367 | 8104 | 7841 | 7578 | 7315 |
| 26 | 3214 | 26 | 26 | 1243 | 0980 | 0718 | 0455 | 0192 | 9929 | 9666 | 9403 | 9140 | 8876 | 8613 | 8350 | 8087 | 7823 | 7560 |
| 27 | 2962 | 27 | 27 | 1491 | 1228 | 0965 | 0702 | 0439 | 0176 | 9913 | 9650 | 9387 | 9123 | 8860 | 8597 | 8333 | 8070 | 7806 |
| 28 | 2711 | 28 | 28 | 1739 | 1476 | 1213 | 0950 | 0686 | 0423 | 0160 | 9897 | 9633 | 9370 | 9107 | 8843 | 8580 | 8316 | 8053 |
| 29 | 2459 | 29 | 29 | 1987 | 1724 | 1460 | 1197 | 0933 | 0670 | 0407 | 0144 | 9881 | 9617 | 9354 | 9091 | 8827 | 8564 | 8300 |
| 30 | 2207 | 30 | 30 | 2235 | 1972 | 1708 | 1444 | 1181 | 0917 | 0654 | 0391 | 0128 | 9865 | 9601 | 9338 | 9075 | 8811 | 8548 |
| 31 | 1956 | 31 | 31 | 2483 | 2220 | 1956 | 1692 | 1428 | 1165 | 0901 | 0638 | 0375 | 0112 | 9849 | 9585 | 9322 | 9059 | 8795 |
| 32 | 1704 | 32 | 32 | 2731 | 2468 | 2204 | 1940 | 1676 | 1412 | 1149 | 0885 | 0622 | 0359 | 0096 | 9833 | 9569 | 9306 | 9043 |
| 33 | 1459 | 33 | 33 | 2979 | 2715 | 2451 | 2188 | 1924 | 1660 | 1396 | 1132 | 0868 | 0604 | 0340 | 0076 | 9812 | 9547 | 9283 |
| 34 | 1207 | 34 | 34 | 3227 | 2963 | 2699 | 2436 | 2172 | 1908 | 1644 | 1380 | 1116 | 0852 | 0588 | 0324 | 0060 | 9796 | 9532 |
| 35 | 0956 | 35 | 35 | 3475 | 3211 | 2947 | 2683 | 2419 | 2156 | 1892 | 1628 | 1364 | 1100 | 0836 | 0572 | 0308 | 0044 | 9780 |
| 36 | 0704 | 36 | 36 | 3723 | 3459 | 3195 | 2931 | 2667 | 2403 | 2139 | 1875 | 1611 | 1347 | 1083 | 0819 | 0555 | 0291 | 0027 |
| 37 | 0453 | 37 | 37 | 3971 | 3707 | 3443 | 3179 | 2915 | 2651 | 2387 | 2123 | 1859 | 1595 | 1331 | 1067 | 0803 | 0539 | 0275 |
| 38 | 0201 | 38 | 38 | 4219 | 3955 | 3691 | 3427 | 3163 | 2899 | 2635 | 2371 | 2107 | 1843 | 1579 | 1315 | 1051 | 0787 | 0523 |
| 39 | 9949 | 39 | 39 | 4467 | 4203 | 3939 | 3675 | 3411 | 3147 | 2883 | 2619 | 2355 | 2091 | 1827 | 1563 | 1299 | 1035 | 0771 |
| 40 | 9698 | 40 | 40 | 4715 | 4451 | 4187 | 3923 | 3659 | 3395 | 3131 | 2867 | 2603 | 2339 | 2075 | 1811 | 1547 | 1283 | 1019 |
| 41 | 9446 | 41 | 41 | 4963 | 4699 | 4435 | 4171 | 3907 | 3643 | 3379 | 3115 | 2851 | 2587 | 2323 | 2059 | 1795 | 1531 | 1267 |
| 42 | 9195 | 42 | 42 | 5211 | 4947 | 4683 | 4419 | 4155 | 3891 | 3627 | 3363 | 3099 | 2835 | 2571 | 2307 | 2043 | 1779 | 1515 |
| 43 | 8943 | 43 | 43 | 5459 | 5195 | 4931 | 4667 | 4403 | 4139 | 3875 | 3611 | 3347 | 3083 | 2819 | 2555 | 2291 | 2027 | 1763 |
| 44 | 8691 | 44 | 44 | 5707 | 5443 | 5179 | 4915 | 4651 | 4387 | 4123 | 3859 | 3595 | 3331 | 3067 | 2803 | 2539 | 2275 | 2011 |
| 45 | 8457 | 45 | 45 | 5949 | 5684 | 5418 | 5153 | 4888 | 4622 | 4357 | 4092 | 3826 | 3560 | 3295 | 3029 | 2764 | 2499 | 2234 |
| 46 | 8188 | 46 | 46 | 6203 | 5939 | 5674 | 5410 | 5145 | 4880 | 4616 | 4351 | 4086 | 3822 | 3557 | 3292 | 3028 | 2763 | 2498 |
| 47 | 7937 | 47 | 47 | 6451 | 6187 | 5922 | 5658 | 5393 | 5129 | 4864 | 4600 | 4335 | 4071 | 3806 | 3542 | 3277 | 3013 | 2748 |
| 48 | 7685 | 48 | 48 | 6699 | 6435 | 6170 | 5906 | 5642 | 5377 | 5113 | 4848 | 4584 | 4319 | 4055 | 3790 | 3526 | 3261 | 2997 |
| 49 | 7433 | 49 | 49 | 6947 | 6683 | 6418 | 6154 | 5890 | 5625 | 5361 | 5097 | 4832 | 4568 | 4303 | 4039 | 3774 | 3510 | 3245 |
| 50 | 7182 | 50 | 50 | 7195 | 6931 | 6666 | 6402 | 6138 | 5874 | 5610 | 5345 | 5081 | 4816 | 4552 | 4287 | 4023 | 3758 | 3494 |
| 51 | 6930 | 51 | 51 | 7443 | 7179 | 6914 | 6650 | 6386 | 6122 | 5858 | 5594 | 5329 | 5065 | 4800 | 4536 | 4271 | 4007 | 3742 |
| 52 | 6678 | 52 | 52 | 7691 | 7427 | 7162 | 6898 | 6634 | 6370 | 6106 | 5842 | 5578 | 5313 | 5049 | 4784 | 4520 | 4255 | 3991 |
| 53 | 6427 | 53 | 53 | 7925 | 7659 | 7393 | 7127 | 6860 | 6594 | 6327 | 6061 | 5795 | 5528 | 5261 | 4995 | 4728 | 4461 | 4195 |
| 54 | 6175 | 54 | 54 | 8187 | 7935 | 7683 | 7431 | 7179 | 6927 | 6675 | 6423 | 6171 | 5919 | 5667 | 5415 | 5163 | 4911 | 4659 |
| 55 | 5923 | 55 | 55 | 8435 | 8183 | 7931 | 7679 | 7427 | 7175 | 6923 | 6671 | 6419 | 6167 | 5915 | 5663 | 5411 | 5159 | 4907 |
| 56 | 5672 | 56 | 56 | 8683 | 8431 | 8179 | 7927 | 7675 | 7423 | 7171 | 6919 | 6667 | 6415 | 6163 | 5911 | 5659 | 5407 | 5155 |
| 57 | 5420 | 57 | 57 | 8931 | 8679 | 8427 | 8175 | 7923 | 7671 | 7419 | 7167 | 6915 | 6663 | 6411 | 6159 | 5907 | 5655 | 5403 |
| 58 | 5168 | 58 | 58 | 9179 | 8927 | 8675 | 8423 | 8171 | 7919 | 7667 | 7415 | 7163 | 6911 | 6659 | 6407 | 6155 | 5903 | 5651 |
| 59 | 4917 | 59 | 59 | 9427 | 9175 | 8923 | 8671 | 8419 | 8167 | 7915 | 7663 | 7411 | 7159 | 6907 | 6655 | 6403 | 6151 | 5899 |
| 60 | 4665 | 60 | 60 | 9675 | 9423 | 9171 | 8919 | 8667 | 8415 | 8163 | 7911 | 7659 | 7407 | 7155 | 6903 | 6651 | 6399 | 6147 |
| 61 | 4413 | 61 | 61 | 9923 | 9671 | 9419 | 9167 | 8915 | 8663 | 8411 | 8159 | 7907 | 7655 | 7403 | 7151 | 6899 | 6647 | 6395 |
| 62 | 4162 | 62 | 62 | 0171 | 9919 | 9667 | 9415 | 9163 | 8911 | 8659 | 8407 | 8155 | 7903 | 7651 | 7399 | 7147 | 6895 | 6643 |
| 63 | 3910 | 63 | 63 | 0419 | 0167 | 9915 | 9663 | 9411 | 9159 | 8907 | 8655 | 8403 | 8151 | 7899 | 7647 | 7395 | 7143 | 6891 |
| 64 | 3658 | 64 | 64 | 0667 | 0415 | 0163 | 9911 | 9659 | 9407 | 9155 | 8903 | 8651 | 8399 | 8147 | 7895 | 7643 | 7391 | 7139 |
| 65 | 3407 | 65 | 65 | 0915 | 0663 | 0411 | 0159 | 9907 | 9655 | 9403 | 9151 | 8899 | 8647 | 8395 | 8143 | 7891 | 7639 | 7387 |
| 66 | 3155 | 66 | 66 | 1163 | 0911 | 0659 | 0407 | 0155 | 9903 | 9651 | 9399 | 9147 | 8895 | 8643 | 8391 | 8139 | 7887 | 7635 |
| 67 | 2903 | 67 | 67 | 1411 | 1159 | 0907 | 0655 | 0403 | 0151 | 9899 | 9647 | 9395 | 9143 | 8891 | 8639 | 8387 | 8135 | 7883 |
| 68 | 2652 | 68 | 68 | 1659 | 1407 | 1155 | 0903 | 0651 | 0399 | 0147 | 9895 | 9643 | 9391 | 9139 | 8887 | 8635 | 8383 | 8131 |
| 69 | 2400 | 69 | 69 | 1907 | 1655 | 1403 | 1151 | 0899 | 0647 | 0395 | 0143 | 9891 | 9639 | 9387 | 9135 | 8883 | 8631 | 8379 |
| 70 | 2148 | 70 | 70 | 2155 | 1903 | 1651 | 1399 | 1147 | 0895 | 0643 | 0391 | 0139 | 9887 | 9635 | 9383 | 9131 | 8879 | 8627 |
| 71 | 1897 | 71 | 71 | 2403 | 2151 | 1899 | 1647 | 1395 | 1143 | 0891 | 0639 | 0387 | 0135 | 9883 | 9631 | 9379 | 9127 | 8875 |
| 72 | 1645 | 72 | 72 | 2651 | 2399 | 2147 | 1895 | 1643 | 1391 | 1139 | 0887 | 0635 | 0383 | 0131 | 9879 | 9627 | 9375 | 9123 |
| 73 | 1393 | 73 | 73 | 2899 | 2647 | 2395 | 2143 | 1891 | 1639 | 1387 | 1135 | 0883 | 0631 | 0379 | 0127 | 9875 | 9623 | 9371 |
| 74 | 1142 | 74 | 74 | 3147 | 2895 | 2643 | 2391 | 2139 | 1887 | 1635 | 1383 | 1131 | 0879 | 0627 | 0375 | 0123 | 9871 | 9619 |
| 75 | 0890 | 75 | 75 | 3395 | 3143 | 2891 | 2639 | 2387 | 2135 | 1883 | 1631 | 1379 | 1127 | 0875 | 0623 | 0371 | 0119 | 9867 |
| 76 | 0638 | 76 | 76 | 3643 | 3391 | 3139 | 2887 | 2635 | 2383 | 2131 | 1879 | 1627 | 1375 | 1123 | 0871 | 0619 | 0367 | 0115 |
| 77 | 0387 | 77 | 77 | 3891 | 3639 | 3387 | 3135 | 2883 | 2631 | 2379 | 2127 | 1875 | 1623 | 1371 | 1119 | 0867 | 0615 | 0363 |
| 78 | 0135 | 78 | 78 | 4139 | 3887 | 3635 | 3383 | 3131 | 2879 | 2627 | 2375 | 2123 | 1871 | 1619 | 1367 | 1115 | 0863 | 0611 |
| 79 | 9883 | 79 | 79 | 4387 | 4135 | 3883 | 3631 | 3379 | 3127 | 2875 | 2623 | 2371 | 2119 | 1867 | 1615 | 1363 | 1111 | 0859 |
| 80 | 9632 | 80 | 80 | 4635 | 4383 | 4131 | 3879 | 3627 | 3375 | 3123 | 2871 | 2619 | 2367 | 2115 | 1863 | 1611 | 1359 | 1107 |
| 81 | 9380 | 81 | 81 | 4883 | 4631 | 4379 | 4127 | 3875 | 3623 | 3371 | 3119 | 2867 | 2615 | 2363 | 2111 | 1859 | 1607 | 1355 |
| 82 | 9128 | 82 | 82 | 5131 | 4879 | 4627 | 4375 | 4123 | 3871 | 3619 | 3367 | 3115 | 2863 | 2611 | 2359 | 2107 | 1855 | 1603 |
| 83 | 8877 | 83 | 83 | 5379 | 5127 | 4875 | 4623 | 4371 | 4119 | 3867 | 3615 | 3363 | 3111 | 2859 | 2607 | 2355 | 2103 | 1851 |
| 84 | 8625 | 84 | 84 | 5627 | 5375 | 5123 | 4871 | 4619 | 4367 | 4115 | 3863 | 3611 | 3359 | 3107 | 2855 | 2603 | 2351 | 2099 |
| 85 | 8373 | 85 | 85 | 5875 | 5623 | 5371 | 5119 | 4867 | 4615 | 4363 | 4111 | 3859 | 3607 | 3355 | 3103 | 2851 | 2599 | 2347 |
| 86 | 8122 | 86 | 86 | 6123 | 5871 | 5619 | 5367 | 5115 | 4863 | 4611 | 4359 | 4107 | 3855 | 3603 | 3351 | 3099 | 2847 | 2595 |
| 87 | 7870 | 87 | 87 | 6371 | 6119 | 5867 | 5615 | 5363 | 5111 | 4859 | 4607 | 4355 | 4103 | 3851 | 3599 | 3347 | 3095 | 2843 |
| 88 | 7618 | 88 | 88 | 6619 | 6367 | 6115 | 5863 | 5611 | 5359 | 5107 | 4855 | 4603 | 4351 | 4099 | 3847 | 3595 | 3343 | 3091 |
| 89 | 7367 | 89 | 89 | 6867 | 6615 | 6363 | 6111 | 5859 | 5607 | 5355 | 5103 | 4851 | 4599 | 4347 | 4095 | 3843 | 3591 | 3339 |
| 90 | 7115 | 90 | 90 | 7115 | 6863 | 6611 | 6359 | 6107 | 5855 | 5603 | 5351 | 5099 | 4847 | 4595 | 4343 | 4091 | 3839 | 3587 |
| 91 | 6863 | 91 | 91 | 7363 | 7111 | 6859 | 6607 | 6355 | 6103 | 5851 | 5599 | 5347 | 5095 | 4843 | 4591 | 4339 | 4087 | 3835 |
| 92 | 6612 | 92 | 92 | 7611 | 7359 | 7107 | 6855 | 6603 | 6351 | 6099 | 5847 | 5595 | 5343 | 5091 | 4839 | 4587 | 4335 | 4083 |
| 93 | 6360 | 93 | 93 | 7859 | 7607 | 7355 | 7103 | 6851 | 6599 | 6347 | 6095 | 5843 | 5591 | 5339 | 5087 | 4835 | 4583 | 4331 |
| 94 | 6108 | 94 | 94 | 8107 | 7855 | 7603 | 7351 | 7099 | 6847 | 6595 | 6343 | 6091 | 5839 | 5587 | 5335 | 5083 | 4831 | 4579 |
| 95 | 5857 | 95 | 95 | 8355 | 8103 | 7851 | 7599 | 7347 | 7095 | 6843 | 6591 | 6339 | 6087 | 5835 | 5583 | 5331 | 5079 | 4827 |
| 96 | 5605 | 96 | 96 | 8603 | 8351 | 8099 | 7847 | 7595 | 7343 | 7091 | 6839 | 6587 | 6335 | 6083 | 5831 | 5579 | 5327 | 5075 |
| 97 | 5353 | 97 | 97 | 8851 | 8599 | 8347 | 8095 | 7843 | 7591 | 7339 | 7087 | 6835 | 6583 | 6331 | 6079 | 5827 | 5575 | 5323 |
| 98 | 5102 | 98 | 98 | 9099 | 8847 | 8595 | 8343 | 8091 | 7839 | 7587 | 7335 | 7083 | 6831 | 6579 | 6327 | 6075 | 5823 | 5571 |
| 99 | 4850 | 99 | 99 | 9347 | 9095 | 8843 | 8591 | 8339 | 8087 | 7835 | 7583 | 7331 | 7079 | 6827 | 6575 | 6323 | 6071 | 5819 |
| 100 | 4598 | 100 | 100 | 9595 | 9343 | 9091 | 8839 | 8587 | 8335 | 8083 | 7831 | 7579 | 7327 | 7075 | 6823 | 6571 | 6319 | 6067 |
| 101 | 4347 | 101 | 101 | 9843 | 9591 | 9339 | 9087 | 8835 | 8583 | 8331 | 8079 | 7827 | 7575 | 7323 | 7071 | 6819 | 6567 | 6315 |
| 102 | 4095 | 102 | 102 | 0091 | 9839 | 9587 | 9335 | 9083 | 8831 | 8579 | 8327 | 8075 | 7823 | 7571 | 7319 | 7067 | 6815 | 6563 |
| 103 | 3843 | 103 | 103 | 0339 | 0087 | 9835 | 9583 | 9331 | 9079 | 8827 | 8575 | 8323 | 8071 | 7819 | 7567 | 7315 | 7063 | 6811 |
| 104 | 3592 | 104 | 104 | 0587 | 0335 | 0083 | 9831 | 9579 | 9327 | 9075 | 8823 | 8571 | 8319 | 8067 | 7815 | 7563 | 7311 | 7059 |
| 105 | 3340 | 105 | 105 | 0835 | 0583 | 0331 | 0079 | 9827 | 9575 | 9323 | 9071 | 8819 | 8567 | 8315 | 8063 | 7811 | 7559 | 7307 |
| 106 | 3088 | 106 | 106 | 1083 | 0831 | 0579 | 0327 | 0075 | 9823 | 9571 | 9319 | 9067 | 8815 | 8563 | 8311 | 8059 | 7807 | 7555 |
| 107 | 2837 | 107 | 107 | 1331 | 1079 | 0827 | 0575 | 0323 | 0071 | 9819 | 9567 | 9315 | 9063 | 8811 | 8559 | 8307 | 8055 | 7803 |
| 108 | 2585 | 108 | 108 | 1579 | 1327 | 1075 | 0823 | 0571 | 0319 | 0067 | 9815 | 9563 | 9311 | 9059 | 8807 | 8555 | 8303 | 8051 |
| 109 | 2333 | 109 | 109 | 1827 | 1575 | 1323 | 1071 | 0819 | 0567 | 0315 | 0063 | 9811 | 9559 | 9307 | 9055 | 8803 | 8551 | 8299 |
| 110 | 2082 | 110 | 110 | 2075 | 1823 | 1571 | 1319 | 1067 | 0815 | 0563 | 0311 | 0059 | 9807 | 9555 | 9303 | 9051 | 8799 | 8547 |
| 111 | 1830 | 111 | 111 | 2323 | 2071 | 1819 | 1567 | 1315 | 1063 | 0811 | 0559 | 0307 | 0055 | 9803 | 9551 | 9299 | 9047 | 8795 |
| 112 | 1578 | 112 | 112 | 2571 | 2319 | 2067 | 1815 | 1563 | 1311 | 1059 | 0807 | 0555 | 0303 | 0051 | 9799 | 9547 | 9295 | 9043 |
| 113 | 1327 | 113 | 113 | 2819 | 2567 | 2315 | 2063 | 1811 | 1559 | 1307 | 1055 | 0803 | 0551 | 0299 | 0047 | 9795 | 9543 | 9291 |
| 114 | 1075 | 114 | 114 | 3067 | 2815 | 2563 | 2311 | 2059 | 1807 | 1555 | 1303 | 1051 | 0799 | 0547 | 0295 | 0043 | 9791 | 9539 |
| 115 | 0823 | 115 | 115 | 3315 | 3063 | 2811 | 2559 | 2307 | 2055 | 1803 | 1551 | 1299 | 1047 | 0795 | 0543 | 0291 | 0039 | 9787 |
| 116 | 0572 | 116 | 116 | 3563 | 3311 | 3059 | 2807 | 2555 | 2303 | 2051 | 1799 | 1547 | 1295 | 1043 | 0791 | 0539 | 0287 | 0035 |
| 117 | 0320 | 117 | 117 | 3811 | 3559 | 3307 | 3055 | 2803 | 2551 | 2299 | 2047 | 1795 | 1543 | 1291 | 1039 | 0787 | 0535 | 0283 |
| 118 | 0068 | 118 | 118 | 4059 | 3807 | 3555 | 3303 | 3051 | 2799 | 2547 | 2295 | 2043 | 1791 | 1539 | 1287 | 1035 | 0783 | 0531 |
| 119 | 9817 | 119 | 119 | 4307 | 4055 | 3803 | 3551 | 3299 | 3047 | 2795 | 2543 | 2291 | 2039 | 1787 | 1535 | 1283 | 1031 | 0779 |
| 120 | 9565 | 120 | 120 | 4555 | 4303 | 4051 | 3799 | 3547 | 3295 | 3043 | 2791 | 2539 | 2287 | 2035 | 1783 | 1531 | 1279 | 1027 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Argum. additive | A.A. & A.D. 121° | Auxiliary Arguments. 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 265 | 0 | 251(252) | 0360 | 0100 | 9842 | 9579 | 9319 | 9058 | 8798 | 8537 | 8277 | 8016 | 7755 | 7495 | 7234 | 6973 | 6712 | 6451 |
| 261 | 1 | | 0167 | 9907 | 9647 | 9386 | 9126 | 8865 | 8605 | 8344 | 8083 | 7823 | 7562 | 7301 | 7041 | 6780 | 6519 | 6258 |
| 257 | 2 | | 9974 | 9714 | 9453 | 9193 | 8932 | 8672 | 8411 | 8150 | 7890 | 7629 | 7368 | 7108 | 6847 | 6586 | 6325 | 6065 |
| 253 | 3 | | 9781 | 9520 | 9260 | 8999 | 8739 | 8478 | 8217 | 7957 | 7696 | 7435 | 7175 | 6914 | 6653 | 6392 | 6132 | 5871 |
| 249 | 4 | | 9587 | 9327 | 9066 | 8806 | 8545 | 8284 | 8024 | 7763 | 7502 | 7242 | 6981 | 6720 | 6459 | 6199 | 5938 | 5677 |
| 245 | 5 | 251(250) | 9394 | 9133 | 8873 | 8612 | 8351 | 8091 | 7830 | 7569 | 7309 | 7048 | 6787 | 6526 | 6266 | 6005 | 5744 | 5483 |
| 241 | 6 | | 9200 | 8940 | 8679 | 8418 | 8158 | 7897 | 7636 | 7376 | 7115 | 6854 | 6593 | 6333 | 6072 | 5811 | 5550 | 5290 |
| 237 | 7 | | 9007 | 8746 | 8485 | 8225 | 7964 | 7703 | 7443 | 7182 | 6921 | 6660 | 6400 | 6139 | 5878 | 5617 | 5357 | 5096 |
| 234 | 7 | | 2089 | 1827 | 1566 | 1305 | 1044 | 0782 | 0521 | 0259 | 9998 | 9737 | 9475 | 9213 | 8952 | 8690 | 8428 | 8167 | 7905 |
| 230 | 8 | | 1896 | 1634 | 1373 | 1111 | 0850 | 0588 | 0327 | 0065 | 9803 | 9542 | 9280 | 9018 | 8757 | 8495 | 8233 | 7972 | 7710 |
| 226 | 9 | | 1702 | 1441 | 1179 | 0918 | 0656 | 0395 | 0133 | 9871 | 9610 | 9348 | 9086 | 8825 | 8563 | 8301 | 8040 | 7778 |
| 222 | 10 | 251(249) | 1509 | 1247 | 0986 | 0724 | 0463 | 0201 | 9939 | 9678 | 9416 | 9154 | 8893 | 8631 | 8369 | 8108 | 7846 | 7584 |
| 218 | 11 | | 1315 | 1054 | 0792 | 0531 | 0269 | 0007 | 9746 | 9484 | 9222 | 8961 | 8699 | 8437 | 8176 | 7914 | 7652 | 7391 |
| 214 | 12 | | 1122 | 0860 | 0599 | 0337 | 0076 | 9814 | 9552 | 9291 | 9029 | 8767 | 8506 | 8244 | 7982 | 7721 | 7459 | 7197 |
| 210 | 13 | | 0928 | 0667 | 0405 | 0144 | 9882 | 9621 | 9359 | 9097 | 8836 | 8574 | 8312 | 8051 | 7789 | 7527 | 7266 | 7004 |
| 206 | 14 | | 0735 | 0473 | 0212 | 9950 | 9689 | 9427 | 9165 | 8904 | 8642 | 8380 | 8119 | 7857 | 7595 | 7334 | 7072 | 6810 |
| 202 | 15 | 251(248) | 0541 | 0280 | 0018 | 9757 | 9495 | 9234 | 8972 | 8710 | 8449 | 8187 | 7925 | 7664 | 7402 | 7140 | 6879 | 6617 |
| 198 | 16 | | 0348 | 0086 | 9825 | 9563 | 9302 | 9040 | 8778 | 8517 | 8255 | 7993 | 7732 | 7470 | 7208 | 6947 | 6685 | 6423 |
| 194 | 17 | | 0154 | 9893 | 9631 | 9370 | 9108 | 8847 | 8585 | 8323 | 8062 | 7800 | 7538 | 7277 | 7015 | 6753 | 6492 | 6230 |
| 190 | 17 | | 4554 | 4292 | 4029 | 3767 | 3504 | 3242 | 2979 | 2716 | 2454 | 2191 | 1928 | 1665 | 1402 | 1139 | 0876 | 0613 | 0351 |
| 186 | 18 | | 4361 | 4098 | 3836 | 3573 | 3311 | 3048 | 2785 | 2523 | 2260 | 1997 | 1735 | 1472 | 1209 | 0946 | 0684 | 0421 | 0158 |
| 181 | 19 | | 4167 | 3905 | 3642 | 3380 | 3117 | 2855 | 2592 | 2329 | 2067 | 1804 | 1541 | 1279 | 1016 | 0753 | 0491 | 0228 | 9965 |
| 177 | 20 | 251 | 3974 | 3711 | 3448 | 3186 | 2923 | 2660 | 2398 | 2135 | 1872 | 1610 | 1347 | 1084 | 0822 | 0559 | 0296 | 0034 | 9771 |
| 173 | 21 | | 3780 | 3517 | 3255 | 2992 | 2730 | 2467 | 2204 | 1942 | 1679 | 1416 | 1154 | 0891 | 0628 | 0366 | 0103 | 9840 | 9578 |
| 168 | 22 | | 5785 | 5522 | 5259 | 4996 | 4733 | 4470 | 4206 | 3943 | 3680 | 3416 | 3153 | 2889 | 2626 | 2363 | 2099 | 1836 | 1572 |
| 163 | 23 | | 5591 | 5328 | 5065 | 4802 | 4539 | 4275 | 4012 | 3749 | 3485 | 3222 | 2958 | 2695 | 2431 | 2168 | 1904 | 1641 | 1377 |
| 159 | 24 | | 6278 | 6014 | 5750 | 5487 | 5224 | 4961 | 4697 | 4434 | 4171 | 3907 | 3644 | 3380 | 3117 | 2853 | 2590 | 2326 | 2062 |
| 154 | 25 | 251 | 6524 | 6260 | 5996 | 5733 | 5470 | 5206 | 4942 | 4679 | 4415 | 4151 | 3887 | 3623 | 3359 | 3096 | 2832 | 2568 | 2304 |
| 150 | 26 | | 6769 | 6506 | 6242 | 5979 | 5715 | 5451 | 5187 | 4924 | 4660 | 4396 | 4132 | 3868 | 3604 | 3340 | 3076 | 2812 | 2547 |
| 146 | 27 | | 7015 | 6751 | 6488 | 6224 | 5960 | 5696 | 5432 | 5168 | 4904 | 4640 | 4376 | 4112 | 3848 | 3584 | 3320 | 3056 | 2791 |
| 141 | 28 | | 7261 | 6997 | 6734 | 6470 | 6206 | 5942 | 5678 | 5414 | 5150 | 4886 | 4622 | 4358 | 4093 | 3829 | 3565 | 3300 | 3036 |
| 137 | 29 | | 7506 | 7243 | 6979 | 6715 | 6451 | 6187 | 5923 | 5659 | 5395 | 5131 | 4867 | 4602 | 4338 | 4074 | 3809 | 3545 | 3280 |
| 132 | 30 | 251 | 7753 | 7489 | 7225 | 6961 | 6696 | 6432 | 6168 | 5904 | 5639 | 5375 | 5110 | 4846 | 4581 | 4317 | 4052 | 3787 | 3523 |
| 128 | 31 | | 7999 | 7734 | 7470 | 7206 | 6942 | 6677 | 6413 | 6148 | 5884 | 5619 | 5355 | 5090 | 4826 | 4561 | 4296 | 4032 | 3767 |
| 123 | 32 | | 8244 | 7980 | 7716 | 7451 | 7187 | 6922 | 6658 | 6393 | 6128 | 5864 | 5599 | 5335 | 5070 | 4805 | 4541 | 4276 | 4011 |
| 119 | 33 | | 8490 | 8226 | 7961 | 7697 | 7432 | 7167 | 6903 | 6638 | 6373 | 6108 | 5844 | 5579 | 5314 | 5049 | 4785 | 4520 | 4255 |
| 115 | 34 | | 8736 | 8471 | 8206 | 7942 | 7677 | 7412 | 7148 | 6883 | 6618 | 6353 | 6088 | 5823 | 5558 | 5293 | 5028 | 4763 | 4498 |
| 110 | 35 | 251 | 8981 | 8717 | 8452 | 8187 | 7922 | 7657 | 7392 | 7127 | 6862 | 6597 | 6332 | 6067 | 5802 | 5537 | 5272 | 5007 | 4742 |
| 106 | 36 | | 9227 | 8962 | 8697 | 8432 | 8167 | 7902 | 7637 | 7372 | 7107 | 6842 | 6577 | 6312 | 6047 | 5782 | 5517 | 5252 | 4987 |
| 101 | 37 | | 9472 | 9207 | 8942 | 8677 | 8412 | 8147 | 7882 | 7617 | 7352 | 7087 | 6822 | 6557 | 6292 | 6027 | 5762 | 5497 | 5232 |
| 97 | 38 | | 9718 | 9453 | 9188 | 8922 | 8657 | 8392 | 8127 | 7861 | 7596 | 7330 | 7065 | 6800 | 6535 | 6270 | 6005 | 5740 | 5475 |
| 93 | 39 | | 9963 | 9698 | 9433 | 9167 | 8902 | 8637 | 8371 | 8106 | 7840 | 7575 | 7309 | 7044 | 6779 | 6514 | 6249 | 5984 | 5719 |
| 88 | 40 | 252(251) | 0208 | 9943 | 9678 | 9412 | 9147 | 8881 | 8616 | 8350 | 8085 | 7819 | 7554 | 7289 | 7024 | 6759 | 6494 | 6229 | 5964 |
| 84 | 41 | | 0454 | 0188 | 9923 | 9657 | 9392 | 9126 | 8860 | 8595 | 8329 | 8064 | 7798 | 7533 | 7268 | 7003 | 6738 | 6473 | 6208 |
| 79 | 42 | | 0699 | 0433 | 0168 | 9902 | 9637 | 9371 | 9105 | 8839 | 8574 | 8308 | 8043 | 7777 | 7512 | 7247 | 6982 | 6717 | 6452 |
| 75 | 43 | | 0944 | 0679 | 0413 | 0147 | 9881 | 9615 | 9349 | 9083 | 8818 | 8552 | 8287 | 8021 | 7756 | 7491 | 7226 | 6961 | 6696 |
| 71 | 44 | | 1189 | 0924 | 0658 | 0392 | 0126 | 9860 | 9594 | 9328 | 9062 | 8797 | 8531 | 8266 | 8000 | 7735 | 7470 | 7205 | 6940 |
| 66 | 45 | 252(251) | 1435 | 1169 | 0903 | 0637 | 0371 | 0104 | 9838 | 9572 | 9306 | 9041 | 8775 | 8509 | 8244 | 7979 | 7714 | 7449 | 7184 |
| 62 | 46 | | 1680 | 1414 | 1147 | 0881 | 0615 | 0349 | 0083 | 9816 | 9550 | 9284 | 9019 | 8753 | 8488 | 8222 | 7957 | 7692 | 7427 |
| 57 | 47 | | 1925 | 1658 | 1392 | 1126 | 0860 | 0593 | 0327 | 0061 | 9795 | 9529 | 9263 | 8997 | 8732 | 8466 | 8201 | 7936 | 7671 |
| 53 | 48 | | 2170 | 1903 | 1637 | 1371 | 1104 | 0838 | 0572 | 0306 | 0040 | 9774 | 9508 | 9242 | 8976 | 8711 | 8445 | 8180 | 7915 |
| 49 | 49 | | 2415 | 2148 | 1882 | 1615 | 1349 | 1082 | 0816 | 0550 | 0284 | 0018 | 9752 | 9486 | 9220 | 8955 | 8689 | 8424 | 8159 |
| 44 | 50 | 252(250) | 2660 | 2393 | 2127 | 1860 | 1593 | 1327 | 1060 | 0794 | 0528 | 0262 | 9996 | 9730 | 9464 | 9198 | 8933 | 8667 | 8402 |
| 40 | 51 | | 2904 | 2638 | 2371 | 2104 | 1837 | 1570 | 1304 | 1037 | 0771 | 0505 | 0239 | 9973 | 9707 | 9441 | 9175 | 8910 | 8644 |
| 36 | 52 | | 3149 | 2882 | 2615 | 2348 | 2081 | 1814 | 1547 | 1281 | 1014 | 0748 | 0482 | 0216 | 9950 | 9684 | 9418 | 9152 | 8887 |
| 31 | 53 | | 3393 | 3126 | 2859 | 2592 | 2325 | 2058 | 1791 | 1524 | 1258 | 0991 | 0725 | 0459 | 0193 | 9927 | 9661 | 9395 | 9129 |
| 26 | 54 | | 3637 | 3370 | 3103 | 2836 | 2569 | 2302 | 2035 | 1768 | 1501 | 1235 | 0968 | 0702 | 0436 | 0169 | 9903 | 9637 | 9371 |
| 22 | 55 | | 3881 | 3614 | 3347 | 3080 | 2813 | 2546 | 2279 | 2012 | 1745 | 1478 | 1212 | 0945 | 0679 | 0412 | 0146 | 9880 | 9614 |
| 18 | 56 | | 4125 | 3858 | 3591 | 3324 | 3057 | 2790 | 2523 | 2256 | 1989 | 1722 | 1455 | 1189 | 0922 | 0656 | 0389 | 0123 | 9857 |
| 13 | 57 | | 4373 | 4106 | 3839 | 3572 | 3305 | 3038 | 2771 | 2504 | 2237 | 1970 | 1703 | 1436 | 1170 | 0903 | 0637 | 0370 | 0104 |
| 9 | 58 | | 4617 | 4350 | 4083 | 3816 | 3549 | 3282 | 3015 | 2748 | 2481 | 2214 | 1947 | 1680 | 1413 | 1147 | 0880 | 0614 | 0347 |
| 4 | 59 | | 4862 | 4594 | 4326 | 4059 | 3792 | 3525 | 3258 | 2991 | 2724 | 2457 | 2190 | 1923 | 1657 | 1390 | 1124 | 0857 | 0591 |

| Parts for Sec. | 121° | Sums |
|---|---|---|
| C. D addit. | ′ | |
| | 0 | 331 |
| | 1 | 5277 |
| | 2 | 8537 |
| | 3 | 57 |
| | 4 | 85 |
| | 5 | 331 |
| | 6 | 7778 |
| | 7 | 67 |
| | 8 | 7 |
| | 9 | 7 |
| | 10 | 331 |
| | 11 | 7777 |
| | 12 | |
| | 13 | |
| | 14 | 81 |
| | 15 | 331 |
| | 16 | 2 |
| | 17 | 67 |
| | 18 | 9610 |
| | 19 | 67 |
| | 20 | 331 |
| | 21 | 2465 |
| | 22 | 5319 |
| | 23 | 9761 |
| | 24 | 101 |
| | 25 | 331 |
| | 26 | 1965 |
| | 27 | 1364 |
| | 28 | 1761 |
| | 29 | 2161 |
| | 30 | 331 |
| | 31 | 2747 |
| | 32 | 7096 |
| | 33 | 1444 |
| | 34 | 1840 |
| | 35 | 331 |
| | 36 | 3717 |
| | 37 | 7 |
| | 38 | 4401 |
| | 39 | 4797 |
| | 40 | 331 |
| | 41 | 5193 |
| | 42 | 5589 |
| | 43 | 5985 |
| | 44 | 6381 |
| | 45 | 331 |
| | 46 | 6781 |
| | 47 | 7177 |
| | 48 | 7573 |
| | 49 | 7969 |
| | 50 | 331 |
| | 51 | 8365 |
| | 52 | 8761 |
| | 53 | 9157 |
| | 54 | 9553 |
| | 55 | 331 |
| | 56 | 9949 |
| | 57 | 7 |
| | 58 | 345 |
| | 59 | 741 |

Numbers II. for Corrected Sums of Altitudes

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Sums of Alt. | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 9652 | 9385 | 9118 | 8851 | 8584 | 8317 | 8049 | 7782 | 7513 | 7247 | 6980 | 6712 | 6445 | 6177 | 5909 | 5642 | 5374 |
| 1 | 9899 | 9632 | 9364 | 9097 | 8830 | 8562 | 8295 | 8028 | 7760 | 7493 | 7225 | 6957 | 6690 | 6422 | 6154 | 5886 | 5619 |
| 2 | 253 (252) 0145 | 9878 | 9610 | 9343 | 9076 | 8808 | 8541 | 8273 | 8006 | 7738 | 7470 | 7203 | 6935 | 6667 | 6399 | 6131 | 5863 |
| 3 | 0392 | 0124 | 9857 | 9589 | 9322 | 9054 | 8787 | 8518 | 8251 | 7983 | 7715 | 7448 | 7180 | 6912 | 6644 | 6376 | 6108 |
| 4 | 0638 | 0371 | 0103 | 9835 | 9568 | 9300 | 9032 | 8764 | 8496 | 8229 | 7961 | 7693 | 7425 | 7156 | 6889 | 6620 | 6352 |
| [illegible] | [illegible] | 0617 | 0349 | 0081 | 9814 | 9546 | 9278 | 9010 | 8742 | 8474 | 8206 | 7938 | 7669 | 7401 | 7133 | 6865 | 6596 |
| [illegible] | [illegible] | 1131 | 0863 | 0595 | 0327 | 0059 | 9791 | 9523 | 9255 | 8987 | 8719 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 1377 | 1109 | 0841 | 0573 | 0305 | 0037 | 9769 | 9501 | 9232 | 8964 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 1623 | 1355 | 1087 | 0819 | 0551 | 0283 | 0014 | 9746 | 9478 | 9209 | 8941 | 8672 | 8404 | 8135 | 7867 | 7598 |
| 9 | [illegible] | 1870 | 1601 | 1333 | 1065 | 0797 | [illegible] | 0260 | 9991 | 9723 | 9454 | [illegible] | 8917 | 8648 | 8380 | 8111 | 7842 |
| [illegible] | [illegible] | 2116 | 1847 | 1579 | 1311 | 1042 | 0774 | 0505 | 0237 | 9968 | 9699 | 9431 | 9162 | 8893 | 8624 | 8355 | 8086 |
| [illegible] | [illegible] | 2362 | 2093 | 1825 | 1556 | 1288 | 1019 | 0751 | 0482 | 0213 | 9944 | [illegible] | 9407 | 9138 | 8869 | 8600 | 8331 |
| [illegible] | [illegible] | [illegible] | 2071 | 1802 | 1533 | 1265 | 0996 | 0727 | 0458 | 0189 | [illegible] | 9651 | 9382 | 9113 | 8844 | 8575 | [illegible] |
| [illegible] | [illegible] | 2854 | 2585 | 2316 | 2048 | 1779 | 1510 | 1241 | 0972 | 0703 | 0434 | [illegible] | 9896 | 9627 | 9358 | 9088 | 8819 |
| [illegible] | [illegible] | 3100 | 2831 | 2562 | 2293 | 2024 | 1755 | 1486 | 1217 | 0948 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9333 | 9063 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2001 | 1731 | 1462 | 1193 | [illegible] | [illegible] | 0385 | 0116 | 9846 | 9577 | 9307 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2246 | 1977 | 1707 | 1438 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 3837 | 3568 | 3299 | 3031 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0874 | 0604 | 0335 | [illegible] | [illegible] |
| [illegible] | [illegible] | 4083 | 3814 | 3545 | 3277 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2981 | 2712 | 2442 | 2172 | 1903 | [illegible] | 1363 | 1093 | 0823 | [illegible] | [illegible] |
| [illegible] | [illegible] | 4575 | 4305 | 4035 | 3766 | 3496 | 3226 | 2957 | 2687 | 2417 | 2147 | [illegible] | 1607 | 1337 | 1067 | [illegible] | [illegible] |
| [illegible] | [illegible] | 4820 | 4551 | 4281 | 4011 | 3741 | 3471 | 3202 | 2932 | 2662 | 2392 | [illegible] | 1851 | 1581 | 1311 | 1041 | [illegible] |
| [illegible] | [illegible] | 5066 | 4796 | 4526 | 4256 | 3986 | 3716 | 3446 | 3176 | 2906 | 2636 | [illegible] | [illegible] | 1825 | 1555 | 1285 | [illegible] |
| [illegible] | [illegible] | 5311 | 5041 | 4771 | 4501 | 4231 | 3961 | 3691 | 3421 | 3151 | 2881 | [illegible] | 2340 | 2069 | 1799 | 1528 | [illegible] |
| [illegible] | [illegible] | 5557 | 5287 | 5017 | 4747 | 4476 | 4206 | 3936 | 3666 | 3395 | 3125 | 2854 | 2584 | 2313 | 2043 | [illegible] | [illegible] |
| [illegible] | [illegible] | 5802 | 5532 | 5262 | 4992 | 4721 | 4451 | 4181 | 3910 | 3640 | 3369 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 6048 | 5777 | 5507 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 6293 | 6023 | 5752 | [illegible] | 5211 | 4941 | 4670 | 4399 | 4129 | 3858 | 3587 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 6538 | 6268 | 5997 | [illegible] | 5456 | 5185 | 4915 | 4644 | 4373 | 4102 | 3831 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5701 | 5430 | 5159 | 4888 | 4617 | 4346 | 4075 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 30 | 7[illegible] | 6758 | 6487 | 6216 | 5946 | 5675 | 5404 | 5133 | 4861 | 4590 | 4319 | [illegible] | [illegible] | 3234 | 2963 | 2691 |
| [illegible] | 31 | 7274 | 7003 | 6732 | 6461 | 6190 | 5919 | 5648 | 5377 | 5106 | [illegible] | [illegible] | [illegible] | [illegible] | 3477 | 3206 | 2934 |
| [illegible] | 32 | 7519 | 7248 | 6977 | 6706 | 6435 | 6164 | 5892 | 5621 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3721 | 3449 | 3177 |
| [illegible] | 33 | 7764 | 7493 | 7222 | 6951 | 6679 | 6408 | 6137 | 5865 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3964 | 3692 | 3420 |
| [illegible] | 34 | 8009 | 7738 | 7467 | 7195 | 6924 | 6653 | 6381 | 6110 | 5838 | [illegible] | [illegible] | [illegible] | [illegible] | 4207 | 3936 | 3664 |
| [illegible] | 35 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6897 | 6625 | 6354 | 6082 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 36 | 8499 | 8228 | 7956 | 7685 | 7413 | 7141 | 6870 | 6598 | 6326 | 6054 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 37 | 8744 | 8473 | 8201 | 7929 | 7657 | 7386 | 7114 | 6842 | 6570 | 6298 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 38 | 8989 | 8717 | 8446 | 8174 | 7902 | 7630 | 7358 | 7086 | 6814 | 6542 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 39 | 0234 | 8962 | 8690 | 8418 | 8146 | 7874 | 7602 | 7330 | 7058 | 6785 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 40 | 9479 | 9207 | 8935 | 8663 | 8390 | 8118 | 7846 | 7574 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 41 | 9723 | 9451 | 9179 | 8907 | 8635 | 8362 | 8090 | 7818 | 7546 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 42 | 9968 | 9696 | 9424 | 9151 | 8879 | 8606 | 8334 | 8061 | 7789 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 0457 | 0185 | 9912 | 9640 | 9367 | 9094 | 8822 | 8549 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 0702 | 0429 | 0157 | 9884 | 9611 | 9338 | 9065 | 8793 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 0946 | 0674 | 0401 | 0128 | 9855 | 9582 | 9309 | 9036 | 8763 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 1191 | 0918 | 0645 | 0372 | 0099 | 9826 | 9553 | 9280 | 9007 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 1435 | 1162 | 0889 | 0616 | [illegible] | [illegible] | 9797 | 9523 | 9250 | 8977 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 1680 | 1407 | 1133 | 0860 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 50 | 1924 | 1651 | 1377 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 51 | 2168 | 1895 | 1621 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 52 | 2412 | 2139 | 1865 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 60 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

Parts for Seconds of Auxil. Argum. additive

Auxiliary Arguments.

| ′ | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 252 | 5106 | 4838 | 4571 | 4303 | 4035 | 3767 | 3499 | 3231 | 2962 | 2694 | 2426 | 2158 | 1889 | 1621 | 1353 | 1084 |
| 1 | | 5351 | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | 252 | | | | | | | | | | | | | | | | |
| 6 | | 6572 | | | | | | | | | | | | | | | |
| 7 | | 6816 | 6547 | 6279 | 6010 | 5741 | 5472 | 5203 | 4935 | 4666 | 4396 | 4127 | 3858 | 3589 | 3320 | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | 252 | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | |
| 15 | 252 | 8768 | 8498 | 8228 | 7959 | 7689 | 7419 | 7149 | 6879 | 6609 | 6339 | 6069 | 5799 | 5529 | 5259 | 4988 | 4718 |
| 16 | | 9012 | 8742 | 8472 | 8202 | 7932 | 7662 | 7392 | 7122 | 6852 | 6582 | 6312 | 6041 | 5771 | 5501 | 5230 | 4960 |
| 17 | | 9255 | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | |
| 19 | | 9743 | 9472 | 9202 | 8932 | 8662 | 8391 | 8121 | 7850 | 7580 | 7309 | 7039 | 6768 | 6498 | 6227 | 5956 | 5685 |
| 20 | 252 | 9986 | 9716 | 9446 | 9175 | 8905 | 8634 | 8364 | 8093 | 7823 | 7552 | 7281 | | | | | |
| 21 | 253(252) | 0230 | 9959 | 9689 | 9418 | 9148 | 8877 | 8607 | 8336 | 8065 | 7794 | 7523 | 7253 | 6982 | 6711 | 6440 | 6169 |
| 22 | | | | | | | | 8849 | 8578 | 8308 | 8037 | 7766 | 7495 | 7224 | 6953 | 6681 | 6410 |
| 23 | | 0717 | 0446 | 0175 | 9905 | 9634 | 9363 | 9092 | 8821 | 8550 | 8279 | | | | | | |
| 24 | | | | | | | | | | | | 8250 | 7979 | 7708 | 7436 | 7165 | 6893 |
| 25 | 253(252) | 1203 | 0933 | 0662 | 0391 | 0119 | 9848 | 9577 | 9306 | 9035 | 8763 | 8492 | 8221 | 7949 | 7678 | 7406 | 7135 |
| 26 | | 1447 | | | | | | | | | | 8734 | 8463 | 8191 | 7920 | 7648 | 7376 |
| 27 | | | | | | | | | | | | 8976 | 8705 | 8433 | 8161 | 7889 | 7618 |
| 28 | | | | | | | | | | | | 9218 | 8946 | 8675 | 8403 | 8131 | 7859 |
| 29 | | 2176 | 1905 | 1634 | 1362 | 1090 | 0819 | 0547 | 0276 | 0004 | 9732 | 9460 | 9188 | 8916 | 8644 | 8372 | 8100 |
| 30 | 253(252) | 2420 | 2148 | 1876 | 1605 | 1333 | 1061 | 0790 | 0518 | 0246 | 9974 | 9702 | 9430 | 9158 | 8886 | 8614 | 8342 |
| 31 | | 2663 | 2391 | 2119 | 1847 | 1576 | 1304 | 1032 | 0760 | 0488 | 0216 | 9944 | 9672 | 9400 | 9127 | 8855 | 8583 |
| 32 | | | | | | | | | | | 0730 | 0458 | 0186 | 9913 | 9641 | 9369 | 9096 |
| 33 | | | 2877 | 2605 | 2333 | 2061 | 1789 | 1516 | 1244 | | | | | | | | |
| 34 | | | 3120 | 2848 | 2575 | 2303 | 2031 | 1759 | 1486 | 1214 | 0942 | 0669 | 0397 | 0124 | 9852 | 9579 | 9306 |
| 35 | 253(252) | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | | |
| 37 | | 4120 | 3848 | 3575 | 3303 | 3030 | 2758 | 2485 | 2212 | 1940 | 1667 | | | | | | |
| 38 | | 4363 | 4090 | 3818 | 3545 | 3272 | 3000 | 2727 | 2454 | 2181 | 1909 | 1636 | 1363 | 1089 | 0816 | 0543 | |
| 39 | 253 | 4606 | 4333 | 4060 | 3788 | 3515 | 3242 | 2969 | 2696 | 2423 | 2150 | | | | | | |
| 40 | 253 | | | | | | | | | | | 2118 | 1845 | 1572 | 1299 | 1025 | 0752 |
| 41 | | | | | | | | | | | | 2360 | 2087 | 1813 | 1540 | 1266 | 0993 |
| 42 | | 5334 | 5061 | 4787 | 4514 | 4241 | 3968 | 3695 | 3421 | 3148 | 2875 | 2601 | 2328 | 2054 | 1781 | 1507 | 1233 |
| 43 | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | |
| 45 | 253 | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | | |
| 49 | | 7030 | 6756 | 6482 | 6209 | 5935 | 5660 | 5386 | 5112 | 4838 | 4564 | 4289 | 4015 | 3741 | 3466 | 3192 | 2917 |
| 50 | 253 | | | | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | | | | |
| 52 | | 7757 | 7483 | 7208 | 6934 | 6660 | 6385 | 6111 | 5836 | 5561 | 5287 | 5012 | 4737 | 4463 | 4188 | 3913 | 3638 |
| 53 | | | | | | | | | | | | | | | | | |
| 54 | | 8241 | 7967 | 7692 | 7417 | 7143 | 6868 | 6593 | 6318 | 6044 | 5769 | 5494 | 5219 | 4944 | 4669 | 4394 | 4119 |
| 55 | 253 | | | | | | | | | | | | | | | | |
| 56 | | 8725 | 8450 | 8175 | 7901 | 7626 | 7351 | 7076 | 6801 | 6526 | 6250 | 5975 | 5700 | 5425 | 5150 | | |
| 57 | | | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | | | |
| 59 | | 9451 | 9175 | 8900 | 8625 | 8350 | 8074 | 7799 | 7524 | 7248 | 6973 | 6697 | 6422 | 6146 | | | |

| ′ | 17′ | Sums |
|---|---|---|
| 0 | 252 | 552 9216 |
| 1 | | 553 0169 |
| 2 | | 0413 |
| 3 | | 0659 |
| 4 | | 0905 |
| 5 | 252 | 553 1152 |
| 6 | | 1399 |
| 7 | | 1645 |
| 8 | | 1891 |
| 9 | | 2138 |
| 10 | 252 | 553 2384 |
| 11 | | 2630 |
| 12 | | 2876 |
| 13 | | 3122 |
| 14 | | 3368 |
| 15 | 252 | 553 3615 |
| 16 | | 3861 |
| 17 | | 4106 |
| 18 | | 4352 |
| 19 | | 4598 |
| 20 | 252 | 553 4844 |
| 21 | 253(252) | 5090 |
| 22 | | 5336 |
| 23 | | 5581 |
| 24 | | 5827 |
| 25 | 253(252) | 553 6073 |
| 26 | | 6318 |
| 27 | | 6563 |
| 28 | | 6809 |
| 29 | | 7054 |
| 30 | 253(252) | 553 7300 |
| 31 | | 7545 |
| 32 | | 7790 |
| 33 | | 8035 |
| 34 | | 8281 |
| 35 | 253(252) | 553 8526 |
| 36 | | 8771 |
| 37 | | 9017 |
| 38 | | 9262 |
| 39 | 253 | 9507 |
| 40 | 253 | 553 9751 |
| 41 | | 9996 |
| 42 | | 554 0241 |
| 43 | | 0486 |
| 44 | | 0731 |
| 45 | 253 | 554 0974 |
| 46 | | 1219 |
| 47 | | 1464 |
| 48 | | 1709 |
| 49 | | 1953 |
| 50 | 253 | 554 2198 |
| 51 | | 2443 |
| 52 | | 2688 |
| 53 | | 2933 |
| 54 | | 3177 |
| 55 | 253 | 554 3422 |
| 56 | | 3667 |
| 57 | | 3911 |
| 58 | | 4156 |
| 59 | | 4400 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C. S. A. addit. | C. S. A. 125° | Numbers | Parts for Seconds of Arcus Additive |
|---|---|---|---|
| 245 | 0 | 9846 9834 | 278 |
| 241 | 1 | 9587 | 274 |
| 237 | 2 | 9341 | 269 |
| 233 | 3 | 9094 | 265 |
| 229 | 4 | 8848 | 260 |
| 225 | 5 | 9846 8601 | 255 |
| 221 | 6 | 8355 | 251 |
| 217 | 7 | 8109 | 246 |
| 213 | 8 | 7862 | 241 |
| 209 | 9 | 7616 | 237 |
| 205 | 10 | 9846 7370 | 232 |
| 200 | 11 | 7124 | 227 |
| 196 | 12 | 6878 | 223 |
| 192 | 13 | 6632 | 218 |
| 188 | 14 | 6385 | 213 |
| 184 | 15 | 9846 6139 | 209 |
| 180 | 16 | 5894 | 204 |
| 176 | 17 | 5648 | 200 |
| 172 | 18 | 5402 | 195 |
| 168 | 19 | 5156 | 190 |
| 164 | 20 | 9846 4910 | 186 |
| 160 | 21 | 4665 | 181 |
| 155 | 22 | 4419 | 176 |
| 151 | 23 | 4173 | 172 |
| 147 | 24 | 3928 | 167 |
| 143 | 25 | 9846 3682 | 162 |
| 139 | 26 | 3437 | 158 |
| 135 | 27 | 3191 | 153 |
| 131 | 28 | 2946 | 149 |
| 127 | 29 | 2700 | 144 |
| 123 | 30 | 9846 2455 | 139 |
| 119 | 31 | 2210 | 135 |
| 115 | 32 | 1965 | 130 |
| 110 | 33 | 1719 | 125 |
| 106 | 34 | 1474 | 121 |
| 102 | 35 | 9846 1229 | 116 |
| 98 | 36 | 0984 | 111 |
| 94 | 37 | 0739 | 107 |
| 90 | 38 | 0494 | 102 |
| 86 | 39 | 0249 | 97 |
| 82 | 40 | 9846 0004 | 93 |
| 78 | 41 | 9845 9760 | 88 |
| 74 | 42 | 9515 | 84 |
| 70 | 43 | 9270 | 79 |
| 65 | 44 | 9024 | 74 |
| 61 | 45 | 9845 8781 | 70 |
| 57 | 46 | 8536 | 65 |
| 53 | 47 | 8292 | 60 |
| 49 | 48 | 8047 | 56 |
| 45 | 49 | 7803 | 51 |
| 41 | 50 | 9845 7558 | 46 |
| 37 | 51 | 7314 | 42 |
| 33 | 52 | 7070 | 37 |
| 29 | 53 | 6826 | 32 |
| 25 | 54 | 6581 | 28 |
| 20 | 55 | 9845 6337 | 23 |
| 16 | 56 | 6093 | 19 |
| 12 | 57 | 5849 | 14 |
| 8 | 58 | 5605 | 9 |
| 4 | 59 | 5361 | 5 |

| A.A. & A.D. 123° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 254(253) 4365 | 4090 | 3816 | 3541 | 3267 | 2992 | 2717 | 2442 | 2168 | 1893 | 1618 | 1343 | 1068 | 0793 | 0518 | 0243 | 9968 |
| 1 | 254 4093 | 3819 | 3545 | 3270 | 2996 | 2721 | 2446 | 2171 | 1896 | 1621 | 1346 | 1071 | 0796 | 0521 | 0246 | 9971 | 9696 |
| 2 | 3822 | 3548 | 3273 | 2999 | 2724 | 2449 | 2174 | 1899 | 1624 | 1349 | 1074 | 0799 | 0524 | 0249 | 9974 | 9699 | 9424 |
| 3 | 3550 | 3276 | 3002 | 2727 | 2452 | 2177 | 1902 | 1627 | 1352 | 1077 | 0802 | 0527 | 0252 | 9977 | 9702 | 9427 | 9152 |
| 4 | 3278 | 3005 | 2731 | 2457 | 2183 | 1909 | 1634 | 1359 | 1084 | 0809 | 0534 | 0259 | 9984 | 9709 | 9434 | 9159 | 8884 |
| 5 | 254 3006 | 2734 | 2461 | 2187 | 1913 | 1639 | 1365 | 1091 | 0817 | 0543 | 0269 | 9995 | 9721 | 9447 | 9173 | 8899 | 8625 |
| 6 | 2734 | 2462 | 2190 | 1918 | 1646 | 1374 | 1102 | 0830 | 0558 | 0286 | 0014 | 9742 | 9470 | 9198 | 8926 | 8654 | 8382 |
| 7 | 2461 | 2189 | 1917 | 1645 | 1373 | 1101 | 0829 | 0557 | 0285 | 0013 | 9741 | 9469 | 9197 | 8925 | 8653 | 8381 | 8109 |
| 8 | 2188 | 1916 | 1644 | 1372 | 1100 | 0828 | 0556 | 0284 | 0012 | 9740 | 9468 | 9196 | 8924 | 8652 | 8380 | 8108 | 7836 |
| 9 | 1915 | 1643 | 1371 | 1099 | 0827 | 0555 | 0283 | 0011 | 9739 | 9467 | 9195 | 8923 | 8651 | 8379 | 8107 | 7835 | 7563 |
| 10 | 254 1642 | 1370 | 1098 | 0826 | 0554 | 0282 | 0010 | 9738 | 9466 | 9194 | 8922 | 8650 | 8378 | 8106 | 7834 | 7562 | 7290 |
| 11 | 1369 | 1097 | 0825 | 0553 | 0281 | 0009 | 9737 | 9465 | 9193 | 8921 | 8649 | 8377 | 8105 | 7833 | 7561 | 7289 | 7017 |
| 12 | 1096 | 0824 | 0552 | 0280 | 0008 | 9736 | 9464 | 9192 | 8920 | 8648 | 8376 | 8104 | 7832 | 7560 | 7288 | 7016 | 6744 |
| 13 | 0823 | 0551 | 0279 | 0007 | 9735 | 9463 | 9191 | 8919 | 8647 | 8375 | 8103 | 7831 | 7559 | 7287 | 7015 | 6743 | 6471 |
| 14 | 0550 | 0278 | 0006 | 9734 | 9462 | 9190 | 8918 | 8646 | 8374 | 8102 | 7830 | 7558 | 7286 | 7014 | 6742 | 6470 | 6198 |
| 15 | 254 0277 | 0005 | 9733 | 9461 | 9189 | 8917 | 8645 | 8373 | 8101 | 7829 | 7557 | 7285 | 7013 | 6741 | 6469 | 6197 | 5925 |
| 16 | 0004 | 9732 | 9460 | 9188 | 8916 | 8644 | 8372 | 8100 | 7828 | 7556 | 7284 | 7012 | 6740 | 6468 | 6196 | 5924 | 5652 |
| 17 | 9731 | 9459 | 9187 | 8915 | 8643 | 8371 | 8099 | 7827 | 7555 | 7283 | 7011 | 6739 | 6467 | 6195 | 5923 | 5651 | 5379 |
| 18 | 9458 | 9186 | 8914 | 8642 | 8370 | 8098 | 7826 | 7554 | 7282 | 7010 | 6738 | 6466 | 6194 | 5922 | 5650 | 5378 | 5106 |
| 19 | 9185 | 8913 | 8641 | 8369 | 8097 | 7825 | 7553 | 7281 | 7009 | 6737 | 6465 | 6193 | 5921 | 5649 | 5377 | 5105 | 4833 |
| 20 | 254 8912 | 8640 | 8368 | 8096 | 7824 | 7552 | 7280 | 7008 | 6736 | 6464 | 6192 | 5920 | 5648 | 5376 | 5104 | 4832 | 4560 |
| 21 | 8639 | 8367 | 8095 | 7823 | 7551 | 7279 | 7007 | 6735 | 6463 | 6191 | 5919 | 5647 | 5375 | 5103 | 4831 | 4559 | 4287 |
| 22 | 8366 | 8094 | 7822 | 7550 | 7278 | 7006 | 6734 | 6462 | 6190 | 5918 | 5646 | 5374 | 5102 | 4830 | 4558 | 4286 | 4014 |
| 23 | 8093 | 7821 | 7549 | 7277 | 7005 | 6733 | 6461 | 6189 | 5917 | 5645 | 5373 | 5101 | 4829 | 4557 | 4285 | 4013 | 3741 |
| 24 | 7820 | 7548 | 7276 | 7004 | 6732 | 6460 | 6188 | 5916 | 5644 | 5372 | 5100 | 4828 | 4556 | 4284 | 4012 | 3740 | 3468 |
| 25 | 255(254) 7547 | 7275 | 7003 | 6731 | 6459 | 6187 | 5915 | 5643 | 5371 | 5099 | 4827 | 4555 | 4283 | 4011 | 3739 | 3467 | 3195 |
| 26 | 7274 | 7002 | 6730 | 6458 | 6186 | 5914 | 5642 | 5370 | 5098 | 4826 | 4554 | 4282 | 4010 | 3738 | 3466 | 3194 | 2922 |
| 27 | 7001 | 6729 | 6457 | 6185 | 5913 | 5641 | 5369 | 5097 | 4825 | 4553 | 4281 | 4009 | 3737 | 3465 | 3193 | 2921 | 2649 |
| 28 | 6728 | 6456 | 6184 | 5912 | 5640 | 5368 | 5096 | 4824 | 4552 | 4280 | 4008 | 3736 | 3464 | 3192 | 2920 | 2648 | 2376 |
| 29 | 6455 | 6183 | 5911 | 5639 | 5367 | 5095 | 4823 | 4551 | 4279 | 4007 | 3735 | 3463 | 3191 | 2919 | 2647 | 2375 | 2103 |
| 30 | 255(254) 6182 | 5910 | 5638 | 5366 | 5094 | 4822 | 4550 | 4278 | 4006 | 3734 | 3462 | 3190 | 2918 | 2646 | 2374 | 2102 | 1830 |
| 31 | 5909 | 5637 | 5365 | 5093 | 4821 | 4549 | 4277 | 4005 | 3733 | 3461 | 3189 | 2917 | 2645 | 2373 | 2101 | 1829 | 1557 |
| 32 | 5636 | 5364 | 5092 | 4820 | 4548 | 4276 | 4004 | 3732 | 3460 | 3188 | 2916 | 2644 | 2372 | 2100 | 1828 | 1556 | 1284 |
| 33 | 5363 | 5091 | 4819 | 4547 | 4275 | 4003 | 3731 | 3459 | 3187 | 2915 | 2643 | 2371 | 2099 | 1827 | 1555 | 1283 | 1011 |
| 34 | 5090 | 4818 | 4546 | 4274 | 4002 | 3730 | 3458 | 3186 | 2914 | 2642 | 2370 | 2098 | 1826 | 1554 | 1282 | 1010 | 0738 |
| 35 | 255(254) 4817 | 4545 | 4273 | 4001 | 3729 | 3457 | 3185 | 2913 | 2641 | 2369 | 2097 | 1825 | 1553 | 1281 | 1009 | 0737 | 0465 |
| 36 | 4544 | 4272 | 4000 | 3728 | 3456 | 3184 | 2912 | 2640 | 2368 | 2096 | 1824 | 1552 | 1280 | 1008 | 0736 | 0464 | 0192 |
| 37 | 4271 | 3999 | 3727 | 3455 | 3183 | 2911 | 2639 | 2367 | 2095 | 1823 | 1551 | 1279 | 1007 | 0735 | 0463 | 0191 | 9919 |
| 38 | 3998 | 3726 | 3454 | 3182 | 2910 | 2638 | 2366 | 2094 | 1822 | 1550 | 1278 | 1006 | 0734 | 0462 | 0190 | 9918 | 9646 |
| 39 | 3725 | 3453 | 3181 | 2909 | 2637 | 2365 | 2093 | 1821 | 1549 | 1277 | 1005 | 0733 | 0461 | 0189 | 9917 | 9645 | 9373 |
| 40 | 255(254) 3452 | 3180 | 2908 | 2636 | 2364 | 2092 | 1820 | 1548 | 1276 | 1004 | 0732 | 0460 | 0188 | 9916 | 9644 | 9372 | 9100 |
| 41 | 3179 | 2907 | 2635 | 2363 | 2091 | 1819 | 1547 | 1275 | 1003 | 0731 | 0459 | 0187 | 9915 | 9643 | 9371 | 9099 | 8827 |
| 42 | 255 2906 | 2634 | 2362 | 2090 | 1818 | 1546 | 1274 | 1002 | 0730 | 0458 | 0186 | 9914 | 9642 | 9370 | 9098 | 8826 | 8554 |
| 43 | 2633 | 2361 | 2089 | 1817 | 1545 | 1273 | 1001 | 0729 | 0457 | 0185 | 9913 | 9641 | 9369 | 9097 | 8825 | 8553 | 8281 |
| 44 | 2360 | 2088 | 1816 | 1544 | 1272 | 1000 | 0728 | 0456 | 0184 | 9912 | 9640 | 9368 | 9096 | 8824 | 8552 | 8280 | 8008 |
| 45 | 2087 | 1815 | 1543 | 1271 | 0999 | 0727 | 0455 | 0183 | 9911 | 9639 | 9367 | 9095 | 8823 | 8551 | 8279 | 8007 | 7735 |
| 46 | 1814 | 1542 | 1270 | 0998 | 0726 | 0454 | 0182 | 9910 | 9638 | 9366 | 9094 | 8822 | 8550 | 8278 | 8006 | 7734 | 7462 |
| 47 | 1541 | 1269 | 0997 | 0725 | 0453 | 0181 | 9909 | 9637 | 9365 | 9093 | 8821 | 8549 | 8277 | 8005 | 7733 | 7461 | 7189 |
| 48 | 1268 | 0996 | 0724 | 0452 | 0180 | 9908 | 9636 | 9364 | 9092 | 8820 | 8548 | 8276 | 8004 | 7732 | 7460 | 7188 | 6916 |
| 49 | 0995 | 0723 | 0451 | 0179 | 9907 | 9635 | 9363 | 9091 | 8819 | 8547 | 8275 | 8003 | 7731 | 7459 | 7187 | 6915 | 6643 |
| 50 | 255 0722 | 0450 | 0178 | 9906 | 9634 | 9362 | 9090 | 8818 | 8546 | 8274 | 8002 | 7730 | 7458 | 7186 | 6914 | 6642 | 6370 |
| 51 | 0449 | 0177 | 9905 | 9633 | 9361 | 9089 | 8817 | 8545 | 8273 | 8001 | 7729 | 7457 | 7185 | 6913 | 6641 | 6369 | 6097 |
| 52 | 0176 | 9904 | 9632 | 9360 | 9088 | 8816 | 8544 | 8272 | 8000 | 7728 | 7456 | 7184 | 6912 | 6640 | 6368 | 6096 | 5824 |
| 53 | 9903 | 9631 | 9359 | 9087 | 8815 | 8543 | 8271 | 7999 | 7727 | 7455 | 7183 | 6911 | 6639 | 6367 | 6095 | 5823 | 5551 |
| 54 | 9630 | 9358 | 9086 | 8814 | 8542 | 8270 | 7998 | 7726 | 7454 | 7182 | 6910 | 6638 | 6366 | 6094 | 5822 | 5550 | 5278 |
| 55 | 255 9357 | 9085 | 8813 | 8541 | 8269 | 7997 | 7725 | 7453 | 7181 | 6909 | 6637 | 6365 | 6093 | 5821 | 5549 | 5277 | 5005 |
| 56 | 9084 | 8812 | 8540 | 8268 | 7996 | 7724 | 7452 | 7180 | 6908 | 6636 | 6364 | 6092 | 5820 | 5548 | 5276 | 5004 | 4732 |
| 57 | 8811 | 8539 | 8267 | 7995 | 7723 | 7451 | 7179 | 6907 | 6635 | 6363 | 6091 | 5819 | 5547 | 5275 | 5003 | 4731 | 4459 |
| 58 | 8538 | 8266 | 7994 | 7722 | 7450 | 7178 | 6906 | 6634 | 6362 | 6090 | 5818 | 5546 | 5274 | 5002 | 4730 | 4458 | 4186 |
| 59 | 8265 | 7993 | 7721 | 7449 | 7177 | 6905 | 6633 | 6361 | 6089 | 5817 | 5545 | 5273 | 5001 | 4729 | 4457 | 4185 | 3913 |
| 60 | 7992 | 7720 | 7448 | 7176 | 6904 | 6632 | 6360 | 6088 | 5816 | 5544 | 5272 | 5000 | 4728 | 4456 | 4184 | 3912 | 3640 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Seconds of Auxil. Argum. additive | S. A. A. & A. D. 123° | ′ 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 279 | 0 | 253 9692 | 9417 | 9142 | 8866 | 8591 | 8316 | 8040 | 7765 | 7489 | 7213 | 6938 | 6662 | 6386 | 6110 | 5835 | 5559 | 5283 |
| 274 | 1 | 9934 | 9659 | 9383 | 9108 | 8832 | 8557 | 8281 | 8005 | 7730 | 7454 | 7178 | 6902 | 6626 | 6351 | 6075 | 5799 | 5523 |
| 270 | 2 | 254 (253) 0176 | 9900 | 9625 | 9349 | 9073 | 8798 | 8522 | 8246 | 7970 | 7695 | 7419 | 7143 | 6867 | 6591 | 6315 | 6038 | 5762 |
| 265 | 3 | 0417 | 0142 | 9866 | 9590 | 9315 | 9039 | 8763 | 8487 | 8211 | 7935 | 7659 | 7383 | 7107 | 6831 | 6554 | 6278 | 6002 |
| 260 | 4 | 0659 | 0383 | 0107 | 9832 | 9556 | 9280 | 9004 | 8728 | 8452 | 8176 | 7899 | 7623 | 7347 | 7071 | 6794 | 6518 | 6241 |
| 256 | 5 | 254 (253) 0900 | 0625 | 0349 | 0073 | 9797 | 9521 | 9245 | 8968 | 8692 | 8416 | 8140 | 7863 | 7587 | 7311 | 7034 | 6758 | 6481 |
| 251 | 6 | 1142 | 0866 | 0590 | 0314 | 0038 | 9762 | 9485 | 9209 | 8933 | 8656 | 8380 | 8104 | 7827 | 7550 | 7274 | 6997 | 6721 |
| 247 | 7 | 1383 | 1107 | 0831 | 0555 | 0279 | 0002 | 9726 | 9450 | 9173 | 8897 | 8620 | 8344 | 8067 | 7790 | 7514 | 7237 | 6960 |
| 242 | 8 | 1625 | 1349 | 1072 | 0796 | 0520 | 0243 | 9967 | 9690 | 9414 | 9137 | 8860 | 8584 | 8307 | 8031 | 7753 | 7476 | 7199 |
| 237 | 9 | 1866 | 1590 | 1313 | 1037 | 0760 | 0484 | 0207 | 9931 | 9654 | 9377 | 9100 | 8824 | 8547 | 8270 | 7993 | 7716 | 7439 |
| 233 | 10 | 254 (253) 2107 | 1831 | 1554 | 1278 | 1001 | 0725 | 0448 | 0171 | 9894 | 9617 | 9340 | 9064 | 8787 | 8510 | 8233 | 7956 | 7678 |
| 228 | 11 | 2349 | 2072 | 1795 | 1519 | 1242 | 0965 | 0688 | 0411 | 0135 | 9858 | 9581 | 9303 | 9026 | 8749 | 8472 | 8195 | 7917 |
| 223 | 12 | 2590 | 2313 | 2036 | 1760 | 1483 | 1206 | 0929 | 0652 | 0375 | 0098 | 9821 | 9543 | 9266 | 8989 | 8711 | 8434 | 8157 |
| 219 | 13 | 2831 | 2554 | 2277 | 2000 | 1723 | 1446 | 1169 | 0892 | 0615 | 0338 | 0061 | 9783 | 9506 | 9228 | 8951 | 8673 | 8396 |
| 214 | 14 | 3072 | 2795 | 2518 | 2241 | 1964 | 1687 | 1410 | 1132 | 0855 | 0578 | 0300 | 0022 | 9745 | 9468 | 9190 | 8913 | 8635 |
| 209 | 15 | 254 (253) 3313 | 3036 | 2759 | 2482 | 2205 | 1927 | 1650 | 1373 | 1095 | 0818 | 0540 | 0263 | 9985 | 9707 | 9430 | 9152 | 8874 |
| 205 | 16 | 3554 | 3277 | 3000 | 2723 | 2445 | 2168 | 1890 | 1613 | 1335 | 1058 | 0780 | 0502 | 0225 | 9947 | 9669 | 9391 | 9113 |
| 200 | 17 | 3795 | 3518 | 3241 | 2963 | 2686 | 2408 | 2131 | 1853 | 1575 | 1298 | 1020 | 0742 | 0464 | 0186 | 9908 | 9630 | 9352 |
| 195 | 18 | 4036 | 3759 | 3481 | 3204 | 2926 | 2648 | 2371 | 2093 | 1815 | 1537 | 1259 | 0982 | 0704 | 0426 | 0147 | 9869 | 9591 |
| 191 | 19 | 4277 | 4000 | 3722 | 3444 | 3166 | 2889 | 2611 | 2333 | 2055 | 1777 | 1499 | 1221 | 0943 | 0665 | 0387 | 0108 | 9830 |
| 186 | 20 | 254 4518 | 4240 | 3963 | 3685 | 3407 | 3129 | 2851 | 2573 | 2295 | 2017 | 1739 | 1461 | 1182 | 0904 | 0626 | 0347 | 0069 |
| 181 | 21 | 4759 | 4481 | 4203 | 3925 | 3647 | 3369 | 3091 | 2813 | 2535 | 2257 | 1978 | 1700 | 1422 | 1143 | 0865 | 0587 | 0308 |
| 177 | 22 | 5000 | 4722 | 4444 | 4166 | 3887 | 3609 | 3331 | 3053 | 2775 | 2496 | 2218 | 1940 | 1661 | 1382 | 1104 | 0825 | 0547 |
| 172 | 23 | 5241 | 4962 | 4684 | 4406 | 4128 | 3849 | 3571 | 3293 | 3014 | 2736 | 2457 | 2179 | 1900 | 1622 | 1343 | 1064 | 0785 |
| 167 | 24 | 5481 | 5203 | 4924 | 4646 | 4368 | 4089 | 3811 | 3534 | 3254 | 2975 | 2697 | 2418 | 2139 | 1861 | 1582 | 1303 | 1024 |
| 163 | 25 | 254 5722 | 5443 | 5165 | 4886 | 4608 | 4329 | 4051 | 3772 | 3494 | 3215 | 2936 | 2657 | 2379 | 2100 | 1821 | 1542 | 1263 |
| 158 | 26 | 5962 | 5684 | 5405 | 5127 | 4848 | 4569 | 4291 | 4012 | 3733 | 3454 | 3176 | 2897 | 2618 | 2339 | 2060 | 1781 | 1501 |
| 154 | 27 | 6203 | 5924 | 5645 | 5367 | 5088 | 4809 | 4531 | 4252 | 3973 | 3694 | 3415 | 3136 | 2857 | 2578 | 2298 | 2019 | 1740 |
| 149 | 28 | 6443 | 6164 | 5886 | 5607 | 5328 | 5049 | 4770 | 4491 | 4212 | 3933 | 3654 | 3375 | 3096 | 2816 | 2537 | 2258 | 1978 |
| 144 | 29 | 6684 | 6405 | 6126 | 5847 | 5568 | 5289 | 5010 | 4731 | 4452 | 4172 | 3893 | 3614 | 3335 | 3055 | 2776 | 2496 | 2217 |
| 140 | 30 | 254 6924 | 6645 | 6366 | 6087 | 5808 | 5529 | 5250 | 4970 | 4691 | 4411 | 4132 | 3853 | 3574 | 3294 | 3015 | 2735 | 2455 |
| 135 | 31 | 7164 | 6885 | 6606 | 6327 | 6048 | 5769 | 5489 | 5210 | 4930 | 4651 | 4372 | 4092 | 3812 | 3533 | 3253 | 2973 | 2694 |
| 130 | 32 | 7405 | 7125 | 6846 | 6567 | 6288 | 6008 | 5729 | 5449 | 5170 | 4890 | 4611 | 4331 | 4051 | 3772 | 3492 | 3212 | 2932 |
| 126 | 33 | 7645 | 7365 | 7086 | 6807 | 6527 | 6248 | 5968 | 5689 | 5409 | 5129 | 4850 | 4570 | 4290 | 4010 | 3731 | 3451 | 3170 |
| 121 | 34 | 7885 | 7606 | 7326 | 7047 | 6767 | 6487 | 6208 | 5928 | 5648 | 5368 | 5089 | 4809 | 4529 | 4249 | 3969 | 3689 | 3409 |
| 116 | 35 | 254 8125 | 7846 | 7566 | 7286 | 7007 | 6727 | 6447 | 6167 | 5888 | 5608 | 5328 | 5048 | 4767 | 4487 | 4207 | 3927 | 3647 |
| 112 | 36 | 8365 | 8086 | 7806 | 7526 | 7246 | 6966 | 6687 | 6407 | 6127 | 5847 | 5566 | 5286 | 5006 | 4726 | 4446 | 4165 | 3885 |
| 107 | 37 | 8605 | 8326 | 8046 | 7766 | 7486 | 7206 | 6926 | 6646 | 6366 | 6086 | 5805 | 5525 | 5245 | 4964 | 4684 | 4403 | 4123 |
| 102 | 38 | 8845 | 8565 | 8285 | 8005 | 7725 | 7445 | 7165 | 6885 | 6605 | 6324 | 6044 | 5764 | 5483 | 5203 | 4922 | 4642 | 4361 |
| 98 | 39 | 9085 | 8805 | 8525 | 8245 | 7965 | 7685 | 7404 | 7124 | 6844 | 6563 | 6283 | 6002 | 5722 | 5441 | 5160 | 4880 | 4599 |
| 93 | 40 | 254 9325 | 9045 | 8765 | 8485 | 8204 | 7924 | 7644 | 7363 | 7083 | 6802 | 6522 | 6241 | 5960 | 5679 | 5399 | 5118 | 4837 |
| 88 | 41 | 9565 | 9285 | 9005 | 8724 | 8444 | 8163 | 7883 | 7602 | 7322 | 7041 | 6760 | 6479 | 6198 | 5918 | 5637 | 5356 | 5075 |
| 84 | 42 | 9805 | 9525 | 9244 | 8964 | 8683 | 8402 | 8122 | 7841 | 7561 | 7280 | 6999 | 6718 | 6437 | 6156 | 5876 | 5594 | 5313 |
| 79 | 43 | 255 (254) 0045 | 9764 | 9484 | 9203 | 8923 | 8642 | 8361 | 8080 | 7799 | 7518 | 7237 | 6956 | 6675 | 6394 | 6113 | 5832 | 5551 |
| 74 | 44 | 0285 | 0004 | 9723 | 9442 | 9162 | 8881 | 8600 | 8319 | 8038 | 7757 | 7476 | 7195 | 6914 | 6632 | 6351 | 6070 | 5788 |
| 70 | 45 | 255 (254) 0524 | 0243 | 9963 | 9682 | 9401 | 9120 | 8839 | 8558 | 8277 | 7996 | 7714 | 7433 | 7152 | 6870 | 6589 | 6308 | 6026 |
| 65 | 46 | 0762 | 0482 | 0202 | 9921 | 9640 | 9359 | 9078 | 8797 | 8515 | 8234 | 7953 | 7671 | 7390 | 7108 | 6827 | 6545 | 6264 |
| 61 | 47 | 1001 | 0721 | 0441 | 0160 | 9879 | 9598 | 9317 | 9036 | 8754 | 8473 | 8191 | 7910 | 7628 | 7347 | 7065 | 6783 | 6501 |
| 56 | 48 | 1243 | 0962 | 0681 | 0399 | 0118 | 9837 | 9555 | 9274 | 8993 | 8711 | 8429 | 8148 | 7866 | 7584 | 7303 | 7021 | 6739 |
| 51 | 49 | 1482 | 1201 | 0920 | 0639 | 0357 | 0076 | 9794 | 9513 | 9231 | 8949 | 8668 | 8386 | 8104 | 7822 | 7541 | 7259 | 6977 |
| 47 | 50 | 255 (254) 1722 | 1441 | 1159 | 0878 | 0596 | 0315 | 0033 | 9751 | 9470 | 9188 | 8906 | 8624 | 8342 | 8060 | 7778 | 7496 | 7214 |
| 42 | 51 | 1961 | 1680 | 1398 | 1117 | 0835 | 0553 | 0272 | 9990 | 9708 | 9426 | 9144 | 8862 | 8580 | 8298 | 8016 | 7734 | 7452 |
| 37 | 52 | 2201 | 1919 | 1637 | 1356 | 1074 | 0792 | 0510 | 0228 | 9946 | 9664 | 9382 | 9100 | 8818 | 8536 | 8254 | 7971 | 7689 |
| 33 | 53 | 2440 | 2158 | 1876 | 1595 | 1313 | 1031 | 0749 | 0467 | 0185 | 9903 | 9620 | 9338 | 9056 | 8774 | 8491 | 8209 | 7926 |
| 28 | 54 | 2679 | 2397 | 2115 | 1833 | 1551 | 1269 | 0987 | 0705 | 0423 | 0140 | 9858 | 9576 | 9294 | 9011 | 8729 | 8446 | 8164 |
| 23 | 55 | 255 (254) 2918 | 2636 | 2354 | 2072 | 1790 | 1508 | 1226 | 0944 | 0661 | 0379 | 0097 | 9814 | 9532 | 9249 | 8967 | 8684 | 8401 |
| 19 | 56 | 3158 | 2876 | 2593 | 2311 | 2029 | 1747 | 1464 | 1182 | 0899 | 0617 | 0334 | 0052 | 9769 | 9487 | 9204 | 8921 | 8638 |
| 14 | 57 | 3397 | 3115 | 2832 | 2550 | 2268 | 1985 | 1703 | 1420 | 1138 | 0855 | 0572 | 0290 | 0007 | 9724 | 9441 | 9158 | 8875 |
| 9 | 58 | 3636 | 3354 | 3071 | 2789 | 2506 | 2224 | 1941 | 1658 | 1376 | 1093 | 0810 | 0527 | 0244 | 9962 | 9679 | 9396 | 9112 |
| 5 | 59 | 3875 | 3592 | 3310 | 3027 | 2745 | 2462 | 2179 | 1897 | 1614 | 1331 | 1048 | 0765 | 0482 | 0199 | 9917 | 9633 | 9350 |

Sums for finding the Corrected Distances.

| Parts for Sec. | ′ 123° | Sums | |
|---|---|---|---|
| ′ | ′ | | |
| 0 | 0 | 554 | 4639 |
| 4 | 1 | | 4883 |
| 8 | 2 | | 5127 |
| 12 | 3 | | 5371 |
| 16 | 4 | | 5615 |
| 20 | 5 | 554 | 5858 |
| 24 | 6 | | 6102 |
| 28 | 7 | | 6346 |
| 32 | 8 | | 6590 |
| 36 | 9 | | 6833 |
| 40 | 10 | 554 | 7077 |
| 44 | 11 | | 7321 |
| 48 | 12 | | 7565 |
| 53 | 13 | | 7809 |
| 57 | 14 | | 8052 |
| 61 | 15 | 554 | 8296 |
| 65 | 16 | | 8540 |
| 69 | 17 | | 8784 |
| 73 | 18 | | 9028 |
| 77 | 19 | | 9272 |
| 81 | 20 | 554 | 9515 |
| 85 | 21 | | 9759 |
| 89 | 22 | | 0003 |
| 93 | 23 | 555 | 0246 |
| 97 | 24 | | 0491 |
| 101 | 25 | 555 | 0734 |
| 105 | 26 | | 0978 |
| 109 | 27 | | 1222 |
| 113 | 28 | | 1466 |
| 117 | 29 | | 1709 |
| 121 | 30 | 555 | 1953 |
| 126 | 31 | | 2197 |
| 130 | 32 | | 2440 |
| 134 | 33 | | 2684 |
| 138 | 34 | | 2927 |
| 142 | 35 | 555 | 3171 |
| 146 | 36 | | 3415 |
| 150 | 37 | | 3658 |
| 154 | 38 | | 3902 |
| 158 | 39 | | 4145 |
| 162 | 40 | 555 | 4389 |
| 166 | 41 | | 4632 |
| 170 | 42 | | 4876 |
| 174 | 43 | | 5119 |
| 178 | 44 | | 5363 |
| 182 | 45 | 555 | 5606 |
| 186 | 46 | | 5850 |
| 190 | 47 | | 6093 |
| 194 | 48 | | 6337 |
| 198 | 49 | | 6580 |
| 202 | 50 | 555 | 6824 |
| 206 | 51 | | 7067 |
| 210 | 52 | | 7311 |
| 214 | 53 | | 7554 |
| 218 | 54 | | 7797 |
| 223 | 55 | 556 | 8041 |
| 227 | 56 | | 8284 |
| 231 | 57 | | 8527 |
| 235 | 58 | | 8771 |
| 239 | 59 | | 9014 |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| for Sec. of C.S.A. addit. | C.S.A. 124° | Numbers |
|---|---|---|
| 242 | 0 | 045 5117 |
| 238 | 1 | 4873 |
| 234 | 2 | 4629 |
| 230 | 3 | 4385 |
| 226 | 4 | 4142 |
| 222 | 5 | 045 3898 |
| 218 | 6 | 3654 |
| 214 | 7 | 3411 |
| 210 | 8 | 3167 |
| 206 | 9 | 2924 |
| 202 | 10 | 045 2680 |
| 198 | 11 | 2437 |
| 194 | 12 | 2193 |
| 190 | 13 | 1950 |
| 186 | 14 | 1707 |
| 182 | 15 | 045 1464 |
| 178 | 16 | 1220 |
| 174 | 17 | 0977 |
| 170 | 18 | 0734 |
| 166 | 19 | 0491 |
| 162 | 20 | 045 0248 |
| 158 | 21 | 0005 |
| 154 | 22 | 044 9762 |
| 150 | 23 | 9519 |
| 145 | 24 | 9276 |
| 141 | 25 | 044 9034 |
| 137 | 26 | 8791 |
| 133 | 27 | 8548 |
| 129 | 28 | 8306 |
| 125 | 29 | 8063 |
| 121 | 30 | 044 7820 |
| 117 | 31 | 7578 |
| 113 | 32 | 7336 |
| 109 | 33 | 7093 |
| 105 | 34 | 6851 |
| 101 | 35 | 044 6608 |
| 97 | 36 | 6366 |
| 93 | 37 | 6124 |
| 89 | 38 | 5882 |
| 85 | 39 | 5640 |
| 81 | 40 | 044 5398 |
| 77 | 41 | 5156 |
| 73 | 42 | 4914 |
| 69 | 43 | 4672 |
| 65 | 44 | 4430 |
| 61 | 45 | 044 4188 |
| 57 | 46 | 3946 |
| 53 | 47 | 3704 |
| 48 | 48 | 3463 |
| 44 | 49 | 3221 |
| 40 | 50 | 044 2979 |
| 36 | 51 | 2738 |
| 32 | 52 | 2496 |
| 28 | 53 | 2255 |
| 24 | 54 | 2013 |
| 20 | 55 | 044 1772 |
| 16 | 56 | 1531 |
| 12 | 57 | 1290 |
| 8 | 58 | 1048 |
| 4 | 59 | 0807 |

| A. D. | Auxiliary Arguments. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | x 0 | x 1 | x 2 | x 3 | x 4 | x 5 | x 6 | x 7 | x 8 | x 9 | x 10 | x 11 | x 12 | x 13 | x 14 | x 15 | x 16 | x 17 |
| | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 256 | | | | | | | | | | | | | | | | | | |
| 255 | | | | | | | | | | | | | | | | | | |
| 254 | | | | | | | | | | | | | | | | | | |
| 253 | | | | | | | | | | | | | | | | | | |
| 252 | | | | | | | | | | | | | | | | | | |
| 251 | | | | | | | | | | | | | | | | | | |
| 250 | | | | | | | | | | | | | | | | | | |
| 249 | | | | | | | | | | | | | | | | | | |
| 248 | 0597 | 0315 | 0032 | 9749 | 9466 | 9183 | 8901 | 8618 | 8335 | 8052 | 7769 | 7485 | 7202 | 6919 | 6636 | 6352 | 6069 | |
| 247 | 0838 | 0555 | 0272 | 9989 | 9707 | 9424 | 9141 | 8858 | 8574 | 8291 | 8008 | 7725 | 7441 | 7158 | 6875 | 6591 | 6308 | |
| 246 | | | | | | | | | | | | | | | | | | |
| 245 | | | | | | | | | | | | | | | | | | |
| 244 | | | | | | | | | | | | | | | | | | |
| 243 | 1560 | 1277 | 0993 | 0710 | 0427 | 0144 | 9860 | 9577 | 9293 | 9010 | 8726 | 8442 | 8159 | 7875 | | | | |
| 242 | | | | | | | | | | | | | | | | | | |
| 241 | 2041 | 1757 | 1474 | 1190 | 0907 | 0623 | 0340 | 0056 | 9772 | 9488 | 9205 | 8921 | 8637 | 8353 | | | | |
| 240 | 2281 | 1998 | 1714 | 1430 | 1147 | 0863 | 0579 | 0295 | 0012 | 9728 | 9444 | 9160 | 8876 | 8592 | 83 | | | |
| 239 | | | | | | | | | | | | | | | | | | |
| 238 | | | | | | | | | | | | | | | | | | |
| 237 | 2762 | 2478 | 2194 | 1910 | 1626 | 1342 | 1058 | 0774 | 0490 | 0206 | 9922 | 9638 | 9354 | 9069 | 8785 | 8501 | 8216 | |
| 236 | 3002 | 2718 | 2434 | 2150 | 1866 | 1582 | 1298 | 1014 | 0730 | 0445 | 0161 | 9877 | 9592 | 9308 | 9023 | 8739 | 8454 | |
| 235 | | | | | | | | | | | | | | | | | | |
| 234 | | | | | | | | | | | | | | | | | | |
| 233 | | | | | | | | | | | | | | | | | | |
| 232 | | | | | | | | | | | | | | | | | | |
| 231 | | | | | | | | | | | | | | | | | | |
| 230 | | | | | | | | | | | | | | | | | | |
| 229 | 4442 | 4158 | 3873 | 3588 | 3304 | 3019 | 2734 | 2449 | 2164 | 1879 | 1594 | 1309 | 1024 | 0739 | 0454 | 0168 | 9883 | |
| 228 | | | | | | | | | | | | | | | | | | |
| 227 | | | | | | | | | | | | | | | | | | |
| 226 | 256 | 4922 | 4637 | 4353 | 4068 | 3783 | 3498 | 3212 | 2927 | 2642 | 2357 | 2072 | 1786 | 1501 | 1216 | 0930 | 0645 | 0359 |
| 225 | | | | | | | | | | | | | | | | | | |
| 224 | 5402 | 5117 | 4832 | 4546 | 4261 | 3976 | 3690 | 3405 | 3120 | 2834 | 2549 | 2263 | 1978 | 1692 | 1406 | 1121 | 0835 | |
| 223 | | | | | | | | | | | | | | | | | | |
| 222 | 5881 | 5596 | 5311 | 5025 | 4740 | 4454 | 4168 | 3883 | 3597 | 3312 | 3026 | 2740 | 2454 | 2168 | 1882 | 1596 | 1310 | |
| 221 | | | | | | | | | | | | | | | | | | |
| 220 | | | | | | | | | | | | | | | | | | |
| 219 | 6361 | 6075 | 5789 | 5504 | 5218 | 4932 | 4646 | 4360 | 4075 | 3789 | 3503 | 3217 | 2930 | 2644 | 2358 | 2072 | | |
| 218 | | | | | | | | | | | | | | | | | | |
| 217 | 6840 | 6554 | 6268 | 5982 | 5696 | 5410 | 5124 | 4838 | 4552 | 4265 | 3979 | 3693 | 3407 | 3120 | 2834 | | | |
| 216 | | | | | | | | | | | | | | | | | | |
| 215 | | | | | | | | | | | | | | | | | | |
| 214 | 7558 | 7272 | 6985 | 6699 | 6413 | 6126 | 5840 | 5553 | 5267 | 4980 | 4694 | 4407 | 4120 | 3834 | 3547 | 3260 | 2973 | |
| 213 | | | | | | | | | | | | | | | | | | |
| 212 | | | | | | | | | | | | | | | | | | |
| 211 | | | | | | | | | | | | | | | | | | |
| 210 | | | | | | | | | | | | | | | | | | |
| 209 | 256 | 8515 | 8228 | 7941 | 7654 | 7368 | 7081 | 6794 | 6507 | 6220 | 5933 | 5646 | 5359 | 5072 | 4784 | 4497 | 4210 | 3922 |
| 208 | | | | | | | | | | | | | | | | | | |
| 207 | | | | | | | | | | | | | | | | | | |
| 206 | | | | | | | | | | | | | | | | | | |
| 205 | | 9184 | 8896 | 8609 | 8322 | 8035 | 7747 | 7460 | 7172 | 6885 | 6597 | 6310 | 6022 | 5734 | 5446 | 5159 | 4871 | |
| 204 | 250 | 9710 | 9422 | | | | | | | | | | | | | | | |
| 203 | 9949 | 9661 | 9374 | 9086 | 8799 | 8511 | 8223 | 7936 | 7648 | 7360 | 7073 | 6785 | 6497 | 6209 | 5921 | | | |
| 202 | 257(256) | 0187 | 9900 | 9612 | 9325 | 9037 | 8749 | 8462 | 8174 | 7886 | 7598 | 7310 | 7022 | 6734 | 6446 | 6158 | 5870 | 5583 |
| 201 | 0426 | 0138 | 9851 | 9563 | 9275 | 8987 | 8700 | 8412 | 8124 | 7836 | 7548 | 7260 | 6971 | 6683 | 6395 | 6107 | 5819 | |
| 200 | 0665 | 0377 | 0089 | 9801 | 9514 | 9226 | 8938 | 8650 | 8361 | 8073 | 7785 | 7497 | 7209 | 6920 | 6632 | 6344 | | |
| 199 | | | | | | | | | | | | | | | | | | |
| 198 | | | | | | | | | | | | | | | | | | |
| 197 | 114 | | | | | | | | | | | | | | | | | |
| 196 | 1361 | 1073 | | | | | | | | | | | | | | | | |
| 195 | 1619 | 1331 | 1043 | 0754 | 0466 | 0178 | 9889 | 9601 | 9312 | 9023 | 8735 | 8446 | 8157 | 7868 | 7580 | 7291 | | |
| 194 | | | | | | | | | | | | | | | | | | |
| 193 | 2096 | 1808 | 1519 | 1231 | 0942 | 0653 | 0365 | 0076 | 9787 | 9498 | 9209 | 8920 | 8631 | 8341 | 8053 | 7764 | 7475 | |
| 192 | 2334 | 2046 | | | | | | | | | | | | | | | | |
| 191 | 2573 | 2284 | 1995 | 1707 | 1418 | 1129 | 0840 | 0551 | 0262 | 9972 | 9684 | 9394 | 9105 | 8815 | 8527 | 8237 | 7948 | |
| 190 | 2811 | 2522 | | | | | | | | | | | | | | | | |
| 189 | 3049 | 2760 | 2471 | 2182 | 1893 | 1604 | 1315 | 1026 | 0736 | 0447 | 0158 | 9868 | 9579 | 9289 | 9000 | 8710 | 842 | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Seconds of Auxil. Argum. additive | & A.D. 124° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 297 | 0 | 255(254) | 4114 | 3831 | 3549 | 3266 | 2983 | 2700 | 2418 | 2135 | 1852 | 1569 | 1286 | 1003 | 0721 | 0438 | 0155 | 9872 |
| 282 | 1 | | 4353 | 4070 | 3787 | 3505 | 3222 | 2939 | 2656 | 2373 | 2090 | 1807 | 1525 | 1242 | 0959 | 0676 | 0393 | 0110 |
| 277 | 2 | 255 | 4592 | 4309 | 4026 | 3743 | 3460 | 3177 | 2894 | 2611 | 2328 | 2044 | 1761 | 1478 | 1195 | 0911 | 0627 | 0344 |
| 274 | 3 | | 4831 | 4547 | 4263 | 3980 | 3697 | 3415 | 3132 | 2849 | 2566 | 2283 | 2000 | 1717 | 1434 | 1151 | 0868 | 0585 |
| 268 | 4 | | 5070 | 4786 | 4503 | 4220 | 3937 | 3654 | 3371 | 3087 | 2804 | 2521 | 2238 | 1955 | 1672 | 1389 | 1106 | 0823 |
| 263 | 5 | 255 | 5309 | 5025 | 4742 | 4458 | 4175 | 3892 | 3608 | 3325 | 3041 | 2758 | 2475 | 2192 | 1908 | 1625 | 1342 | 1059 |
| 258 | 6 | | 5547 | 5264 | 4980 | 4697 | 4413 | 4130 | 3846 | 3563 | 3279 | 2996 | 2711 | 2429 | 2145 | 1862 | 1578 | 1295 |
| 254 | 7 | | 5786 | 5502 | 5219 | 4935 | 4651 | 4368 | 4084 | 3800 | 3517 | 3233 | 2949 | 2666 | 2382 | 2098 | 1815 | 1531 |
| 249 | 8 | | 6024 | 5741 | 5457 | 5173 | 4890 | 4606 | 4322 | 4038 | 3754 | 3470 | 3186 | 2902 | 2618 | 2335 | 2051 | 1767 |
| 244 | 9 | | 6263 | 5979 | 5695 | 5411 | 5127 | 4844 | 4560 | 4276 | 3992 | 3708 | 3424 | 3140 | 2856 | 2572 | 2288 | 2004 |
| 239 | 10 | 255 | 6501 | 6217 | 5933 | 5650 | 5366 | 5082 | 4798 | 4514 | 4229 | 3945 | 3661 | 3377 | 3093 | 2809 | 2524 | 2240 |
| 234 | 11 | | 6740 | 6456 | 6172 | 5888 | 5604 | 5320 | 5036 | 4751 | 4467 | 4183 | 3898 | 3614 | 3330 | 3045 | 2761 | 2477 |
| 230 | 12 | | 6978 | 6694 | 6410 | 6126 | 5842 | 5557 | 5273 | 4989 | 4704 | 4420 | 4135 | 3851 | 3566 | 3282 | 2997 | 2713 |
| 225 | 13 | | 7217 | 6934 | 6649 | 6365 | 6080 | 5795 | 5511 | 5226 | 4941 | 4657 | 4373 | 4088 | 3803 | 3519 | 3234 | 2949 |
| 220 | 14 | | 7455 | 7171 | 6886 | 6602 | 6317 | 6033 | 5748 | 5464 | 5179 | 4894 | 4610 | 4325 | 4040 | 3755 | 3470 | 3185 |
| 215 | 15 | 255 | 7693 | 7409 | 7124 | 6840 | 6555 | 6271 | 5986 | 5701 | 5417 | 5132 | 4847 | 4562 | 4277 | 3993 | 3708 | 3423 |
| 211 | 16 | | 7931 | 7647 | 7362 | 7077 | 6793 | 6508 | 6223 | 5938 | 5654 | 5369 | 5084 | 4799 | 4514 | 4230 | 3945 | 3660 |
| 206 | 17 | | 8170 | 7885 | 7600 | 7316 | 7031 | 6746 | 6461 | 6176 | 5891 | 5606 | 5321 | 5036 | 4751 | 4466 | 4181 | 3896 |
| 201 | 18 | | 8408 | 8123 | 7839 | 7553 | 7268 | 6983 | 6698 | 6413 | 6128 | 5843 | 5558 | 5273 | 4988 | 4703 | 4418 | 4133 |
| 196 | 19 | | 8646 | 8361 | 8076 | 7791 | 7505 | 7220 | 6935 | 6650 | 6365 | 6080 | 5795 | 5510 | 5225 | 4940 | 4655 | 4370 |
| 191 | 20 | 255 | 8884 | 8599 | 8314 | 8029 | 7743 | 7458 | 7173 | 6888 | 6602 | 6317 | 6032 | 5747 | 5462 | 5178 | 4893 | 4608 |
| 187 | 21 | | 9122 | 8837 | 8552 | 8266 | 7981 | 7696 | 7410 | 7125 | 6839 | 6554 | 6269 | 5983 | 5698 | 5413 | 5128 | 4843 |
| 182 | 22 | | 9360 | 9075 | 8789 | 8504 | 8218 | 7933 | 7647 | 7362 | 7076 | 6791 | 6505 | 6220 | 5935 | 5649 | 5364 | 5078 |
| 177 | 23 | | 9598 | 9312 | 9027 | 8741 | 8456 | 8170 | 7885 | 7599 | 7313 | 7027 | 6742 | 6456 | 6171 | 5885 | 5599 | 5314 |
| 172 | 24 | | 9836 | 9550 | 9264 | 8979 | 8693 | 8408 | 8122 | 7836 | 7550 | 7265 | 6979 | 6693 | 6408 | 6122 | 5836 | 5550 |
| 167 | 25 | 256(255) | 0073 | 9788 | 9502 | 9216 | 8931 | 8645 | 8359 | 8073 | 7787 | 7501 | 7215 | 6929 | 6643 | 6357 | 6071 | 5785 |
| 163 | 26 | | 0311 | 0025 | 9740 | 9454 | 9168 | 8882 | 8596 | 8310 | 8024 | 7738 | 7451 | 7165 | 6879 | 6593 | 6306 | 6020 |
| 158 | 27 | | 0549 | 0263 | 0077 | 9691 | 9405 | 9119 | 8833 | 8547 | 8261 | 7974 | 7688 | 7402 | 7116 | 6829 | 6543 | 6256 |
| 153 | 28 | | 0787 | 0501 | 0215 | 9929 | 9642 | 9356 | 9070 | 8784 | 8497 | 8211 | 7924 | 7638 | 7351 | 7065 | 6778 | 6492 |
| 148 | 29 | | 1024 | 0738 | 0452 | 0166 | 9879 | 9593 | 9306 | 9020 | 8733 | 8447 | 8160 | 7873 | 7587 | 7300 | 7014 | 6727 |
| 144 | 30 | 256(255) | 1262 | 0976 | 0689 | 0403 | 0116 | 9830 | 9543 | 9257 | 8970 | 8684 | 8397 | 8110 | 7824 | 7537 | 7250 | 6963 |
| 139 | 31 | | 1499 | 1213 | 0927 | 0640 | 0354 | 0067 | 9780 | 9494 | 9207 | 8920 | 8633 | 8347 | 8060 | 7773 | 7486 | 7199 |
| 134 | 32 | | 1737 | 1451 | 1164 | 0877 | 0590 | 0304 | 0017 | 9730 | 9443 | 9157 | 8870 | 8583 | 8296 | 8010 | 7723 | 7436 |
| 129 | 33 | | 1974 | 1688 | 1401 | 1114 | 0827 | 0541 | 0254 | 9967 | 9680 | 9393 | 9106 | 8820 | 8533 | 8246 | 7959 | 7673 |
| 124 | 34 | | 2212 | 1925 | 1638 | 1351 | 1064 | 0777 | 0491 | 0204 | 9917 | 9630 | 9343 | 9056 | 8769 | 8483 | 8196 | 7909 |
| 120 | 35 | 256(255) | 2449 | 2162 | 1875 | 1588 | 1301 | 1014 | 0727 | 0440 | 0153 | 9866 | 9579 | 9292 | 9005 | 8718 | 8431 | 8144 |
| 115 | 36 | | 2686 | 2399 | 2112 | 1825 | 1538 | 1251 | 0964 | 0677 | 0390 | 0103 | 9816 | 9529 | 9242 | 8955 | 8668 | 8381 |
| 110 | 37 | | 2923 | 2636 | 2349 | 2062 | 1775 | 1488 | 1201 | 0914 | 0627 | 0340 | 0053 | 9766 | 9479 | 9192 | 8905 | 8618 |
| 105 | 38 | | 3161 | 2873 | 2586 | 2299 | 2011 | 1724 | 1437 | 1150 | 0863 | 0576 | 0289 | 0002 | 9715 | 9428 | 9141 | 8854 |
| 101 | 39 | | 3398 | 3110 | 2823 | 2536 | 2248 | 1961 | 1674 | 1387 | 1100 | 0813 | 0526 | 0239 | 9952 | 9665 | 9378 | 9091 |
| 96 | 40 | 256(255) | 3635 | 3347 | 3060 | 2772 | 2485 | 2197 | 1910 | 1623 | 1336 | 1049 | 0762 | 0475 | 0188 | 9901 | 9614 | 9327 |
| 91 | 41 | | 3872 | 3584 | 3297 | 3009 | 2721 | 2434 | 2146 | 1859 | 1572 | 1285 | 0998 | 0711 | 0424 | 0137 | 9850 | 9563 |
| 86 | 42 | | 4109 | 3821 | 3534 | 3246 | 2958 | 2670 | 2382 | 2094 | 1806 | 1518 | 1230 | 0942 | 0653 | 0365 | 0077 | 9788 |
| 81 | 43 | | 4346 | 4058 | 3771 | 3483 | 3194 | 2906 | 2618 | 2330 | 2042 | 1754 | 1466 | 1177 | 0889 | 0601 | 0312 | 0024 |
| 77 | 44 | | 4583 | 4295 | 4007 | 3719 | 3431 | 3142 | 2854 | 2566 | 2278 | 1990 | 1701 | 1413 | 1125 | 0836 | 0548 | 0260 |
| 72 | 45 | 256 | 4820 | 4532 | 4244 | 3955 | 3667 | 3379 | 3091 | 2802 | 2514 | 2226 | 1937 | 1649 | 1360 | 1072 | 0784 | 0495 |
| 67 | 46 | | 5057 | 4769 | 4480 | 4192 | 3903 | 3615 | 3326 | 3038 | 2749 | 2461 | 2173 | 1884 | 1596 | 1307 | 1019 | 0730 |
| 62 | 47 | | 5293 | 5005 | 4717 | 4428 | 4140 | 3851 | 3563 | 3274 | 2986 | 2697 | 2408 | 2120 | 1831 | 1543 | 1254 | 0966 |
| 57 | 48 | | 5530 | 5242 | 4953 | 4665 | 4376 | 4087 | 3799 | 3510 | 3221 | 2933 | 2644 | 2355 | 2067 | 1778 | 1490 | 1201 |
| 53 | 49 | | 5767 | 5478 | 5190 | 4901 | 4612 | 4324 | 4035 | 3746 | 3457 | 3169 | 2880 | 2591 | 2302 | 2014 | 1725 | 1436 |
| 48 | 50 | 256 | 6003 | 5715 | 5426 | 5137 | 4848 | 4560 | 4271 | 3982 | 3693 | 3404 | 3116 | 2827 | 2538 | 2249 | 1960 | 1672 |
| 43 | 51 | | 6240 | 5951 | 5662 | 5373 | 5084 | 4795 | 4506 | 4217 | 3928 | 3639 | 3350 | 3061 | 2771 | 2482 | 2192 | 1903 |
| 38 | 52 | | 6476 | 6187 | 5898 | 5609 | 5320 | 5031 | 4742 | 4453 | 4164 | 3874 | 3585 | 3296 | 3007 | 2717 | 2428 | 2139 |
| 34 | 53 | | 6713 | 6424 | 6135 | 5846 | 5556 | 5267 | 4978 | 4689 | 4400 | 4111 | 3821 | 3532 | 3243 | 2953 | 2664 | 2375 |
| 29 | 54 | | 6949 | 6660 | 6371 | 6082 | 5792 | 5503 | 5214 | 4925 | 4635 | 4346 | 4057 | 3767 | 3478 | 3189 | 2899 | 2610 |
| 24 | 55 | 256 | 7186 | 6897 | 6607 | 6318 | 6029 | 5739 | 5450 | 5161 | 4871 | 4582 | 4293 | 4003 | 3714 | 3424 | 3135 | 2846 |
| 19 | 56 | | 7422 | 7133 | 6844 | 6554 | 6265 | 5975 | 5686 | 5396 | 5107 | 4818 | 4528 | 4239 | 3949 | 3660 | 3370 | 3081 |
| 14 | 57 | | 7658 | 7369 | 7080 | 6790 | 6501 | 6211 | 5922 | 5632 | 5343 | 5053 | 4764 | 4474 | 4185 | 3895 | 3606 | 3316 |
| 10 | 58 | | 7895 | 7606 | 7316 | 7027 | 6737 | 6448 | 6158 | 5869 | 5579 | 5289 | 5000 | 4710 | 4421 | 4131 | 3841 | 3552 |
| 5 | 59 | | 8131 | 7842 | 7552 | 7263 | 6973 | 6684 | 6394 | 6104 | 5815 | 5525 | 5235 | 4946 | 4656 | 4366 | 4077 | 3787 |

Sums for finding the Corrected Distances.

| Parts for Sec. of C. D. add't. | C. D. 124° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 9193 |
| 1 | 1 | 9434 |
| 2 | 2 | 9675 |
| 3 | 3 | 9916 |
| 4 | 4 | 0157 |
| 5 | 5 | 0398 |
| 6 | 6 | 0639 |
| 7 | 7 | 0880 |
| 8 | 8 | 1121 |
| 9 | 9 | 1361 |
| 10 | 10 | 1602 |
| 11 | 11 | 1843 |
| 12 | 12 | 2083 |
| 13 | 13 | 2324 |
| 14 | 14 | 2564 |
| 15 | 15 | 2805 |
| 16 | 16 | 3045 |
| 17 | 17 | 3286 |
| 18 | 18 | 3526 |
| 19 | 19 | 3767 |
| 20 | 20 | 4007 |
| 21 | 21 | 4247 |
| 22 | 22 | 4487 |
| 23 | 23 | 4727 |
| 24 | 24 | 4967 |
| 25 | 25 | 5207 |
| 26 | 26 | 5447 |
| 27 | 27 | 5687 |
| 28 | 28 | 5927 |
| 29 | 29 | 6166 |
| 30 | 30 | 6406 |
| 31 | 31 | 6646 |
| 32 | 32 | 6886 |
| 33 | 33 | 7125 |
| 34 | 34 | 7365 |
| 35 | 35 | 7604 |
| 36 | 36 | 7844 |
| 37 | 37 | 8083 |
| 38 | 38 | 8322 |
| 39 | 39 | 8562 |
| 40 | 40 | 8801 |
| 41 | 41 | 9040 |
| 42 | 42 | 9279 |
| 43 | 43 | 9518 |
| 44 | 44 | 9757 |
| 45 | 45 | 9996 |
| 46 | 46 | 0235 |
| 47 | 47 | 0475 |
| 48 | 48 | 0714 |
| 49 | 49 | 0953 |
| 50 | 50 | 1191 |
| 51 | 51 | 1430 |
| 52 | 52 | 1669 |
| 53 | 53 | 1907 |
| 54 | 54 | 2146 |
| 55 | 55 | 2384 |
| 56 | 56 | 2623 |
| 57 | 57 | 2861 |
| 58 | 58 | 3100 |
| 59 | 59 | 3338 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

| Diff. | Numbers |
|---|---|
| 1 | 54 |
| 1 | |
| 2 | |
| 3 | 743 |
| 4 | |
| 5 | 943 |
| 6 | |
| 7 | |
| 8 | |
| 9 | |
| 10 | 943 |
| 11 | |
| 12 | |
| 13 | |
| 14 | |
| 15 | 943 |
| 16 | |
| 17 | |
| 18 | |
| 19 | |
| 20 | 943 |
| 21 | |
| 22 | |
| 23 | |
| 24 | |
| 25 | 43 |
| 26 | |
| 27 | |
| 28 | |
| 29 | |
| 30 | 943 |
| 31 | |
| 32 | |
| 33 | |
| 34 | |
| 35 | 943 |
| 36 | |
| 37 | |
| 38 | |
| 39 | |
| 40 | 943 |
| 41 | |
| 42 | |
| 43 | |
| 44 | |
| 45 | 942 |
| 46 | |
| 47 | |
| 48 | |
| 49 | |
| 50 | 942 |
| 51 | |
| 52 | |
| 53 | |
| 54 | |
| 55 | 942 |
| 56 | |
| 57 | |
| 58 | |
| 59 | |

| Diff. for Auxil. Argum. | A.D. 125° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 257(250) | 3287 | 2998 | 2709 | 2420 | 2131 | 1842 | 1552 | 1263 | 0974 | 0684 | 0395 | 0105 | 9815 | 9526 | 9237 | 8947 | 8657 |
| 1 | | 3526 | 3236 | 2947 | 2658 | 2369 | 2079 | 1790 | 1500 | 1211 | 0921 | 0632 | 0342 | 0053 | 9763 | 9473 | 9184 | 8894 |
| 2 | | 3764 | 3474 | 3185 | 2896 | 2607 | 2317 | 2027 | 1738 | 1448 | 1158 | 0869 | 0579 | 0289 | 9999 | 9710 | 9420 | 9131 |
| 3 | | 4002 | 3712 | 3423 | 3133 | 2844 | 2554 | 2265 | 1975 | 1685 | 1395 | 1105 | 0815 | 0526 | 0236 | 9946 | 9657 | 9367 |
| 4 | | 4240 | 3950 | 3661 | 3371 | 3081 | 2792 | 2502 | 2212 | 1922 | 1632 | 1342 | 1052 | 0762 | 0472 | 0182 | 9892 | 9601 |
| 5 | 257(250) | 4478 | 4188 | 3898 | 3609 | 3319 | 3029 | 2739 | 2449 | 2159 | 1869 | 1579 | 1289 | 0999 | 0708 | 0418 | 0128 | 9837 |
| 6 | 257 | 4716 | 4426 | 4136 | 3846 | 3556 | 3266 | 2976 | 2686 | 2396 | 2106 | 1816 | 1525 | 1235 | 0945 | 0654 | 0364 | 0073 |
| 7 | | 4953 | 4664 | 4374 | 4084 | 3794 | 3503 | 3213 | 2923 | 2633 | 2343 | 2052 | 1762 | 1471 | 1181 | 0890 | 0600 | 0309 |
| 8 | | 5191 | 4901 | 4611 | 4321 | 4031 | 3741 | 3450 | 3160 | 2870 | 2579 | 2289 | 1998 | 1708 | 1417 | 1127 | 0836 | 0545 |
| 9 | | 5429 | 5139 | 4849 | 4558 | 4268 | 3978 | 3687 | 3397 | 3106 | 2816 | 2525 | 2235 | 1944 | 1653 | 1363 | 1072 | 0781 |
| 10 | 257 | 5667 | 5376 | 5086 | 4796 | 4505 | 4215 | 3924 | 3634 | 3343 | 3053 | 2762 | 2471 | 2180 | 1890 | 1599 | 1308 | 1017 |
| 11 | | 5904 | 5614 | 5324 | 5033 | 4743 | 4452 | 4161 | 3871 | 3580 | 3290 | 2999 | 2707 | 2417 | 2126 | 1835 | 1544 | 1253 |
| 12 | | 6142 | 5851 | 5561 | 5270 | 4980 | 4689 | 4398 | 4107 | 3817 | 3526 | 3235 | 2944 | 2653 | 2362 | 2071 | 1779 | 1488 |
| 13 | | 6379 | 6089 | 5798 | 5507 | 5217 | 4926 | 4635 | 4344 | 4053 | 3762 | 3471 | 3180 | 2889 | 2598 | 2307 | 2016 | 1724 |
| 14 | | 6617 | 6326 | 6035 | 5745 | 5454 | 5163 | 4872 | 4581 | 4290 | 3999 | 3707 | 3416 | 3125 | 2834 | 2542 | 2251 | 1960 |
| 15 | 257 | 6854 | 6564 | 6273 | 5982 | 5691 | 5400 | 5109 | 4817 | 4526 | 4235 | 3944 | 3652 | 3361 | 3070 | 2778 | 2487 | 2196 |
| 16 | | 7092 | 6801 | 6510 | 6219 | 5928 | 5636 | 5345 | 5054 | 4763 | 4471 | 4180 | 3889 | 3597 | 3306 | 3014 | 2723 | 2432 |
| 17 | | 7329 | 7038 | 6747 | 6456 | 6164 | 5873 | 5582 | 5290 | 4999 | 4708 | 4416 | 4124 | 3833 | 3541 | 3249 | 2958 | 2667 |
| 18 | | 7567 | 7275 | 6984 | 6693 | 6401 | 6110 | 5818 | 5527 | 5235 | 4944 | 4652 | 4361 | 4069 | 3777 | 3485 | 3193 | 2902 |
| 19 | | 7804 | 7512 | 7221 | 6930 | 6638 | 6347 | 6055 | 5763 | 5472 | 5180 | 4889 | 4597 | 4305 | 4013 | 3721 | 3429 | 3137 |
| 20 | 257 | 8041 | 7749 | 7458 | 7166 | 6875 | 6583 | 6292 | 6000 | 5708 | 5416 | 5124 | 4832 | 4540 | 4248 | 3956 | 3664 | 3372 |
| 21 | | 8278 | 7986 | 7695 | 7403 | 7111 | 6820 | 6528 | 6236 | 5944 | 5652 | 5360 | 5068 | 4776 | 4484 | 4192 | 3899 | 3607 |
| 22 | | 8515 | 8223 | 7931 | 7640 | 7348 | 7056 | 6764 | 6472 | 6180 | 5888 | 5596 | 5304 | 5012 | 4719 | 4427 | 4135 | 3842 |
| 23 | | 8752 | 8460 | 8167 | 7875 | 7583 | 7292 | 7001 | 6709 | 6416 | 6124 | 5832 | 5540 | 5247 | 4955 | 4663 | 4370 | 4077 |
| 24 | | 8988 | 8696 | 8403 | 8111 | 7820 | 7529 | 7237 | 6945 | 6653 | 6360 | 6068 | 5775 | 5483 | 5190 | 4898 | 4605 | 4312 |
| 25 | 257 | 9225 | 8933 | 8642 | 8350 | 8058 | 7766 | 7473 | 7181 | 6889 | 6596 | 6304 | 6011 | 5718 | 5426 | 5133 | 4840 | 4547 |
| 26 | | 9462 | 9170 | 8878 | 8587 | 8294 | 8002 | 7710 | 7417 | 7124 | 6832 | 6540 | 6247 | 5954 | 5661 | 5368 | 5075 | 4782 |
| 27 | | 9698 | 9406 | 9115 | 8823 | 8531 | 8238 | 7946 | 7653 | 7360 | 7068 | 6775 | 6482 | 6189 | 5896 | 5604 | 5311 | 5017 |
| 28 | | 9935 | 9643 | 9351 | 9059 | 8767 | 8474 | 8182 | 7889 | 7597 | 7304 | 7011 | 6718 | 6425 | 6132 | 5839 | 5546 | 5253 |
| 29 | 256 257) | 0171 | 9879 | 9587 | 9295 | 9003 | 8711 | 8418 | 8125 | 7833 | 7540 | 7247 | 6954 | 6661 | 6367 | 6074 | 5781 | 5487 |
| 30 | 256(257) | 0408 | 0116 | 9825 | 9532 | 9239 | 8947 | 8654 | 8361 | 8068 | 7775 | 7482 | 7189 | 6895 | 6602 | 6309 | 6015 | 5722 |
| 31 | | 0647 | 0354 | 0061 | 9769 | 9476 | 9183 | 8890 | 8597 | 8304 | 8010 | 7717 | 7424 | 7131 | 6837 | 6544 | 6250 | 5957 |
| 32 | | 0884 | 0591 | 0298 | 0005 | 9712 | 9419 | 9127 | 8833 | 8540 | 8246 | 7953 | 7659 | 7366 | 7072 | 6779 | 6485 | 6192 |
| 33 | | 1120 | 0827 | 0534 | 0241 | 9948 | 9655 | 9362 | 9068 | 8775 | 8481 | 8188 | 7894 | 7601 | 7307 | 7014 | 6720 | 6426 |
| 34 | | 1357 | 1064 | 0771 | 0477 | 0184 | 9891 | 9597 | 9304 | 9010 | 8717 | 8423 | 8130 | 7836 | 7542 | 7248 | 6955 | 6661 |
| 35 | 256 257) | 1593 | 1300 | 1007 | 0713 | 0420 | 0127 | 9833 | 9539 | 9246 | 8952 | 8659 | 8365 | 8071 | 7777 | 7484 | 7190 | 6896 |
| 36 | | 1830 | 1536 | 1243 | 0949 | 0656 | 0362 | 0069 | 9775 | 9481 | 9188 | 8894 | 8600 | 8306 | 8012 | 7718 | 7424 | 7130 |
| 37 | | 2066 | 1773 | 1479 | 1185 | 0892 | 0598 | 0304 | 0011 | 9717 | 9423 | 9129 | 8835 | 8541 | 8247 | 7953 | 7659 | 7365 |
| 38 | | 2302 | 2009 | 1715 | 1421 | 1128 | 0834 | 0540 | 0246 | 9952 | 9658 | 9364 | 9070 | 8776 | 8482 | 8187 | 7893 | 7599 |
| 39 | | 2539 | 2245 | 1951 | 1657 | 1363 | 1070 | 0776 | 0482 | 0188 | 9893 | 9599 | 9305 | 9011 | 8717 | 8423 | 8128 | 7833 |
| 40 | 258(257) | 2775 | 2481 | 2187 | 1893 | 1599 | 1305 | 1011 | 0717 | 0423 | 0129 | 9834 | 9540 | 9246 | 8951 | 8657 | 8362 | 8067 |
| 41 | | 3011 | 2717 | 2423 | 2129 | 1835 | 1541 | 1247 | 0952 | 0658 | 0364 | 0069 | 9775 | 9480 | 9186 | 8891 | 8596 | 8302 |
| 42 | | 3247 | 2953 | 2659 | 2365 | 2071 | 1776 | 1482 | 1188 | 0893 | 0599 | 0304 | 0010 | 9715 | 9420 | 9126 | 8831 | 8536 |
| 43 | | 3483 | 3189 | 2895 | 2601 | 2306 | 2012 | 1717 | 1423 | 1128 | 0834 | 0539 | 0244 | 9950 | 9655 | 9360 | 9065 | 8770 |
| 44 | | 3719 | 3425 | 3131 | 2836 | 2541 | 2247 | 1953 | 1658 | 1363 | 1068 | 0774 | 0479 | 0184 | 9889 | 9594 | 9299 | 9004 |
| 45 | 258(257) | 3955 | 3661 | 3366 | 3072 | 2777 | 2483 | 2188 | 1893 | 1599 | 1304 | 1009 | 0714 | 0419 | 0124 | 9829 | 9534 | 9239 |
| 46 | | 4191 | 3897 | 3602 | 3307 | 3013 | 2718 | 2423 | 2128 | 1833 | 1538 | 1243 | 0948 | 0653 | 0358 | 0063 | 9768 | 9472 |
| 47 | | 4427 | 4132 | 3838 | 3543 | 3248 | 2953 | 2658 | 2363 | 2068 | 1773 | 1478 | 1183 | 0888 | 0592 | 0297 | 0002 | 9707 |
| 48 | | 4663 | 4368 | 4073 | 3778 | 3484 | 3188 | 2893 | 2598 | 2303 | 2008 | 1713 | 1418 | 1122 | 0827 | 0531 | 0236 | 9941 |
| 49 | 258 | 4899 | 4604 | 4309 | 4014 | 3719 | 3424 | 3128 | 2833 | 2538 | 2243 | 1947 | 1652 | 1357 | 1061 | 0765 | 0470 | 0174 |
| 50 | 258 | 5135 | 4840 | 4544 | 4249 | 3954 | 3659 | 3363 | 3068 | 2773 | 2477 | 2182 | 1886 | 1591 | 1295 | 1000 | 0704 | 0408 |
| 51 | | 5371 | 5075 | 4780 | 4484 | 4189 | 3894 | 3598 | 3303 | 3007 | 2712 | 2416 | 2121 | 1825 | 1529 | 1234 | 0938 | 0642 |
| 52 | | 5606 | 5311 | 5015 | 4720 | 4424 | 4129 | 3833 | 3538 | 3243 | 2947 | 2651 | 2355 | 2060 | 1764 | 1468 | 1172 | 0876 |
| 53 | | 5842 | 5546 | 5251 | 4955 | 4660 | 4364 | 4068 | 3773 | 3477 | 3181 | 2885 | 2590 | 2294 | 1997 | 1701 | 1405 | 1109 |
| 54 | | 6077 | 5781 | 5486 | 5190 | 4895 | 4599 | 4303 | 4007 | 3711 | 3416 | 3120 | 2824 | 2528 | 2231 | 1935 | 1639 | 1343 |
| 55 | 258 | 6312 | 6017 | 5721 | 5425 | 5130 | 4834 | 4538 | 4242 | 3946 | 3650 | 3354 | 3058 | 2762 | 2465 | 2169 | 1873 | 1577 |
| 56 | 258 | 6547 | 6251 | 5956 | 5660 | 5364 | 5068 | 4773 | 4477 | 4181 | 3885 | 3589 | 3293 | 2997 | 2701 | 2404 | 2108 | 1812 |
| 57 | | 6782 | 6486 | 6190 | 5894 | 5598 | 5302 | 5006 | 4711 | 4415 | 4119 | 3823 | 3527 | 3232 | 2936 | 2640 | 2344 | 2047 |
| 58 | | 7017 | 6721 | 6425 | 6129 | 5833 | 5537 | 5241 | 4945 | 4649 | 4353 | 4057 | 3761 | 3465 | 3169 | 2873 | 2577 | 2281 |
| 59 | | 7252 | 6956 | 6660 | 6364 | 6068 | 5772 | 5476 | 5180 | 4884 | 4588 | 4292 | 3996 | 3700 | 3404 | 3108 | 2812 | 2516 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

Parts for Seconds of A. A. & A. D. 125°

Auxiliary Arguments.

| A. A. & A. D. 125° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 259 8367 | 8077 | 7787 | 7497 | 7207 | 6917 | 6627 | 6337 | 6046 | 5756 | 5466 | 5176 | 4885 | 4595 | 4305 | 4014 | 3723 |
| 1 | 8363 | 8073 | 7783 | 7493 | 7203 | 6913 | 6623 | 6333 | 6042 | 5752 | 5462 | 5172 | 4881 | 4591 | 4301 | 4010 | 3719 |
| 2 | 8359 | 8069 | 7779 | 7489 | 7199 | 6909 | 6619 | 6329 | 6038 | 5748 | 5458 | 5168 | 4877 | 4587 | 4297 | 4006 | 3715 |
| 3 | 8355 | 8065 | 7775 | 7485 | 7195 | 6905 | 6615 | 6325 | 6034 | 5744 | 5454 | 5164 | 4873 | 4583 | 4293 | 4002 | 3711 |
| 4 | 8351 | 8061 | 7771 | 7481 | 7191 | 6901 | 6611 | 6321 | 6030 | 5740 | 5450 | 5160 | 4869 | 4579 | 4289 | 3998 | 3707 |
| 5 | 259 8347 | 8057 | 7767 | 7477 | 7187 | 6897 | 6607 | 6317 | 6026 | 5736 | 5446 | 5156 | 4865 | 4575 | 4285 | 3994 | 3703 |
| 6 | 8343 | 8053 | 7763 | 7473 | 7183 | 6893 | 6603 | 6313 | 6022 | 5732 | 5442 | 5152 | 4861 | 4571 | 4281 | 3990 | 3699 |
| 7 | 257 (256) 8339 | 8049 | 7759 | 7469 | 7179 | 6889 | 6599 | 6309 | 6018 | 5728 | 5438 | 5148 | 4857 | 4567 | 4277 | 3986 | 3695 |
| 8 | 8335 | 8045 | 7755 | 7465 | 7175 | 6885 | 6595 | 6305 | 6014 | 5724 | 5434 | 5144 | 4853 | 4563 | 4273 | 3982 | 3691 |
| 9 | 8331 | 8041 | 7751 | 7461 | 7171 | 6881 | 6591 | 6301 | 6010 | 5720 | 5430 | 5140 | 4849 | 4559 | 4269 | 3978 | 3687 |
| 10 | 257 (256) 8327 | 8037 | 7747 | 7457 | 7167 | 6877 | 6587 | 6297 | 6006 | 5716 | 5426 | 5136 | 4845 | 4555 | 4265 | 3974 | 3683 |
| 11 | 8323 | 8033 | 7743 | 7453 | 7163 | 6873 | 6583 | 6293 | 6002 | 5712 | 5422 | 5132 | 4841 | 4551 | 4261 | 3970 | 3679 |
| 12 | 8319 | 8029 | 7739 | 7449 | 7159 | 6869 | 6579 | 6289 | 5998 | 5708 | 5418 | 5128 | 4837 | 4547 | 4257 | 3966 | 3675 |
| 13 | 8315 | 8025 | 7735 | 7445 | 7155 | 6865 | 6575 | 6285 | 5994 | 5704 | 5414 | 5124 | 4833 | 4543 | 4253 | 3962 | 3671 |
| 14 | 8311 | 8021 | 7731 | 7441 | 7151 | 6861 | 6571 | 6281 | 5990 | 5700 | 5410 | 5120 | 4829 | 4539 | 4249 | 3958 | 3667 |
| 15 | 257 (256) 8307 | 8017 | 7727 | 7437 | 7147 | 6857 | 6567 | 6277 | 5986 | 5696 | 5406 | 5116 | 4825 | 4535 | 4245 | 3954 | 3663 |
| 16 | 8303 | 8013 | 7723 | 7433 | 7143 | 6853 | 6563 | 6273 | 5982 | 5692 | 5402 | 5112 | 4821 | 4531 | 4241 | 3950 | 3659 |
| 17 | 8299 | 8009 | 7719 | 7429 | 7139 | 6849 | 6559 | 6269 | 5978 | 5688 | 5398 | 5108 | 4817 | 4527 | 4237 | 3946 | 3655 |
| 18 | 8295 | 8005 | 7715 | 7425 | 7135 | 6845 | 6555 | 6265 | 5974 | 5684 | 5394 | 5104 | 4813 | 4523 | 4233 | 3942 | 3651 |
| 19 | 8291 | 8001 | 7711 | 7421 | 7131 | 6841 | 6551 | 6261 | 5970 | 5680 | 5390 | 5100 | 4809 | 4519 | 4229 | 3938 | 3647 |
| 20 | 257 (256) 8287 | 7997 | 7707 | 7417 | 7127 | 6837 | 6547 | 6257 | 5966 | 5676 | 5386 | 5096 | 4805 | 4515 | 4225 | 3934 | 3643 |
| 21 | 8283 | 7993 | 7703 | 7413 | 7123 | 6833 | 6543 | 6253 | 5962 | 5672 | 5382 | 5092 | 4801 | 4511 | 4221 | 3930 | 3639 |
| 22 | 8279 | 7989 | 7699 | 7409 | 7119 | 6829 | 6539 | 6249 | 5958 | 5668 | 5378 | 5088 | 4797 | 4507 | 4217 | 3926 | 3635 |
| 23 | 3785 3492 | 3199 | 2907 | 2614 | 2321 | 2028 | 1735 | 1442 | 1149 | 0856 | 0563 | 0270 | 9977 | 9683 | 9390 | 9097 | |
| 24 | 4022 3727 | 3434 | 3141 | 2848 | 2555 | 2262 | 1969 | 1676 | 1383 | 1090 | 0797 | 0504 | 0211 | 9917 | 9624 | 9331 | |
| 25 | 257 (256) 4255 | 3960 | 3666 | 3376 | 3083 | 2790 | 2497 | 2203 | 1910 | 1617 | 1324 | 1031 | 0737 | 0443 | 0150 | | |
| 26 | 4490 | 4197 | 3904 | 3611 | 3317 | 3024 | 2731 | 2438 | 2144 | 1851 | 1557 | 1264 | 0970 | 0677 | 0383 | | |
| 27 | 257 4724 | 4431 | 4138 | 3845 | 3552 | 3258 | 2965 | 2672 | 2379 | 2085 | 1792 | 1497 | 1205 | 0911 | 0618 | | |
| 28 | 4958 | 4665 | 4373 | 4079 | 3786 | 3493 | 3199 | 2906 | 2612 | 2319 | 2025 | 1732 | 1437 | 1143 | 0849 | | |
| 29 | 5194 | 4901 | 4607 | 4314 | 4020 | 3727 | 3433 | 3139 | 2846 | 2552 | 2258 | 1964 | 1671 | 1377 | 1083 | | |
| 30 | 257 5429 | 5135 | 4842 | 4548 | 4255 | 3961 | 3667 | 3373 | 3079 | 2786 | 2492 | 2198 | 1903 | 1610 | 1315 | | |
| 31 | 5663 | 5370 | 5076 | 4782 | 4488 | 4195 | 3901 | 3607 | 3313 | 3019 | 2725 | 2431 | 2137 | 1843 | 1548 | | |
| 32 | 5898 | 5604 | 5311 | 5017 | 4723 | 4429 | 4135 | 3841 | 3547 | 3253 | 2958 | 2664 | 2370 | 2076 | 1781 | | |
| 33 | 6132 | 5839 | 5545 | 5251 | 4956 | 4662 | 4368 | 4075 | 3781 | 3487 | 3192 | 2898 | 2604 | 2309 | 2015 | | |
| 34 | 6367 | 6073 | 5779 | 5485 | 5191 | 4897 | 4603 | 4309 | 4014 | 3720 | 3425 | 3131 | 2837 | 2542 | 2248 | | |
| 35 | 257 6601 | 6307 | 6013 | 5719 | 5425 | 5130 | 4836 | 4542 | 4247 | 3953 | 3658 | 3364 | 3069 | 2775 | 2480 | | |
| 36 | 6836 | 6542 | 6247 | 5953 | 5658 | 5364 | 5069 | 4775 | 4481 | 4186 | 3892 | 3597 | 3303 | 3008 | 2713 | | |
| 37 | 7070 | 6776 | 6481 | 6187 | 5892 | 5597 | 5303 | 5008 | 4714 | 4419 | 4125 | 3830 | 3535 | 3241 | 2946 | | |
| 38 | 7304 | 7011 | 6716 | 6421 | 6126 | 5832 | 5537 | 5242 | 4948 | 4653 | 4358 | 4063 | 3769 | 3474 | 3179 | | |
| 39 | 7539 | 7244 | 6950 | 6655 | 6360 | 6065 | 5771 | 5476 | 5181 | 4886 | 4591 | 4297 | 4002 | 3707 | 3412 | | |
| 40 | 257 7773 | 7478 | 7184 | 6889 | 6594 | 6299 | 6004 | 5709 | 5414 | 5119 | 4824 | 4529 | 4234 | 3939 | 3644 | | |
| 41 | 8007 | 7713 | 7417 | 7122 | 6827 | 6532 | 6237 | 5942 | 5647 | 5352 | 5057 | 4762 | 4467 | 4171 | 3876 | | |
| 42 | 8241 | 7947 | 7651 | 7356 | 7061 | 6765 | 6470 | 6175 | 5880 | 5585 | 5290 | 4995 | 4700 | 4404 | 4109 | | |
| 43 | 8475 | 8181 | 7886 | 7590 | 7295 | 6999 | 6704 | 6409 | 6114 | 5819 | 5523 | 5228 | 4933 | 4638 | 4342 | | |
| 44 | 8709 | 8415 | 8120 | 7824 | 7529 | 7233 | 6938 | 6643 | 6348 | 6052 | 5757 | 5462 | 5167 | 4871 | 4576 | | |
| 45 | 257 8943 | 8648 | 8353 | 8057 | 7762 | 7466 | 7171 | 6876 | 6581 | 6286 | 5990 | 5695 | 5400 | 5105 | 4809 | | |
| 46 | 9177 | 8882 | 8586 | 8291 | 7995 | 7700 | 7404 | 7109 | 6814 | 6519 | 6224 | 5928 | 5633 | 5338 | 5043 | | |
| 47 | 9411 | 9116 | 8820 | 8524 | 8229 | 7933 | 7638 | 7343 | 7047 | 6752 | 6457 | 6162 | 5866 | 5571 | 5276 | | |
| 48 | 9645 | 9350 | 9054 | 8758 | 8463 | 8167 | 7872 | 7576 | 7281 | 6986 | 6690 | 6395 | 6100 | 5804 | 5509 | | |
| 49 | 9879 | 9584 | 9288 | 8992 | 8697 | 8401 | 8105 | 7810 | 7515 | 7219 | 6924 | 6628 | 6333 | 6038 | 5742 | | |
| 50 | 257 (256) 0113 | 9818 | 9522 | 9226 | 8931 | 8635 | 8339 | 8044 | 7748 | 7453 | 7157 | 6862 | 6566 | 6271 | 5975 | | |
| 51 | 0347 | 0052 | 9756 | 9460 | 9164 | 8868 | 8573 | 8277 | 7982 | 7686 | 7390 | 7095 | 6799 | 6504 | 6208 | | |
| 52 | 0581 | 0286 | 9990 | 9694 | 9398 | 9102 | 8806 | 8511 | 8215 | 7919 | 7623 | 7328 | 7032 | 6736 | 6441 | | |
| 53 | 0815 | 0520 | 0224 | 9928 | 9632 | 9336 | 9040 | 8744 | 8448 | 8152 | 7856 | 7561 | 7265 | 6969 | 6673 | | |
| 54 | 1049 | 0754 | 0458 | 0162 | 9866 | 9570 | 9274 | 8978 | 8682 | 8386 | 8090 | 7794 | 7498 | 7202 | 6906 | | |
| 55 | 257 (256) 1283 | 0988 | 0692 | 0396 | 0100 | 9804 | 9508 | 9212 | 8916 | 8620 | 8324 | 8028 | 7731 | 7435 | 7139 | | |
| 56 | 1517 | 1222 | 0926 | 0630 | 0334 | 0038 | 9742 | 9446 | 9150 | 8854 | 8558 | 8261 | 7965 | 7669 | 7372 | | |
| 57 | 1751 | 1456 | 1160 | 0864 | 0568 | 0272 | 9976 | 9680 | 9384 | 9088 | 8791 | 8495 | 8199 | 7902 | 7606 | | |
| 58 | 1985 | 1690 | 1394 | 1098 | 0802 | 0506 | 0210 | 9914 | 9618 | 9321 | 9025 | 8729 | 8432 | 8136 | 7839 | | |
| 59 | 2219 | 1923 | 1627 | 1331 | 1035 | 0739 | 0443 | 0147 | 9851 | 9555 | 9259 | 8962 | 8666 | 8369 | 8073 | | |

Sums for finding the Corrected Distances.

Parts for Sec. of C. D. addit.

| C. D 125° | Sums |
|---|---|
| 0 | 357 3576 |
| 1 | 3515 |
| 2 | 4454 |
| 3 | 4393 |
| 4 | 4332 |
| 5 | 357 4271 |
| 6 | 5209 |
| 7 | 5148 |
| 8 | 5087 |
| 9 | 5026 |
| 10 | 357 5087 |
| 11 | 6143 |
| 12 | 6082 |
| 13 | 6021 |
| 14 | 6960 |
| 15 | 357 7143 |
| 16 | 7082 |
| 17 | 7021 |
| 18 | 7960 |
| 19 | 8899 |
| 20 | 8838 |
| 21 | 8777 |
| 22 | 9716 |
| 23 | 9655 |
| 24 | 0594 |
| 25 | 357 0533 |
| 26 | 1472 |
| 27 | 1411 |
| 28 | 2350 |
| 29 | 2289 |
| 30 | 357 3228 |
| 31 | 3167 |
| 32 | 4106 |
| 33 | 4045 |
| 34 | 4984 |
| 35 | 357 4923 |
| 36 | 5862 |
| 37 | 5801 |
| 38 | 6740 |
| 39 | 6679 |
| 40 | 357 6618 |
| 41 | 7557 |
| 42 | 7496 |
| 43 | 8435 |
| 44 | 8374 |
| 45 | 357 8313 |
| 46 | 9252 |
| 47 | 9191 |
| 48 | 0130 |
| 49 | 0069 |
| 50 | 358 0008 |
| 51 | 0947 |
| 52 | 0886 |
| 53 | 1825 |
| 54 | 1764 |
| 55 | 358 1703 |
| 56 | 2642 |
| 57 | 2581 |
| 58 | 3520 |
| 59 | 3459 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - and Auxiliary Arguments.

| Parts for Seconds of Alt. | S.S.A. 126 | Numbers |
|---|---|---|
| 25 | 0 | 242 6185 |
| 23 | 1 | 5947 |
| 22 | 2 | 5709 |
| 22 | 3 | 5471 |
| 22 | 4 | 5233 |
| 21 | 5 | 4995 |
| 21 | 6 | 4757 |
| 20 | 7 | 4519 |
| 20 | 8 | 4281 |
| 20 | 9 | 4043 |
| 19 | 10 | 3805 |
| 19 | 11 | 3568 |
| 18 | 12 | 3330 |
| 18 | 13 | 3092 |
| 17 | 14 | 2855 |
| 17 | 15 | 2617 |
| 17 | 16 | 2380 |
| 16 | 17 | 2142 |
| 16 | 18 | 1905 |
| 16 | 19 | 1668 |
| 15 | 20 | 1430 |
| 15 | 21 | 1193 |
| 15 | 22 | 0956 |
| 14 | 23 | 0719 |
| 14 | 24 | 0482 |
| 13 | 25 | 0245 |
| 13 | 26 | 0008 |
| 13 | 27 | 9771 |
| 12 | 28 | 9534 |
| 12 | 29 | 9297 |
| 11 | 30 | 9060 |
| 11 | 31 | 8824 |
| 11 | 32 | 8587 |
| 10 | 33 | 8350 |
| 10 | 34 | 8113 |
| 9 | 35 | 7877 |
| 9 | 36 | 7641 |
| 9 | 37 | 7404 |
| 8 | 38 | 7168 |
| 8 | 39 | 6931 |
| 7 | 40 | 6695 |
| 7 | 41 | 6459 |
| 7 | 42 | 6223 |
| 6 | 43 | 5986 |
| 6 | 44 | 5750 |
| 5 | 45 | 5514 |
| 5 | 46 | 5278 |
| 5 | 47 | 5042 |
| 4 | 48 | 4806 |
| 4 | 49 | 4571 |
| 3 | 50 | 4335 |
| 3 | 51 | 4099 |
| 3 | 52 | 3863 |
| 2 | 53 | 3628 |
| 2 | 54 | 3392 |
| 2 | 55 | 3156 |
| 1 | 56 | 2921 |
| 1 | 57 | 2685 |
| 1 | 58 | 2450 |
| 0 | 59 | 2215 |

| Parts for Seconds of Alt. | S.S.A. & S.D. 120 | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 59 | 0 | 258 | 7190 | 6886 | 6582 | 6278 | 5974 | 5671 | 5415 | 5115 | 4811 | 4525 | 4228 | 3931 | 3634 | 3337 | 3041 | 2744 |
| 59 | 1 | | 7224 | 6920 | 6616 | 6312 | 6008 | 5704 | 5400 | 5152 | 4852 | 4556 | 4259 | 4462 | 4165 | 3868 | 3571 | 3274 |
| 59 | 2 | | 7258 | 6954 | 6650 | 6346 | 6042 | 5738 | 5434 | 5130 | 4826 | 4529 | 4233 | 4696 | 4399 | 4102 | 3805 | 3507 |
| 59 | 3 | | 7292 | 6988 | 6684 | 6380 | 6076 | 5772 | 5468 | 5164 | 4860 | 4563 | 4267 | 3970 | 3673 | 3376 | 3079 | 2781 |
| 59 | 4 | | 7326 | 7022 | 6718 | 6414 | 6110 | 5806 | 5502 | 5198 | 4894 | 4597 | 4301 | 4004 | 3707 | 3410 | 3113 | 2815 |
| 58 | 5 | 258 | 7360 | 7056 | 6752 | 6448 | 6144 | 5840 | 5536 | 5232 | 4928 | 4631 | 4335 | 4038 | 3741 | 3444 | 3147 | 2849 |
| 58 | 6 | | 8900 | 8603 | 8306 | 8009 | 7711 | 7414 | 7117 | 6820 | 6523 | 6225 | 5928 | 5630 | 5333 | 5036 | 4739 | 4442 |
| 58 | 7 | | 9134 | 8837 | 8541 | 8243 | 7946 | 7649 | 7351 | 7054 | 6757 | 6459 | 6162 | 5864 | 5566 | 5269 | 4971 | 4673 |
| 57 | 8 | | 9168 | 8871 | 8575 | 8277 | 7980 | 7683 | 7385 | 7088 | 6791 | 6493 | 6196 | 5898 | 5601 | 5303 | 5006 | 4707 |
| 57 | 9 | | 9202 | 8905 | 8609 | 8312 | 8015 | 7717 | 7420 | 7123 | 6825 | 6528 | 6230 | 5933 | 5635 | 5338 | 5040 | 4742 |
| 56 | 10 | 257 | 9236 | 8939 | 8643 | 8346 | 8049 | 7751 | 7454 | 7158 | 6860 | 6562 | 6265 | 5967 | 5670 | 5372 | 5074 | 4776 |
| 56 | 11 | 257 | 9270 | 8973 | 8677 | 8380 | 8083 | 7786 | 7489 | 7192 | 6894 | 6597 | 6299 | 6002 | 5704 | 5407 | 5109 | 4811 |
| 55 | 12 | | 9304 | 9007 | 8711 | 8414 | 8117 | 7820 | 7523 | 7226 | 6929 | 6631 | 6334 | 6036 | 5739 | 5441 | 5144 | 4845 |
| 55 | 13 | | 9338 | 9041 | 8745 | 8448 | 8151 | 7854 | 7557 | 7260 | 6963 | 6665 | 6368 | 6070 | 5773 | 5476 | 5178 | 4880 |
| 54 | 14 | | 9372 | 9075 | 8779 | 8482 | 8185 | 7888 | 7591 | 7294 | 6997 | 6700 | 6402 | 6105 | 5808 | 5510 | 5213 | 4915 |
| 54 | 15 | 257 | 9406 | 9109 | 8813 | 8516 | 8219 | 7922 | 7625 | 7328 | 7031 | 6734 | 6437 | 6139 | 5842 | 5545 | 5247 | 4949 |
| 53 | 16 | | 9440 | 9143 | 8847 | 8550 | 8253 | 7956 | 7659 | 7362 | 7065 | 6768 | 6471 | 6174 | 5876 | 5579 | 5282 | 4984 |
| 53 | 17 | | 9474 | 9177 | 8881 | 8584 | 8287 | 7990 | 7693 | 7396 | 7099 | 6802 | 6505 | 6208 | 5911 | 5614 | 5316 | 5019 |
| 52 | 18 | | 9508 | 9211 | 8915 | 8618 | 8321 | 8024 | 7727 | 7430 | 7133 | 6836 | 6539 | 6242 | 5945 | 5648 | 5351 | 5053 |
| 52 | 19 | | 9542 | 9245 | 8949 | 8652 | 8355 | 8058 | 7761 | 7464 | 7167 | 6870 | 6573 | 6276 | 5979 | 5682 | 5385 | 5087 |
| 51 | 20 | 256 | 9576 | 9279 | 8983 | 8686 | 8389 | 8092 | 7795 | 7498 | 7201 | 6904 | 6607 | 6310 | 6013 | 5716 | 5419 | 5121 |
| 51 | 21 | | 9610 | 9313 | 9017 | 8720 | 8423 | 8126 | 7829 | 7532 | 7235 | 6938 | 6641 | 6344 | 6047 | 5750 | 5453 | 5155 |
| 50 | 22 | | 9644 | 9347 | 9051 | 8754 | 8457 | 8160 | 7863 | 7566 | 7269 | 6972 | 6675 | 6378 | 6081 | 5784 | 5487 | 5189 |
| 50 | 23 | | 9678 | 9381 | 9085 | 8788 | 8491 | 8194 | 7897 | 7600 | 7303 | 7006 | 6709 | 6412 | 6115 | 5818 | 5521 | 5223 |
| 49 | 24 | | 9712 | 9415 | 9117 | 8822 | 8525 | 8228 | 7931 | 7634 | 7337 | 7040 | 6743 | 6446 | 6149 | 5852 | 5555 | 5257 |
| 49 | 25 | 256 | 9746 | 9449 | 9153 | 8856 | 8559 | 8262 | 7965 | 7668 | 7371 | 7074 | 6777 | 6480 | 6183 | 5886 | 5589 | 5291 |
| 48 | 26 | | 9780 | 9483 | 9187 | 8890 | 8593 | 8296 | 7999 | 7702 | 7405 | 7108 | 6811 | 6514 | 6217 | 5920 | 5623 | 5325 |
| 48 | 27 | | 9814 | 9517 | 9221 | 8924 | 8627 | 8330 | 8033 | 7736 | 7439 | 7142 | 6845 | 6548 | 6251 | 5954 | 5657 | 5359 |
| 47 | 28 | | 9848 | 9551 | 9255 | 8958 | 8661 | 8364 | 8067 | 7770 | 7473 | 7176 | 6879 | 6582 | 6285 | 5988 | 5691 | 5393 |
| 47 | 29 | | 9882 | 9585 | 9289 | 8992 | 8695 | 8398 | 8101 | 7804 | 7507 | 7210 | 6913 | 6616 | 6319 | 6022 | 5725 | 5427 |
| 46 | 30 | 255 | 9916 | 9619 | 9323 | 9026 | 8729 | 8432 | 8135 | 7838 | 7541 | 7244 | 6947 | 6650 | 6353 | 6056 | 5759 | 5461 |
| 46 | 31 | | 9950 | 9653 | 9357 | 9060 | 8763 | 8466 | 8169 | 7872 | 7575 | 7278 | 6981 | 6684 | 6387 | 6090 | 5793 | 5495 |
| 45 | 32 | | 9984 | 9687 | 9391 | 9094 | 8797 | 8500 | 8203 | 7906 | 7609 | 7312 | 7015 | 6718 | 6421 | 6124 | 5827 | 5529 |
| 45 | 33 | | 0018 | 9721 | 9425 | 9128 | 8831 | 8534 | 8237 | 7940 | 7643 | 7346 | 7049 | 6752 | 6455 | 6158 | 5861 | 5563 |
| 44 | 34 | | 0052 | 9755 | 9459 | 9162 | 8865 | 8568 | 8271 | 7974 | 7677 | 7380 | 7083 | 6786 | 6489 | 6192 | 5895 | 5597 |
| 44 | 35 | 255 | 0086 | 9789 | 9493 | 9196 | 8899 | 8602 | 8305 | 8008 | 7711 | 7414 | 7117 | 6820 | 6523 | 6225 | 5928 | 5630 |
| 43 | 36 | | 0120 | 9823 | 9527 | 9230 | 8933 | 8636 | 8339 | 8042 | 7745 | 7448 | 7151 | 6854 | 6557 | 6260 | 5963 | 5665 |
| 43 | 37 | | 0154 | 9857 | 9561 | 9264 | 8967 | 8670 | 8373 | 8076 | 7779 | 7482 | 7185 | 6888 | 6591 | 6294 | 5997 | 5699 |
| 42 | 38 | | 0188 | 9891 | 9595 | 9298 | 9001 | 8704 | 8407 | 8110 | 7813 | 7516 | 7219 | 6922 | 6625 | 6328 | 6031 | 5733 |
| 42 | 39 | | 0222 | 9925 | 9629 | 9332 | 9035 | 8738 | 8441 | 8144 | 7847 | 7550 | 7253 | 6956 | 6659 | 6362 | 6065 | 5767 |
| 41 | 40 | 254 | 0256 | 9959 | 9663 | 9366 | 9069 | 8772 | 8475 | 8178 | 7881 | 7584 | 7287 | 6990 | 6693 | 6396 | 6099 | 5801 |
| 41 | 41 | | 0290 | 9993 | 9697 | 9400 | 9103 | 8806 | 8509 | 8212 | 7915 | 7618 | 7321 | 7024 | 6727 | 6430 | 6133 | 5835 |
| 41 | 42 | | 0324 | 0027 | 9731 | 9434 | 9137 | 8840 | 8543 | 8246 | 7949 | 7652 | 7355 | 7058 | 6761 | 6464 | 6167 | 5869 |
| 40 | 43 | | 0358 | 0061 | 9765 | 9468 | 9171 | 8874 | 8577 | 8280 | 7983 | 7686 | 7389 | 7092 | 6795 | 6498 | 6201 | 5903 |
| 40 | 44 | | 0392 | 0095 | 9799 | 9502 | 9205 | 8908 | 8611 | 8314 | 8017 | 7720 | 7423 | 7126 | 6829 | 6532 | 6235 | 5937 |
| 39 | 45 | 254 | 0426 | 0129 | 9833 | 9536 | 9239 | 8942 | 8645 | 8348 | 8051 | 7754 | 7457 | 7160 | 6863 | 6566 | 6269 | 5971 |
| 39 | 46 | | 0460 | 0163 | 9867 | 9570 | 9273 | 8976 | 8679 | 8382 | 8085 | 7788 | 7491 | 7194 | 6897 | 6600 | 6303 | 6005 |
| 38 | 47 | | 0494 | 0197 | 9901 | 9604 | 9307 | 9009 | 8712 | 8415 | 8117 | 7820 | 7522 | 7224 | 6927 | 6629 | 6331 | 6033 |
| 38 | 48 | | 0528 | 0231 | 9935 | 9638 | 9341 | 9043 | 8746 | 8449 | 8151 | 7854 | 7556 | 7258 | 6961 | 6663 | 6365 | 6067 |
| 37 | 49 | | 0562 | 0265 | 9969 | 9672 | 9375 | 9077 | 8780 | 8483 | 8185 | 7888 | 7590 | 7292 | 6995 | 6697 | 6399 | 6101 |
| 37 | 50 | 253 | 0596 | 0299 | 0003 | 9706 | 9409 | 9111 | 8814 | 8517 | 8219 | 7922 | 7624 | 7326 | 7029 | 6731 | 6433 | 6135 |
| 36 | 51 | | 0630 | 0333 | 0037 | 9740 | 9443 | 9145 | 8848 | 8551 | 8253 | 7956 | 7658 | 7360 | 7063 | 6765 | 6467 | 6169 |
| 36 | 52 | | 0664 | 0367 | 0071 | 9774 | 9477 | 9179 | 8882 | 8585 | 8287 | 7990 | 7692 | 7394 | 7097 | 6799 | 6501 | 6203 |
| 35 | 53 | | 0698 | 0401 | 0105 | 9808 | 9511 | 9213 | 8916 | 8619 | 8321 | 8024 | 7726 | 7428 | 7131 | 6833 | 6535 | 6237 |
| 35 | 54 | 253 | 0732 | 0435 | 0139 | 9842 | 9545 | 9247 | 8950 | 8653 | 8355 | 8058 | 7760 | 7462 | 7165 | 6867 | 6569 | 6271 |
| 34 | 55 | 253 | 0766 | 0469 | 0173 | 9876 | 9579 | 9281 | 8984 | 8687 | 8389 | 8092 | 7794 | 7496 | 7199 | 6901 | 6603 | 6305 |
| 34 | 56 | | 0800 | 0503 | 0207 | 9910 | 9613 | 9315 | 9018 | 8721 | 8423 | 8126 | 7828 | 7530 | 7233 | 6935 | 6637 | 6339 |
| 33 | 57 | | 0834 | 0537 | 0241 | 9944 | 9647 | 9349 | 9052 | 8755 | 8457 | 8160 | 7862 | 7564 | 7267 | 6969 | 6671 | 6373 |
| 33 | 58 | | 0868 | 0571 | 0275 | 9978 | 9681 | 9383 | 9086 | 8789 | 8491 | 8194 | 7896 | 7598 | 7301 | 7003 | 6705 | 6407 |
| 32 | 59 | | 0902 | 0605 | 0309 | 0013 | 9715 | 9417 | 9120 | 8823 | 8525 | 8228 | 7930 | 7632 | 7335 | 7037 | 6739 | 6441 |

| Parts for Seconds of Alt. | S.S.A. 126 | Numbers |
|---|---|---|
| 32 | 0 | 242 6185 |
| 32 | 1 | 5947 |
| 31 | 2 | 5709 |
| 31 | 3 | 5471 |
| 31 | 4 | 5233 |
| 30 | 5 | 4995 |
| 30 | 6 | 4757 |
| 29 | 7 | 4519 |
| 29 | 8 | 4281 |
| 29 | 9 | 4043 |
| 28 | 10 | 3805 |
| 28 | 11 | 3568 |
| 27 | 12 | 3330 |
| 27 | 13 | 3092 |
| 26 | 14 | 2855 |
| 26 | 15 | 2617 |
| 26 | 16 | 2380 |
| 25 | 17 | 2142 |
| 25 | 18 | 1905 |
| 25 | 19 | 1668 |
| 24 | 20 | 1430 |
| 24 | 21 | 1193 |
| 24 | 22 | 0956 |
| 23 | 23 | 0719 |
| 23 | 24 | 0482 |
| 22 | 25 | 0245 |
| 22 | 26 | 0008 |
| 22 | 27 | 9771 |
| 21 | 28 | 9534 |
| 21 | 29 | 9297 |
| 20 | 30 | 9060 |
| 20 | 31 | 8824 |
| 20 | 32 | 8587 |
| 19 | 33 | 8350 |
| 19 | 34 | 8113 |
| 18 | 35 | 7877 |
| 18 | 36 | 7641 |
| 18 | 37 | 7404 |
| 17 | 38 | 7168 |
| 17 | 39 | 6931 |
| 16 | 40 | 6695 |
| 16 | 41 | 6459 |
| 16 | 42 | 6223 |
| 15 | 43 | 5986 |
| 15 | 44 | 5750 |
| 14 | 45 | 5514 |
| 14 | 46 | 5278 |
| 14 | 47 | 5042 |
| 13 | 48 | 4806 |
| 13 | 49 | 4571 |
| 12 | 50 | 4335 |
| 12 | 51 | 4099 |
| 12 | 52 | 3863 |
| 11 | 53 | 3628 |
| 11 | 54 | 3392 |
| 10 | 55 | 3156 |
| 10 | 56 | 2921 |
| 10 | 57 | 2685 |
| 9 | 58 | 2450 |
| 9 | 59 | 2215 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

Parts for Seconds of Auxil. Additive

Auxiliary Arguments.

| ′ | & A. D. 126° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 258(257) | 2447 | 2150 | 1852 | 1555 | 1258 | 961 | 663 | 366 | 069 | 0771 | 0474 | 0177 | 8880 | 8583 | 8286 | 7989 | 7692 | 7395 |
| 1 | 1 | | 2744 | 2447 | 2150 | 1852 | 1555 | 1258 | 961 | 663 | 366 | 069 | 0771 | 0474 | 0177 | 8880 | 8583 | 8286 | 7989 | 7692 |
| 2 | 2 | | 2913 | 2616 | 2319 | 2021 | 1724 | 1427 | 1130 | 832 | 535 | 238 | 0941 | 0644 | 0347 | 0050 | 7753 | 7456 | 7159 | 6861 |
| 3 | 3 | | 3147 | 2850 | 2553 | 2256 | 1958 | 1661 | 1364 | 1067 | 0769 | 0472 | 0175 | 7878 | 7581 | 7284 | 6987 | 6690 | 6392 | 6095 |
| 4 | 4 | | 3382 | 3085 | 2787 | 2490 | 2193 | 1896 | 1598 | 1301 | 1004 | 0707 | 0409 | 0112 | 7815 | 7518 | 7221 | 6923 | 6626 | 6329 |
| 5 | 5 | 258(257) | 3616 | 3319 | 3022 | 2724 | 2427 | 2130 | 1833 | 1535 | 1238 | 0941 | 0644 | 0346 | 0049 | 7752 | 7455 | 7157 | 6860 | 6563 |
| 6 | 6 | | 3851 | 3554 | 3256 | 2959 | 2662 | 2365 | 2067 | 1770 | 1473 | 1175 | 0878 | 0581 | 0284 | 7986 | 7689 | 7392 | 7094 | 6797 |
| 7 | 7 | | 4078 | 3780 | 3482 | 3184 | 2886 | 2588 | 2290 | 1991 | 1693 | 1395 | 1097 | 0798 | 0500 | 0201 | 9903 | 9604 | 9306 | 9007 |
| 8 | 8 | | 4311 | 4013 | 3715 | 3416 | 3118 | 2820 | 2522 | 2223 | 1925 | 1627 | 1328 | 1030 | 0731 | 0433 | 0134 | 9835 | 9536 | 9238 |
| 9 | 9 | | 4543 | 4245 | 3947 | 3649 | 3351 | 3053 | 2754 | 2456 | 2158 | 1859 | 1561 | 1262 | 0964 | 0665 | 0366 | 0067 | 9768 | 9469 |
| 10 | 10 | 258(257) | 4776 | 4478 | 4180 | 3881 | 3583 | 3285 | 2987 | 2688 | 2390 | 2091 | 1793 | 1495 | 1196 | 0898 | 0599 | 0300 | 0001 | 9702 |
| 11 | 11 | 258 | 5009 | 4710 | 4412 | 4114 | 3815 | 3517 | 3218 | 2919 | 2620 | 2322 | 2023 | 1724 | 1425 | 1126 | 0827 | 0528 | 0229 | 9930 |
| 12 | 12 | | 5241 | 4943 | 4644 | 4346 | 4047 | 3749 | 3450 | 3151 | 2852 | 2553 | 2254 | 1955 | 1656 | 1357 | 1058 | 0759 | 0460 | 0161 |
| 13 | 13 | | 5474 | 5175 | 4877 | 4578 | 4279 | 3981 | 3682 | 3383 | 3084 | 2785 | 2487 | 2188 | 1889 | 1590 | 1291 | 0992 | 0693 | 0394 |
| 14 | 14 | | 5707 | 5408 | 5110 | 4811 | 4512 | 4213 | 3913 | 3614 | 3315 | 3016 | 2717 | 2418 | 2119 | 1819 | 1520 | 1221 | 0922 | 0623 |
| 15 | 15 | 258 | 5940 | 5641 | 5342 | 5043 | 4743 | 4444 | 4145 | 3846 | 3547 | 3248 | 2949 | 2650 | 2350 | 2051 | 1752 | 1453 | 1154 | 0855 |
| 16 | 16 | | 6171 | 5873 | 5574 | 5274 | 4975 | 4676 | 4377 | 4078 | 3778 | 3479 | 3180 | 2881 | 2581 | 2281 | 1981 | 1682 | 1383 | 1084 |
| 17 | 17 | | 6404 | 6105 | 5806 | 5506 | 5207 | 4908 | 4609 | 4309 | 4010 | 3710 | 3411 | 3111 | 2812 | 2512 | 2212 | 1912 | 1613 | 1313 |
| 18 | 18 | | 6637 | 6338 | 6038 | 5739 | 5439 | 5140 | 4840 | 4541 | 4241 | 3942 | 3642 | 3343 | 3043 | 2743 | 2443 | 2143 | 1843 | 1543 |
| 19 | 19 | | 6870 | 6570 | 6271 | 5971 | 5671 | 5372 | 5072 | 4772 | 4473 | 4173 | 3874 | 3574 | 3274 | 2974 | 2674 | 2374 | 2074 | 1773 |
| 20 | 20 | 258 | 7103 | 6803 | 6503 | 6204 | 5904 | 5604 | 5304 | 5004 | 4704 | 4405 | 4105 | 3805 | 3505 | 3205 | 2905 | 2605 | 2304 | 2004 |
| 21 | 21 | | 7335 | 7035 | 6735 | 6436 | 6136 | 5836 | 5535 | 5235 | 4935 | 4635 | 4335 | 4035 | 3735 | 3435 | 3135 | 2834 | 2534 | 2234 |
| 22 | 22 | | 7565 | 7265 | 6966 | 6666 | 6366 | 6066 | 5766 | 5466 | 5166 | 4866 | 4566 | 4266 | 3966 | 3665 | 3365 | 3065 | 2764 | 2464 |
| 23 | 23 | | 7797 | 7497 | 7197 | 6897 | 6597 | 6297 | 5997 | 5697 | 5397 | 5097 | 4797 | 4497 | 4196 | 3896 | 3596 | 3296 | 2995 | 2695 |
| 24 | 24 | | 8029 | 7729 | 7428 | 7128 | 6828 | 6528 | 6228 | 5928 | 5628 | 5328 | 5028 | 4727 | 4427 | 4127 | 3826 | 3526 | 3226 | 2925 |
| 25 | 25 | 258 | 8261 | 7960 | 7660 | 7360 | 7059 | 6759 | 6459 | 6158 | 5858 | 5558 | 5257 | 4957 | 4657 | 4356 | 4056 | 3755 | 3455 | 3155 |
| 26 | 26 | | 8492 | 8192 | 7891 | 7591 | 7290 | 6990 | 6689 | 6389 | 6088 | 5788 | 5487 | 5187 | 4886 | 4586 | 4285 | 3985 | 3684 | 3384 |
| 27 | 27 | | 8723 | 8422 | 8122 | 7821 | 7521 | 7220 | 6919 | 6619 | 6318 | 6017 | 5717 | 5416 | 5116 | 4815 | 4514 | 4214 | 3913 | 3613 |
| 28 | 28 | | 8953 | 8653 | 8352 | 8051 | 7751 | 7450 | 7149 | 6848 | 6548 | 6247 | 5946 | 5646 | 5345 | 5044 | 4744 | 4443 | 4142 | 3842 |
| 29 | 29 | 258 | 9184 | 8883 | 8582 | 8281 | 7980 | 7680 | 7379 | 7078 | 6777 | 6476 | 6176 | 5875 | 5574 | 5273 | 4973 | 4672 | 4371 | 4070 |
| 30 | 30 | | 9414 | 9113 | 8812 | 8511 | 8210 | 7909 | 7608 | 7307 | 7006 | 6705 | 6404 | 6104 | 5803 | 5502 | 5201 | 4900 | 4599 | 4298 |
| 31 | 31 | | 9644 | 9343 | 9042 | 8741 | 8440 | 8139 | 7838 | 7537 | 7236 | 6935 | 6634 | 6333 | 6032 | 5731 | 5430 | 5129 | 4828 | 4527 |
| 32 | 32 | | 9874 | 9573 | 9272 | 8971 | 8670 | 8369 | 8068 | 7767 | 7466 | 7165 | 6864 | 6563 | 6262 | 5961 | 5660 | 5359 | 5058 | 4756 |
| 33 | 33 | 258(258) | 0103 | 9802 | 9501 | 9200 | 8899 | 8598 | 8297 | 7996 | 7695 | 7394 | 7093 | 6792 | 6491 | 6190 | 5889 | 5588 | 5287 | 4985 |
| 34 | 34 | | 0333 | 0032 | 9731 | 9430 | 9129 | 8828 | 8527 | 8226 | 7925 | 7624 | 7323 | 7022 | 6720 | 6419 | 6118 | 5817 | 5516 | 5214 |
| 35 | 35 | 258(258) | 0562 | 0261 | 9960 | 9659 | 9358 | 9057 | 8756 | 8455 | 8154 | 7853 | 7552 | 7251 | 6949 | 6648 | 6347 | 6046 | 5744 | 5443 |
| 36 | 36 | | 0791 | 0490 | 0189 | 9888 | 9587 | 9286 | 8985 | 8684 | 8383 | 8082 | 7781 | 7479 | 7178 | 6877 | 6576 | 6274 | 5973 | 5672 |
| 37 | 37 | | 1021 | 0719 | 0418 | 0117 | 9816 | 9515 | 9214 | 8913 | 8612 | 8311 | 8009 | 7708 | 7407 | 7106 | 6804 | 6503 | 6202 | 5900 |
| 38 | 38 | | 1249 | 0948 | 0647 | 0346 | 0045 | 9744 | 9443 | 9142 | 8841 | 8539 | 8238 | 7937 | 7636 | 7334 | 7033 | 6732 | 6430 | 6129 |
| 39 | 39 | | 1478 | 1177 | 0876 | 0575 | 0274 | 9973 | 9672 | 9371 | 9069 | 8768 | 8467 | 8166 | 7864 | 7563 | 7262 | 6960 | 6659 | 6357 |
| 40 | 40 | 258(258) | 1706 | 1405 | 1104 | 0803 | 0502 | 0201 | 9900 | 9598 | 9297 | 8996 | 8695 | 8393 | 8092 | 7791 | 7489 | 7188 | 6886 | 6585 |
| 41 | 41 | | 1934 | 1633 | 1332 | 1031 | 0730 | 0429 | 0127 | 9826 | 9525 | 9224 | 8922 | 8621 | 8320 | 8018 | 7717 | 7415 | 7114 | 6812 |
| 42 | 42 | | 2162 | 1861 | 1560 | 1259 | 0958 | 0656 | 0355 | 0054 | 9753 | 9451 | 9150 | 8849 | 8547 | 8246 | 7944 | 7643 | 7341 | 7040 |
| 43 | 43 | | 2390 | 2089 | 1788 | 1487 | 1185 | 0884 | 0583 | 0281 | 9980 | 9679 | 9377 | 9076 | 8774 | 8473 | 8171 | 7870 | 7568 | 7266 |
| 44 | 44 | | 2618 | 2317 | 2016 | 1714 | 1413 | 1112 | 0810 | 0509 | 0208 | 9906 | 9605 | 9303 | 9002 | 8700 | 8399 | 8097 | 7795 | 7494 |
| 45 | 45 | 258(258) | 2846 | 2545 | 2243 | 1942 | 1641 | 1339 | 1038 | 0736 | 0435 | 0133 | 9832 | 9530 | 9229 | 8927 | 8626 | 8324 | 8022 | 7721 |
| 46 | 46 | | 3073 | 2772 | 2471 | 2169 | 1868 | 1566 | 1265 | 0963 | 0662 | 0360 | 0059 | 9757 | 9456 | 9154 | 8853 | 8551 | 8249 | 7948 |
| 47 | 47 | | 3301 | 3000 | 2698 | 2397 | 2095 | 1794 | 1492 | 1191 | 0889 | 0587 | 0286 | 9984 | 9683 | 9381 | 9079 | 8778 | 8476 | 8174 |
| 48 | 48 | | 3528 | 3227 | 2925 | 2624 | 2322 | 2021 | 1719 | 1417 | 1116 | 0814 | 0513 | 0211 | 9909 | 9608 | 9306 | 9004 | 8703 | 8401 |
| 49 | 49 | | 3756 | 3454 | 3153 | 2851 | 2549 | 2248 | 1946 | 1644 | 1343 | 1041 | 0739 | 0438 | 0136 | 9834 | 9533 | 9231 | 8929 | 8627 |
| 50 | 50 | 258(258) | 3983 | 3681 | 3380 | 3078 | 2776 | 2475 | 2173 | 1871 | 1569 | 1268 | 0966 | 0664 | 0363 | 0061 | 9759 | 9457 | 9156 | 8854 |
| 51 | 51 | | 4210 | 3908 | 3607 | 3305 | 3003 | 2701 | 2400 | 2098 | 1796 | 1494 | 1193 | 0891 | 0589 | 0287 | 9986 | 9684 | 9382 | 9080 |
| 52 | 52 | | 4437 | 4135 | 3833 | 3532 | 3230 | 2928 | 2626 | 2324 | 2023 | 1721 | 1419 | 1117 | 0815 | 0514 | 0212 | 9910 | 9608 | 9306 |
| 53 | 53 | | 4663 | 4362 | 4060 | 3758 | 3456 | 3154 | 2852 | 2551 | 2249 | 1947 | 1645 | 1343 | 1041 | 0739 | 0438 | 0136 | 9834 | 9532 |
| 54 | 54 | 259 | 4890 | 4588 | 4286 | 3984 | 3682 | 3380 | 3078 | 2777 | 2475 | 2173 | 1871 | 1569 | 1267 | 0965 | 0663 | 0361 | 0059 | 9757 |
| 55 | 55 | 259 | 5116 | 4814 | 4512 | 4210 | 3908 | 3606 | 3304 | 3002 | 2700 | 2398 | 2096 | 1794 | 1492 | 1190 | 0888 | 0586 | 0284 | 9982 |
| 56 | 56 | | 5342 | 5040 | 4738 | 4436 | 4134 | 3832 | 3530 | 3228 | 2926 | 2624 | 2322 | 2020 | 1718 | 1416 | 1114 | 0812 | 0510 | 0208 |
| 57 | 57 | | 5568 | 5266 | 4964 | 4662 | 4360 | 4058 | 3756 | 3454 | 3152 | 2850 | 2548 | 2246 | 1944 | 1642 | 1340 | 1038 | 0736 | 0434 |
| 58 | 58 | | 5794 | 5492 | 5190 | 4888 | 4586 | 4284 | 3982 | 3680 | 3378 | 3076 | 2774 | 2472 | 2170 | 1868 | 1566 | 1264 | 0962 | 0660 |
| 59 | 59 | | 6019 | 5717 | 5415 | 5113 | 4811 | 4509 | 4207 | 3905 | 3603 | 3301 | 2999 | 2697 | 2395 | 2093 | 1791 | 1489 | 1187 | 0885 |
| 60 | 60 | | 6245 | 5943 | 5641 | 5339 | 5037 | 4735 | 4433 | 4131 | 3829 | 3527 | 3225 | 2923 | 2621 | 2319 | 2017 | 1715 | 1413 | 1111 |

Parts for Sec. of Addit

| ′ | Sums |
|---|---|
| 0 | 558 7785 |
| 1 | 5581 |
| 2 | 8376 |
| 3 | 8971 |
| 4 | 9567 |
| 5 | 559 0162 |
| 6 | 0758 |
| 7 | 9431 |
| 8 | 9 |
| 9 | 1 |
| 10 | 559 2130 |
| 11 | 0371 |
| 12 | |
| 13 | |
| 14 | 1 |
| 15 | 559 1146 |
| 16 | 1 |
| 17 | 1779 |
| 18 | 2411 |
| 19 | 3044 |
| 20 | 3677 |
| 21 | 4311 |
| 22 | 4944 |
| 23 | 5577 |
| 24 | 6211 |
| 25 | 559 6844 |
| 26 | 7477 |
| 27 | 8111 |
| 28 | 8744 |
| 29 | 9377 |
| 30 | 560 0011 |
| 31 | 0644 |
| 32 | 1277 |
| 33 | 1911 |
| 34 | 2544 |
| 35 | 560 3177 |
| 36 | 3811 |
| 37 | 4444 |
| 38 | 5077 |
| 39 | 5711 |
| 40 | 560 6344 |
| 41 | 6977 |
| 42 | 7611 |
| 43 | 8244 |
| 44 | 8877 |
| 45 | 560 9511 |
| 46 | 561 0144 |
| 47 | 0777 |
| 48 | 1411 |
| 49 | 2044 |
| 50 | 561 2677 |
| 51 | 3311 |
| 52 | 3944 |
| 53 | 4577 |
| 54 | 5211 |
| 55 | 561 5844 |
| 56 | 6477 |
| 57 | 7111 |
| 58 | 7744 |
| 59 | 8377 |
| 60 | 562 9011 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| N. I. | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 127 | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 256 | 10 | 260 (259) | 3831 | 3527 | 3222 | 2918 | 2613 | 2308 | 2004 | 1699 | 1394 | 1090 | 0785 | 0479 | 0174 | 9869 | 9564 | 9259 | 8954 |
| 241 | 11 | | 4063 | 3758 | 3454 | 3149 | 2844 | 2539 | 2235 | 1930 | 1625 | 1320 | 1015 | 0710 | 0405 | 0099 | 9794 | 9489 | 9184 |
| | 12 | | | | | | | | | | | | | | | | | | |
| | 13 | | | | | | | | | | | | | | | | | | |
| | 14 | | | | | | | | | | | | | | | | | | |
| 230 | 15 | 260 | 4989 | 4684 | 4379 | 4074 | 3769 | 3463 | 3158 | 2853 | 2547 | 2242 | 1936 | 1631 | 1325 | 1020 | 0714 | 0408 | 0102 |
| 225 | 16 | | 5220 | 4915 | 4610 | 4305 | 4000 | 3694 | 3389 | 3083 | 2778 | 2472 | 2167 | 1861 | 1555 | 1249 | 0944 | 0638 | 0332 |
| | 17 | | | | | | | | | | | | | | | | | | |
| | 18 | | | | | | | | | | | | | | | | | | |
| 210 | 19 | | 5914 | 5609 | 5303 | 4998 | 4692 | 4386 | 4081 | 3775 | 3469 | 3163 | 2857 | 2551 | 2245 | 1939 | 1633 | 1326 | 1020 |
| | 20 | 260 | | | | | | | | | | | | | | | | | |
| | 21 | | | | | | | | | | | | | | | | | | |
| 194 | 22 | | 6608 | 6302 | 5996 | 5690 | 5384 | 5078 | 4772 | 4466 | | | | | | | | | |
| 189 | 23 | | 6839 | 6533 | 6227 | 5921 | 5615 | 5308 | 5002 | 4696 | 4390 | 4083 | 3777 | 3470 | 3164 | 2857 | 2550 | 2244 | 1937 |
| 184 | 24 | | 7070 | 6764 | 6458 | 6151 | 5845 | 5539 | 5233 | 4926 | 4620 | 4313 | 4007 | 3700 | 3393 | 3087 | 2780 | 2473 | 2166 |
| | | | | | | | | | | | | | | | | | | | |
| | 27 | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | 31 | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 118 | 37 | 261 (260) | 0068 | 9760 | 9453 | 9145 | 8837 | 8530 | 8222 | 7914 | 7606 | 7298 | 6990 | 6682 | 6373 | 6065 | 5757 | 5449 | |
| | | | | | | | | | | | | | | | | | | | |
| | 41 | | | | | | | | | | | | | | | | | | |
| 92 | 42 | | 1219 | 0911 | 0603 | 0294 | 9986 | 9677 | 9369 | 9061 | 8752 | 8443 | 8135 | 7826 | 7518 | 7208 | 6900 | 6591 | 6282 |
| | 43 | | | | | | | | | | | | | | | | | | |
| | 44 | | | | | | | | | | | | | | | | | | |
| | 45 | | | | | | | | | | | | | | | | | | |
| | 46 | | 2139 | 1830 | 1521 | 1213 | 0904 | 0595 | 0286 | 9977 | 9668 | 9359 | 9050 | 8741 | 8432 | 8122 | 7813 | 7504 | |
| 51 | 47 | | 2368 | 2060 | 1751 | 1442 | 1133 | 0824 | 0515 | 0206 | 9897 | 9588 | 9279 | 8969 | 8660 | 8351 | 8041 | 7732 | 7422 |
| | 48 | | | | | | | | | | | | | | | | | | |
| | 49 | | | | | | | | | | | | | | | | | 8188 | 7878 |
| | 50 | 261 (260) | | | | | | | | | | | | | | | | | |
| 46 | 51 | | 3287 | 2978 | 2669 | 2359 | 2050 | 1740 | 1431 | 1122 | 0812 | 0502 | 0193 | 9883 | 9573 | 9263 | 8953 | 8643 | 8334 |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | 57 | | | | | | | | | | | | | | | | | | |
| 41 | 58 | | 4893 | 4583 | 4273 | 3963 | 3653 | 3343 | 3032 | 2722 | 2411 | 2101 | 1790 | 1480 | 1169 | 0858 | 0548 | 0237 | 9926 |
| | | 261 | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

| Parts for Seconds of Auxil. Additive | A. & A. D. 127° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 300 | 0 | 259 | 6340 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1781 | 1477 |
| 302 | 1 | | 6576 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 298 | 2 | | 6809 | 6505 | 6200 | 5896 | 5591 | 5287 | 4982 | 4678 | 4373 | 4068 | 3763 | 3458 | 3153 | 2848 | 2543 | 2238 | 1933 |
| [illegible] | 3 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 298 | 4 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 295 | 5 | 259 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 277 | 6 | | 7729 | 7424 | 7120 | 6815 | 6510 | 6205 | 5899 | 5594 | 5289 | 4984 | 4678 | 4373 | 4068 | 3762 | 3457 | 3151 | 2845 |
| 272 | 7 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 267 | 8 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 262 | 9 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 257 | 10 | 259 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 252 | 11 | | 8878 | 8573 | 8268 | 7962 | 7656 | 7350 | 7045 | 6739 | 6433 | 6127 | 5821 | 5516 | 5209 | 4903 | 4597 | 4291 | 3985 |
| 246 | 12 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 241 | 13 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 236 | 14 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 231 | 15 | 259 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 226 | 16 | 260 (259 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 221 | 17 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 216 | 18 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 211 | 19 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 205 | 20 | 260 (25 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 200 | 21 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 195 | 22 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 190 | 23 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 185 | 24 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 180 | 25 | 260 (259 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 175 | 26 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 170 | 27 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 165 | 28 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 159 | 29 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 154 | 30 | 260 (259 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 149 | 31 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 144 | 32 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 139 | 33 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 134 | 34 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 128 | 35 | 260 (259 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 123 | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 118 | 37 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 113 | 38 | 260 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 108 | 39 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 103 | 40 | 260 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 98 | 41 | | 5745 | 5436 | 5127 | 4818 | 4509 | 4200 | 3890 | 3581 | 3272 | 2962 | 2653 | 2343 | 2034 | 1724 | 1415 | 1105 | 0795 |
| 93 | 42 | | 5973 | 5664 | 5355 | 5045 | 4736 | 4427 | 4118 | 3808 | 3499 | 3189 | 2880 | 2570 | 2261 | 1951 | 1641 | 1332 | 1022 |
| 87 | 43 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 82 | 44 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 77 | 45 | 260 | [illegible] | [illegible] | [illegible] | 5728 | 5419 | 5109 | 4800 | 4490 | 4180 | 3870 | 3560 | 3250 | 2940 | 2630 | 2320 | 2010 | 1700 |
| 72 | 46 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 67 | 47 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 62 | 48 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | 49 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | 50 | 260 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 46 | 51 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | 53 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | 54 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | 55 | 260 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 21 | 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 57 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 10 | 58 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | 59 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| Parts for Sec. of Additive | C. D. 127° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 560 1[illegible] |
| 2 | 1 | 2047 |
| 8 | 2 | 2280 |
| 12 | 3 | 2512 |
| 15 | 4 | 2744 |
| 19 | 5 | 2977 |
| 23 | 6 | 3208 |
| 27 | 7 | 3440 |
| 31 | 8 | 3672 |
| 35 | 9 | 3904 |
| 38 | 10 | 560 4136 |
| 42 | 11 | 4367 |
| 46 | 12 | 4599 |
| 50 | 13 | 4831 |
| 54 | 14 | 5062 |
| 58 | 15 | 560 5294 |
| 61 | 16 | 5525 |
| 65 | 17 | 5757 |
| 69 | 18 | 5988 |
| 73 | 19 | 6220 |
| 77 | 20 | 560 6451 |
| 81 | 21 | 6683 |
| 84 | 22 | 6914 |
| 88 | 23 | 7146 |
| 92 | 24 | 7377 |
| 96 | 25 | 7608 |
| 100 | 26 | 7840 |
| 104 | 27 | 8071 |
| 108 | 28 | 8302 |
| 111 | 29 | 8533 |
| 115 | 30 | 560 8764 |
| 119 | 31 | 8995 |
| 123 | 32 | 9226 |
| 127 | 33 | 9457 |
| 131 | 34 | 9688 |
| 134 | 35 | 560 9918 |
| 138 | 36 | 561 0149 |
| 142 | 37 | 0379 |
| 146 | 38 | 0609 |
| 150 | 39 | 0839 |
| 154 | 40 | 561 1069 |
| 158 | 41 | 1297 |
| 162 | 42 | 1527 |
| 165 | 43 | 1757 |
| 169 | 44 | 1987 |
| 173 | 45 | 561 2217 |
| 177 | 46 | 2447 |
| 181 | 47 | 2677 |
| 185 | 48 | 2907 |
| 188 | 49 | 3137 |
| 192 | 50 | 561 3367 |
| 196 | 51 | 3596 |
| 200 | 52 | 3826 |
| 204 | 53 | 4056 |
| 207 | 54 | 4285 |
| 211 | 55 | 561 4515 |
| 215 | 56 | 4744 |
| 219 | 57 | 4974 |
| 223 | 58 | 5203 |
| 227 | 59 | 5432 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of Auxil. | C.S.A 128° | Numbers |
|---|---|---|
| 236 | 6 | 39 7953 |
| 227 | 1 | 7720 |
| 223 | 2 | 7488 |
| 219 | 3 | 7256 |
| 215 | 4 | 7024 |
| 211 | 5 | 39 6792 |
| 207 | 6 | 6560 |
| 204 | 7 | 6328 |
| 200 | 8 | 6096 |
| 196 | 9 | 5864 |
| 192 | 10 | 39 5633 |
| 188 | 11 | 5401 |
| 184 | 12 | 5169 |
| 181 | 13 | 4938 |
| 177 | 14 | 4706 |
| 173 | 15 | 39 4474 |
| 169 | 16 | 4243 |
| 165 | 17 | 4012 |
| 161 | 18 | 3780 |
| 158 | 19 | 3549 |
| 154 | 20 | 39 3317 |
| 150 | 21 | 3086 |
| 146 | 22 | 2855 |
| 142 | 23 | 2624 |
| 138 | 24 | 2393 |
| 134 | 25 | 39 2162 |
| 131 | 26 | 1931 |
| 127 | 27 | 1700 |
| 123 | 28 | 1469 |
| 119 | 29 | 1239 |
| 115 | 30 | 39 1008 |
| 111 | 31 | 0777 |
| 108 | 32 | 0546 |
| 104 | 33 | 0316 |
| 100 | 34 | 0085 |
| 96 | 35 | 38 9855 |
| 92 | 36 | 9624 |
| 88 | 37 | 9394 |
| 84 | 38 | 9164 |
| 81 | 39 | 8933 |
| 77 | 40 | 38 8703 |
| 73 | 41 | 8473 |
| 69 | 42 | 8243 |
| 65 | 43 | 8013 |
| 61 | 44 | 7783 |
| 58 | 45 | 38 7553 |
| 54 | 46 | 7323 |
| 50 | 47 | 7093 |
| 46 | 48 | 6863 |
| 42 | 49 | 6633 |
| 38 | 50 | 38 6404 |
| 35 | 51 | 6174 |
| 31 | 52 | 5944 |
| 27 | 53 | 5715 |
| 23 | 54 | 5485 |
| 19 | 55 | 38 5256 |
| 15 | 56 | 5026 |
| 11 | 57 | 4797 |
| 8 | 58 | 4567 |
| 4 | 59 | 4339 |

| Parts for Seconds of Auxil. | S.A.A. & A. D. 128° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 314 | 0 | 261 | 5331 | 5241 | 4731 | 4426 | 4116 | 3796 | 3493 | 3173 | | | | | | | | |
| 309 | 1 | | 5580 | 5270 | 4960 | 4649 | 4339 | 4028 | 3717 | 3407 | 3096 | 2785 | 2474 | 2163 | 1852 | 1541 | 1230 | 0919 | 0608 |
| 303 | 2 | | | | | | | | | | | | | | | | | |
| 298 | 3 | | | | | | | | | | | | | | | | | |
| 293 | 4 | | | | | | | | | | | | | | | | | |
| 288 | 5 | 261 | | | | | | | | | | | | | | | | |
| 283 | 6 | | | | | | | | | | | | | | | | | |
| 277 | 7 | | | | | | | | | | | | | | | | | |
| 272 | 8 | | 7182 | 6871 | 6560 | 6249 | 5937 | 5626 | 5315 | 5003 | 4691 | 4380 | 4068 | 3756 | 3445 | 3133 | | |
| 267 | 9 | | | | | | | | | | | | | | | | | |
| 262 | 10 | 261 | | | | | | | | | | | | | | | | |
| 256 | 11 | | | | | | | | | | | | | | | | | |
| 251 | 12 | | | | | | | | | | | | | | | | | |
| 246 | 13 | | | | | | | | | | | | | | | | | |
| 241 | 14 | | | | | | | | | | | | | | | | | |
| 236 | 15 | 261 | | | | | | | | | | | | | | | | |
| 230 | 16 | | | | | | | | | | | | | | | | | |
| 225 | 17 | | | | | | | | | | | | | | | | | |
| 220 | 18 | | | | | | | | | | | | | | | | | |
| 215 | 19 | | | | | | | | | | | | | | | | | |
| 209 | 20 | 261 | | | | | | | | | | | | | | | | |
| 204 | 21 | 262 (261) | | | | | | | | | | | | | | | | |
| 199 | 22 | | | | | | | | | | | | | | | | | |
| 193 | 23 | | | | | | | | | | | | | | | | | |
| 188 | 24 | | | | | | | | | | | | | | | | | |
| 183 | 25 | 262 (261) | 1003 | 0750 | 0430 | 0123 | 9810 | 9496 | 9183 | 8870 | 8556 | 8242 | 7929 | 7615 | 7301 | | | |
| 178 | 26 | | | | | | | | | | | | | | | | | |
| 173 | 27 | | | | | | | | | | | | | | | | | |
| 168 | 28 | | 1746 | 1432 | 1119 | 0805 | 0492 | 0178 | 9864 | 9550 | 9236 | 8922 | 8609 | 8295 | 7981 | | | |
| 162 | 29 | | | | | | | | | | | | | | | | | |
| 157 | 30 | 262 (261) | 2301 | 1987 | 1674 | 1360 | 1047 | 0733 | 0418 | 0104 | | | | | | | | |
| 152 | 31 | | | | | | | | | | | | | | | | | |
| 147 | 32 | | | | | | | | | | | | | | | | | |
| 141 | 33 | | | | | | | | | | | | | | | | | |
| 136 | 34 | | | | | | | | | | | | | | | | | |
| 131 | 35 | 262 (261) | 3338 | 3024 | 2709 | 2395 | 2081 | 1766 | 1451 | 1137 | 0822 | 0507 | 0193 | 9878 | 9563 | | | |
| 126 | 36 | | | | | | | | | | | | | | | | | |
| 120 | 37 | | 3792 | 3478 | 3163 | 2849 | 2534 | 2219 | 1905 | 1590 | 1275 | 0960 | 0645 | 0330 | 0015 | 9700 | | |
| 115 | 38 | | 4020 | 3705 | 3390 | 3076 | 2761 | 2446 | 2131 | 1816 | 1501 | 1186 | 0871 | 0556 | 0240 | 9925 | 9610 | 9295 |
| 110 | 39 | | | | | | | | | | | | | | | | | |
| 104 | 40 | | | | | | | | | | | | | | | | | |
| 99 | 41 | | | | | | | | | | | | | | | | | |
| 94 | 42 | | | | | | | | | | | | | | | | | |
| 88 | 43 | 262 | | | | | | | | | | | | | | | | |
| 83 | 44 | | | | | | | | | | | | | | | | | |
| 78 | 45 | | | | | | | | | | | | | | | | | |
| 73 | 46 | | | | | | | | | | | | | | | | | |
| 68 | 47 | | 6062 | 5745 | 5430 | 5114 | 4799 | 4483 | 4167 | 3851 | 3535 | 3219 | 2902 | 2586 | 2270 | 1954 | 1637 | 1321 | 1005 |
| 63 | 48 | | 6288 | 5972 | 5657 | 5341 | 5025 | 4709 | 4393 | 4077 | 3760 | 3444 | 3128 | 2812 | 2495 | 2179 | 1862 | 1546 | 1229 |
| 57 | 49 | | | | | | | | | | | | | | | | | |
| 52 | 50 | 262 | 6741 | 6425 | 6109 | 5793 | 5477 | 5161 | 4844 | 4528 | | | | | | | | |
| 47 | 51 | | 6968 | 6651 | 6335 | 6019 | 5703 | 5387 | 5070 | 4754 | 4437 | 4121 | 3804 | | | | | |
| 42 | 52 | | 7194 | 6878 | 6561 | 6245 | 5929 | 5612 | 5296 | 4979 | 4663 | 4346 | 4029 | | | | | |
| 37 | 53 | | 7420 | 7104 | 6788 | 6471 | 6155 | 5838 | 5521 | 5205 | 4888 | 4571 | 4255 | | | | | |
| 31 | 54 | | 7647 | 7330 | 7014 | 6697 | 6380 | 6064 | 5747 | 5430 | 5113 | 4797 | 4480 | | | | | |
| 26 | 55 | | | | | | | | | | | | | | | | | |
| 21 | 56 | | | | | | | | | | | | | | | | | |
| 16 | 57 | | | | | | | | | | | | | | | | | |
| 11 | 58 | | | | | | | | | | | | | | | | | |
| 5 | 59 | | 8777 | 8460 | 8143 | 7826 | 7509 | 7192 | 6874 | 6557 | 6240 | 5922 | 5605 | 5287 | 4969 | 4652 | 43 | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

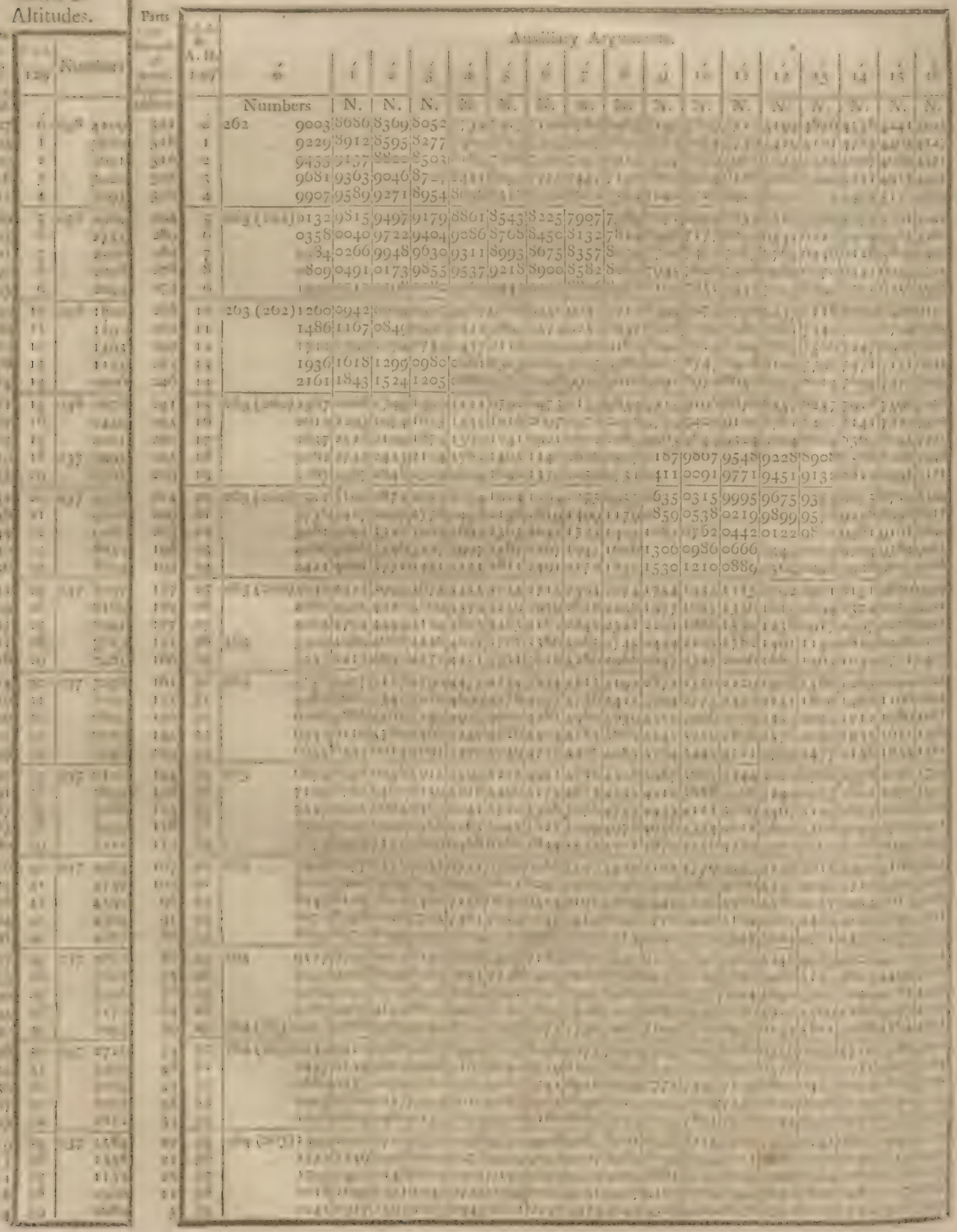
Sums for finding the Corrected Distance.

| Seconds of Auxil. Argum. additive | A. D. 128° | Auxiliary Arguments. 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 315 | 0 | 261 (260)0070 | 9759 | 9447 | 9136 | 8825 | 8513 | 8202 | 7891 | 7579 | 7268 | 6956 | 6644 | 6333 | 6021 | 5709 | 5397 | |
| | 1 | | | | | | | | | | | | | | | | | |
| | 2 | 0524 | 0212 | 9901 | 9590 | 9278 | 8966 | 8655 | 8343 | 8031 | 7720 | 7408 | 7096 | 6784 | 6472 | 6160 | | |
| 29 | 3 | | | | | | | | | | | | | | | | | |
| | 4 | 0978 | 0666 | 0355 | 0043 | 9731 | 9419 | 9107 | 8795 | 8484 | 8171 | 7859 | 7547 | 7235 | 6923 | | | |
| | 5 | 261 (260)12 | | | | | | | | | | | | | | | | |
| | 6 | | | | | | | | | | | | | | | | | |
| 278 | 7 | 1658 | 1346 | 1034 | 0722 | 0410 | 0098 | 9786 | 9474 | 9161 | 8849 | 8536 | 8224 | 7911 | 7599 | 7286 | 6974 | 6661 |
| 273 | 8 | | | | | | | | | | | | | | | | | |
| 268 | 9 | 2112 | 1800 | 1487 | 1175 | 0863 | 0550 | 0238 | 9925 | 9613 | 9300 | 8988 | 8675 | 8362 | 8049 | 7736 | | |
| | 10 | | | | | | | | | | | | | | | | | |
| 257 | 11 | 25 | 2253 | 1940 | 1628 | 1315 | 1002 | 0690 | 0377 | 0064 | 9751 | 9439 | 9126 | 8813 | 8500 | 8186 | 7873 | |
| 252 | 12 | 2704 | 2479 | 2167 | 1854 | 1541 | | | | | | | | | | | | |
| 247 | 13 | 3018 | | | | 1767 | 1454 | 1141 | | | | | | | | | | |
| 242 | 14 | 3245 | 2932 | 2619 | 2306 | 1993 | 1680 | 1367 | 1054 | 0741 | 0428 | 0115 | 9801 | 9488 | 9175 | 8861 | 8548 | |
| 236 | 15 | 201 (200)3471 | | | | | | | | | | | | | | | | |
| 231 | 16 | 3697 | | | | | | | | | | | | | | | | |
| 226 | 17 | 3924 | | | | | | 2357 | 2044 | 1731 | 1417 | 1104 | 0790 | 0476 | 0163 | 9849 | 9535 | 9221 | 8908 |
| 221 | 18 | 4150 | 3837 | | | | | | | | | | | | | | | |
| 215 | 19 | 4376 | 4063 | 3749 | | | | 2495 | 2181 | 1868 | 1554 | 1240 | 0926 | | | 98 | 9984 | 9670 | 9356 |
| 210 | 20 | 261 (260)4602 | 4289 | 3975 | 3662 | | | | | | 1779 | 1465 | 1151 | | | | | |
| 205 | 21 | 4828 | 4515 | 4201 | 3887 | | | | | | 1600 | 137 | | | 748 | 0433 | 0119 | 9806 |
| 200 | 22 | 261 5054 | 4741 | 4427 | 4113 | | | | | | | | | | | | | |
| 194 | 23 | 5280 | 4966 | 4653 | 4339 | | | | | | | | | | | | | |
| 189 | 24 | 5506 | 5192 | 4878 | 4564 | | | | | | 993 | | | | | | | |
| 184 | 25 | 261 5732 | 5418 | 5104 | 4790 | 4476 | 4161 | 3847 | 3533 | 3218 | 2904 | 2589 | 2275 | 1960 | 1646 | | | |
| 179 | 26 | | | | | | | | | | | | | 2185 | 1871 | | | |
| 173 | 27 | 6184 | | | | | | | | | | | | | | | | |
| 168 | 28 | 6410 | | | | | | | | | | | | | | | | |
| 163 | 29 | 6635 | 6321 | 6006 | 5691 | 5377 | 5062 | 4747 | 4432 | 4118 | 3803 | 3488 | 3173 | 2858 | 2542 | | | |
| 158 | 30 | 261 | | | | | | | | | | | | | | | | |
| 152 | 31 | 7086 | 6771 | 6456 | 6142 | 5827 | 5512 | 5197 | 4882 | 4567 | 4252 | 3937 | 3621 | 3306 | 2991 | | | |
| 147 | 32 | 7312 | 6997 | 6682 | 6367 | 6052 | 5737 | 5422 | 5107 | 4791 | 4476 | 4161 | 3846 | 3530 | 3215 | | | |
| 142 | 33 | | | | | | | | | | | | | | | | | |
| 137 | 34 | | | | | | | | | | | | | | | | | |
| 131 | 35 | 261 7988 | 7673 | 7357 | 7042 | 6727 | 6411 | 6096 | 5780 | 5465 | 5149 | 4834 | 4518 | 4202 | 3886 | 3571 | | |
| 126 | 36 | | | | | | | | | | | | | | | | | |
| 121 | 37 | | | | | | | | | | | | | | | | | |
| 116 | 38 | 8664 | 8348 | 8032 | 7717 | 7401 | 7085 | 6770 | 6454 | 6138 | 5822 | 5506 | 5190 | 4874 | 4558 | 4241 | | |
| 110 | 39 | 8889 | 8573 | 8257 | 7942 | 7626 | 7310 | 6994 | 6678 | 6362 | 6046 | 5730 | | | | | | |
| 105 | 40 | 261 9114 | 8798 | 8482 | 8166 | 7850 | 7534 | 7219 | 6902 | 6586 | 6270 | 5954 | 563 | | | | | |
| 100 | 41 | 9339 | 9023 | 8707 | 8391 | 8075 | 7759 | 7443 | 7127 | 6811 | 6494 | 6178 | | | | | | |
| 95 | 42 | 9564 | 9248 | 8932 | 8616 | 8300 | 7983 | 7667 | 7351 | 7034 | 6718 | 6402 | 608 | | | | | |
| 89 | 43 | 9789 | 9473 | 9156 | 8840 | 8524 | 8208 | 7891 | 7575 | 7258 | 6942 | 6625 | | | | | | |
| 84 | 44 | 261 (260) | | | | | | | | | | | | | | | | |
| 79 | 45 | 261 (260) | | | | | | | | | | | | | | | | |
| | 46 | | | | | | | | | | | | | | | | | |
| | 47 | | | | | | | | | | | | | | | | | |
| | 48 | | | | | | | | | | | | | | | | | |
| | 49 | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | |
| 47 | 51 | | | | | | | | | | | | | | | | | |
| 42 | 52 | | | | | | | | | | | | | | | | | |
| 37 | 53 | | | | | | | | | | | | | | | | | |
| 31 | 54 | | | | | | | | | | | | | | | | | |
| 26 | 55 | 261 (260)24 | | | | | | | | | | | | | | | | |
| 21 | 56 | 2708 | 2391 | 2075 | 1759 | 1443 | 1128 | 0812 | 0496 | 0180 | 9864 | 9548 | 9232 | 8917 | 8601 | 8285 | | |
| 16 | 57 | 2932 | 2615 | 2297 | 1979 | 1661 | 1343 | 1025 | 0707 | 0389 | 0071 | 9753 | 9435 | 9116 | 8798 | | | |
| 11 | 58 | 3156 | 2839 | 2521 | 2203 | 1885 | 1567 | 1249 | 0931 | 0612 | 0294 | 9976 | 9657 | 9339 | 9021 | | | |
| 5 | 59 | 3381 | 3063 | 2745 | 2426 | 2108 | 1790 | 1472 | 1154 | 0836 | 0517 | 0199 | 9880 | 9562 | 9243 | | | |

| Seconds for Sec. | C. D. 128° | Sums |
|---|---|---|
| | | |
| 0 | 0 | 561 5661 |
| 4 | 1 | |
| 8 | 2 | |
| 11 | 3 | |
| 15 | 4 | |
| 19 | 5 | 561 6807 |
| 23 | 6 | |
| 27 | 7 | |
| 30 | 8 | 7494 |
| 34 | 9 | 77 |
| 38 | 10 | 561 7981 |
| 42 | 11 | |
| 45 | 12 | |
| 49 | 13 | |
| 53 | 14 | |
| 57 | 15 | 561 9094 |
| 61 | 16 | 9322 |
| 64 | 17 | 9551 |
| 68 | 18 | 9779 |
| 72 | 19 | 562 |
| 76 | 20 | 562 |
| 80 | 21 | |
| 83 | 22 | |
| 87 | 23 | |
| 91 | 24 | |
| 95 | 25 | 562 1777 |
| 99 | 26 | |
| 102 | 27 | |
| 106 | 28 | |
| 110 | 29 | |
| 114 | 30 | 562 2815 |
| 117 | 31 | |
| 121 | 32 | |
| 125 | 33 | |
| 129 | 34 | |
| 133 | 35 | |
| 136 | 36 | |
| 140 | 37 | 4107 |
| 144 | 38 | |
| 148 | 39 | 4391 |
| 152 | 40 | |
| 155 | 41 | |
| 159 | 42 | |
| 163 | 43 | |
| 167 | 44 | |
| 171 | 45 | |
| 174 | 46 | |
| 178 | 47 | |
| 182 | 48 | |
| 186 | 49 | |
| 190 | 50 | |
| 193 | 51 | |
| 197 | 52 | |
| 201 | 53 | |
| 205 | 54 | |
| 209 | 55 | |
| 212 | 56 | |
| 216 | 57 | |
| 220 | 58 | |
| 224 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.



C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

Auxiliary Arguments.

| Diff. | Sums | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 322 | 0 | (4641) | | | | | | | | | | | | | | | | | |
| 317 | 1 | | | | | | | | | | | | | | | | | | |
| 311 | 2 | | | | | | | | | | | | | | | | | | |
| 306 | 3 | | | | | | | | | | | | | | | | | | |
| 301 | 4 | | | | | | | | | | | | | | | | | | |
| 295 | 5 | 202(201) | 4724 | 4405 | 4087 | 3768 | 3449 | 3130 | 2811 | 2492 | 2173 | 1854 | 1535 | 1216 | | | | | |
| 290 | 6 | | 4048 | 4620 | 4310 | 3991 | 3672 | 3358 | 3034 | 2715 | 2396 | 2077 | 1758 | 1439 | 1119 | 08 | | | |
| 284 | 7 | 202 | 5171 | | | | | | | | | | | 1661 | 1342 | 1022 | | | |
| 279 | 8 | | | | | | | | | | | | | | | | | | |
| 274 | 9 | | | | | | | | | | | | | | | | | | |
| | 10 | 202 | | | | | | | | | | | | | | | | | |
| 268 | 11 | | | | | | | | | | | | | | | | | | |
| | 12 | | | | | | | | | | | | | | | | | | |
| 252 | 13 | | | | | | | | | | | | | | | | | | |
| 247 | 14 | | | | | | | | | | | | | | | | | | |
| 242 | 15 | 262 | 6959 | 6639 | 6319 | 5999 | | | | | | | | | | | | | |
| 236 | 16 | | 7182 | 6862 | 6542 | 6222 | 5902 | 5582 | 5262 | 4942 | 4621 | 4301 | 3981 | 3660 | | | | | |
| 231 | 17 | | | | | | | | | | | | | | | | | | |
| 226 | 18 | | | | | | | | | | | | | | | | | | |
| 220 | 19 | | 7851 | 7531 | 7211 | 6890 | 6570 | 6250 | 5929 | 5609 | 5288 | 4967 | | | | | | | |
| 215 | 20 | 262 | | | | | | | | | | | | | | | | | |
| 209 | 21 | | | | | | | | | | | | | | | | | | |
| 204 | 22 | | | | | | | | | | | | | | | | | | |
| 199 | 23 | | | | | | | | | | | | | | | | | | |
| 193 | 24 | | | | | | | | | | | | | | | | | | |
| 188 | 25 | 262 | 9188 | 8867 | 8546 | | | | | | | | | | | | | | |
| 183 | 26 | | 9411 | 9090 | 8769 | 8448 | | | | 7484 | 7163 | 6841 | | | | | | | |
| 177 | 27 | | 9634 | 9312 | 8991 | 8670 | | | | 7706 | 7384 | 7063 | 0741 | 0420 | 0098 | 57 | | | |
| 172 | 28 | | | | | | | | | | 606 | 7285 | 6963 | 6641 | 6319 | | | | |
| 167 | 29 | | | | | | | | | | 828 | 7506 | 718 | 6863 | 6541 | | | | |
| 162 | 30 | | | | | | | | | | | | | | | | | | |
| 157 | 31 | | | | | | | | | | | | | | | | | | |
| 152 | 32 | | | | | | | | | | | | | | | | | | |
| 147 | 33 | | | | | | | | | | | | | | | | | | |
| 142 | 34 | | | | | | | | | | | | | | | | | | |
| 136 | 35 | | | | | | | | | | | | | | | | | | |
| 131 | 36 | | | | | | | | | | | | | | | | | | |
| 126 | 37 | | | | | | | | | | | | | | | | | | |
| 121 | 38 | | | | | | | | | | | | | | | | | | |
| 116 | 39 | | | | | | | | | | | | | | | | | | |
| 111 | 40 | | | | | | | | | | | | | | | | | | |
| 105 | 41 | | | | | | | | | | | | | | | | | | |
| 100 | 42 | | | | | | | | | | | | | | | | | | |
| 95 | 43 | | | | | | | | | | | | | | | | | | |
| 90 | 44 | | | | | | | | | | | | | | | | | | |
| 85 | 45 | | | | | | | | | | | | | | | | | | |
| 80 | 46 | | | | | | | | | | | | | | | | | | |
| 74 | 47 | | | | | | | | | | | | | | | | | | |
| 69 | 48 | | | | | | | | | | | | | | | | | | |
| 64 | 49 | | | | | | | | | | | | | | | | | | |
| 59 | 50 | | | | | | | | | | | | | | | | | | |
| 54 | 51 | | | | | | | | | | | | | | | | | | |
| 48 | 52 | | | | | | | | | | | | | | | | | | |
| 43 | 53 | | | | | | | | | | | | | | | | | | |
| 38 | 54 | | | | | | | | | | | | | | | | | | |
| 33 | 55 | | | | | | | | | | | | | | | | | | |
| 27 | 56 | | | | | | | | | | | | | | | | | | |
| 22 | 57 | | | | | | | | | | | | | | | | | | |
| 17 | 58 | | | | | | | | | | | | | | | | | | |
| 12 | 59 | | | | | | | | | | | | | | | | | | |
| 6 | 60 | | | | | | | | | | | | | | | | | | |
| 1 | 61 | | | | | | | | | | | | | | | | | | |
| 356 | 62 | | | | | | | | | | | | | | | | | | |
| 351 | 63 | | | | | | | | | | | | | | | | | | |
| 346 | 64 | | | | | | | | | | | | | | | | | | |
| 340 | 65 | | | | | | | | | | | | | | | | | | |
| 335 | 66 | | | | | | | | | | | | | | | | | | |
| 330 | 67 | | | | | | | | | | | | | | | | | | |
| 325 | 68 | | | | | | | | | | | | | | | | | | |
| 319 | 69 | | | | | | | | | | | | | | | | | | |
| 314 | 70 | | | | | | | | | | | | | | | | | | |
| 309 | 71 | | | | | | | | | | | | | | | | | | |
| 304 | 72 | | | | | | | | | | | | | | | | | | |
| 298 | 73 | | | | | | | | | | | | | | | | | | |
| 293 | 74 | | | | | | | | | | | | | | | | | | |
| 288 | 75 | | | | | | | | | | | | | | | | | | |
| 283 | 76 | | | | | | | | | | | | | | | | | | |
| 277 | 77 | | | | | | | | | | | | | | | | | | |
| 272 | 78 | | | | | | | | | | | | | | | | | | |
| 267 | 79 | | | | | | | | | | | | | | | | | | |
| 262 | 80 | | | | | | | | | | | | | | | | | | |
| 256 | 81 | | | | | | | | | | | | | | | | | | |
| 251 | 82 | | | | | | | | | | | | | | | | | | |
| 246 | 83 | | | | | | | | | | | | | | | | | | |
| 241 | 84 | | | | | | | | | | | | | | | | | | |
| 235 | 85 | | | | | | | | | | | | | | | | | | |
| 230 | 86 | | | | | | | | | | | | | | | | | | |
| 225 | 87 | | | | | | | | | | | | | | | | | | |
| 220 | 88 | | | | | | | | | | | | | | | | | | |
| 214 | 89 | | | | | | | | | | | | | | | | | | |
| 209 | 90 | | | | | | | | | | | | | | | | | | |
| 204 | 91 | | | | | | | | | | | | | | | | | | |
| 199 | 92 | | | | | | | | | | | | | | | | | | |
| 193 | 93 | | | | | | | | | | | | | | | | | | |
| 188 | 94 | | | | | | | | | | | | | | | | | | |
| 183 | 95 | | | | | | | | | | | | | | | | | | |
| 178 | 96 | | | | | | | | | | | | | | | | | | |
| 172 | 97 | | | | | | | | | | | | | | | | | | |
| 167 | 98 | | | | | | | | | | | | | | | | | | |
| 162 | 99 | | | | | | | | | | | | | | | | | | |
| 157 | 100 | | | | | | | | | | | | | | | | | | |
| 151 | 101 | | | | | | | | | | | | | | | | | | |
| 146 | 102 | | | | | | | | | | | | | | | | | | |
| 141 | 103 | | | | | | | | | | | | | | | | | | |
| 136 | 104 | | | | | | | | | | | | | | | | | | |
| 130 | 105 | | | | | | | | | | | | | | | | | | |
| 125 | 106 | | | | | | | | | | | | | | | | | | |
| 120 | 107 | | | | | | | | | | | | | | | | | | |
| 114 | 108 | | | | | | | | | | | | | | | | | | |
| 109 | 109 | | | | | | | | | | | | | | | | | | |
| 104 | 110 | | | | | | | | | | | | | | | | | | |
| 99 | 111 | | | | | | | | | | | | | | | | | | |
| 93 | 112 | | | | | | | | | | | | | | | | | | |
| 88 | 113 | | | | | | | | | | | | | | | | | | |
| 83 | 114 | | | | | | | | | | | | | | | | | | |
| 77 | 115 | | | | | | | | | | | | | | | | | | |
| 72 | 116 | | | | | | | | | | | | | | | | | | |
| 67 | 117 | | | | | | | | | | | | | | | | | | |
| 62 | 118 | | | | | | | | | | | | | | | | | | |
| 56 | 119 | | | | | | | | | | | | | | | | | | |
| 51 | 120 | | | | | | | | | | | | | | | | | | |
| 46 | 121 | | | | | | | | | | | | | | | | | | |
| 41 | 122 | | | | | | | | | | | | | | | | | | |
| 35 | 123 | | | | | | | | | | | | | | | | | | |
| 30 | 124 | | | | | | | | | | | | | | | | | | |
| 25 | 125 | | | | | | | | | | | | | | | | | | |
| 19 | 126 | | | | | | | | | | | | | | | | | | |
| 14 | 127 | | | | | | | | | | | | | | | | | | |
| 9 | 128 | | | | | | | | | | | | | | | | | | |
| 3 | 129 | | | | | | | | | | | | | | | | | | |
| 358 | 130 | | | | | | | | | | | | | | | | | | |
| 353 | 131 | | | | | | | | | | | | | | | | | | |
| 348 | 132 | | | | | | | | | | | | | | | | | | |
| 342 | 133 | | | | | | | | | | | | | | | | | | |
| 337 | 134 | | | | | | | | | | | | | | | | | | |
| 332 | 135 | | | | | | | | | | | | | | | | | | |
| 327 | 136 | | | | | | | | | | | | | | | | | | |
| 321 | 137 | | | | | | | | | | | | | | | | | | |
| 316 | 138 | | | | | | | | | | | | | | | | | | |
| 311 | 139 | | | | | | | | | | | | | | | | | | |
| 306 | 140 | | | | | | | | | | | | | | | | | | |
| 300 | 141 | | | | | | | | | | | | | | | | | | |
| 295 | 142 | | | | | | | | | | | | | | | | | | |
| 290 | 143 | | | | | | | | | | | | | | | | | | |
| 285 | 144 | | | | | | | | | | | | | | | | | | |
| 279 | 145 | | | | | | | | | | | | | | | | | | |
| 274 | 146 | | | | | | | | | | | | | | | | | | |
| 269 | 147 | | | | | | | | | | | | | | | | | | |
| 264 | 148 | | | | | | | | | | | | | | | | | | |
| 258 | 149 | | | | | | | | | | | | | | | | | | |
| 253 | 150 | | | | | | | | | | | | | | | | | | |
| 248 | 151 | | | | | | | | | | | | | | | | | | |
| 243 | 152 | | | | | | | | | | | | | | | | | | |
| 237 | 153 | | | | | | | | | | | | | | | | | | |
| 232 | 154 | | | | | | | | | | | | | | | | | | |
| 227 | 155 | | | | | | | | | | | | | | | | | | |
| 222 | 156 | | | | | | | | | | | | | | | | | | |
| 216 | 157 | | | | | | | | | | | | | | | | | | |
| 211 | 158 | | | | | | | | | | | | | | | | | | |
| 206 | 159 | | | | | | | | | | | | | | | | | | |
| 201 | 160 | | | | | | | | | | | | | | | | | | |
| 195 | 161 | | | | | | | | | | | | | | | | | | |
| 190 | 162 | | | | | | | | | | | | | | | | | | |
| 185 | 163 | | | | | | | | | | | | | | | | | | |
| 180 | 164 | | | | | | | | | | | | | | | | | | |
| 174 | 165 | | | | | | | | | | | | | | | | | | |
| 169 | 166 | | | | | | | | | | | | | | | | | | |
| 164 | 167 | | | | | | | | | | | | | | | | | | |
| 159 | 168 | | | | | | | | | | | | | | | | | | |
| 153 | 169 | | | | | | | | | | | | | | | | | | |
| 148 | 170 | | | | | | | | | | | | | | | | | | |
| 143 | 171 | | | | | | | | | | | | | | | | | | |
| 138 | 172 | | | | | | | | | | | | | | | | | | |
| 132 | 173 | | | | | | | | | | | | | | | | | | |
| 127 | 174 | | | | | | | | | | | | | | | | | | |
| 122 | 175 | | | | | | | | | | | | | | | | | | |
| 117 | 176 | | | | | | | | | | | | | | | | | | |
| 111 | 177 | | | | | | | | | | | | | | | | | | |
| 106 | 178 | | | | | | | | | | | | | | | | | | |
| 101 | 179 | | | | | | | | | | | | | | | | | | |
| 96 | 180 | | | | | | | | | | | | | | | | | | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts for Seconds of Arc. | Numbers |
|---|---|
| 0 | 0000 |
| 1 | 0029 |
| 2 | 0058 |
| 3 | 0087 |
| 4 | 0116 |
| 5 | 0145 |
| 6 | 0174 |
| 7 | 0203 |
| 8 | 0232 |
| 9 | 0261 |
| 10 | 0290 |
| 11 | 0319 |
| 12 | 0348 |
| 13 | 0377 |
| 14 | 0406 |
| 15 | 0435 |
| 16 | 0464 |
| 17 | 0493 |
| 18 | 0522 |
| 19 | 0551 |
| 20 | 0580 |
| 21 | 0609 |
| 22 | 0638 |
| 23 | 0667 |
| 24 | 0696 |
| 25 | 0725 |
| 26 | 0754 |
| 27 | 0783 |
| 28 | 0812 |
| 29 | 0841 |
| 30 | 0870 |
| 31 | 0899 |
| 32 | 0928 |
| 33 | 0957 |
| 34 | 0986 |
| 35 | 1015 |
| 36 | 1044 |
| 37 | 1073 |
| 38 | 1102 |
| 39 | 1131 |
| 40 | 1160 |
| 41 | 1189 |
| 42 | 1218 |
| 43 | 1247 |
| 44 | 1276 |
| 45 | 1305 |
| 46 | 1334 |
| 47 | 1363 |
| 48 | 1392 |
| 49 | 1421 |
| 50 | 1450 |
| 51 | 1479 |
| 52 | 1508 |
| 53 | 1537 |
| 54 | 1566 |
| 55 | 1595 |
| 56 | 1624 |
| 57 | 1653 |
| 58 | 1682 |
| 59 | 1711 |

| Parts for Seconds of Arc. | A.A. & A.D. 130° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 264(263) | 2464 | 2140 | 1816 | 1492 | 1168 | 0844 | 0519 | 0195 | 9871 | 9547 | 9222 | 8898 | 8573 | 8248 | 7924 | 7599 | 7274 |
| 1 | 1 | | 2687 | 2362 | 2038 | 1714 | 1390 | 1066 | 0741 | 0417 | 0093 | 9768 | 9444 | 9119 | 8795 | 8470 | 8145 | 7820 | 7495 |
| 2 | 2 | | 2909 | 2585 | 2261 | 1936 | 1612 | 1288 | 0963 | 0639 | 0314 | 9990 | 9665 | 9341 | 9016 | 8691 | 8366 | 8041 | 7716 |
| 3 | 3 | | 3132 | 2807 | 2483 | 2159 | 1834 | 1510 | 1185 | 0861 | 0536 | 0211 | 9886 | 9562 | 9237 | 8912 | 8587 | 8262 | 7937 |
| 4 | 4 | | 3354 | 3030 | 2705 | 2381 | 2056 | 1732 | 1407 | 1082 | 0758 | 0433 | 0108 | 9783 | 9458 | 9133 | 8808 | 8483 | 8157 |
| 5 | 5 | | 3576 | 3252 | 2928 | 2603 | 2278 | 1954 | 1629 | 1304 | 0979 | 0654 | 0329 | | | | | | |
| 6 | 6 | | 3799 | 3475 | 3150 | 2825 | 2500 | 2176 | 1851 | 1526 | 1201 | 0876 | 0551 | | | | | | |
| 7 | 7 | | 4021 | 3697 | 3372 | 3047 | 2722 | 2397 | 2072 | 1747 | 1422 | 1097 | 0772 | 0447 | 0121 | 9796 | 9470 | 9145 | |
| 8 | 8 | | | | | | | | | | 1644 | 1318 | 0993 | 0668 | 0342 | 0017 | 9691 | 9366 | |
| 9 | 9 | | 4466 | 4141 | 3816 | 3491 | 3166 | 2841 | 2516 | 2190 | 1865 | 1540 | 1214 | 0888 | | 0237 | 9912 | 9586 | 9260 |
| 10 | 10 | 264(263) | 4688 | 4362 | 4038 | 3713 | 3388 | 3062 | 2737 | 2412 | | | | | | 0458 | 0132 | 9807 | 9481 |
| 11 | 11 | | 4910 | 4585 | 4260 | | 3609 | 3284 | 2959 | 2633 | | | | | | | | | |
| 12 | 12 | | 5133 | 4807 | 4482 | | 3831 | 3505 | 3180 | 2854 | | | | | 1225 | 0900 | 0574 | 0248 | 9921 |
| 13 | 13 | 264 | 5355 | 5029 | 4704 | 4378 | 4053 | 3727 | 3401 | 3075 | | | | | | | | | |
| 14 | 14 | | 5577 | 5251 | 4925 | 4600 | 4274 | 3948 | 3623 | 3297 | | | | | | | | | |
| 15 | 15 | 264 | | | | | 4496 | 4170 | 3844 | 3518 | 3192 | 2866 | 2540 | 2214 | 1887 | 1561 | 1235 | 0908 | 0582 |
| 16 | 16 | | | | | | 4717 | 4391 | 4065 | 3739 | | | | | 2108 | 1782 | 1455 | 1129 | 0802 |
| 17 | 17 | | 6242 | 5916 | 5590 | 5264 | 4938 | 4612 | 4286 | 3960 | | | | | 2328 | 2002 | 1675 | 1349 | 1022 |
| 18 | 18 | | 6464 | 6138 | 5812 | 5486 | 5160 | 4834 | 4507 | 4181 | 3855 | 3528 | 3202 | 2875 | 2549 | 2222 | 1896 | 1569 | 1242 |
| 19 | 19 | | 6686 | 6360 | 6033 | 5707 | 5381 | 5055 | 4728 | 4402 | 4076 | 3749 | 3422 | | | 2442 | 2116 | 1789 | 1462 |
| 20 | 20 | 264 | 6907 | 6581 | 6255 | 5929 | 5602 | 5276 | 4949 | 4623 | 4296 | 3970 | 3643 | | | 2663 | 2336 | 2009 | 1682 |
| 21 | 21 | | 7129 | 6803 | 6476 | 6150 | 5823 | 5497 | 5170 | 4844 | 4517 | 4190 | 3864 | | | 2883 | | | |
| 22 | 22 | | | | | | | | | 5064 | 4738 | 4411 | 4084 | 3757 | | 3103 | | | |
| 23 | 23 | | 7572 | 7245 | 6919 | 6592 | 6266 | 5939 | 5612 | 5285 | 4958 | 4631 | 4304 | | | 3323 | | | |
| 24 | 24 | | 7793 | 7467 | 7140 | 6813 | | | | | | | | | | 3543 | | | |
| 25 | 25 | 264 | 8015 | 7688 | 7361 | 7034 | 6707 | 6381 | 6053 | 5726 | 5399 | 5072 | 4745 | | | | 3763 | 3435 | 3108 | 2780 |
| 26 | 26 | | | | | | | | 6274 | 5947 | | | | | | | 3983 | 3655 | 3328 | 3000 |
| 27 | 27 | | 8457 | 8130 | 7803 | 7476 | 7149 | | | | | | | | | 4203 | 3875 | 3547 | 3219 |
| 28 | 28 | | | | | | 7370 | 7043 | 6715 | 6388 | | | | | | 4423 | 4095 | 3767 | 3439 |
| 29 | 29 | | 8900 | 8573 | 8245 | 7918 | | | | | | | | | | 4642 | 4314 | 3986 | 3658 |
| 30 | 30 | 264 | 9121 | 8794 | 8466 | 8139 | 7811 | 7484 | 7156 | 6829 | 6501 | 6173 | 5845 | 5518 | | 4862 | 4534 | 4206 | 3878 |
| 31 | 31 | | 9342 | 9015 | 8687 | 8360 | | | | | 6721 | 6393 | 6065 | 5737 | | 5081 | 4753 | 4425 | 4097 |
| 32 | 32 | | 9563 | 9235 | 8908 | 8580 | | | | | 6941 | 6613 | 6285 | | | | | | |
| 33 | 33 | | 9784 | 9456 | 9128 | 8801 | | 8145 | 7817 | 7489 | 7161 | 6833 | 6505 | 6177 | 5849 | 5520 | 5192 | 4864 | 4535 |
| 34 | 34 | 265(264) | 0005 | 9677 | 9349 | 9021 | | | 8038 | 7709 | 7381 | 7053 | 6725 | 6397 | 6068 | 5740 | 5411 | 5083 | 4754 |
| 35 | 35 | 265(264) | 0226 | 9898 | 9570 | 9242 | | 8586 | 8258 | 7929 | 7601 | 7273 | 6945 | 6616 | 6288 | 5959 | 5631 | | |
| 36 | 36 | | 0446 | 0118 | 9790 | 9462 | 9134 | 8806 | 8478 | 8149 | 7821 | 7493 | 7164 | 6836 | 6507 | 6179 | 5850 | | |
| 37 | 37 | | | | | | 9354 | 9026 | 8698 | 8369 | 8041 | 7712 | 7384 | 7055 | 6727 | 6398 | 6069 | | |
| 38 | 38 | | | | | | 9575 | 9246 | 8918 | 8589 | 8261 | 7932 | 7603 | 7275 | | 6617 | 6288 | 5959 | 5630 |
| 39 | 39 | | | | | | 9795 | 9466 | 9138 | 8809 | 8480 | 8152 | 7823 | 7494 | 7165 | 6836 | 6507 | 6178 | 5849 |
| 40 | 40 | 265(264) | 1329 | 1001 | 0672 | 0344 | 0015 | 9686 | 9358 | 9029 | 8700 | 8371 | 8042 | 7713 | | 7055 | 6726 | 6397 | 6068 |
| 41 | 41 | | 1549 | 1221 | 0892 | 0564 | 0235 | 9906 | 9578 | 9249 | 8920 | 8591 | 8262 | 7933 | | 7274 | 6945 | 6616 | 6286 |
| 42 | 42 | | 1770 | 1441 | 1113 | 0784 | 0455 | 0126 | 9797 | 9468 | 9139 | 8810 | 8481 | 8152 | 7823 | 7493 | 7164 | 6835 | 6505 |
| 43 | 43 | | | | | | 0675 | 0346 | 0017 | 9688 | 9359 | 9030 | 8700 | 8371 | | | | | |
| 44 | 44 | | 2211 | 1882 | 1553 | 1224 | 0895 | 0566 | 0237 | 9908 | 9578 | 9249 | 8920 | 8590 | | 7931 | 7602 | 7272 | 6942 |
| 45 | 45 | 265(264) | 2431 | 2102 | 1773 | 1444 | 1115 | 0786 | 0456 | 0127 | 9798 | 9468 | 9139 | 8809 | 8480 | 8150 | 7820 | 7491 | 7161 |
| 46 | 46 | | 2651 | 2322 | 1993 | 1664 | 1335 | 1005 | 0676 | 0346 | 0017 | 9687 | 9358 | | 8699 | 8369 | 8039 | 7709 | 7379 |
| 47 | 47 | | 2871 | 2542 | 2213 | 1884 | 1554 | 1225 | 0895 | 0566 | 0236 | 9907 | 9577 | | 8917 | 8588 | 8258 | 7928 | 7599 |
| 48 | 48 | | | | | | 1774 | 1444 | 1115 | 0785 | 0455 | 0126 | 9796 | | | | | | |
| 49 | 49 | | | | | | 1993 | 1664 | 1334 | 1004 | 0675 | 0345 | 0015 | 9685 | 9355 | 9025 | 8695 | 8365 | 8034 |
| 50 | 50 | 265(264) | | | | | | | 1554 | 1224 | 0894 | 0564 | 0234 | | | 9243 | 8914 | 8583 | 8253 |
| 51 | 51 | | | | | | | | 1773 | 1443 | 1113 | 0783 | 0453 | | | 9462 | 9132 | 8801 | 8471 |
| 52 | 52 | | 3971 | 3642 | | | | | 2122 | 1992 | 1662 | 1332 | 1002 | 0671 | | | 9686 | 9350 | 9019 | 8689 |
| 53 | 53 | | 4191 | 3861 | | | | | 2341 | 2211 | 1881 | 1551 | 1221 | 0890 | | 0229 | 9899 | 9568 | 9238 | 8907 |
| 54 | 54 | | 4411 | 4081 | 3752 | 3422 | | | | | | 1770 | 1439 | 1109 | 0778 | 0448 | 0117 | 9786 | 9456 | 9125 |
| 55 | 55 | 264(263) | 4631 | 4301 | 3970 | 3640 | | | | 2649 | 2319 | 1989 | 1658 | 1327 | 0997 | 0666 | | 0005 | 9674 | 9343 |
| 56 | 56 | | 4850 | 4520 | 4190 | 3860 | | | | 2868 | 2538 | | | 1546 | 1215 | 0885 | 54 | 0223 | 9892 | 9561 |
| 57 | 57 | | 5070 | 4740 | 4409 | 4079 | | | | 3087 | 2757 | 2426 | 2095 | 1765 | | | 772 | 0441 | 0110 | 9779 |
| 58 | 58 | | 5289 | 4959 | 4629 | 4298 | | | | 3306 | 2976 | 2645 | 2314 | 1983 | 1652 | | 90 | 0659 | 0328 | 9996 |
| 59 | 59 | 265 | 5509 | 5178 | 4848 | 4517 | | | | | | | 2201 | 1870 | 1539 | 1208 | 877 | 0546 | 0214 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Secs. of A. A. & A. D. | 130° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 3 | 0 | 263 | 6949 | 6625 | 6300 | 5975 | 5650 | 5325 | 5000 | 4674 | 4349 | 4024 | 3698 | 3373 | 3048 | 2722 | 2396 | 2071 | 1745 |
| 3 | 1 | | 7170 | 6845 | 6520 | 6195 | 5870 | 5545 | 5220 | 4894 | 4569 | 4244 | 3918 | 3593 | 3267 | 2941 | 2616 | 2290 | 1964 |
| 3 | 2 | | 7391 | 7066 | 6741 | 6415 | 6090 | 5765 | 5440 | 5114 | 4789 | 4463 | 4138 | 3812 | 3486 | 3161 | 2835 | 2509 | 2183 |
| 3 | 3 | | 7612 | 7286 | 6961 | 6636 | 6311 | 5986 | 5660 | 5334 | 5009 | 4683 | 4357 | 4031 | 3706 | 3380 | 3054 | 2728 | 2402 |
| 3 | 4 | | 7832 | 7507 | 7182 | 6856 | 6531 | 6206 | 5880 | 5554 | 5229 | 4903 | 4577 | 4251 | 3925 | 3599 | 3274 | 2947 | 2621 |
| 3 | 5 | 263 | 8053 | 7727 | 7402 | 7076 | 6751 | 6426 | 6100 | 5774 | 5448 | 5123 | 4797 | 4472 | 4146 | 3820 | 3494 | 3167 | 2841 |
| 2 | 6 | | 8273 | 7948 | 7622 | 7297 | 6971 | 6646 | 6320 | 5994 | 5668 | 5343 | 5017 | 4692 | 4366 | 4040 | 3714 | 3387 | 3061 |
| 2 | 7 | | 8494 | 8168 | 7842 | 7517 | 7191 | 6866 | 6540 | 6214 | 5888 | 5563 | 5237 | 4912 | 4586 | 4260 | 3933 | 3607 | 3281 |
| 2 | 8 | | 8714 | 8388 | 8063 | 7737 | 7411 | 7086 | 6760 | 6433 | 6108 | 5782 | 5457 | 5131 | 4806 | 4479 | 4153 | 3827 | 3501 |
| 2 | 9 | | 8935 | 8609 | 8283 | 7957 | 7631 | 7306 | 6980 | 6654 | 6328 | 6003 | 5677 | 5351 | 5026 | 4700 | 4373 | 4047 | 3721 |
| 2 | 10 | 263 | 9155 | 8829 | 8503 | 8177 | 7851 | 7526 | 7200 | 6874 | 6548 | 6223 | 5897 | 5571 | 5246 | 4920 | 4593 | 4267 | 3941 |
| 2 | 11 | | 9375 | 9049 | 8723 | 8397 | 8071 | 7746 | 7421 | 7095 | 6768 | 6443 | 6117 | 5791 | 5465 | 5139 | 4813 | 4487 | 4161 |
| 2 | 12 | | 9595 | 9269 | 8943 | 8617 | 8291 | 7966 | 7640 | 7314 | 6988 | 6663 | 6337 | 6011 | 5685 | 5359 | 5033 | 4707 | 4381 |
| 2 | 13 | | 9815 | 9489 | 9163 | 8837 | 8511 | 8186 | 7860 | 7534 | 7208 | 6883 | 6557 | 6231 | 5905 | 5579 | 5252 | 4926 | 4601 |
| 2 | 14 | 264(263) | 0035 | 9709 | 9383 | 9057 | 8731 | 8406 | 8080 | 7754 | 7428 | 7103 | 6777 | 6451 | 6125 | 5799 | 5473 | 5146 | 4820 |
| 2 | 15 | | 0255 | 9929 | 9602 | 9276 | 8950 | 8625 | 8299 | 7973 | 7648 | 7322 | 6996 | 6671 | 6345 | 6019 | 5693 | 5366 | 5040 |
| 2 | 16 | | 0475 | 0148 | 9822 | 9496 | 9170 | 8844 | 8518 | 8193 | 7867 | 7541 | 7216 | 6890 | 6564 | 6238 | 5912 | 5586 | 5260 |
| 2 | 17 | | 0695 | 0368 | 0042 | 9715 | 9389 | 9063 | 8737 | 8412 | 8086 | 7760 | 7435 | 7109 | 6783 | 6457 | 6131 | 5805 | 5479 |
| 2 | 18 | | 0915 | 0588 | 0261 | 9934 | 9608 | 9282 | 8956 | 8631 | 8305 | 7979 | 7654 | 7328 | 7002 | 6676 | 6350 | 6024 | 5698 |
| 2 | 19 | | 1135 | 0808 | 0481 | 0154 | 9827 | 9501 | 9175 | 8850 | 8524 | 8198 | 7873 | 7547 | 7221 | 6895 | 6569 | 6243 | 5917 |
| 2 | 20 | 264(263) | 1355 | 1028 | 0701 | 0373 | 0046 | 9720 | 9394 | 9069 | 8743 | 8417 | 8092 | 7766 | 7440 | 7114 | 6788 | 6462 | 6136 |
| 2 | 21 | | 1574 | 1247 | 0920 | 0593 | 0265 | 9939 | 9613 | 9288 | 8962 | 8636 | 8311 | 7985 | 7659 | 7333 | 7007 | 6681 | 6355 |
| 2 | 22 | | 1794 | 1467 | 1140 | 0812 | 0485 | 0157 | 9832 | 9506 | 9180 | 8855 | 8529 | 8203 | 7878 | 7552 | 7226 | 6900 | 6574 |
| 2 | 23 | | 2014 | 1686 | 1359 | 1031 | 0704 | 0376 | 0050 | 9724 | 9398 | 9073 | 8747 | 8421 | 8096 | 7770 | 7445 | 7119 | 6793 |
| 1 | 24 | | 2233 | 1906 | 1578 | 1250 | 0923 | 0595 | 0269 | 9943 | 9617 | 9292 | 8966 | 8640 | 8315 | 7989 | 7663 | 7338 | 7012 |
| 1 | 25 | 264(263) | 2453 | 2125 | 1797 | 1470 | 1142 | 0814 | 0487 | 0161 | 9835 | 9510 | 9184 | 8858 | 8533 | 8207 | 7882 | 7556 | 7230 |
| 1 | 26 | | 2672 | 2344 | 2017 | 1689 | 1361 | 1033 | 0705 | 0377 | 0050 | 9724 | 9398 | 9073 | 8747 | 8421 | 8096 | 7770 | 7445 |
| 1 | 27 | | 2892 | 2564 | 2237 | 1908 | 1580 | 1252 | 0924 | 0596 | 0269 | 9943 | 9617 | 9292 | 8966 | 8640 | 8315 | 7989 | 7663 |
| 1 | 28 | | 3111 | 2783 | 2455 | 2127 | 1799 | 1470 | 1142 | 0814 | 0487 | 0159 | 9832 | 9506 | 9180 | 8855 | 8529 | 8203 | 7878 |
| 1 | 29 | | 3331 | 3002 | 2674 | 2346 | 2018 | 1689 | 1361 | 1033 | 0705 | 0377 | 0050 | 9724 | 9398 | 9073 | 8747 | 8421 | 8096 |
| 1 | 30 | 264(263) | 3549 | 3221 | 2893 | 2565 | 2236 | 1908 | 1580 | 1252 | 0924 | 0596 | 0269 | 9943 | 9617 | 9292 | 8966 | 8640 | 8315 |
| 1 | 31 | | 3768 | 3440 | 3112 | 2783 | 2455 | 2127 | 1798 | 1470 | 1142 | 0814 | 0487 | 0159 | 9832 | 9506 | 9180 | 8855 | 8529 |
| 1 | 32 | | 3988 | 3659 | 3331 | 3002 | 2674 | 2345 | 2017 | 1688 | 1360 | 1033 | 0705 | 0377 | 0050 | 9724 | 9398 | 9073 | 8747 |
| 1 | 33 | | 4207 | 3878 | 3550 | 3221 | 2893 | 2564 | 2236 | 1907 | 1579 | 1252 | 0924 | 0596 | 0269 | 9943 | 9617 | 9292 | 8966 |
| 1 | 34 | | 4426 | 4097 | 3769 | 3441 | 3112 | 2783 | 2455 | 2126 | 1798 | 1470 | 1142 | 0814 | 0487 | 0159 | 9832 | 9506 | 9180 |
| 1 | 35 | 264(263) | 4645 | 4316 | 3988 | 3659 | 3330 | 3002 | 2673 | 2345 | 2016 | 1688 | 1360 | 1032 | 0705 | 0377 | 0050 | 9724 | 9398 |
| 1 | 36 | | 4863 | 4535 | 4206 | 3877 | 3548 | 3219 | 2891 | 2562 | 2234 | 1906 | 1577 | 1249 | 0921 | 0594 | 0266 | 9940 | 9614 |
| 1 | 37 | | 5082 | 4753 | 4424 | 4095 | 3767 | 3438 | 3109 | 2780 | 2452 | 2123 | 1795 | 1467 | 1139 | 0811 | 0484 | 0156 | 9829 |
| 1 | 38 | 264 | 5301 | 4972 | 4643 | 4314 | 3984 | 3655 | 3326 | 2997 | 2669 | 2340 | 2012 | 1684 | 1356 | 1028 | 0701 | 0373 | 0046 |
| 1 | 39 | | 5520 | 5191 | 4861 | 4532 | 4203 | 3873 | 3544 | 3214 | 2884 | 2555 | 2225 | 1895 | 1565 | 1236 | 0906 | 0577 | 0248 |
| 1 | 40 | 264 | 5738 | 5409 | 5080 | 4750 | 4421 | 4091 | 3761 | 3432 | 3102 | 2772 | 2443 | 2113 | 1783 | 1453 | 1124 | 0794 | 0465 |
| 1 | 41 | | 5957 | 5628 | 5298 | 4969 | 4639 | 4309 | 3979 | 3649 | 3320 | 2990 | 2660 | 2330 | 2000 | 1670 | 1340 | 1010 | 0681 |
| 1 | 42 | | 6176 | 5846 | 5517 | 5187 | 4857 | 4527 | 4197 | 3867 | 3537 | 3207 | 2877 | 2547 | 2217 | 1887 | 1557 | 1227 | 0897 |
| 1 | 43 | | 6394 | 6065 | 5735 | 5405 | 5075 | 4745 | 4414 | 4084 | 3754 | 3424 | 3094 | 2764 | 2434 | 2104 | 1774 | 1443 | 1113 |
| 1 | 44 | | 6613 | 6283 | 5953 | 5623 | 5293 | 4962 | 4632 | 4302 | 3972 | 3642 | 3312 | 2982 | 2651 | 2321 | 1991 | 1661 | 1330 |
| 1 | 45 | 264 | 6831 | 6501 | 6171 | 5841 | 5511 | 5181 | 4851 | 4521 | 4191 | 3861 | 3531 | 3201 | 2871 | 2541 | 2211 | 1880 | 1550 |
| 1 | 46 | | 7049 | 6719 | 6389 | 6059 | 5729 | 5399 | 5069 | 4739 | 4409 | 4079 | 3749 | 3419 | 3089 | 2759 | 2428 | 2098 | 1768 |
| 1 | 47 | | 7267 | 6937 | 6607 | 6277 | 5947 | 5617 | 5287 | 4957 | 4627 | 4297 | 3967 | 3637 | 3307 | 2976 | 2646 | 2316 | 1985 |
| 1 | 48 | | 7485 | 7155 | 6825 | 6495 | 6165 | 5835 | 5504 | 5174 | 4844 | 4514 | 4184 | 3854 | 3524 | 3194 | 2864 | 2533 | 2203 |
| 1 | 49 | | 7704 | 7374 | 7043 | 6713 | 6382 | 6052 | 5721 | 5390 | 5060 | 4729 | 4398 | 4067 | 3736 | 3405 | 3074 | 2743 | 2411 |
| 1 | 50 | 264 | 7922 | 7592 | 7261 | 6931 | 6600 | 6270 | 5939 | 5608 | 5278 | 4947 | 4616 | 4285 | 3955 | 3624 | 3293 | 2962 | 2630 |
| 1 | 51 | | 8140 | 7810 | 7479 | 7149 | 6818 | 6487 | 6157 | 5826 | 5495 | 5165 | 4834 | 4503 | 4172 | 3841 | 3510 | 3179 | 2848 |
| 1 | 52 | | 8358 | 8028 | 7697 | 7366 | 7035 | 6704 | 6373 | 6042 | 5711 | 5380 | 5049 | 4718 | 4386 | 4055 | 3724 | 3392 | 3061 |
| 1 | 53 | | 8576 | 8245 | 7915 | 7584 | 7252 | 6920 | 6589 | 6258 | 5927 | 5596 | 5265 | 4933 | 4602 | 4271 | 3939 | 3608 | 3277 |
| 1 | 54 | | 8794 | 8463 | 8132 | 7801 | 7469 | 7137 | 6806 | 6474 | 6143 | 5811 | 5480 | 5148 | 4817 | 4485 | 4154 | 3822 | 3491 |
| 1 | 55 | 264 | 9012 | 8680 | 8348 | 8017 | 7685 | 7353 | 7022 | 6690 | 6358 | 6027 | 5695 | 5363 | 5032 | 4700 | 4368 | 4037 | 3705 |
| 1 | 56 | | 9230 | 8898 | 8566 | 8234 | 7902 | 7570 | 7238 | 6906 | 6574 | 6242 | 5910 | 5578 | 5246 | 4914 | 4582 | 4250 | 3918 |
| 1 | 57 | | 9448 | 9115 | 8783 | 8451 | 8119 | 7786 | 7454 | 7122 | 6790 | 6458 | 6125 | 5793 | 5461 | 5129 | 4797 | 4464 | 4132 |
| 1 | 58 | | 9665 | 9333 | 9000 | 8668 | 8335 | 8003 | 7671 | 7338 | 7006 | 6674 | 6341 | 6009 | 5677 | 5344 | 5012 | 4679 | 4347 |
| 1 | 59 | | 9883 | 9550 | 9218 | 8885 | 8552 | 8220 | 7887 | 7555 | 7222 | 6890 | 6557 | 6225 | 5892 | 5560 | 5227 | 4895 | 4562 |

Sums for finding the Corrected Distances.

| Parts for Secs. of C. D. | 130° | Sums |
|---|---|---|
| 0 | 0 | 3564 2748 |
| 4 | 1 | 3211 |
| 7 | 2 | 3233 |
| 11 | 3 | 3456 |
| 15 | 4 | 3678 |
| 18 | 5 | 3901 |
| 22 | 6 | 4123 |
| 26 | 7 | 4346 |
| 29 | 8 | 4568 |
| 33 | 9 | 4791 |
| 37 | 10 | 5013 |
| 40 | 11 | 5236 |
| 44 | 12 | 5458 |
| 48 | 13 | 5681 |
| 52 | 14 | 5903 |
| 55 | 15 | 6124 |
| 59 | 16 | 6346 |
| 63 | 17 | 6569 |
| 66 | 18 | 6791 |
| 70 | 19 | 7014 |
| 74 | 20 | 7236 |
| 77 | 21 | 7459 |
| 81 | 22 | 7681 |
| 85 | 23 | 7904 |
| 88 | 24 | 8126 |
| 92 | 25 | 8348 |
| 96 | 26 | 8571 |
| 99 | 27 | 8793 |
| 103 | 28 | 9016 |
| 107 | 29 | 9238 |
| 111 | 30 | 9461 |
| 114 | 31 | 9683 |
| 118 | 32 | 9906 |
| 122 | 33 | 0128 |
| 125 | 34 | 0351 |
| 129 | 35 | 0573 |
| 133 | 36 | 0796 |
| 136 | 37 | 1018 |
| 140 | 38 | 1241 |
| 144 | 39 | 1463 |
| 147 | 40 | 1685 |
| 151 | 41 | 1908 |
| 155 | 42 | 2130 |
| 158 | 43 | 2353 |
| 162 | 44 | 2575 |
| 166 | 45 | 2798 |
| 169 | 46 | 3020 |
| 173 | 47 | 3243 |
| 177 | 48 | 3465 |
| 181 | 49 | 3688 |
| 184 | 50 | 3910 |
| 188 | 51 | 4133 |
| 191 | 52 | 4355 |
| 195 | 53 | 4578 |
| 199 | 54 | 4800 |
| 203 | 55 | 5023 |
| 206 | 56 | 5245 |
| 210 | 57 | 5468 |
| 214 | 58 | 5690 |
| 217 | 59 | 5913 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts for Sec. of C.S.A diff. | C.S.A 131° | Numbers | Parts for Seconds of Arcsin. Argum. diff. | S.A.A & A.D. 131° | Auxiliary Arguments. | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | | | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| | | | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 221 | 0 | 035 6989 | 334 | 0 | 265 | 5728 | 5398 | 5067 | 4736 | 4406 | 4075 | 3744 | 3413 | 3082 | 2751 | 2420 | 2089 | 1757 | 1426 | 1095 |
| 217 | 1 | 6767 | 329 | 1 | | 5948 | 5617 | 5286 | 4955 | 4625 | 4294 | 3963 | 3632 | 3300 | 2969 | 2638 | 2307 | 1975 | 1644 | 1313 |
| 214 | 2 | 6544 | 323 | 2 | | 6167 | 5836 | 5505 | 5174 | 4843 | 4512 | 4181 | 3850 | 3519 | 3188 | 2857 | 2525 | 2193 | 1862 | 1530 |
| 212 | 3 | 6321 | 318 | 3 | | 6387 | 6056 | 5724 | 5393 | 5062 | 4731 | 4400 | 4069 | 3737 | 3406 | 3074 | 2743 | 2411 | 2080 | 1748 |
| 208 | 4 | 6099 | 312 | 4 | | 6606 | 6275 | 5943 | 5612 | 5281 | 4950 | 4618 | 4287 | 3956 | 3624 | 3292 | 2961 | 2629 | 2298 | 1966 |
| 203 | 5 | 035 5876 | 307 | 5 | 265 | 6825 | 6494 | 6162 | 5831 | 5500 | 5168 | 4837 | 4505 | 4174 | 3842 | 3510 | 3179 | 2847 | 2515 | 2183 |
| 199 | 6 | 5654 | 301 | 6 | | 7044 | 6713 | 6381 | 6050 | 5719 | 5387 | 5056 | 4724 | 4392 | 4061 | 3729 | 3397 | 3065 | 2733 | 2402 |
| 195 | 7 | 5431 | 295 | 7 | | 7263 | 6932 | 6600 | 6268 | 5937 | 5606 | 5274 | 4942 | 4610 | 4278 | 3946 | 3615 | 3283 | 2951 | 2619 |
| 191 | 8 | 5209 | 290 | 8 | | 7482 | 7151 | 6819 | 6487 | 6156 | 5824 | 5492 | 5160 | 4828 | 4496 | 4164 | 3832 | 3500 | 3168 | 2836 |
| 188 | 9 | 4987 | 284 | 9 | | 7701 | 7369 | 7038 | 6706 | 6374 | 6042 | 5711 | 5379 | 5047 | 4714 | 4382 | 4050 | 3718 | 3386 | 3053 |
| 184 | 10 | 035 4764 | 279 | 10 | 265 | 7920 | 7588 | 7256 | 6925 | 6593 | 6261 | 5929 | 5597 | 5265 | 4932 | 4600 | 4268 | 3935 | 3603 | 3271 |
| 180 | 11 | 4542 | 273 | 11 | | 8139 | 7807 | 7475 | 7143 | 6811 | 6479 | 6147 | 5815 | 5483 | 5150 | 4818 | 4486 | 4153 | 3821 | 3488 |
| 177 | 12 | 4320 | 268 | 12 | | 8358 | 8026 | 7694 | 7362 | 7029 | 6697 | 6365 | 6033 | 5700 | 5368 | 5036 | 4703 | 4371 | 4038 | 3705 |
| 173 | 13 | 4098 | 262 | 13 | | 8576 | 8244 | 7912 | 7580 | 7248 | 6915 | 6583 | 6251 | 5918 | 5586 | 5253 | 4921 | 4588 | 4255 | 3922 |
| 169 | 14 | 3876 | 256 | 14 | | 8795 | 8463 | 8131 | 7798 | 7466 | 7134 | 6801 | 6469 | 6136 | 5803 | 5471 | 5138 | 4805 | 4473 | 4140 |
| 166 | 15 | 035 3654 | 251 | 15 | 265 | 9014 | 8681 | 8349 | 8017 | 7684 | 7352 | 7019 | 6686 | 6354 | 6021 | 5688 | 5355 | 5023 | 4690 | 4357 |
| 162 | 16 | 3432 | 245 | 16 | | 9232 | 8900 | 8567 | 8235 | 7902 | 7570 | 7237 | 6904 | 6571 | 6239 | 5906 | 5573 | 5240 | 4907 | 4574 |
| 158 | 17 | 3210 | 240 | 17 | | 9451 | 9118 | 8786 | 8453 | 8120 | 7788 | 7455 | 7122 | 6789 | 6456 | 6123 | 5790 | 5457 | 5124 | 4791 |
| 155 | 18 | 2988 | 234 | 18 | | 9669 | 9337 | 9004 | 8671 | 8338 | 8006 | 7673 | 7340 | 7007 | 6674 | 6341 | 6007 | 5674 | 5341 | 5008 |
| 151 | 19 | 2767 | 229 | 19 | | 9888 | 9555 | 9222 | 8889 | 8556 | 8223 | 7891 | 7557 | 7224 | 6891 | 6558 | 6225 | 5891 | 5558 | 5224 |
| 147 | 20 | 035 2545 | 223 | 20 | 266(265) | 0106 | 9773 | 9440 | 9107 | 8774 | 8441 | 8108 | 7775 | 7442 | 7108 | 6775 | 6442 | 6108 | 5775 | 5441 |
| 144 | 21 | 2323 | 217 | 21 | | 0324 | 9991 | 9658 | 9325 | 8992 | 8659 | 8326 | 7992 | 7659 | 7326 | 6992 | 6659 | 6325 | 5992 | 5659 |
| 140 | 22 | 2102 | 212 | 22 | | 0542 | 0209 | 9876 | 9543 | 9210 | 8877 | 8543 | 8210 | 7876 | 7543 | 7209 | 6876 | 6542 | 6209 | 5875 |
| 136 | 23 | 1880 | 206 | 23 | | 0761 | 0427 | 0094 | 9761 | 9428 | 9094 | 8761 | 8427 | 8094 | 7760 | 7426 | 7093 | 6759 | 6425 | 6091 |
| 133 | 24 | 1658 | 201 | 24 | | 0979 | 0645 | 0312 | 9978 | 9645 | 9312 | 8978 | 8645 | 8311 | 7977 | 7644 | 7310 | 6977 | 6642 | 6308 |
| 129 | 25 | 035 1437 | 195 | 25 | 266(265) | 1197 | 0863 | 0530 | 0196 | 9863 | 9529 | 9196 | 8862 | 8528 | 8194 | 7860 | 7526 | 7192 | 6858 | 6524 |
| 125 | 26 | 1215 | 190 | 26 | | 1415 | 1081 | 0748 | 0414 | 0080 | 9747 | 9413 | 9079 | 8745 | 8411 | 8077 | 7743 | 7409 | 7075 | 6741 |
| 122 | 27 | 0993 | 184 | 27 | | 1633 | 1299 | 0965 | 0632 | 0299 | 9964 | 9630 | 9296 | 8962 | 8628 | 8294 | 7960 | 7626 | 7292 | 6957 |
| 118 | 28 | 0773 | 178 | 28 | | 1851 | 1517 | 1183 | 0849 | 0515 | 0181 | 9847 | 9513 | 9179 | 8845 | 8511 | 8177 | 7842 | 7508 | 7174 |
| 114 | 29 | 0552 | 173 | 29 | | 2068 | 1735 | 1401 | 1067 | 0733 | 0399 | 0065 | 9730 | 9396 | 9062 | 8728 | 8393 | 8059 | 7724 | 7390 |
| 110 | 30 | 035 0331 | 167 | 30 | 266(265) | 2286 | 1952 | 1618 | 1284 | 0950 | 0616 | 0282 | 9948 | 9613 | 9279 | 8945 | 8611 | 8276 | 7941 | 7607 |
| 107 | 31 | 0110 | 162 | 31 | | 2504 | 2170 | 1836 | 1502 | 1167 | 0833 | 0499 | 0164 | 9830 | 9496 | 9161 | 8826 | 8492 | 8157 | 7823 |
| 103 | 32 | 034 9889 | 156 | 32 | | 2721 | 2387 | 2053 | 1719 | 1385 | 1050 | 0716 | 0381 | 0047 | 9712 | 9378 | 9043 | 8709 | 8373 | 8038 |
| 99 | 33 | 9668 | 151 | 33 | | 2939 | 2605 | 2271 | 1936 | 1602 | 1267 | 0933 | 0598 | 0264 | 9929 | 9594 | 9259 | 8924 | 8589 | 8254 |
| 96 | 34 | 9447 | 145 | 34 | | 3157 | 2822 | 2488 | 2153 | 1819 | 1484 | 1150 | 0815 | 0480 | 0145 | 9811 | 9476 | 9141 | 8806 | 8471 |
| 92 | 35 | 034 9226 | 140 | 35 | 266(265) | 3374 | 3040 | 2705 | 2371 | 2036 | 1701 | 1367 | 1032 | 0697 | 0362 | 0027 | 9692 | 9357 | 9022 | 8687 |
| 88 | 36 | 9005 | 134 | 36 | | 3591 | 3257 | 2922 | 2588 | 2253 | 1918 | 1583 | 1248 | 0913 | 0578 | 0243 | 9907 | 9573 | 9238 | 8903 |
| 85 | 37 | 8784 | 129 | 37 | | 3808 | 3474 | 3140 | 2805 | 2471 | 2136 | 1801 | 1466 | 1131 | 0795 | 0460 | 0125 | 9789 | 9454 | 9119 |
| 81 | 38 | 8563 | 123 | 38 | | 4024 | 3691 | 3357 | 3022 | 2687 | 2352 | 2017 | 1682 | 1346 | 1011 | 0676 | 0341 | 0006 | 9670 | 9335 |
| 77 | 39 | 8343 | 117 | 39 | | 4241 | 3907 | 3574 | 3239 | 2904 | 2569 | 2234 | 1898 | 1563 | 1227 | 0892 | 0557 | 0221 | 9886 | 9551 |
| 74 | 40 | 034 8122 | 111 | 40 | 266(265) | 4457 | 4123 | 3790 | 3455 | 3121 | 2786 | 2451 | 2115 | 1779 | 1444 | 1108 | 0773 | 0437 | 0102 | 9766 |
| 70 | 41 | 7902 | 106 | 41 | | 4673 | 4339 | 4006 | 3671 | 3337 | 3002 | 2666 | 2331 | 1995 | 1660 | 1324 | 0988 | 0653 | 0317 | 9981 |
| 66 | 42 | 7681 | 100 | 42 | | 4889 | 4555 | 4222 | 3887 | 3553 | 3218 | 2883 | 2547 | 2211 | 1876 | 1540 | 1204 | 0868 | 0533 | 0197 |
| 63 | 43 | 7461 | 95 | 43 | | 5105 | 4771 | 4438 | 4103 | 3769 | 3434 | 3099 | 2764 | 2428 | 2092 | 1757 | 1421 | 1085 | 0749 | 0413 |
| 59 | 44 | 7241 | 89 | 44 | | 5320 | 4987 | 4654 | 4319 | 3985 | 3650 | 3315 | 2980 | 2644 | 2309 | 1973 | 1637 | 1301 | 0965 | 0629 |
| 55 | 45 | 034 7020 | 84 | 45 | 266 | 5536 | 5203 | 4870 | 4535 | 4201 | 3866 | 3531 | 3196 | 2860 | 2525 | 2189 | 1853 | 1518 | 1181 | 0845 |
| 52 | 46 | 6800 | 78 | 46 | | 5752 | 5419 | 5086 | 4751 | 4417 | 4082 | 3747 | 3412 | 3076 | 2741 | 2405 | 2069 | 1734 | 1397 | 1061 |
| 48 | 47 | 6579 | 73 | 47 | | 5968 | 5634 | 5302 | 4967 | 4633 | 4298 | 3963 | 3628 | 3292 | 2957 | 2621 | 2285 | 1950 | 1613 | 1277 |
| 44 | 48 | 6359 | 67 | 48 | | 6183 | 5850 | 5517 | 5183 | 4848 | 4514 | 4179 | 3844 | 3508 | 3173 | 2837 | 2501 | 2166 | 1829 | 1493 |
| 40 | 49 | 6139 | 61 | 49 | | 6398 | 6065 | 5732 | 5398 | 5064 | 4729 | 4395 | 4060 | 3724 | 3389 | 3053 | 2717 | 2382 | 2045 | 1709 |
| 37 | 50 | 034 5919 | 56 | 50 | 266 | 6613 | 6280 | 5947 | 5613 | 5279 | 4945 | 4610 | 4276 | 3940 | 3605 | 3269 | 2933 | 2598 | 2261 | 1925 |
| 33 | 51 | 5699 | 50 | 51 | | 6828 | 6495 | 6162 | 5828 | 5494 | 5160 | 4826 | 4491 | 4156 | 3821 | 3485 | 3149 | 2814 | 2477 | 2141 |
| 29 | 52 | 5479 | 45 | 52 | | 7043 | 6710 | 6377 | 6043 | 5709 | 5375 | 5041 | 4707 | 4372 | 4037 | 3701 | 3365 | 3030 | 2693 | 2357 |
| 26 | 53 | 5259 | 39 | 53 | | 7258 | 6925 | 6592 | 6258 | 5924 | 5590 | 5256 | 4922 | 4588 | 4253 | 3917 | 3581 | 3246 | 2909 | 2573 |
| 22 | 54 | 5039 | 33 | 54 | | 7472 | 7139 | 6806 | 6473 | 6139 | 5805 | 5471 | 5137 | 4803 | 4469 | 4133 | 3797 | 3462 | 3125 | 2789 |
| 18 | 55 | 034 4820 | 28 | 55 | 266 | 7686 | 7353 | 7020 | 6687 | 6353 | 6019 | 5686 | 5352 | 5018 | 4684 | 4349 | 4013 | 3678 | 3341 | 3005 |
| 15 | 56 | 4600 | 22 | 56 | | 7900 | 7567 | 7234 | 6901 | 6567 | 6234 | 5900 | 5567 | 5233 | 4899 | 4565 | 4230 | 3894 | 3557 | 3221 |
| 11 | 57 | 4380 | 17 | 57 | | 8114 | 7781 | 7448 | 7115 | 6781 | 6448 | 6114 | 5781 | 5447 | 5113 | 4779 | 4445 | 4110 | 3773 | 3437 |
| 7 | 58 | 4161 | 11 | 58 | | 8328 | 7995 | 7662 | 7329 | 6995 | 6662 | 6328 | 5995 | 5661 | 5327 | 4993 | 4659 | 4324 | 3989 | 3653 |
| 4 | 59 | 3941 | 6 | 59 | | 8542 | 8209 | 7876 | 7543 | 7209 | 6876 | 6542 | 6209 | 5875 | 5541 | 5207 | 4873 | 4538 | 4203 | 3869 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| A.A. & A.D. 131 | ′ 17 | ′ 18 | ′ 19 | ′ 20 | ′ 21 | ′ 22 | ′ 23 | ′ 24 | ′ 25 | ′ 26 | ′ 27 | ′ 28 | ′ 29 | ′ 30 | ′ 31 | ′ 32 | ′ 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| ′ | 265 (264) | | | | | | | | | | | | | | | | |
| 0 | | 0100 | 9769 | 9437 | 9105 | 8774 | 8442 | 8110 | 7778 | 7446 | 7114 | 6782 | 6450 | 6118 | 5786 | 5453 | 5121 |
| 1 | | 0318 | 9986 | 9654 | 9323 | 8991 | 8659 | 8327 | 7995 | 7663 | 7331 | 6999 | 6666 | 6334 | 6002 | 5670 | 5337 |
| 2 | | 0535 | 0204 | 9872 | 9540 | 9208 | 8876 | 8544 | 8212 | 7879 | 7547 | 7215 | 6883 | 6550 | 6218 | 5885 | 5553 |
| 3 | | 0753 | 0421 | 0089 | 9757 | 9425 | 9093 | 8760 | 8428 | 8096 | 7764 | 7431 | 7099 | 6767 | 6434 | 6101 | 5768 |
| 4 | | 0971 | 0638 | 0306 | 9974 | 9642 | 9310 | 8977 | 8645 | 8312 | 7980 | 7648 | 7315 | 6982 | 6650 | 6317 | 5984 |
| 5 | 265 (264) | 1187 | 0855 | 0523 | 0191 | 9859 | 9526 | 9194 | 8861 | 8529 | 8196 | 7864 | 7531 | 7198 | 6865 | 6533 | 6200 |
| 6 | | 1405 | 1072 | 0740 | 0408 | 0075 | 9743 | 9410 | 9078 | 8745 | 8413 | 8080 | 7747 | 7414 | 7081 | 6748 | 6415 |
| 7 | | 1622 | 1289 | 0957 | 0625 | 0292 | 0959 | 9627 | 9294 | 8962 | 8629 | 8296 | 7963 | 7630 | 7297 | 6964 | 6631 |
| 8 | | 1839 | 1506 | 1174 | 0841 | 0508 | 0176 | 9843 | 9511 | 9178 | 8845 | 8512 | 8179 | 7846 | 7513 | 7180 | 6846 |
| 9 | | 2056 | 1723 | 1391 | 1058 | 0725 | 0393 | 0060 | 9727 | 9394 | 9061 | 8728 | 8395 | 8062 | 7728 | 7395 | 7062 |
| 10 | 265 (264) | 2273 | 1940 | 1608 | 1275 | 0942 | 0609 | 0276 | 9943 | 9611 | 9277 | 8944 | 8611 | 8277 | 7944 | 7611 | 7277 |
| 11 | | 2491 | 2157 | 1824 | 1491 | 1159 | 0826 | 0492 | 0159 | 9826 | 9493 | 9160 | 8826 | 8493 | 8159 | 7826 | 7492 |
| 12 | | 2707 | 2374 | 2041 | 1708 | 1375 | 1042 | 0709 | 0375 | 0042 | 9709 | 9375 | 9042 | 8708 | 8375 | 8041 | 7708 |
| 13 | | 2924 | 2591 | 2258 | 1925 | 1591 | 1258 | 0925 | 0591 | 0258 | 9925 | 9591 | 9258 | 8924 | 8590 | 8257 | 7923 |
| 14 | | 3140 | 2807 | 2474 | 2141 | 1808 | 1474 | 1141 | 0807 | 0474 | 0141 | 9807 | 9473 | 9139 | 8806 | 8472 | 8138 |
| 15 | 265 (264) | 3357 | 3024 | 2691 | 2357 | 2024 | 1691 | 1357 | 1023 | 0690 | 0355 | 0021 | 9687 | 9353 | 9019 | 8685 | 8351 |
| 16 | | 3574 | 3241 | 2907 | 2574 | 2241 | 1907 | 1573 | 1239 | 0906 | 0572 | 0238 | 9904 | 9570 | 9236 | 8902 | 8568 |
| 17 | | 3791 | 3457 | 3124 | 2790 | 2457 | 2123 | 1789 | 1455 | 1121 | 0788 | 0454 | 0120 | 9786 | 9451 | 9117 | 8783 |
| 18 | | 4007 | 3674 | 3340 | 3007 | 2673 | 2339 | 2005 | 1671 | 1337 | 1003 | 0669 | 0335 | 0001 | 9667 | 9332 | 8998 |
| 19 | | 4224 | 3890 | 3557 | 3223 | 2889 | 2555 | 2221 | 1887 | 1553 | 1219 | 0884 | 0550 | 0216 | 9882 | 9547 | 9213 |
| 20 | 265(264) | 4440 | 4106 | 3772 | 3439 | 3105 | 2771 | 2437 | 2103 | 1768 | 1434 | 1100 | 0766 | 0431 | 0097 | 9762 | 9428 |
| 21 | | 4657 | 4323 | 3989 | 3655 | 3321 | 2987 | 2653 | 2319 | 1984 | 1650 | 1315 | 0981 | 0647 | 0312 | 9977 | 9643 |
| 22 | | 4873 | 4539 | 4205 | 3871 | 3537 | 3203 | 2868 | 2534 | 2199 | 1865 | 1531 | 1196 | 0861 | 0527 | 0192 | 9857 |
| 23 | | 5089 | 4755 | 4421 | 4087 | 3753 | 3418 | 3084 | 2749 | 2415 | 2081 | 1746 | 1411 | 1076 | 0741 | 0407 | 0072 |
| 24 | | 5305 | 4971 | 4637 | 4303 | 3969 | 3634 | 3300 | 2965 | 2630 | 2295 | 1961 | 1626 | 1291 | 0956 | 0621 | 0286 |
| 25 | 265 | 5522 | 5187 | 4853 | 4519 | 4184 | 3849 | 3515 | 3180 | 2845 | 2511 | 2176 | 1841 | 1506 | 1171 | 0836 | 0501 |
| 26 | | 5738 | 5403 | 5069 | 4734 | 4400 | 4065 | 3730 | 3396 | 3061 | 2726 | 2391 | 2056 | 1721 | 1386 | 1051 | 0715 |
| 27 | | 5954 | 5619 | 5285 | 4950 | 4615 | 4281 | 3946 | 3611 | 3277 | 2942 | 2607 | 2271 | 1936 | 1601 | 1265 | 0930 |
| 28 | | 6170 | 5835 | 5500 | 5166 | 4831 | 4496 | 4161 | 3826 | 3492 | 3157 | 2822 | 2487 | 2152 | 1815 | 1480 | 1144 |
| 29 | | 6386 | 6051 | 5716 | 5381 | 5046 | 4711 | 4376 | 4041 | 3707 | 3372 | 3037 | 2702 | 2367 | 2032 | 1694 | 1358 |
| 30 | 265 | 6602 | 6267 | 5932 | 5597 | 5262 | 4927 | 4592 | 4256 | 3921 | 3586 | 3251 | 2915 | 2579 | 2244 | 1908 | 1573 |
| 31 | | 6818 | 6483 | 6148 | 5812 | 5477 | 5142 | 4807 | 4471 | 4136 | 3801 | 3465 | 3130 | 2794 | 2458 | 2123 | 1787 |
| 32 | | 7033 | 6698 | 6363 | 6028 | 5693 | 5357 | 5022 | 4686 | 4351 | 4015 | 3680 | 3344 | 3009 | 2673 | 2337 | 2001 |
| 33 | | 7249 | 6914 | 6579 | 6243 | 5908 | 5573 | 5237 | 4901 | 4566 | 4230 | 3895 | 3559 | 3223 | 2887 | 2551 | 2215 |
| 34 | | 7465 | 7129 | 6794 | 6458 | 6123 | 5788 | 5452 | 5116 | 4781 | 4445 | 4109 | 3773 | 3437 | 3101 | 2765 | 2429 |
| 35 | 265 | 7680 | 7346 | 7011 | 6674 | 6338 | 6003 | 5667 | 5331 | 4995 | 4660 | 4324 | 3988 | 3652 | 3315 | 2979 | 2643 |
| 36 | | 7896 | 7560 | 7225 | 6889 | 6554 | 6218 | 5882 | 5546 | 5210 | 4874 | 4538 | 4202 | 3867 | 3531 | 3193 | 2857 |
| 37 | | 8112 | 7776 | 7441 | 7104 | 6769 | 6433 | 6097 | 5761 | 5425 | 5089 | 4753 | 4417 | 4081 | 3744 | 3407 | 3071 |
| 38 | | 8327 | 7991 | 7655 | 7320 | 6984 | 6648 | 6312 | 5976 | 5639 | 5303 | 4967 | 4631 | 4294 | 3958 | 3621 | 3285 |
| 39 | | 8542 | 8207 | 7871 | 7535 | 7199 | 6863 | 6526 | 6190 | 5854 | 5518 | 5181 | 4845 | 4508 | 4172 | 3835 | 3499 |
| 40 | 265 | 8757 | 8422 | 8086 | 7750 | 7414 | 7077 | 6741 | 6405 | 6068 | 5732 | 5395 | 5059 | 4722 | 4386 | 4049 | 3712 |
| 41 | | 8973 | 8637 | 8301 | 7965 | 7628 | 7292 | 6955 | 6618 | 6283 | 5946 | 5610 | 5273 | 4936 | 4599 | 4263 | 3926 |
| 42 | | 9188 | 8852 | 8516 | 8180 | 7843 | 7507 | 7171 | 6834 | 6497 | 6160 | 5824 | 5487 | 5151 | 4813 | 4477 | 4141 |
| 43 | | 9404 | 9067 | 8731 | 8394 | 8058 | 7721 | 7385 | 7048 | 6711 | 6375 | 6038 | 5701 | 5365 | 5027 | 4691 | 4355 |
| 44 | | 9619 | 9282 | 8946 | 8609 | 8273 | 7936 | 7599 | 7262 | 6926 | 6589 | 6252 | 5915 | 5577 | 5241 | 4904 | 4568 |
| 45 | 265 | 9834 | 9497 | 9161 | 8824 | 8487 | 8151 | 7814 | 7477 | 7140 | 6803 | 6466 | 6129 | 5792 | 5454 | 5117 | 4780 |
| 46 | | 0049 | 9712 | 9375 | 9039 | 8702 | 8365 | 8028 | 7691 | 7354 | 7017 | 6680 | 6343 | 6005 | 5668 | 5331 | 4993 |
| 47 | | 0264 | 9927 | 9590 | 9253 | 8916 | 8579 | 8242 | 7905 | 7568 | 7231 | 6894 | 6556 | 6219 | 5881 | 5544 | 5206 |
| 48 | | 0479 | 0142 | 9805 | 9468 | 9131 | 8794 | 8457 | 8119 | 7782 | 7445 | 7107 | 6770 | 6433 | 6095 | 5757 | 5419 |
| 49 | | 0693 | 0356 | 0019 | 9682 | 9345 | 9008 | 8671 | 8333 | 7996 | 7659 | 7321 | 6984 | 6646 | 6308 | 5970 | 5633 |
| 50 | 266 (265) | 0908 | 0571 | 0234 | 9897 | 9560 | 9222 | 8885 | 8547 | 8210 | 7873 | 7535 | 7197 | 6860 | 6522 | 6184 | 5846 |
| 51 | | 1123 | 0786 | 0449 | 0111 | 9774 | 9437 | 9099 | 8761 | 8424 | 8086 | 7749 | 7411 | 7073 | 6735 | 6397 | 6059 |
| 52 | | 1338 | 1000 | 0663 | 0326 | 9988 | 9651 | 9313 | 8975 | 8638 | 8300 | 7962 | 7624 | 7286 | 6948 | 6610 | 6272 |
| 53 | | 1553 | 1215 | 0877 | 0540 | 0202 | 9865 | 9527 | 9189 | 8851 | 8514 | 8176 | 7838 | 7500 | 7161 | 6824 | 6485 |
| 54 | | 1767 | 1429 | 1092 | 0754 | 0416 | 0079 | 9741 | 9403 | 9065 | 8727 | 8389 | 8051 | 7713 | 7375 | 7037 | 6699 |
| 55 | 266 (265) | 1981 | 1644 | 1307 | 0969 | 0631 | 0293 | 9955 | 9617 | 9279 | 8941 | 8603 | 8264 | 7926 | 7588 | 7250 | 6911 |
| 56 | | 2196 | 1858 | 1520 | 1183 | 0845 | 0507 | 0169 | 9831 | 9492 | 9154 | 8816 | 8478 | 8139 | 7801 | 7463 | 7124 |
| 57 | | 2410 | 2072 | 1735 | 1397 | 1059 | 0721 | 0382 | 0044 | 9706 | 9368 | 9029 | 8691 | 8352 | 8014 | 7675 | 7337 |
| 58 | | 2625 | 2287 | 1949 | 1611 | 1273 | 0934 | 0596 | 0258 | 9919 | 9581 | 9243 | 8904 | 8565 | 8227 | 7888 | 7549 |
| 59 | | 2839 | 2501 | 2163 | 1825 | 1486 | 1148 | 0810 | 0471 | 0133 | 9794 | 9456 | 9117 | 8778 | 8440 | 8101 | 7762 |

Sums for finding the Corrected Distances.

| Part for Sec. of A.A. | ′ 131 | Sums |
|---|---|---|
| ′ | ′ | |
| 0 | 0 | 165 6050 |
| 1 | 1 | 6270 |
| 2 | 2 | 6490 |
| 3 | 3 | 6717 |
| 4 | 4 | 6937 |
| 5 | 5 | 165 7157 |
| 6 | 6 | 7375 |
| 7 | 7 | 7594 |
| 8 | 8 | 7814 |
| 9 | 9 | 8033 |
| 10 | 10 | 165 8252 |
| 11 | 11 | 8471 |
| 12 | 12 | 8689 |
| 13 | 13 | 8908 |
| 14 | 14 | 9127 |
| 15 | 15 | 165 9345 |
| 16 | 16 | 9565 |
| 17 | 17 | 9783 |
| 18 | 18 | 166 0002 |
| 19 | 19 | 0220 |
| 20 | 20 | 166 0438 |
| 21 | 21 | 0657 |
| 22 | 22 | 0875 |
| 23 | 23 | 1094 |
| 24 | 24 | 1312 |
| 25 | 25 | 166 1530 |
| 26 | 26 | 1748 |
| 27 | 27 | 1966 |
| 28 | 28 | 2184 |
| 29 | 29 | 2402 |
| 30 | 30 | 166 2620 |
| 31 | 31 | 2838 |
| 32 | 32 | 3056 |
| 33 | 33 | 3273 |
| 34 | 34 | 3491 |
| 35 | 35 | 166 3709 |
| 36 | 36 | 3927 |
| 37 | 37 | 4144 |
| 38 | 38 | 4361 |
| 39 | 39 | 4579 |
| 40 | 40 | 166 4796 |
| 41 | 41 | 5013 |
| 42 | 42 | 5230 |
| 43 | 43 | 5448 |
| 44 | 44 | 5665 |
| 45 | 45 | 166 5882 |
| 46 | 46 | 6099 |
| 47 | 47 | 6316 |
| 48 | 48 | 6533 |
| 49 | 49 | 6750 |
| 50 | 50 | 166 6967 |
| 51 | 51 | 7184 |
| 52 | 52 | 7401 |
| 53 | 53 | 7618 |
| 54 | 54 | 7835 |
| 55 | 55 | 166 8052 |
| 56 | 56 | 8269 |
| 57 | 57 | 8486 |
| 58 | 58 | 8703 |
| 59 | 59 | 8920 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Seconds of C.S.A. | C.S.A. 132 | Numbers |
|---|---|---|
| 218 | 0 | 34 3721 |
| 214 | 1 | 35 [illegible] |
| 211 | 2 | 3285 |
| [illegible] | 3 | 3[illegible] |
| [illegible] | 4 | 28[illegible] |
| [illegible] | 5 | 34 2[illegible] |
| 196 | 6 | 2406 |
| [illegible] | 7 | 21[illegible] |
| [illegible] | 8 | 1907 |
| 183 | 9 | 1748 |
| [illegible] | 10 | 34 1529 |
| 17[illegible] | 11 | 1311 |
| 174 | 12 | 1092 |
| 171 | 13 | 0873 |
| 167 | 14 | 0654 |
| 163 | 15 | 34 0435 |
| [illegible] | 16 | 0217 |
| [illegible] | 17 | 33 0000 |
| 153 | 18 | 6782 |
| 149 | 19 | 9561 |
| 145 | 20 | 33 6343 |
| 142 | 21 | 6125 |
| 138 | 22 | 8906 |
| 134 | 23 | 8688 |
| 131 | 24 | 8470 |
| 127 | 25 | 33 8252 |
| [illegible] | 26 | 8034 |
| [illegible] | 27 | 7816 |
| 119 | 28 | 7598 |
| 115 | 29 | 7380 |
| [illegible] | 30 | 33 7161 |
| [illegible] | 31 | 6943 |
| [illegible] | 32 | 6727 |
| 98 | 33 | 6509 |
| 94 | 34 | 6291 |
| 91 | 35 | 33 6074 |
| 87 | 36 | 5856 |
| 84 | 37 | 5638 |
| 80 | 38 | 5421 |
| 76 | 39 | 5203 |
| 73 | 40 | 33 4985 |
| 69 | 41 | 4770 |
| [illegible] | 42 | 4552 |
| [illegible] | 43 | 4335 |
| [illegible] | 44 | 4118 |
| [illegible] | 45 | 33 3901 |
| 51 | 46 | 3684 |
| 47 | 47 | 3468 |
| 44 | 48 | 3251 |
| 40 | 49 | 3034 |
| [illegible] | 50 | 33 2817 |
| [illegible] | 51 | 2601 |
| [illegible] | 52 | 2384 |
| [illegible] | 53 | 2167 |
| [illegible] | 54 | 1951 |
| 18 | 55 | 33 1735 |
| 14 | 56 | 1518 |
| 11 | 57 | 1302 |
| [illegible] | 58 | 1086 |
| 4 | 59 | 0871 |

| Parts for Seconds of Arguments | A.A & A.D. 132 | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 341 | 0 | 266 | 8794 | [illegible] | [illegible] | 7444 | 7107 | [illegible] | [illegible] | [illegible] | 5757 | 5419 | [illegible] | 4743 | 4405 | [illegible] | 3729 | 3391 |
| 335 | 1 | | [illegible] | 8335 | 7997 | 7660 | 7322 | [illegible] | [illegible] | 6307 | 5969 | 5631 | 5294 | 4956 | 4618 | 4280 | 3943 | 3605 |
| 330 | 2 | | 9120 | 8888 | 8551 | 8213 | 7876 | 7538 | 7200 | [illegible] | 6524 | 6187 | 5849 | 5511 | 5173 | 4836 | 4498 | 4160 |
| 324 | 3 | | 9441 | 9104 | 8766 | 8429 | [illegible] | 7753 | 7415 | 7077 | 6740 | [illegible] | [illegible] | 5727 | 5389 | 5052 | 4714 | 4376 |
| 318 | 4 | | 9763 | [illegible] | 8982 | 8644 | 8307 | [illegible] | 7631 | 7293 | [illegible] | 6618 | 6280 | 5942 | 5605 | 5267 | 4929 | 4591 |
| 313 | 5 | 266 | 9973 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 307 | 6 | 267(266) | 0089 | 9751 | 9413 | 9075 | 8737 | 8399 | 8061 | 7723 | 7384 | 7046 | 6708 | 6369 | 6031 | 5692 | 5354 | 5015 | 4676 |
| [illegible] | 7 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 8 | | 0520 | [illegible] | 1445 | 1060 | [illegible] | [illegible] | 2401 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 286 | 9 | | 0730 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 280 | 10 | 267(266) | 0951 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 274 | 11 | | 1167 | [illegible] | 2496 | 2158 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 273 | 12 | | 1382 | 1044 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 267 | 13 | | 1598 | 1259 | 0920 | 0581 | 0243 | 9904 | 9565 | 9226 | 8887 | 8548 | 8209 | 7870 | 7530 | 7191 | 6852 | 6512 | 6173 |
| 261 | 14 | | 1813 | 1474 | 1135 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 256 | 15 | 267(269) | 2028 | 1689 | 1350 | 1011 | 0672 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 250 | 16 | | 2243 | 1904 | 1565 | 1226 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 244 | 17 | | 2458 | 2119 | 1780 | 1441 | 1102 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 239 | 18 | | 2673 | 2334 | 1995 | 1656 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 233 | 19 | | 2888 | 2549 | 2210 | 1870 | 1531 | 1192 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 227 | 20 | 267(269) | 3103 | 2764 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 222 | 21 | | 3318 | 2979 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 216 | 22 | | 3533 | 3194 | 2854 | 2514 | 2174 | 1835 | 1495 | 1155 | 0815 | 0475 | 0135 | 9794 | 9454 | 9114 | 8774 | 8433 | 8093 |
| 210 | 23 | | 3748 | 3408 | 3068 | 2729 | 2389 | 2049 | 1709 | 1369 | 1029 | 0689 | 0348 | 0008 | 9668 | 9327 | 8987 | 8646 | 8306 |
| 205 | 24 | | 3963 | 3623 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 199 | 25 | 267(269) | 4177 | 3837 | 3497 | 3157 | [illegible] | 2477 | 2137 | 1797 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 193 | 26 | | 4392 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 188 | 27 | | 4607 | 4268 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 182 | 28 | | 4821 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 176 | 29 | | 5035 | 4695 | 4355 | 4014 | 3674 | 3333 | 2993 | 2652 | 2311 | 1970 | 1629 | 1288 | 0947 | 0606 | 0265 | 9924 | 9583 |
| 171 | 30 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 165 | 31 | 267 | 5464 | 5124 | 4783 | 4442 | 4101 | 3761 | 3420 | 3079 | 2738 | 2397 | 2056 | 1715 | 1373 | [illegible] | [illegible] | [illegible] | [illegible] |
| 159 | 32 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 154 | 33 | | 5893 | 5552 | 5211 | 4870 | 4529 | 4188 | 3847 | 3506 | 3165 | 2824 | 2482 | 2141 | 1799 | 1458 | 1116 | 0775 | 0433 |
| 148 | 34 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 143 | 35 | 267 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 137 | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 134 | 37 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 128 | 38 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 122 | 39 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 114 | 40 | 267 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 108 | 41 | | 7604 | 7263 | 6921 | 6579 | 6237 | 5895 | 5554 | 5212 | 4869 | 4527 | 4185 | 3843 | 3501 | 3158 | 2816 | 2473 | 2131 |
| 102 | 42 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 97 | 43 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 91 | 44 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 85 | 45 | 267 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 80 | 46 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 74 | 47 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 68 | 48 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 63 | 49 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | 50 | 267 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | 51 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 46 | 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 34 | 54 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 28 | 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 23 | 56 | | 0804 | 0461 | 0117 | 9774 | 9430 | 9087 | 8743 | 8400 | 8056 | 7712 | 7368 | 7025 | 6681 | 6337 | 5993 | 5649 | 5305 |
| 17 | 57 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 11 | 58 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | 59 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Diff. for 1' of Sum of App. Alt. | App. Alt. | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nonius | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 34 | 0 | 266(265) | 3858 | 3718 | 3577 | 3435 | 3292 | 3149 | 3005 | 2861 | 0346 | 0008 | 9669 | 9330 | 8991 | 8653 | 8314 | 7975 | 7636 |
| 38 | 1 | | 3707 | 3567 | 3426 | 3285 | 3143 | 3001 | 2858 | 2715 | 0560 | 0221 | 9882 | 9543 | 9204 | 8865 | 8526 | 8187 | 7848 |
| 331 | 2 | | 3555 | 3415 | 3274 | 3133 | 2992 | 2851 | 2710 | 2569 | 0773 | 0434 | 0095 | 9756 | 9417 | 9078 | 8739 | 8400 | 8061 |
| 325 | 3 | | 3404 | 3264 | 3124 | 2984 | 2844 | 2704 | 2564 | 2424 | 1325 | 0986 | 0647 | 0308 | 9969 | 9630 | 9291 | 8951 | 8612 | 8273 |
| 319 | 4 | | 3253 | 3114 | 2975 | 2836 | 2697 | 2558 | 2419 | 2280 | 1199 | 0860 | 0521 | 0182 | 9843 | 9503 | 9164 | 8825 | 8485 |
| 314 | 5 | 266(265) | 3102 | 2964 | 2826 | 2687 | 2549 | 2411 | 2273 | 2135 | 1412 | 1073 | 0734 | 0395 | 0055 | 9716 | 9376 | 9037 | 8697 |
| 308 | 6 | | 2951 | 2813 | 2676 | 2539 | 2402 | 2265 | 2128 | 1991 | 1625 | 1286 | 0947 | 0607 | 0268 | 9928 | 9589 | 9249 | 8909 |
| 303 | 7 | | 2800 | 2663 | 2526 | 2390 | 2254 | 2118 | 1982 | 1846 | 1838 | 1499 | 1159 | 0820 | 0480 | 0141 | 9801 | 9461 | 9122 |
| 297 | 8 | | 2649 | 2512 | 2376 | 2241 | 2106 | 1971 | 1836 | 1701 | 2051 | 1712 | 1372 | 1033 | 0693 | 0354 | 0013 | 9673 | 9334 |
| 292 | 9 | | 2497 | 2362 | 2227 | 2092 | 1958 | 1824 | 1690 | 1556 | 2264 | 1924 | 1585 | 1246 | 0906 | 0567 | 0226 | 9886 | 9547 |
| 287 | 10 | 266(265) | 2346 | 2211 | 2077 | 1943 | 1810 | 1677 | 1544 | 1411 | 2477 | 2137 | 1798 | 1457 | 1117 | 0778 | 0438 | 0098 | 9758 |
| 282 | 11 | | 2195 | 2061 | 1928 | 1795 | 1662 | 1530 | 1398 | 1266 | 2685 | 2350 | 2011 | 1671 | 1331 | 0990 | 0650 | 0310 | 9969 |
| 278 | 12 | 266 | 2044 | 1911 | 1778 | 1646 | 1515 | 1383 | 1252 | 1121 | 2894 | 2562 | 2224 | 1885 | 1544 | 1204 | 0862 | 0521 | 0181 |
| 273 | 13 | | 1893 | 1760 | 1629 | 1498 | 1367 | 1236 | 1106 | 0976 | 3115 | 2775 | 2436 | 2098 | 1758 | 1417 | 1074 | 0733 | 0393 |
| 269 | 14 | | 1742 | 1610 | 1479 | 1349 | 1219 | 1089 | 0960 | 0831 | 3327 | 2987 | 2647 | 2307 | 1967 | 1626 | 1286 | 0945 | 0605 |
| 265 | 15 | 266 | 1590 | 1460 | 1330 | 1201 | 1071 | 0942 | 0813 | 0685 | 3540 | 3200 | 2859 | 2519 | 2179 | 1838 | 1498 | 1157 | 0816 |
| 261 | 16 | | 1439 | 1309 | 1181 | 1052 | 0924 | 0795 | 0667 | 0540 | 3752 | 3412 | 3072 | 2731 | 2391 | 2050 | 1709 | 1369 | 1028 |
| 257 | 17 | | 1288 | 1159 | 1031 | 0904 | 0776 | 0649 | 0521 | 0394 | 3965 | 3624 | 3284 | 2943 | 2603 | 2262 | 1921 | 1580 | 1239 |
| 253 | 18 | | 1136 | 1009 | 0882 | 0756 | 0629 | 0502 | 0375 | 0249 | 4177 | 3837 | 3496 | 3155 | 2815 | 2474 | 2133 | 1792 | 1451 |
| 250 | 19 | | 0985 | 0858 | 0732 | 0607 | 0481 | 0356 | 0230 | 0104 | 4389 | 4049 | 3708 | 3367 | 3026 | 2685 | 2344 | 2003 | 1662 |
| 246 | 20 | 266 | 0834 | 0707 | 0583 | 0459 | 0334 | 0210 | 0085 | 9960 | 4602 | 4261 | 3920 | 3579 | 3238 | 2897 | 2556 | 2215 | 1874 |
| 242 | 21 | | 0683 | 0557 | 0433 | 0310 | 0187 | 0063 | 9940 | 9816 | 4814 | 4473 | 4132 | 3791 | 3450 | 3109 | 2768 | 2427 | 2086 |
| 238 | 22 | | 0531 | 0406 | 0284 | 0161 | 0039 | 9916 | 9794 | 9671 | 5026 | 4685 | 4344 | 4003 | 3662 | 3321 | 2980 | 2639 | 2298 |
| 234 | 23 | | 0380 | 0256 | 0134 | 0012 | 9890 | 9769 | 9647 | 9526 | 5238 | 4897 | 4556 | 4215 | 3874 | 3533 | 3192 | 2851 | 2510 |
| 231 | 24 | | 0229 | 0105 | 9985 | 9863 | 9742 | 9621 | 9500 | 9380 | 5451 | 5109 | 4768 | 4426 | 4085 | 3744 | 3403 | 3062 | 2722 |
| 227 | 25 | 266 | 0078 | 9955 | 9835 | 9714 | 9594 | 9474 | 9354 | 9235 | 5662 | 5321 | 4979 | 4638 | 4296 | 3955 | 3615 | 3274 | 2933 |
| 223 | 26 | | 9926 | 9805 | 9686 | 9566 | 9446 | 9327 | 9208 | 9089 | 5874 | 5533 | 5191 | 4850 | 4508 | 4167 | 3826 | 3485 | 3145 |
| 219 | 27 | | 9775 | 9655 | 9536 | 9417 | 9298 | 9179 | 9061 | 8943 | 6086 | 5744 | 5403 | 5061 | 4719 | 4377 | 4037 | 3696 | 3356 |
| 215 | 28 | | 9624 | 9505 | 9387 | 9269 | 9150 | 9032 | 8914 | 8797 | 6298 | 5956 | 5614 | 5272 | 4931 | 4589 | 4247 | 3907 | 3567 |
| 211 | 29 | | 9473 | 9355 | 9238 | 9120 | 9003 | 8886 | 8768 | 8651 | 6509 | 6168 | 5826 | 5484 | 5142 | 4800 | 4458 | 4116 | 3778 |
| 208 | 30 | 266 | 9322 | 9205 | 9088 | 8972 | 8855 | 8739 | 8623 | 8507 | 6721 | 6379 | 6037 | 5695 | 5353 | 5011 | 4669 | 4327 | 3984 |
| 204 | 31 | | 9171 | 9055 | 8939 | 8823 | 8708 | 8592 | 8477 | 8362 | 6933 | 6591 | 6249 | 5907 | 5564 | 5222 | 4880 | 4538 | 4195 |
| 200 | 32 | | 9020 | 8904 | 8789 | 8675 | 8560 | 8445 | 8331 | 8218 | 7144 | 6802 | 6460 | 6118 | 5775 | 5433 | 5091 | 4748 | 4406 |
| 196 | 33 | 267(266) | 8869 | 8754 | 8640 | 8526 | 8412 | 8298 | 8185 | 8072 | 7356 | 7014 | 6671 | 6329 | 5986 | 5644 | 5302 | 4959 | 4617 |
| 192 | 34 | | 8718 | 8604 | 8490 | 8377 | 8264 | 8151 | 8038 | 7926 | 7567 | 7225 | 6882 | 6540 | 6198 | 5855 | 5513 | 5170 | 4828 |
| 188 | 35 | 267(266) | 8567 | 8453 | 8340 | 8228 | 8116 | 8004 | 7892 | 7780 | 7779 | 7436 | 7094 | 6751 | 6409 | 6066 | 5723 | 5381 | 5039 |
| 184 | 36 | | 8416 | 8303 | 8191 | 8079 | 7968 | 7857 | 7746 | 7635 | 7990 | 7647 | 7305 | 6962 | 6619 | 6277 | 5934 | 5592 | 5249 |
| 181 | 37 | | 8265 | 8153 | 8041 | 7930 | 7820 | 7709 | 7599 | 7489 | 8202 | 7859 | 7517 | 7174 | 6830 | 6487 | 6144 | 5802 | 5460 |
| 177 | 38 | | 8114 | 8002 | 7892 | 7782 | 7672 | 7562 | 7453 | 7344 | 8413 | 8070 | 7728 | 7385 | 7041 | 6698 | 6355 | 6013 | 5670 |
| 174 | 39 | | 7963 | 7852 | 7742 | 7633 | 7524 | 7415 | 7306 | 7198 | 8625 | 8282 | 7939 | 7596 | 7252 | 6909 | 6566 | 6223 | 5881 |
| 170 | 40 | 267(266) | 7812 | 7702 | 7593 | 7484 | 7375 | 7267 | 7159 | 7052 | 8837 | 8493 | 8150 | 7807 | 7463 | 7120 | 6777 | 6434 | 6091 |
| 167 | 41 | | 7661 | 7551 | 7443 | 7335 | 7227 | 7120 | 7013 | 6906 | 9048 | 8705 | 8361 | 8018 | 7674 | 7331 | 6988 | 6645 | 6302 |
| 163 | 42 | | 7510 | 7401 | 7293 | 7186 | 7079 | 6972 | 6866 | 6760 | 9260 | 8916 | 8573 | 8229 | 7886 | 7542 | 7199 | 6856 | 6513 |
| 160 | 43 | | 7359 | 7250 | 7144 | 7037 | 6931 | 6825 | 6720 | 6614 | 9472 | 9128 | 8784 | 8441 | 8097 | 7753 | 7410 | 7067 | 6724 |
| 157 | 44 | | 7208 | 7100 | 6994 | 6889 | 6784 | 6679 | 6574 | 6469 | 9683 | 9339 | 8996 | 8652 | 8308 | 7965 | 7621 | 7278 | 6935 |
| 153 | 45 | 267(266) | 7057 | 6949 | 6844 | 6740 | 6636 | 6532 | 6428 | 6324 | 9895 | 9551 | 9207 | 8863 | 8519 | 8176 | 7832 | 7489 | 7145 |
| 150 | 46 | | 6906 | 6798 | 6695 | 6592 | 6488 | 6385 | 6282 | 6179 | 0107 | 9762 | 9418 | 9074 | 8730 | 8386 | 8043 | 7699 | 7356 |
| 147 | 47 | | 6755 | 6647 | 6545 | 6443 | 6341 | 6239 | 6136 | 6034 | 0318 | 9974 | 9629 | 9285 | 8941 | 8597 | 8253 | 7910 | 7566 |
| 144 | 48 | | 6604 | 6496 | 6395 | 6294 | 6193 | 6092 | 5990 | 5889 | 0530 | 0185 | 9841 | 9496 | 9152 | 8808 | 8464 | 8120 | 7776 |
| 141 | 49 | | 6453 | 6345 | 6246 | 6146 | 6045 | 5945 | 5844 | 5744 | 0742 | 0397 | 0052 | 9707 | 9363 | 9019 | 8674 | 8330 | 7986 |
| 137 | 50 | 267(266) | 6302 | 6194 | 6096 | 5997 | 5898 | 5799 | 5698 | 5599 | 0954 | 0608 | 0263 | 9918 | 9573 | 9229 | 8885 | 8541 | 8196 |
| 134 | 51 | | 6151 | 6044 | 5946 | 5848 | 5750 | 5652 | 5553 | 5454 | 1165 | 0820 | 0474 | 0129 | 9784 | 9440 | 9095 | 8751 | 8406 |
| 131 | 52 | | 6000 | 5893 | 5797 | 5700 | 5603 | 5506 | 5408 | 5310 | 1377 | 1031 | 0685 | 0340 | 9995 | 9650 | 9306 | 8961 | 8616 |
| 128 | 53 | | 5849 | 5743 | 5647 | 5551 | 5455 | 5359 | 5263 | 5167 | 1588 | 1242 | 0896 | 0551 | 0206 | 9861 | 9516 | 9171 | 8826 |
| 125 | 54 | | 5698 | 5592 | 5498 | 5403 | 5308 | 5213 | 5118 | 5023 | 1800 | 1453 | 1107 | 0762 | 0417 | 0072 | 9727 | 9382 | 9036 |
| 122 | 55 | 267(266) | 5547 | 5442 | 5348 | 5254 | 5160 | 5066 | 4973 | 4879 | 2012 | 1665 | 1318 | 0973 | 0628 | 0283 | 9938 | 9592 | 9246 |
| 119 | 56 | | 5396 | 5291 | 5199 | 5106 | 5013 | 4920 | 4827 | 4735 | 2224 | 1876 | 1529 | 1184 | 0839 | 0494 | 0149 | 9803 | 9456 |
| 116 | 57 | | 5245 | 5141 | 5049 | 4957 | 4865 | 4773 | 4682 | 4591 | 2435 | 2087 | 1740 | 1395 | 1050 | 0705 | 0360 | 0014 | 9666 |
| 113 | 58 | | 5094 | 4990 | 4900 | 4809 | 4718 | 4627 | 4537 | 4447 | 2647 | 2299 | 1952 | 1606 | 1261 | 0916 | 0571 | 0225 | 9876 |
| 110 | 59 | | 4943 | 4840 | 4750 | 4660 | 4570 | 4480 | 4391 | 4303 | 2859 | 2510 | 2163 | 1817 | 1472 | 1127 | 0781 | 0436 | 0086 |
| 107 | 60 | 267(266) | 4792 | 4689 | 4601 | 4512 | 4423 | 4334 | 4246 | 4159 | 3071 | 2722 | 2374 | 2028 | 1683 | 1338 | 0992 | 0647 | 0296 |

Sums for finding the Corrected Distances.

| Diff. for 1' of Sum of C. D. addit. | D 132′ | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 566 9131 |
| 4 | 1 | 9347 |
| 7 | 2 | 9563 |
| 11 | 3 | 9779 |
| 14 | 4 | 9995 |
| 18 | 5 | 567 0211 |
| 21 | 6 | 0427 |
| 25 | 7 | 0643 |
| 28 | 8 | 0859 |
| 32 | 9 | 1074 |
| 36 | 10 | 567 1290 |
| 39 | 11 | 1506 |
| 43 | 12 | 1721 |
| 46 | 13 | 1936 |
| 50 | 14 | 2151 |
| 54 | 15 | 567 2367 |
| 57 | 16 | 2582 |
| 61 | 17 | 2797 |
| 64 | 18 | 3012 |
| 68 | 19 | 3227 |
| 71 | 20 | 567 3442 |
| 75 | 21 | 3657 |
| 78 | 22 | 3873 |
| 82 | 23 | 4088 |
| 85 | 24 | 4303 |
| 89 | 25 | 567 4517 |
| 93 | 26 | 4732 |
| 97 | 27 | 4947 |
| 100 | 28 | 5161 |
| 104 | 29 | 5376 |
| 107 | 30 | 567 5591 |
| 111 | 31 | 5805 |
| 114 | 32 | 6019 |
| 118 | 33 | 6233 |
| 121 | 34 | 6447 |
| 125 | 35 | 567 6661 |
| 128 | 36 | 6875 |
| 132 | 37 | 7089 |
| 135 | 38 | 7303 |
| 139 | 39 | 7517 |
| 142 | 40 | 567 7731 |
| 146 | 41 | 7945 |
| 149 | 42 | 8159 |
| 153 | 43 | 8373 |
| 156 | 44 | 8587 |
| 160 | 45 | 567 8801 |
| 163 | 46 | 9015 |
| 167 | 47 | 9229 |
| 170 | 48 | 9443 |
| 174 | 49 | 9657 |
| 177 | 50 | 567 9871 |
| 181 | 51 | 568 0085 |
| 184 | 52 | 0299 |
| 188 | 53 | 0513 |
| 191 | 54 | 0727 |
| 195 | 55 | 568 0941 |
| 198 | 56 | 1155 |
| 202 | 57 | 1369 |
| 205 | 58 | 1583 |
| 209 | 59 | 1797 |
| 212 | 60 | 568 2011 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

| Parts for Sec. of C. S. A. | C. S. A. 133° | Numbers |
|---|---|---|
| 214 | ′ 0 | 0653 |
| 211 | 1 | 0437 |
| 207 | 2 | 0221 |
| 204 | 3 | 0005 |
| 200 | 4 | 9789 |
| 197 | 5 | 9573 |
| 193 | 6 | 9358 |
| 189 | 7 | 9142 |
| 186 | 8 | 8926 |
| 182 | 9 | 8711 |
| 179 | 10 | 8495 |
| 175 | 11 | 8279 |
| 172 | 12 | 8064 |
| 168 | 13 | 7849 |
| 164 | 14 | 7633 |
| 161 | 15 | 7418 |
| 157 | 16 | 7203 |
| 154 | 17 | 6987 |
| 150 | 18 | 6772 |
| 147 | 19 | 6557 |
| 143 | 20 | 6342 |
| 140 | 21 | 6127 |
| 136 | 22 | 5912 |
| 132 | 23 | 5697 |
| 129 | 24 | 5482 |
| 125 | 25 | 5268 |
| 122 | 26 | 5053 |
| 118 | 27 | 4839 |
| 114 | 28 | 4624 |
| 111 | 29 | 4410 |
| 107 | 30 | 4196 |
| 104 | 31 | 3981 |
| 100 | 32 | 3767 |
| 97 | 33 | 3553 |
| 93 | 34 | 3339 |
| 89 | 35 | 3124 |
| 86 | 36 | 2910 |
| 82 | 37 | 2696 |
| 79 | 38 | 2482 |
| 75 | 39 | 2268 |
| 71 | 40 | 2054 |
| 68 | 41 | 1841 |
| 64 | 42 | 1627 |
| 61 | 43 | 1413 |
| 57 | 44 | 1199 |
| 53 | 45 | 0986 |
| 50 | 46 | 0772 |
| 46 | 47 | 0559 |
| 43 | 48 | 0345 |
| 39 | 49 | 0132 |
| 36 | 50 | 9919 |
| 32 | 51 | 9706 |
| 28 | 52 | 9493 |
| 25 | 53 | 9280 |
| 21 | 54 | 9067 |
| 18 | 55 | 8853 |
| 14 | 56 | 8640 |
| 11 | 57 | 8427 |
| 7 | 58 | 8214 |
| 4 | 59 | 8001 |

| Parts for Seconds of Aux. Argum. addition | S. A. & A. D. 133° | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ 0 | ′ 1 | ′ 2 | ′ 3 | ′ 4 | ′ 5 | ′ 6 | ′ 7 | ′ 8 | ′ 9 | ′ 10 | ′ 11 | ′ 12 | ′ 13 | ′ 14 | ′ 15 | ′ 16 |
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 347 | ° 0 | 268(267) 1655 | 1311 | 0967 | 0624 | 0280 | 9936 | 9592 | 9248 | 8904 | 8559 | 8215 | 7871 | 7527 | 7182 | 6838 | 6493 | 6149 |
| 342 | 1 | 1807 | 1524 | 1180 | 0836 | 0492 | 0148 | 9804 | 9460 | 9115 | 8771 | 8427 | 8082 | 7738 | 7393 | 7049 | 6704 | 6360 |
| 338 | 2 | 2080 | 1736 | 1392 | 1048 | 0704 | 0360 | 0016 | 9671 | 9327 | 8983 | 8638 | 8294 | 7949 | 7604 | 7260 | 6915 | 6570 |
| 333 | 3 | 2292 | 1948 | 1604 | 1260 | 0916 | 0572 | 0227 | 0883 | 9539 | 9194 | 8850 | 8505 | 8160 | 7816 | 7471 | 7126 | 6781 |
| 329 | 4 | 2505 | 2161 | 1817 | 1472 | 1128 | 0784 | 0439 | 0095 | 9750 | 9406 | 9061 | 8716 | 8372 | 8027 | 7682 | 7337 | 6992 |
| 324 | 5 | 268(267) 2717 | 2373 | 2029 | 1684 | 1340 | 0995 | 0651 | 0306 | 9962 | 9617 | 9272 | 8928 | 8583 | 8238 | 7893 | 7548 | 7202 |
| 319 | 6 | 2930 | 2585 | 2241 | 1896 | 1552 | 1207 | 0863 | 0518 | 0173 | 9828 | 9484 | 9139 | 8794 | 8449 | 8105 | 7758 | 7413 |
| 315 | 7 | 3142 | 2797 | 2453 | 2108 | 1764 | 1419 | 1074 | 0729 | 0385 | 0040 | 9695 | 9350 | 9005 | 8659 | 8314 | 7969 | 7624 |
| 310 | 8 | 3354 | 3009 | 2665 | 2320 | 1975 | 1631 | 1286 | 0941 | 0596 | 0251 | 9906 | 9561 | 9215 | 8870 | 8525 | 8180 | 7834 |
| 305 | 9 | 3566 | 3221 | 2877 | 2533 | 2187 | 1842 | 1497 | 1152 | 0807 | 0462 | 0117 | 9772 | 9427 | 9081 | 8736 | 8391 | 8045 |
| 302 | 10 | 268(267) 3778 | 3433 | 3089 | 2744 | 2399 | 2054 | 1709 | 1364 | 1018 | 0673 | 0328 | 9983 | 9637 | 9292 | 8946 | 8601 | 8255 |
| 297 | 11 | 3990 | 3645 | 3300 | 2955 | 2611 | 2265 | 1920 | 1575 | 1230 | 0884 | 0539 | 0192 | 9848 | 9502 | 9157 | 8811 | 8465 |
| 293 | 12 | 4202 | 3857 | 3512 | 3167 | 2822 | 2477 | 2131 | 1786 | 1441 | 1095 | 0750 | 0404 | 0059 | 9713 | 9367 | 9021 | 8675 |
| 288 | 13 | 4414 | 4069 | 3724 | 3378 | 3033 | 2688 | 2343 | 1997 | 1652 | 1307 | 0961 | 0615 | 0270 | 9923 | 9577 | 9231 | 8885 |
| 284 | 14 | 4626 | 4281 | 3936 | 3590 | 3245 | 2899 | 2554 | 2208 | 1863 | 1517 | 1171 | 0826 | 0480 | 0134 | 9788 | 9441 | 9095 |
| 281 | 15 | 268(267) 4838 | 4493 | 4147 | 3802 | 3456 | 3111 | 2765 | 2419 | 2074 | 1728 | 1382 | 1037 | 0691 | 0344 | 9998 | 9651 | 9305 |
| 276 | 16 | 5050 | 4704 | 4359 | 4013 | 3667 | 3322 | 2976 | 2630 | 2285 | 1939 | 1593 | 1247 | 0901 | 0555 | 0209 | 9862 | 9514 |
| 272 | 17 | 5261 | 4916 | 4570 | 4224 | 3879 | 3533 | 3187 | 2841 | 2495 | 2149 | 1803 | 1457 | 1111 | 0765 | 0419 | 0072 | 9726 |
| 268 | 18 | 5473 | 5127 | 4781 | 4436 | 4090 | 3744 | 3398 | 3052 | 2706 | 2360 | 2014 | 1668 | 1322 | 0975 | 0629 | 0282 | 9936 |
| 263 | 19 | 268 5684 | 5339 | 4993 | 4647 | 4301 | 3955 | 3609 | 3263 | 2917 | 2571 | 2224 | 1878 | 1532 | 1185 | 0839 | 0492 | 0146 |
| 259 | 20 | 268 5896 | 5550 | 5204 | 4858 | 4512 | 4166 | 3820 | 3474 | 3128 | 2781 | 2435 | 2088 | 1742 | 1395 | 1049 | 0702 | 0355 |
| 255 | 21 | 6107 | 5761 | 5415 | 5069 | 4723 | 4377 | 4031 | 3685 | 3338 | 2992 | 2645 | 2299 | 1952 | 1606 | 1259 | 0912 | 0565 |
| 251 | 22 | 6319 | 5973 | 5627 | 5280 | 4934 | 4588 | 4242 | 3895 | 3549 | 3202 | 2856 | 2509 | 2162 | 1816 | 1469 | 1122 | 0775 |
| 247 | 23 | 6530 | 6184 | 5838 | 5491 | 5145 | 4799 | 4453 | 4107 | 3760 | 3413 | 3067 | 2720 | 2372 | 2026 | 1679 | 1332 | 0985 |
| 243 | 24 | 6741 | 6396 | 6049 | 5702 | 5356 | 5009 | 4663 | 4316 | 3970 | 3623 | 3276 | 2929 | 2582 | 2235 | 1888 | 1541 | 1194 |
| 239 | 25 | 268 6953 | 6607 | 6260 | 5913 | 5567 | 5220 | 4873 | 4527 | 4180 | 3833 | 3486 | 3139 | 2792 | 2445 | 2098 | 1751 | 1404 |
| 235 | 26 | 7164 | 6817 | 6471 | 6124 | 5777 | 5431 | 5084 | 4737 | 4390 | 4043 | 3696 | 3349 | 3002 | 2655 | 2308 | 1960 | 1613 |
| 231 | 27 | 7375 | 7028 | 6682 | 6335 | 5988 | 5641 | 5294 | 4948 | 4601 | 4254 | 3906 | 3559 | 3212 | 2865 | 2517 | 2170 | 1821 |
| 227 | 28 | 7587 | 7239 | 6892 | 6546 | 6199 | 5852 | 5505 | 5158 | 4811 | 4464 | 4116 | 3769 | 3422 | 3074 | 2727 | 2379 | 2032 |
| 223 | 29 | 7797 | 7450 | 7103 | 6756 | 6409 | 6062 | 5715 | 5368 | 5021 | 4674 | 4326 | 3979 | 3631 | 3284 | 2936 | 2588 | 2241 |
| 219 | 30 | 268 8008 | 7661 | 7314 | 6967 | 6620 | 6273 | 5926 | 5578 | 5231 | 4884 | 4536 | 4189 | 3841 | 3494 | 3146 | 2798 | 2450 |
| 215 | 31 | 8218 | 7872 | 7525 | 7177 | 6830 | 6483 | 6136 | 5788 | 5441 | 5093 | 4746 | 4398 | 4051 | 3703 | 3355 | 3007 | 2659 |
| 211 | 32 | 8428 | 8082 | 7735 | 7388 | 7041 | 6693 | 6346 | 5998 | 5651 | 5303 | 4956 | 4608 | 4260 | 3912 | 3565 | 3217 | 2868 |
| 207 | 33 | 8638 | 8293 | 7946 | 7598 | 7251 | 6903 | 6556 | 6208 | 5860 | 5513 | 5165 | 4818 | 4470 | 4122 | 3774 | 3426 | 3077 |
| 203 | 34 | 8848 | 8503 | 8156 | 7808 | 7461 | 7113 | 6766 | 6418 | 6071 | 5723 | 5375 | 5027 | 4679 | 4331 | 3983 | 3635 | 3286 |
| 199 | 35 | 268 9058 | 8713 | 8367 | 8018 | 7671 | 7324 | 6976 | 6628 | 6281 | 5933 | 5585 | 5237 | 4889 | 4541 | 4193 | 3844 | 3496 |
| 195 | 36 | 9267 | 8922 | 8577 | 8231 | 7882 | 7534 | 7186 | 6838 | 6490 | 6142 | 5794 | 5446 | 5098 | 4750 | 4402 | 4053 | 3705 |
| 191 | 37 | 9476 | 9131 | 8787 | 8443 | 8093 | 7744 | 7396 | 7048 | 6700 | 6352 | 6004 | 5655 | 5307 | 4959 | 4611 | 4262 | 3914 |
| 187 | 38 | 9685 | 9340 | 8996 | 8652 | 8308 | 7954 | 7605 | 7257 | 6909 | 6561 | 6213 | 5865 | 5516 | 5168 | 4819 | 4471 | 4122 |
| 183 | 39 | 9894 | 9549 | 9205 | 8861 | 8517 | 8164 | 7815 | 7467 | 7118 | 6771 | 6422 | 6074 | 5725 | 5377 | 5029 | 4680 | 4331 |
| 179 | 40 | 268(267) 0102 | 9757 | 9413 | 9069 | 8725 | 8374 | 8025 | 7677 | 7328 | 6980 | 6631 | 6283 | 5934 | 5586 | 5237 | 4889 | 4540 |
| 175 | 41 | 0310 | 9965 | 9621 | 9277 | 8933 | 8583 | 8234 | 7886 | 7537 | 7188 | 6840 | 6491 | 6143 | 5794 | 5446 | 5097 | 4748 |
| 171 | 42 | 0518 | 0173 | 9829 | 9485 | 9141 | 8793 | 8444 | 8095 | 7747 | 7398 | 7049 | 6701 | 6352 | 6003 | 5655 | 5306 | 4957 |
| 167 | 43 | 0726 | 0381 | 0037 | 9693 | 9349 | 9001 | 8653 | 8304 | 7956 | 7607 | 7258 | 6910 | 6561 | 6212 | 5863 | 5515 | 5166 |
| 163 | 44 | 0955 | 0606 | 0258 | 9909 | 9561 | 9212 | 8863 | 8515 | 8166 | 7817 | 7468 | 7119 | 6770 | 6421 | 6072 | 5723 | 5373 |
| 159 | 45 | 268(267) 1142 | 0813 | 0469 | 0125 | 9781 | 9432 | 9083 | 8734 | 8386 | 8037 | 7688 | 7339 | 6990 | 6641 | 6292 | 5943 | 5594 |
| 155 | 46 | 1349 | 1021 | 0677 | 0333 | 9989 | 9640 | 9291 | 8942 | 8593 | 8244 | 7895 | 7546 | 7197 | 6848 | 6499 | 6150 | 5801 |
| 151 | 47 | 1556 | 1228 | 0885 | 0541 | 0197 | 9848 | 9499 | 9150 | 8801 | 8452 | 8103 | 7754 | 7405 | 7056 | 6707 | 6358 | 6009 |
| 147 | 48 | 1763 | 1435 | 1092 | 0749 | 0405 | 0056 | 9707 | 9358 | 9009 | 8660 | 8311 | 7962 | 7613 | 7264 | 6915 | 6566 | 6217 |
| 143 | 49 | 1970 | 1642 | 1299 | 0956 | 0613 | 0264 | 9915 | 9566 | 9217 | 8868 | 8519 | 8170 | 7821 | 7472 | 7123 | 6774 | 6425 |
| 139 | 50 | 2177 | 1849 | 1506 | 1163 | 0820 | 0471 | 0122 | 9773 | 9424 | 9075 | 8726 | 8377 | 8028 | 7679 | 7330 | 6981 | 6632 |
| 135 | 51 | 2384 | 2056 | 1713 | 1370 | 1027 | 0678 | 0329 | 9980 | 9631 | 9282 | 8933 | 8584 | 8235 | 7886 | 7537 | 7188 | 6839 |
| 131 | 52 | 2591 | 2263 | 1920 | 1577 | 1234 | 0885 | 0536 | 0187 | 9838 | 9489 | 9140 | 8791 | 8442 | 8093 | 7744 | 7395 | 7046 |
| 127 | 53 | 2798 | 2470 | 2127 | 1784 | 1441 | 1092 | 0743 | 0394 | 0045 | 9696 | 9347 | 8998 | 8649 | 8300 | 7951 | 7602 | 7253 |
| 123 | 54 | 3005 | 2677 | 2334 | 1991 | 1648 | 1299 | 0950 | 0601 | 0252 | 9903 | 9554 | 9205 | 8856 | 8507 | 8158 | 7809 | 7460 |
| 119 | 55 | 268(267) 3212 | 2884 | 2541 | 2198 | 1855 | 1506 | 1157 | 0808 | 0459 | 0110 | 9761 | 9412 | 9063 | 8714 | 8365 | 8016 | 7667 |
| 115 | 56 | 3419 | 3091 | 2748 | 2405 | 2062 | 1713 | 1364 | 1015 | 0666 | 0317 | 9968 | 9619 | 9270 | 8921 | 8572 | 8223 | 7874 |
| 111 | 57 | 3626 | 3298 | 2955 | 2612 | 2269 | 1920 | 1571 | 1222 | 0873 | 0524 | 0175 | 9826 | 9477 | 9128 | 8779 | 8430 | 8081 |
| 107 | 58 | 3833 | 3505 | 3162 | 2819 | 2476 | 2127 | 1778 | 1429 | 1080 | 0731 | 0382 | 0033 | 9684 | 9335 | 8986 | 8637 | 8288 |
| 103 | 59 | 4040 | 3712 | 3369 | 3026 | 2683 | 2334 | 1985 | 1636 | 1287 | 0938 | 0589 | 0240 | 9891 | 9542 | 9193 | 8844 | 8495 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Parts for Seconds of Auxil. Argum. | A. A. & A. D. 133° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 34 | 0 | 267 5804 | 5459 | 5115 | 4770 | 4425 | 4080 | 3735 | 3390 | 3045 | 2700 | 2355 | 2009 | 1664 | 1319 | 0973 | 0628 | 0282 |
| 343 | 1 | 6015 | 5670 | 5325 | 4981 | 4635 | 4290 | 3945 | 3600 | 3255 | 2910 | 2564 | 2219 | 1874 | 1528 | 1183 | 0837 | 0491 |
| 337 | 2 | 6226 | 5881 | 5536 | 5191 | 4846 | 4501 | 4155 | 3810 | 3465 | 3119 | 2774 | 2429 | 2083 | 1737 | 1392 | 1046 | 0700 |
| 331 | 3 | 6436 | 6091 | 5746 | 5401 | 5056 | 4711 | 4365 | 4020 | 3675 | 3329 | 2984 | 2638 | 2293 | 1947 | 1601 | 1255 | 0909 |
| 325 | 4 | 6647 | 6301 | 5957 | 5611 | 5266 | 4921 | 4575 | 4230 | 3884 | 3539 | 3193 | 2847 | 2502 | 2156 | 1811 | 1464 | 1118 |
| 319 | 5 | 267 6857 | 6512 | 6167 | 5822 | 5476 | 5131 | 4785 | 4440 | 4094 | 3748 | 3403 | 3057 | 2711 | 2365 | 2019 | 1673 | 1327 |
| 314 | 6 | 7068 | 6723 | 6377 | 6032 | 5686 | 5341 | 4995 | 4649 | 4303 | 3958 | 3612 | 3266 | 2920 | 2574 | 2228 | 1882 | 1536 |
| 308 | 7 | 7278 | 6933 | 6587 | 6242 | 5896 | 5551 | 5205 | 4859 | 4513 | 4167 | 3821 | 3475 | 3129 | 2783 | 2437 | 2091 | 1745 |
| 302 | 8 | 7489 | 7143 | 6798 | 6452 | 6106 | 5760 | 5415 | 5069 | 4723 | 4377 | 4031 | 3685 | 3338 | 2992 | 2646 | 2300 | 1953 |
| 297 | 9 | 7699 | 7353 | 7008 | 6662 | 6316 | 5970 | 5624 | 5278 | 4932 | 4586 | 4240 | 3894 | 3547 | 3201 | 2855 | 2508 | 2162 |
| 291 | 10 | 267 7909 | 7564 | 7218 | 6872 | 6526 | 6180 | 5834 | 5488 | 5142 | 4796 | 4449 | 4103 | 3756 | 3410 | 3064 | 2717 | 2370 |
| 285 | 11 | 8120 | 7774 | 7428 | 7082 | 6736 | 6390 | 6044 | 5697 | 5351 | 5005 | 4658 | 4312 | 3965 | 3619 | 3272 | 2926 | 2579 |
| 279 | 12 | 8330 | 7984 | 7638 | 7292 | 6945 | 6599 | 6253 | 5907 | 5560 | 5214 | 4867 | 4521 | 4174 | 3828 | 3481 | 3134 | 2787 |
| 273 | 13 | 8540 | 8194 | 7848 | 7501 | 7155 | 6809 | 6462 | 6116 | 5770 | 5423 | 5076 | 4730 | 4383 | 4036 | 3690 | 3343 | 2996 |
| 267 | 14 | 8750 | 8404 | 8057 | 7711 | 7365 | 7018 | 6672 | 6325 | 5979 | 5632 | 5286 | 4939 | 4592 | 4245 | 3898 | 3551 | 3204 |
| 261 | 15 | 267 8960 | 8613 | 8267 | 7921 | 7574 | 7228 | 6881 | 6535 | 6188 | 5841 | 5494 | 5147 | 4801 | 4454 | 4107 | 3759 | 3412 |
| 254 | 16 | 9170 | 8823 | 8477 | 8130 | 7784 | 7437 | 7090 | 6744 | 6397 | 6050 | 5703 | 5356 | 5009 | 4662 | 4315 | 3968 | 3620 |
| 248 | 17 | 9380 | 9033 | 8687 | 8340 | 7993 | 7646 | 7300 | 6953 | 6606 | 6259 | 5912 | 5565 | 5218 | 4871 | 4523 | 4176 | 3829 |
| 242 | 18 | 9589 | 9243 | 8896 | 8549 | 8202 | 7856 | 7509 | 7162 | 6815 | 6468 | 6121 | 5773 | 5426 | 5079 | 4732 | 4384 | 4037 |
| 236 | 19 | 9799 | 9452 | 9106 | 8759 | 8412 | 8065 | 7718 | 7371 | 7024 | 6677 | 6329 | 5982 | 5635 | 5287 | 4940 | 4592 | 4245 |
| 230 | 20 | 268 (267) 0009 | 9662 | 9315 | 8968 | 8621 | 8274 | 7927 | 7580 | 7233 | 6885 | 6538 | 6191 | 5843 | 5496 | 5148 | 4800 | 4453 |
| 224 | 21 | 0218 | 9871 | 9525 | 9177 | 8830 | 8483 | 8136 | 7789 | 7441 | 7094 | 6747 | 6399 | 6052 | 5704 | 5356 | 5008 | 4661 |
| 218 | 22 | 0428 | 0081 | 9734 | 9387 | 9040 | 8692 | 8345 | 7998 | 7650 | 7303 | 6955 | 6608 | 6260 | 5912 | 5564 | 5217 | 4869 |
| 212 | 23 | 0638 | 0290 | 9943 | 9596 | 9249 | 8901 | 8554 | 8206 | 7859 | 7511 | 7164 | 6816 | 6468 | 6120 | 5772 | 5424 | 5076 |
| 206 | 24 | 0847 | 0500 | 0152 | 9805 | 9458 | 9110 | 8763 | 8415 | 8067 | 7720 | 7372 | 7024 | 6677 | 6329 | 5980 | 5632 | 5284 |
| 200 | 25 | 268 (267) 1056 | 0709 | 0362 | 0014 | 9667 | 9319 | 8971 | 8624 | 8276 | 7928 | 7580 | 7232 | 6884 | 6536 | 6188 | 5840 | 5492 |
| 194 | 26 | 1266 | 0918 | 0571 | 0223 | 9876 | 9528 | 9180 | 8832 | 8484 | 8136 | 7789 | 7440 | 7092 | 6744 | 6396 | 6048 | 5699 |
| 188 | 27 | 1475 | 1127 | 0780 | 0432 | 0085 | 9737 | 9389 | 9041 | 8693 | 8345 | 7997 | 7649 | 7301 | 6952 | 6604 | 6256 | 5907 |
| 182 | 28 | 1684 | 1337 | 0989 | 0641 | 0293 | 9946 | 9598 | 9249 | 8901 | 8553 | 8205 | 7857 | 7509 | 7161 | 6812 | 6463 | 6115 |
| 176 | 29 | 1893 | 1546 | 1198 | 0850 | 0502 | 0154 | 9806 | 9458 | 9110 | 8761 | 8413 | 8065 | 7717 | 7368 | 7019 | 6671 | 6322 |
| 170 | 30 | 269 (267) 2103 | 1755 | 1407 | 1059 | 0711 | 0362 | 0014 | 9666 | 9318 | 8969 | 8621 | 8273 | 7924 | 7575 | 7227 | 6878 | 6529 |
| 164 | 31 | 2312 | 1964 | 1616 | 1267 | 0919 | 0571 | 0223 | 9874 | 9526 | 9178 | 8829 | 8481 | 8132 | 7783 | 7434 | 7086 | 6737 |
| 158 | 32 | 2521 | 2173 | 1824 | 1476 | 1128 | 0780 | 0431 | 0083 | 9734 | 9386 | 9037 | 8689 | 8340 | 7991 | 7642 | 7293 | 6944 |
| 152 | 33 | 2730 | 2381 | 2033 | 1685 | 1336 | 0988 | 0639 | 0291 | 9942 | 9594 | 9245 | 8896 | 8547 | 8199 | 7849 | 7500 | 7151 |
| 146 | 34 | 2938 | 2590 | 2242 | 1893 | 1545 | 1196 | 0848 | 0500 | 0151 | 9803 | 9453 | 9104 | 8755 | 8406 | 8057 | 7708 | 7358 |
| 140 | 35 | 268 (267) 3147 | 2799 | 2450 | 2102 | 1753 | 1405 | 1056 | 0707 | 0358 | 0009 | 9660 | 9311 | 8962 | 8613 | 8264 | 7915 | 7566 |
| 134 | 36 | 3356 | 3008 | 2658 | 2310 | 1962 | 1613 | 1264 | 0915 | 0566 | 0217 | 9868 | 9519 | 9171 | 8821 | 8471 | 8122 | 7773 |
| 128 | 37 | 3565 | 3216 | 2867 | 2519 | 2170 | 1821 | 1472 | 1123 | 0774 | 0425 | 0076 | 9727 | 9377 | 9028 | 8678 | 8329 | 7979 |
| 122 | 38 | 3773 | 3425 | 3076 | 2727 | 2378 | 2029 | 1680 | 1331 | 0982 | 0633 | 0283 | 9934 | 9585 | 9235 | 8885 | 8536 | 8187 |
| 116 | 39 | 3981 | 3633 | 3284 | 2935 | 2586 | 2237 | 1888 | 1539 | 1190 | 0840 | 0491 | 0141 | 9792 | 9442 | 9093 | 8743 | 8394 |
| 110 | 40 | 268 (267) 4189 | 3841 | 3492 | 3143 | 2794 | 2445 | 2096 | 1747 | 1397 | 1048 | 0698 | 0348 | 9999 | 9650 | 9300 | 8951 | 8601 |
| 104 | 41 | 4396 | 4050 | 3700 | 3351 | 3002 | 2653 | 2304 | 1954 | 1605 | 1255 | 0906 | 0556 | 0207 | 9857 | 9507 | 9157 | 8807 |
| 098 | 42 | 4603 | 4258 | 3909 | 3559 | 3210 | 2861 | 2512 | 2162 | 1812 | 1463 | 1113 | 0763 | 0414 | 0064 | 9714 | 9364 | 9014 |
| 092 | 43 | 4810 | 4465 | 4117 | 3768 | 3418 | 3068 | 2719 | 2370 | 2020 | 1670 | 1320 | 0971 | 0621 | 0271 | 9921 | 9571 | 9222 |
| 086 | 44 | 5016 | 4672 | 4325 | 3977 | 3626 | 3277 | 2927 | 2577 | 2227 | 1878 | 1528 | 1178 | 0828 | 0478 | 0128 | 9777 | 9427 |
| 080 | 45 | 268 (267) 5222 | 4878 | 4533 | 4184 | 3834 | 3484 | 3134 | 2785 | 2435 | 2085 | 1735 | 1385 | 1035 | 0685 | 0334 | 9984 | 9634 |
| 074 | 46 | 5427 | 5083 | 4741 | 4392 | 4042 | 3692 | 3342 | 2992 | 2642 | 2292 | 1942 | 1592 | 1242 | 0891 | 0541 | 0191 | 9841 |
| 068 | 47 | 268 5632 | 5288 | 4948 | 4599 | 4250 | 3900 | 3550 | 3200 | 2849 | 2499 | 2149 | 1799 | 1448 | 1098 | 0748 | 0397 | 0047 |
| 062 | 48 | 5837 | 5493 | 5154 | 4807 | 4457 | 4107 | 3757 | 3407 | 3057 | 2707 | 2356 | 2006 | 1655 | 1305 | 0954 | 0604 | 0253 |
| 056 | 49 | 6042 | 5698 | 5360 | 5015 | 4665 | 4315 | 3965 | 3614 | 3264 | 2913 | 2563 | 2213 | 1862 | 1511 | 1161 | 0810 | 0460 |
| 050 | 50 | 268 6246 | 5902 | 5557 | 5212 | 4872 | 4522 | 4172 | 3821 | 3471 | 3121 | 2770 | 2419 | 2068 | 1718 | 1367 | 1016 | 0666 |
| 044 | 51 | 6451 | 6107 | 5763 | 5419 | 5078 | 4729 | 4379 | 4029 | 3678 | 3328 | 2977 | 2627 | 2275 | 1925 | 1574 | 1223 | 0872 |
| 038 | 52 | 6655 | 6311 | 5967 | 5623 | 5280 | 4937 | 4587 | 4236 | 3886 | 3535 | 3184 | 2833 | 2482 | 2131 | 1780 | 1429 | 1078 |
| 032 | 53 | 6859 | 6515 | 6171 | 5827 | 5484 | 5144 | 4793 | 4443 | 4092 | 3741 | 3390 | 3040 | 2689 | 2337 | 1987 | 1635 | 1284 |
| 026 | 54 | 7063 | 6719 | 6375 | 6031 | 5688 | 5345 | 5000 | 4650 | 4299 | 3948 | 3597 | 3246 | 2895 | 2544 | 2193 | 1841 | 1490 |
| 020 | 55 | 268 7267 | 6923 | 6579 | 6235 | 5892 | 5548 | 5204 | 4857 | 4506 | 4155 | 3804 | 3453 | 3101 | 2750 | 2399 | 2047 | 1696 |
| 014 | 56 | 7470 | 7126 | 6782 | 6438 | 6095 | 5751 | 5407 | 5063 | 4712 | 4361 | 4010 | 3659 | 3308 | 2956 | 2605 | 2253 | 1902 |
| 008 | 57 | 7673 | 7329 | 6985 | 6641 | 6297 | 5954 | 5610 | 5266 | 4918 | 4567 | 4216 | 3865 | 3514 | 3162 | 2811 | 2459 | 2108 |
| 002 | 58 | 7876 | 7532 | 7188 | 6844 | 6500 | 6157 | 5813 | 5469 | 5124 | 4773 | 4422 | 4071 | 3720 | 3368 | 3017 | 2665 | 2313 |
| 0 | 59 | 8079 | 7735 | 7391 | 7047 | 6703 | 6360 | 6016 | 5672 | 5327 | 4976 | 4625 | 4274 | 3923 | 3571 | 3220 | 2868 | 2517 |

Sums for finding the Corrected Distances.

| Parts for Sec. of C. D | C. D 133° | Sums |
|---|---|---|
| | | |
| 0 | 0 | 0068 1905 |
| 1 | 1 | 2213 |
| 2 | 2 | 2522 |
| 3 | 3 | 2831 |
| 4 | 4 | 3140 |
| 5 | 5 | 0068 3449 |
| 6 | 6 | 3758 |
| 7 | 7 | 4067 |
| 8 | 8 | 4376 |
| 9 | 9 | 4685 |
| 10 | 10 | 0068 4994 |
| 11 | 11 | 5303 |
| 12 | 12 | 5612 |
| 13 | 13 | 5921 |
| 14 | 14 | 6230 |
| 15 | 15 | 0068 6539 |
| 16 | 16 | 6848 |
| 17 | 17 | 7157 |
| 18 | 18 | 7466 |
| 19 | 19 | 7775 |
| 20 | 20 | 0068 8084 |
| 21 | 21 | 8393 |
| 22 | 22 | 8702 |
| 23 | 23 | 9011 |
| 24 | 24 | 9320 |
| 25 | 25 | 0068 9629 |
| 26 | 26 | 9938 |
| 27 | 27 | 0247 |
| 28 | 28 | 0556 |
| 29 | 29 | 0865 |
| 30 | 30 | 0068 1174 |
| 31 | 31 | 1483 |
| 32 | 32 | 1792 |
| 33 | 33 | 2101 |
| 34 | 34 | 2410 |
| 35 | 35 | 0068 2719 |
| 36 | 36 | 3028 |
| 37 | 37 | 3337 |
| 38 | 38 | 0069 3646 |
| 39 | 39 | 3955 |
| 40 | 40 | 0069 4264 |
| 41 | 41 | 4573 |
| 42 | 42 | 4882 |
| 43 | 43 | 5191 |
| 44 | 44 | 5500 |
| 45 | 45 | 0069 5809 |
| 46 | 46 | 6118 |
| 47 | 47 | 6427 |
| 48 | 48 | 6736 |
| 49 | 49 | 7045 |
| 50 | 50 | 0069 7354 |
| 51 | 51 | 7663 |
| 52 | 52 | 7972 |
| 53 | 53 | 8281 |
| 54 | 54 | 8590 |
| 55 | 55 | 0069 8899 |
| 56 | 56 | 9208 |
| 57 | 57 | 9517 |
| 58 | 58 | 9826 |
| 59 | 59 | 0135 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C. S. A. *addit.* | C. S. A. 134 | Numbers |
|---|---|---|
| 211 | 0 | 0931 7784 |
| 207 | 1 | 7510 |
| 204 | 2 | 7234 |
| 200 | 3 | 7151 |
| 197 | 4 | 6959 |
| 193 | 5 | 31 6784 |
| 190 | 6 | 6514 |
| 186 | 7 | 6302 |
| 183 | 8 | 6089 |
| 179 | 9 | 5877 |
| 176 | 10 | 0831 5665 |
| 172 | 11 | 5453 |
| 169 | 12 | 5241 |
| 165 | 13 | 5029 |
| 162 | 14 | 4817 |
| 158 | 15 | 0831 4605 |
| 155 | 16 | 4393 |
| 151 | 17 | 4182 |
| 148 | 18 | 3970 |
| 144 | 19 | 3758 |
| 141 | 20 | 0831 3547 |
| 137 | 21 | 3335 |
| 134 | 22 | 3124 |
| 130 | 23 | 2912 |
| 127 | 24 | 2701 |
| 123 | 25 | 0831 2490 |
| 120 | 26 | 2278 |
| 116 | 27 | 2067 |
| 113 | 28 | 1856 |
| 109 | 29 | 1645 |
| 106 | 30 | 0831 1434 |
| 102 | 31 | 1224 |
| 99 | 32 | 1013 |
| 95 | 33 | 0802 |
| 91 | 34 | 0591 |
| 88 | 35 | 0831 |
| 84 | 36 | |
| 81 | 37 | 0831 |
| 77 | | |
| 74 | 39 | |
| 70 | 40 | 0830 |
| 67 | 41 | |
| 63 | 42 | 8997 |
| 60 | 43 | 8697 |
| 56 | 44 | 8487 |
| 53 | 45 | 0830 |
| 49 | 46 | |
| 46 | 47 | 7857 |
| 42 | 48 | 7647 |
| 39 | 49 | 7437 |
| 35 | 50 | 0830 |
| 32 | 51 | |
| 28 | 52 | |
| 25 | 53 | 6598 |
| 21 | 54 | |
| 18 | 55 | 0830 6179 |
| 14 | 56 | |
| 11 | 57 | |
| 7 | 58 | 5551 |
| 3 | 59 | 5342 |

| Part for Seconds of A. A. *additive* | A. A. & A. D. 134 | Auxiliary Arguments. 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| | 0 | 0(260) | 4350 | 3965 | 3580 | 3195 | 2810 | 2427 | 2042 | 1657 | 1506 | 1156 | 0805 | 0454 | 0104 | 9753 | 9402 | 9051 |
| | 1 | | 4517 | 4167 | 3817 | 3467 | 3117 | 2767 | 2418 | 2068 | 1714 | 1364 | 1013 | 0662 | 0311 | 9960 | 9610 | 9259 |
| | 2 | | 4684 | 4337 | 3990 | 3643 | 3296 | 2950 | 2603 | 2256 | 1909 | 1572 | 1221 | 0870 | 0519 | 0168 | 9817 | 9466 |
| | 3 | | 4851 | 4504 | 4158 | 3811 | 3464 | 3118 | 2771 | 2424 | 2078 | 1731 | 1384 | 1037 | 0690 | 0343 | 9996 | 9650 |
| | 4 | | 5018 | 4671 | 4325 | 3979 | 3633 | 3286 | 2940 | 2594 | 2247 | 1901 | 1554 | 1208 | 0861 | 0515 | 0168 | 9822 |
| | 5 | 269 | 5185 | 4838 | 4492 | 4146 | 3800 | 3454 | 3108 | 2762 | 2416 | 2069 | 1723 | 1377 | 1031 | 0685 | 0339 | 9993 |
| | 6 | | 5352 | 5005 | 4659 | 4313 | 3967 | 3622 | 3276 | 2930 | 2584 | 2238 | 1892 | 1546 | 1200 | 0854 | 0509 | 0163 |
| | 7 | | 5518 | 5172 | 4826 | 4480 | 4135 | 3789 | 3444 | 3098 | 2753 | 2407 | 2061 | 1715 | 1370 | 1024 | 0678 | 0333 |
| | 8 | | 5685 | 5339 | 4993 | 4647 | 4302 | 3957 | 3611 | 3266 | 2921 | 2575 | 2230 | 1884 | 1539 | 1193 | 0848 | 0502 |
| | 9 | | 5852 | 5506 | 5160 | 4815 | 4469 | 4124 | 3779 | 3434 | 3089 | 2744 | 2398 | 2053 | 1708 | 1363 | 1017 | 0672 |
| | 10 | | 6019 | 5673 | 5327 | 4982 | 4637 | 4292 | 3947 | 3602 | 3257 | 2912 | 2567 | 2222 | 1877 | 1532 | 1187 | 0842 |
| | 11 | | 6186 | 5840 | 5495 | 5150 | 4805 | 4460 | 4115 | 3770 | 3425 | 3080 | 2735 | 2391 | 2046 | 1701 | 1356 | 1011 |
| | 12 | | 6353 | 6007 | 5662 | 5317 | 4972 | 4628 | 4283 | 3938 | 3593 | 3249 | 2904 | 2559 | 2215 | 1870 | 1525 | 1181 |
| | 13 | | 6520 | 6174 | 5829 | 5485 | 5140 | 4795 | 4451 | 4106 | 3762 | 3417 | 3073 | 2728 | 2384 | 2039 | 1695 | 1350 |
| | 14 | | 6687 | 6341 | 5997 | 5652 | 5308 | 4963 | 4619 | 4275 | 3930 | 3586 | 3242 | 2897 | 2553 | 2209 | 1864 | 1520 |
| | 15 | | 6854 | 6508 | 6164 | 5820 | 5476 | 5131 | 4787 | 4443 | 4099 | 3755 | 3411 | 3066 | 2722 | 2378 | 2034 | 1690 |
| | 16 | | 7021 | 6675 | 6331 | 5987 | 5643 | 5299 | 4955 | 4611 | 4267 | 3923 | 3579 | 3235 | 2891 | 2547 | 2203 | 1859 |
| | 17 | | 7188 | 6842 | 6498 | 6154 | 5810 | 5467 | 5123 | 4779 | 4435 | 4091 | 3747 | 3403 | 3060 | 2716 | 2372 | 2028 |
| | 18 | | 7355 | 7009 | 6665 | 6322 | 5978 | 5634 | 5291 | 4947 | 4603 | 4260 | 3916 | 3572 | 3228 | 2885 | 2541 | 2197 |
| | 19 | | 7522 | 7176 | 6832 | 6489 | 6146 | 5802 | 5459 | 5115 | 4772 | 4428 | 4085 | 3741 | 3397 | 3054 | 2710 | 2367 |
| | 20 | | 7689 | 7343 | 6999 | 6656 | 6313 | 5970 | 5627 | 5284 | 4940 | 4597 | 4253 | 3910 | 3566 | 3223 | 2880 | 2536 |
| | 21 | | 7856 | 7510 | 7166 | 6824 | 6481 | 6138 | 5795 | 5452 | 5109 | 4765 | 4422 | 4079 | 3735 | 3392 | 3049 | 2705 |
| | 22 | | 8023 | 7677 | 7333 | 6991 | 6648 | 6306 | 5963 | 5620 | 5277 | 4934 | 4591 | 4248 | 3904 | 3561 | 3218 | 2875 |
| | 23 | | 8190 | 7844 | 7501 | 7158 | 6816 | 6474 | 6131 | 5788 | 5446 | 5103 | 4760 | 4417 | 4074 | 3731 | 3388 | 3045 |
| | 24 | | 8357 | 8011 | 7668 | 7326 | 6984 | 6642 | 6299 | 5957 | 5615 | 5272 | 4930 | 4587 | 4244 | 3901 | 3558 | 3215 |
| | 25 | | 8524 | 8178 | 7835 | 7494 | 7152 | 6810 | 6468 | 6126 | 5784 | 5442 | 5099 | 4757 | 4414 | 4071 | 3728 | 3385 |
| | 26 | | 8691 | 8345 | 8003 | 7661 | 7320 | 6978 | 6636 | 6295 | 5953 | 5611 | 5269 | 4926 | 4584 | 4241 | 3898 | 3556 |
| | 27 | | 8858 | 8512 | 8170 | 7829 | 7487 | 7146 | 6805 | 6463 | 6122 | 5780 | 5438 | 5096 | 4754 | 4411 | 4069 | 3726 |
| | 28 | | 9025 | 8679 | 8338 | 7997 | 7656 | 7315 | 6973 | 6632 | 6291 | 5949 | 5608 | 5266 | 4924 | 4582 | 4239 | 3897 |
| | 29 | | 9192 | 8847 | 8506 | 8165 | 7824 | 7483 | 7142 | 6801 | 6460 | 6119 | 5778 | 5436 | 5095 | 4753 | 4411 | 4069 |
| | 30 | | 9359 | 9014 | 8673 | 8333 | 7992 | 7651 | 7311 | 6970 | 6629 | 6289 | 5948 | 5607 | 5266 | 4924 | 4583 | 4241 |
| | 31 | | 9526 | 9181 | 8841 | 8501 | 8160 | 7820 | 7479 | 7139 | 6798 | 6458 | 6117 | 5777 | 5436 | 5096 | 4755 | 4413 |
| | 32 | | 9693 | 9348 | 9009 | 8669 | 8329 | 7988 | 7648 | 7308 | 6967 | 6627 | 6287 | 5947 | 5606 | 5266 | 4926 | 4585 |
| | 33 | | 9860 | 9516 | 9177 | 8837 | 8497 | 8157 | 7817 | 7477 | 7137 | 6797 | 6457 | 6117 | 5777 | 5437 | 5097 | 4757 |
| | 34 | | 0027 | 9683 | 9344 | 9005 | 8665 | 8326 | 7986 | 7647 | 7307 | 6968 | 6628 | 6288 | 5949 | 5609 | 5269 | 4929 |
| | 35 | | 0194 | 9850 | 9512 | 9173 | 8834 | 8495 | 8156 | 7816 | 7477 | 7138 | 6798 | 6459 | 6120 | 5780 | 5441 | 5101 |
| | 36 | | 0361 | 0018 | 9680 | 9341 | 9002 | 8664 | 8325 | 7986 | 7647 | 7308 | 6969 | 6630 | 6291 | 5952 | 5613 | 5273 |
| | 37 | | 0528 | 0185 | 9847 | 9509 | 9171 | 8833 | 8494 | 8156 | 7817 | 7479 | 7140 | 6801 | 6463 | 6124 | 5785 | 5446 |
| | 38 | | 0695 | 0353 | 0015 | 9677 | 9339 | 9001 | 8663 | 8325 | 7987 | 7649 | 7311 | 6972 | 6634 | 6296 | 5957 | 5618 |
| | 39 | | 0862 | 0520 | 0183 | 9845 | 9507 | 9170 | 8832 | 8495 | 8157 | 7819 | 7482 | 7144 | 6806 | 6468 | 6130 | 5791 |
| | 40 | | 1029 | 0687 | 0350 | 0013 | 9676 | 9339 | 9002 | 8664 | 8327 | 7990 | 7653 | 7315 | 6978 | 6641 | 6303 | 5966 |
| | 41 | | 1196 | 0854 | 0518 | 0181 | 9845 | 9508 | 9171 | 8834 | 8497 | 8161 | 7824 | 7487 | 7150 | 6813 | 6476 | 6139 |
| | 42 | | 1363 | 1021 | 0686 | 0350 | 0014 | 9677 | 9341 | 9004 | 8668 | 8331 | 7995 | 7659 | 7322 | 6986 | 6650 | 6313 |
| | 43 | | 1530 | 1188 | 0853 | 0518 | 0183 | 9847 | 9511 | 9175 | 8839 | 8503 | 8167 | 7831 | 7495 | 7159 | 6823 | 6487 |
| | 44 | | 1697 | 1355 | 1021 | 0686 | 0351 | 0016 | 9681 | 9346 | 9010 | 8675 | 8339 | 8004 | 7668 | 7333 | 6997 | 6662 |
| | 45 | | 1864 | 1522 | 1189 | 0855 | 0520 | 0185 | 9850 | 9516 | 9181 | 8846 | 8511 | 8176 | 7841 | 7506 | 7171 | 6836 |
| | 46 | 47 | 7857 | 7690 | 7523 | 7356 | 7189 | 7022 | 6855 | 6688 | 6521 | 6354 | 6187 | 6020 | 5853 | 5686 | 5519 | 5352 |
| | 47 | 48 | 7647 | 7480 | 7313 | 7146 | 6979 | 6812 | 6645 | 6478 | 6311 | 6144 | 5977 | 5810 | 5643 | 5476 | 5309 | 5142 |
| | 48 | 49 | 7437 | 7270 | 7103 | 6936 | 6769 | 6602 | 6435 | 6268 | 6101 | 5934 | 5767 | 5600 | 5433 | 5266 | 5099 | 4932 |
| | 49 | 50 | 7227 | 7060 | 6893 | 6726 | 6559 | 6392 | 6225 | 6058 | 5891 | 5724 | 5557 | 5390 | 5223 | 5056 | 4889 | 4722 |
| | 50 | 51 | 7017 | 6850 | 6683 | 6516 | 6349 | 6182 | 6015 | 5848 | 5681 | 5514 | 5347 | 5180 | 5013 | 4846 | 4679 | 4512 |
| | 51 | 52 | 6807 | 6640 | 6473 | 6306 | 6139 | 5972 | 5805 | 5638 | 5471 | 5304 | 5137 | 4970 | 4803 | 4636 | 4469 | 4302 |
| | 52 | 53 | 6598 | 6431 | 6264 | 6097 | 5930 | 5763 | 5596 | 5429 | 5262 | 5095 | 4928 | 4761 | 4594 | 4427 | 4260 | 4093 |
| | 53 | 54 | 6388 | 6221 | 6054 | 5887 | 5720 | 5553 | 5386 | 5219 | 5052 | 4885 | 4718 | 4551 | 4384 | 4217 | 4050 | 3883 |
| | 54 | 55 | 6179 | 6012 | 5845 | 5678 | 5511 | 5344 | 5177 | 5010 | 4843 | 4676 | 4509 | 4342 | 4175 | 4008 | 3841 | 3674 |
| | 55 | 56 | 5969 | 5802 | 5635 | 5468 | 5301 | 5134 | 4967 | 4800 | 4633 | 4466 | 4299 | 4132 | 3965 | 3798 | 3631 | 3464 |
| | 56 | 57 | 5760 | 5593 | 5426 | 5259 | 5092 | 4925 | 4758 | 4591 | 4424 | 4257 | 4090 | 3923 | 3756 | 3589 | 3422 | 3255 |
| | 57 | 58 | 5551 | 5384 | 5217 | 5050 | 4883 | 4716 | 4549 | 4382 | 4215 | 4048 | 3881 | 3714 | 3547 | 3380 | 3213 | 3046 |
| | 58 | 59 | 5342 | 5175 | 5008 | 4841 | 4674 | 4507 | 4340 | 4173 | 4006 | 3839 | 3672 | 3505 | 3338 | 3171 | 3004 | 2837 |
| | 59 | 60 | 5133 | 4966 | 4799 | 4632 | 4465 | 4298 | 4131 | 3964 | 3797 | 3630 | 3463 | 3296 | 3129 | 2962 | 2795 | 2628 |
| | 60 | 61 | 4924 | 4757 | 4590 | 4423 | 4256 | 4089 | 3922 | 3755 | 3588 | 3421 | 3254 | 3087 | 2920 | 2753 | 2586 | 2419 |
| | 61 | 62 | 4715 | 4548 | 4381 | 4214 | 4047 | 3880 | 3713 | 3546 | 3379 | 3212 | 3045 | 2878 | 2711 | 2544 | 2377 | 2210 |
| | 62 | 63 | 4506 | 4339 | 4172 | 4005 | 3838 | 3671 | 3504 | 3337 | 3170 | 3003 | 2836 | 2669 | 2502 | 2335 | 2168 | 2001 |
| | 63 | 64 | 4297 | 4130 | 3963 | 3796 | 3629 | 3462 | 3295 | 3128 | 2961 | 2794 | 2627 | 2460 | 2293 | 2126 | 1959 | 1792 |
| | 64 | 65 | 4088 | 3921 | 3754 | 3587 | 3420 | 3253 | 3086 | 2919 | 2752 | 2585 | 2418 | 2251 | 2084 | 1917 | 1750 | 1583 |
| | 65 | 66 | 3879 | 3712 | 3545 | 3378 | 3211 | 3044 | 2877 | 2710 | 2543 | 2376 | 2209 | 2042 | 1875 | 1708 | 1541 | 1374 |
| | 66 | 67 | 3670 | 3503 | 3336 | 3169 | 3002 | 2835 | 2668 | 2501 | 2334 | 2167 | 2000 | 1833 | 1666 | 1499 | 1332 | 1165 |
| | 67 | 68 | 3461 | 3294 | 3127 | 2960 | 2793 | 2626 | 2459 | 2292 | 2125 | 1958 | 1791 | 1624 | 1457 | 1290 | 1123 | 0956 |
| | 68 | 69 | 3252 | 3085 | 2918 | 2751 | 2584 | 2417 | 2250 | 2083 | 1916 | 1749 | 1582 | 1415 | 1248 | 1081 | 0914 | 0747 |
| | 69 | 70 | 3043 | 2876 | 2709 | 2542 | 2375 | 2208 | 2041 | 1874 | 1707 | 1540 | 1373 | 1206 | 1039 | 0872 | 0705 | 0538 |
| | 70 | 71 | 2834 | 2667 | 2500 | 2333 | 2166 | 1999 | 1832 | 1665 | 1498 | 1331 | 1164 | 0997 | 0830 | 0663 | 0496 | 0329 |
| | 71 | 72 | 2625 | 2458 | 2291 | 2124 | 1957 | 1790 | 1623 | 1456 | 1289 | 1122 | 0955 | 0788 | 0621 | 0454 | 0287 | 0120 |
| | 72 | 73 | 2416 | 2249 | 2082 | 1915 | 1748 | 1581 | 1414 | 1247 | 1080 | 0913 | 0746 | 0579 | 0412 | 0245 | 0078 | 9911 |
| | 73 | 74 | 2207 | 2040 | 1873 | 1706 | 1539 | 1372 | 1205 | 1038 | 0871 | 0704 | 0537 | 0370 | 0203 | 0036 | 9869 | 9702 |
| | 74 | 75 | 1998 | 1831 | 1664 | 1497 | 1330 | 1163 | 0996 | 0829 | 0662 | 0495 | 0328 | 0161 | 9994 | 9827 | 9660 | 9493 |
| | 75 | 76 | 1789 | 1622 | 1455 | 1288 | 1121 | 0954 | 0787 | 0620 | 0453 | 0286 | 0119 | 9952 | 9785 | 9618 | 9451 | 9284 |
| | 76 | 77 | 1580 | 1413 | 1246 | 1079 | 0912 | 0745 | 0578 | 0411 | 0244 | 0077 | 9910 | 9743 | 9576 | 9409 | 9242 | 9075 |
| | 77 | 78 | 1371 | 1204 | 1037 | 0870 | 0703 | 0536 | 0369 | 0202 | 0035 | 9868 | 9701 | 9534 | 9367 | 9200 | 9033 | 8866 |
| | 78 | 79 | 1162 | 0995 | 0828 | 0661 | 0494 | 0327 | 0160 | 9993 | 9826 | 9659 | 9492 | 9325 | 9158 | 8991 | 8824 | 8657 |
| | 79 | 80 | 0953 | 0786 | 0619 | 0452 | 0285 | 0118 | 9951 | 9784 | 9617 | 9450 | 9283 | 9116 | 8949 | 8782 | 8615 | 8448 |
| | 80 | 81 | 0744 | 0577 | 0410 | 0243 | 0076 | 9909 | 9742 | 9575 | 9408 | 9241 | 9074 | 8907 | 8740 | 8573 | 8406 | 8239 |
| | 81 | 82 | 0535 | 0368 | 0201 | 0034 | 9867 | 9700 | 9533 | 9366 | 9199 | 9032 | 8865 | 8698 | 8531 | 8364 | 8197 | 8030 |
| | 82 | 83 | 0326 | 0159 | 9992 | 9825 | 9658 | 9491 | 9324 | 9157 | 8990 | 8823 | 8656 | 8489 | 8322 | 8155 | 7988 | 7821 |
| | 83 | 84 | 0117 | 9950 | 9783 | 9616 | 9449 | 9282 | 9115 | 8948 | 8781 | 8614 | 8447 | 8280 | 8113 | 7946 | 7779 | 7612 |
| | 84 | 85 | 9908 | 9741 | 9574 | 9407 | 9240 | 9073 | 8906 | 8739 | 8572 | 8405 | 8238 | 8071 | 7904 | 7737 | 7570 | 7403 |
| | 85 | 86 | 9699 | 9532 | 9365 | 9198 | 9031 | 8864 | 8697 | 8530 | 8363 | 8196 | 8029 | 7862 | 7695 | 7528 | 7361 | 7194 |
| | 86 | 87 | 9490 | 9323 | 9156 | 8989 | 8822 | 8655 | 8488 | 8321 | 8154 | 7987 | 7820 | 7653 | 7486 | 7319 | 7152 | 6985 |
| | 87 | 88 | 9281 | 9114 | 8947 | 8780 | 8613 | 8446 | 8279 | 8112 | 7945 | 7778 | 7611 | 7444 | 7277 | 7110 | 6943 | 6776 |
| | 88 | 89 | 9072 | 8905 | 8738 | 8571 | 8404 | 8237 | 8070 | 7903 | 7736 | 7569 | 7402 | 7235 | 7068 | 6901 | 6734 | 6567 |
| | 89 | 90 | 8863 | 8696 | 8529 | 8362 | 8195 | 8028 | 7861 | 7694 | 7527 | 7360 | 7193 | 7026 | 6859 | 6692 | 6525 | 6358 |
| | 90 | 91 | 8654 | 8487 | 8320 | 8153 | 7986 | 7819 | 7652 | 7485 | 7318 | 7151 | 6984 | 6817 | 6650 | 6483 | 6316 | 6149 |
| | 91 | 92 | 8445 | 8278 | 8111 | 7944 | 7777 | 7610 | 7443 | 7276 | 7109 | 6942 | 6775 | 6608 | 6441 | 6274 | 6107 | 5940 |
| | 92 | 93 | 8236 | 8069 | 7902 | 7735 | 7568 | 7401 | 7234 | 7067 | 6900 | 6733 | 6566 | 6399 | 6232 | 6065 | 5898 | 5731 |
| | 93 | 94 | 8027 | 7860 | 7693 | 7526 | 7359 | 7192 | 7025 | 6858 | 6691 | 6524 | 6357 | 6190 | 6023 | 5856 | 5689 | 5522 |
| | 94 | 95 | 7818 | 7651 | 7484 | 7317 | 7150 | 6983 | 6816 | 6649 | 6482 | 6315 | 6148 | 5981 | 5814 | 5647 | 5480 | 5313 |
| | 95 | 96 | 7609 | 7442 | 7275 | 7108 | 6941 | 6774 | 6607 | 6440 | 6273 | 6106 | 5939 | 5772 | 5605 | 5438 | 5271 | 5104 |
| | 96 | 97 | 7400 | 7233 | 7066 | 6899 | 6732 | 6565 | 6398 | 6231 | 6064 | 5897 | 5730 | 5563 | 5396 | 5229 | 5062 | 4895 |
| | 97 | 98 | 7191 | 7024 | 6857 | 6690 | 6523 | 6356 | 6189 | 6022 | 5855 | 5688 | 5521 | 5354 | 5187 | 5020 | 4853 | 4686 |
| | 98 | 99 | 6982 | 6815 | 6648 | 6481 | 6314 | 6147 | 5980 | 5813 | 5646 | 5479 | 5312 | 5145 | 4978 | 4811 | 4644 | 4477 |
| | 99 | 100 | 6773 | 6606 | 6439 | 6272 | 6105 | 5938 | 5771 | 5604 | 5437 | 5270 | 5103 | 4936 | 4769 | 4602 | 4435 | 4268 |
| | 100 | 101 | 6564 | 6397 | 6230 | 6063 | 5896 | 5729 | 5562 | 5395 | 5228 | 5061 | 4894 | 4727 | 4560 | 4393 | 4226 | 4059 |
| | 101 | 102 | 6355 | 6188 | 6021 | 5854 | 5687 | 5520 | 5353 | 5186 | 5019 | 4852 | 4685 | 4518 | 4351 | 4184 | 4017 | 3850 |
| | 102 | 103 | 6146 | 5979 | 5812 | 5645 | 5478 | 5311 | 5144 | 4977 | 4810 | 4643 | 4476 | 4309 | 4142 | 3975 | 3808 | 3641 |
| | 103 | 104 | 5937 | 5770 | 5603 | 5436 | 5269 | 5102 | 4935 | 4768 | 4601 | 4434 | 4267 | 4100 | 3933 | 3766 | 3599 | 3432 |
| | 104 | 105 | 5728 | 5561 | 5394 | 5227 | 5060 | 4893 | 4726 | 4559 | 4392 | 4225 | 4058 | 3891 | 3724 | 3557 | 3390 | 3223 |
| | 105 | 106 | 5519 | 5352 | 5185 | 5018 | 4851 | 4684 | 4517 | 4350 | 4183 | 4016 | 3849 | 3682 | 3515 | 3348 | 3181 | 3014 |
| | 106 | 107 | 5310 | 5143 | 4976 | 4809 | 4642 | 4475 | 4308 | 4141 | 3974 | 3807 | 3640 | 3473 | 3306 | 3139 | 2972 | 2805 |
| | 107 | 108 | 5101 | 4934 | 4767 | 4600 | 4433 | 4266 | 4099 | 3932 | 3765 | 3598 | 3431 | 3264 | 3097 | 2930 | 2763 | 2596 |
| | 108 | 109 | 4892 | 4725 | 4558 | 4391 | 4224 | 4057 | 3890 | 3723 | 3556 | 3389 | 3222 | 3055 | 2888 | 2721 | 2554 | 2387 |
| | 109 | 110 | 4683 | 4516 | 4349 | 4182 | 4015 | 3848 | 3681 | 3514 | 3347 | 3180 | 3013 | 2846 | 2679 | 2512 | 2345 | 2178 |
| | 110 | 111 | 4474 | 4307 | 4140 | 3973 | 3806 | 3639 | 3472 | 3305 | 3138 | 2971 | 2804 | 2637 | 2470 | 2303 | 2136 | 1969 |
| | 111 | 112 | 4265 | 4098 | 3931 | 3764 | 3597 | 3430 | 3263 | 3096 | 2929 | 2762 | 2595 | 2428 | 2261 | 2094 | 1927 | 1760 |
| | 112 | 113 | 4056 | 3889 | 3722 | 3555 | 3388 | 3221 | 3054 | 2887 | 2720 | 2553 | 2386 | 2219 | 2052 | 1885 | 1718 | 1551 |
| | 113 | 114 | 3847 | 3680 | 3513 | 3346 | 3179 | 3012 | 2845 | 2678 | 2511 | 2344 | 2177 | 2010 | 1843 | 1676 | 1509 | 1342 |
| | 114 | 115 | 3638 | 3471 | 3304 | 3137 | 2970 | 2803 | 2636 | 2469 | 2302 | 2135 | 1968 | 1801 | 1634 | 1467 | 1300 | 1133 |
| | 115 | 116 | 3429 | 3262 | 3095 | 2928 | 2761 | 2594 | 2427 | 2260 | 2093 | 1926 | 1759 | 1592 | 1425 | 1258 | 1091 | 0924 |
| | 116 | 117 | 3220 | 3053 | 2886 | 2719 | 2552 | 2385 | 2218 | 2051 | 1884 | 1717 | 1550 | 1383 | 1216 | 1049 | 0882 | 0715 |
| | 117 | 118 | 3011 | 2844 | 2677 | 2510 | 2343 | 2176 | 2009 | 1842 | 1675 | 1508 | 1341 | 1174 | 1007 | 0840 | 0673 | 0506 |
| | 118 | 119 | 2802 | 2635 | 2468 | 2301 | 2134 | 1967 | 1800 | 1633 | 1466 | 1299 | 1132 | 0965 | 0798 | 0631 | 0464 | 0297 |
| | 119 | 120 | 2593 | 2426 | 2259 | 2092 | 1925 | 1758 | 1591 | 1424 | 1257 | 1090 | 0923 | 0756 | 0589 | 0422 | 0255 | 0088 |
| | 120 | 121 | 2384 | 2217 | 2050 | 1883 | 1716 | 1549 | 1382 | 1215 | 1048 | 0881 | 0714 | 0547 | 0380 | 0213 | 0046 | 9879 |
| | 121 | 122 | 2175 | 2008 | 1841 | 1674 | 1507 | 1340 | 1173 | 1006 | 0839 | 0672 | 0505 | 0338 | 0171 | 0004 | 9837 | 9670 |
| | 122 | 123 | 1966 | 1799 | 1632 | 1465 | 1298 | 1131 | 0964 | 0797 | 0630 | 0463 | 0296 | 0129 | 9962 | 9795 | 9628 | 9461 |
| | 123 | 124 | 1757 | 1590 | 1423 | 1256 | 1089 | 0922 | 0755 | 0588 | 0421 | 0254 | 0087 | 9920 | 9753 | 9586 | 9419 | 9252 |
| | 124 | 125 | 1548 | 1381 | 1214 | 1047 | 0880 | 0713 | 0546 | 0379 | 0212 | 0045 | 9878 | 9711 | 9544 | 9377 | 9210 | 9043 |
| | 125 | 126 | 1339 | 1172 | 1005 | 0838 | 0671 | 0504 | 0337 | 0170 | 0003 | 9836 | 9669 | 9502 | 9335 | 9168 | 9001 | 8834 |
| | 126 | 127 | 1130 | 0963 | 0796 | 0629 | 0462 | 0295 | 0128 | 9961 | 9794 | 9627 | 9460 | 9293 | 9126 | 8959 | 8792 | 8625 |
| | 127 | 128 | 0921 | 0754 | 0587 | 0420 | 0253 | 0086 | 9919 | 9752 | 9585 | 9418 | 9251 | 9084 | 8917 | 8750 | 8583 | 8416 |
| | 128 | 129 | 0712 | 0545 | 0378 | 0211 | 0044 | 9877 | 9710 | 9543 | 9376 | 9209 | 9042 | 8875 | 8708 | 8541 | 8374 | 8207 |
| | 129 | 130 | 0503 | 0336 | 0169 | 0002 | 9835 | 9668 | 9501 | 9334 | 9167 | 9000 | 8833 | 8666 | 8499 | 8332 | 8165 | 7998 |
| | 130 | 131 | 0294 | 0127 | 9960 | 9793 | 9626 | 9459 | 9292 | 9125 | 8958 | 8791 | 8624 | 8457 | 8290 | 8123 | 7956 | 7789 |
| | 131 | 132 | 0085 | 9918 | 9751 | 9584 | 9417 | 9250 | 9083 | 8916 | 8749 | 8582 | 8415 | 8248 | 8081 | 7914 | 7747 | 7580 |
| | 132 | 133 | 9876 | 9709 | 9542 | 9375 | 9208 | 9041 | 8874 | 8707 | 8540 | 8373 | 8206 | 8039 | 7872 | 7705 | 7538 | 7371 |
| | 133 | 134 | 9667 | 9500 | 9333 | 9166 | 8999 | 8832 | 8665 | 8498 | 8331 | 8164 | 7997 | 7830 | 7663 | 7496 | 7329 | 7162 |
| | 134 | 135 | 9458 | 9291 | 9124 | 8957 | 8790 | 8623 | 8456 | 8289 | 8122 | 7955 | 7788 | 7621 | 7454 | 7287 | 7120 | 6953 |
| | 135 | 136 | 9249 | 9082 | 8915 | 8748 | 8581 | 8414 | 8247 | 8080 | 7913 | 7746 | 7579 | 7412 | 7245 | 7078 | 6911 | 6744 |
| | 136 | 137 | 9040 | 8873 | 8706 | 8539 | 8372 | 8205 | 8038 | 7871 | 7704 | 7537 | 7370 | 7203 | 7036 | 6869 | 6702 | 6535 |
| | 137 | 138 | 8831 | 8664 | 8497 | 8330 | 8163 | 7996 | 7829 | 7662 | 7495 | 7328 | 7161 | 6994 | 6827 | 6660 | 6493 | 6326 |
| | 138 | 139 | 8622 | 8455 | 8288 | 8121 | 7954 | 7787 | 7620 | 7453 | 7286 | 7119 | 6952 | 6785 | 6618 | 6451 | 6284 | 6117 |
| | 139 | 140 | 8413 | 8246 | 8079 | 7912 | 7745 | 7578 | 7411 | 7244 | 7077 | 6910 | 6743 | 6576 | 6409 | 6242 | 6075 | 5908 |
| | 140 | 141 | 8204 | 8037 | 7870 | 7703 | 7536 | 7369 | 7202 | 7035 | 6868 | 6701 | 6534 | 6367 | 6200 | 6033 | 5866 | 5699 |
| | 141 | 142 | 7995 | 7828 | 7661 | 7494 | 7327 | 7160 | 6993 | 6826 | 6659 | 6492 | 6325 | 6158 | 5991 | 5824 | 5657 | 5490 |
| | 142 | 143 | 7786 | 7619 | 7452 | 7285 | 7118 | 6951 | 6784 | 6617 | 6450 | 6283 | 6116 | 5949 | 5782 | 5615 | 5448 | 5281 |
| | 143 | 144 | 7577 | 7410 | 7243 | 7076 | 6909 | 6742 | 6575 | 6408 | 6241 | 6074 | 5907 | 5740 | 5573 | 5406 | 5239 | 5072 |
| | 144 | 145 | 7368 | 7201 | 7034 | 6867 | 6700 | 6533 | 6366 | 6199 | 6032 | 5865 | 5698 | 5531 | 5364 | 5197 | 5030 | 4863 |
| | 145 | 146 | 7159 | 6992 | 6825 | 6658 | 6491 | 6324 | 6157 | 5990 | 5823 | 5656 | 5489 | 5322 | 5155 | 4988 | 4821 | 4654 |
| | 146 | 147 | 6950 | 6783 | 6616 | 6449 | 6282 | 6115 | 5948 | 5781 | 5614 | 5447 | 5280 | 5113 | 4946 | 4779 | 4612 | 4445 |
| | 147 | 148 | 6741 | 6574 | 6407 | 6240 | 6073 | 5906 | 5739 | 5572 | 5405 | 5238 | 5071 | 4904 | 4737 | 4570 | 4403 | 4236 |
| | 148 | 149 | 6532 | 6365 | 6198 | 6031 | 5864 | 5697 | 5530 | 5363 | 5196 | 5029 | 4862 | 4695 | 4528 | 4361 | 4194 | 4027 |
| | 149 | 150 | 6323 | 6156 | 5989 | 5822 | 5655 | 5488 | 5321 | 5154 | 4987 | 4820 | 4653 | 4486 | 4319 | 4152 | 3985 | 3818 |
| | 150 | 151 | 6114 | 5947 | 5780 | 5613 | 5446 | 5279 | 5112 | 4945 | 4778 | 4611 | 4444 | 4277 | 4110 | 3943 | 3776 | 3609 |
| | 151 | 152 | 5905 | 5738 | 5571 | 5404 | 5237 | 5070 | 4903 | 4736 | 4569 | 4402 | 4235 | 4068 | 3901 | 3734 | 3567 | 3400 |
| | 152 | 153 | 5696 | 5529 | 5362 | 5195 | 5028 | 4861 | 4694 | 4527 | 4360 | 4193 | 4026 | 3859 | 3692 | 3525 | 3358 | 3191 |
| | 153 | 154 | 5487 | 5320 | 5153 | 4986 | 4819 | 4652 | 4485 | 4318 | 4151 | 3984 | 3817 | 3650 | 3483 | 3316 | 3149 | 2982 |
| | 154 | 155 | 5278 | 5111 | 4944 | 4777 | 4610 | 4443 | 4276 | 4109 | 3942 | 3775 | 3608 | 3441 | 3274 | 3107 | 2940 | 2773 |
| | 155 | 156 | 5069 | 4902 | 4735 | 4568 | 4401 | 4234 | 4067 | 3900 | 3733 | 3566 | 3399 | 3232 | 3065 | 2898 | 2731 | 2564 |
| | 156 | 157 | 4860 | 4693 | 4526 | 4359 | 4192 | 4025 | 3858 | 3691 | 3524 | 3357 | 3190 | 3023 | 2856 | 2689 | 2522 | 2355 |
| | 157 | 158 | 4651 | 4484 | 4317 | 4150 | 3983 | 3816 | 3649 | 3482 | 3315 | 3148 | 2981 | 2814 | 2647 | 2480 | 2313 | 2146 |
| | 158 | 159 | 4442 | 4275 | 4108 | 3941 | 3774 | 3607 | 3440 | 3273 | 3106 | 2939 | 2772 | 2605 | 2438 | 2271 | 2104 | 1937 |
| | 159 | 160 | 4233 | 4066 | 3899 | 3732 | 3565 | 3398 | 3231 | 3064 | 2897 | 2730 | 2563 | 2396 | 2229 | 2062 | 1895 | 1728 |
| | 160 | 161 | 4024 | 3857 | 3690 | 3523 | 3356 | 3189 | 3022 | 2855 | 2688 | 2521 | 2354 | 2187 | 2020 | 1853 | 1686 | 1519 |
| | 161 | 162 | 3815 | 3648 | 3481 | 3314 | 3147 | 2980 | 2813 | 2646 | 2479 | 2312 | 2145 | 1978 | 1811 | 1644 | 1477 | 1310 |
| | 162 | 163 | 3606 | 3439 | 3272 | 3105 | 2938 | 2771 | 2604 | 2437 | 2270 | 2103 | 1936 | 1769 | 1602 | 1435 | 1268 | 1101 |
| | 163 | 164 | 3397 | 3230 | 3063 | 2896 | 2729 | 2562 

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Sec. of C. D. additive | C. D. & A.D. 134 | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ | Parts for Sec. of C. D. | C. D. 134 | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N | N. | N. | N | N. | N. | N. | N. | | | |
| 354 | 0 | 268 8349 | 7998 | 7647 | 7290 | 6944 | 6593 | 6242 | 5890 | 5539 | 5188 | 4836 | 4484 | 4133 | 3781 | 3429 | 3077 | 2725 | 0 | 0 | 0 |
| 348 | 1 | 8556 | 8205 | 7854 | 7503 | 7151 | 6800 | 6448 | 6097 | 5745 | 5394 | 5042 | 4690 | 4338 | 3987 | 3635 | 3283 | 2931 | 3 | 1 | 4 |
| 343 | 2 | 8764 | 8412 | 8061 | 771 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4544 | 4192 | 384 | [illegible] | [illegible] | [illegible] | 7 | [illegible] | 5 |
| 337 | 3 | 8971 | 8619 | 8268 | 7917 | 7565 | 7213 | 6862 | 6510 | 6158 | 5806 | 5454 | 5102 | 4750 | 4398 | 4046 | 3694 | 3342 | 10 | 3 | 5 |
| 331 | 4 | 917 | 88 | 8475 | 81 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 14 | 4 | 5 |
| 325 | 5 | 268 9385 | 9034 | 8682 | 8330 | 7978 | 7626 | 7275 | 6923 | 6571 | 6219 | 5866 | 5514 | 5162 | 4810 | 4457 | 4105 | 3752 | 17 | 5 | 7 |
| 319 | 6 | 959 | 924 | 889 | 85 | 81 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 21 | 6 | 8 |
| 313 | 7 | 9799 | 9447 | 9095 | 8743 | 8391 | 8039 | 7687 | 7335 | 6983 | 6631 | 6278 | 5926 | 5573 | 5221 | 4868 | 4516 | 4163 | 24 | 7 | 10 |
| 307 | 8 | 269(268) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 28 | 8 | 11 |
| 301 | 9 | 0213 | 9861 | 9509 | 9157 | 8804 | 8452 | 8100 | 7747 | 7395 | 7043 | 6690 | 6337 | 5985 | 5632 | 5279 | 4926 | 4573 | 31 | 9 | 13 |
| 295 | 10 | 269(268) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 35 | 10 | 14 |
| 289 | 11 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 38 | 11 | 15 |
| 284 | 12 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 42 | 12 | 17 |
| 278 | 13 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 571 | [illegible] | [illegible] | 7513 | 7160 | 6808 | 645 | [illegible] | [illegible] | [illegible] | 45 | 13 | 18 |
| 272 | 14 | 1246 | 0894 | 0541 | 0188 | 983 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 771 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 49 | 14 | 20 |
| 267 | 15 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9689 | 9336 | 8983 | 8630 | 8277 | 7924 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 52 | 15 | 21 |
| 261 | 16 | 1659 | 1306 | 0954 | 0601 | 0248 | 9895 | 9542 | 9189 | 8835 | 8482 | 8129 | 7776 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 56 | 16 | 23 |
| 254 | 17 | 1866 | 1513 | 1160 | 0807 | 0454 | 0101 | 9747 | 9394 | 9041 | 8688 | 8334 | 7981 | [illegible] | [illegible] | [illegible] | [illegible] | 113 | 59 | 17 | 24 |
| 248 | 18 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 71 | 0417 | 63 | 18 | 26 |
| 242 | 19 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6 | 6662 | 66 | 19 | 27 |
| 236 | 20 | 269(268) | [illegible] | [illegible] | 1425 | 1071 | 0718 | 0364 | 0011 | 9657 | 9304 | 8950 | 8596 | 8242 | 7888 | 7534 | 7180 | 6826 | 69 | 20 | 29 |
| 230 | 21 | [illegible] | 2337 | 1984 | 1630 | 1277 | 0924 | 0570 | 0216 | [illegible] | 9509 | 0155 | 8801 | 8447 | 8093 | 7739 | 7385 | 7031 | 73 | 21 | 30 |
| 225 | 22 | [illegible] | 2677 | 2323 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 714 | 0360 | 9006 | 8652 | 8298 | 7944 | 7589 | 7235 | 76 | 22 | 32 |
| 219 | 23 | [illegible] | 3133 | [illegible] | [illegible] | [illegible] | 1334 | [illegible] | [illegible] | [illegible] | 019 | 0565 | 0211 | 8857 | 8503 | 8148 | 7794 | 7440 | 80 | 23 | 33 |
| 213 | 24 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 154 | [illegible] | [illegible] | 124 | 9770 | 9416 | 9061 | 8707 | 8353 | 7998 | 7644 | 83 | 24 | 35 |
| 207 | 25 | [illegible] | 3516 | [illegible] | [illegible] | [illegible] | 2099 | 1745 | 1391 | 1037 | 0683 | 0329 | 9975 | 9621 | [illegible] | [illegible] | [illegible] | 7848 | [illegible] | [illegible] | [illegible] |
| 201 | 26 | [illegible] | 3750 | [illegible] | [illegible] | 2659 | 2305 | 1951 | 1597 | 1242 | 0888 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8477 | 8032 | [illegible] | [illegible] | [illegible] |
| 195 | 27 | [illegible] | [illegible] | [illegible] | [illegible] | 2864 | 2510 | 2156 | 1802 | 1447 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8811 | 8236 | [illegible] | [illegible] | [illegible] |
| 189 | 28 | [illegible] | [illegible] | [illegible] | [illegible] | 3070 | 2715 | 2361 | 2007 | 1652 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8815 | 8440 | [illegible] | [illegible] | [illegible] |
| 183 | 29 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9019 | 8644 | [illegible] | [illegible] | [illegible] |
| 177 | 30 | 269(268) 4543 | 4189 | 3835 | 3480 | 3126 | 2771 | 2417 | 2062 | 1708 | 1353 | 0998 | 0643 | 0288 | 9934 | 9579 | 9223 | 8868 | 104 | [illegible] | [illegible] |
| 171 | 31 | 4749 | 4394 | 4040 | 3686 | 3331 | 2976 | 2622 | 2267 | 1912 | 1558 | 1203 | 0848 | 0493 | 0138 | 9783 | 9427 | 9072 | 107 | 11 | 1127 |
| 165 | 32 | 4954 | 4600 | 4245 | 3891 | 3536 | 3181 | 2827 | 2472 | 2117 | 1762 | 1407 | 1052 | 0697 | 0342 | 9987 | 9631 | 9276 | 111 | [illegible] | 1174 |
| 160 | 33 | 5160 | 4805 | 4451 | 4096 | 3741 | 3386 | 3032 | 2677 | 2322 | 1967 | 1612 | 1256 | 0901 | 0546 | 0191 | 9835 | 9480 | 114 | [illegible] | 1221 |
| 154 | 34 | 5365 | 5010 | 4656 | 4301 | 3946 | 3591 | 3236 | 2881 | 2526 | 2171 | 1816 | 1461 | 1105 | 0750 | 0395 | 0039 | 9684 | 118 | [illegible] | 1268 |
| 148 | 35 | 269(268) 5570 | 5216 | 4861 | 4506 | 4151 | 3796 | 3441 | 3086 | 2731 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 3987 | [illegible] | [illegible] | [illegible] |
| 142 | 36 | 269 5776 | 5421 | 5066 | 4711 | 4356 | 4001 | 3646 | 3290 | 2935 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0337 | 0011 | 126 | 36 | 1411 |
| 136 | 37 | 5981 | 5626 | 5271 | 4916 | 4561 | 4205 | 3850 | 3495 | 314 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0204 | 129 | 37 | 1458 |
| 130 | 38 | 6186 | 5831 | 5476 | 5121 | 4765 | 4410 | 4055 | 3699 | 3344 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0398 | 133 | 38 | 1507 |
| 124 | 39 | 6391 | 6036 | 5681 | 5325 | 4970 | 4615 | 4259 | 3904 | 3548 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0591 | 0791 | 138 | [illegible] | [illegible] |
| 118 | 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 0985 | 143 | [illegible] | [illegible] |
| 111 | 41 | [illegible] | [illegible] | [illegible] | [illegible] | 79 | 5024 | 4668 | 4312 | 3956 | 3600 | 3245 | 2889 | 2533 | 2177 | 1820 | 1464 | 1108 | 147 | [illegible] | [illegible] |
| [illegible] | 42 | [illegible] | [illegible] | [illegible] | [illegible] | 5584 | 5228 | 4872 | 4516 | 4160 | 3804 | 3449 | 3092 | 2736 | 2380 | 2024 | 1668 | 1311 | 151 | [illegible] | [illegible] |
| [illegible] | 43 | [illegible] | [illegible] | [illegible] | [illegible] | 5788 | 5432 | 5076 | 4720 | 4364 | 4008 | 3652 | [illegible] | [illegible] | [illegible] | [illegible] | 1 | 1514 | 154 | [illegible] | [illegible] |
| 93 | 44 | [illegible] | [illegible] | [illegible] | [illegible] | 5993 | 5637 | 5281 | 4924 | 4568 | 4212 | 385 | [illegible] | [illegible] | [illegible] | [illegible] | 2 | 1717 | 158 | [illegible] | [illegible] |
| 87 | 45 | [illegible] | [illegible] | [illegible] | 3 | 6197 | 5841 | 5485 | 5128 | 4772 | 4416 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2 | 1920 | 162 | [illegible] | [illegible] |
| 81 | 46 | [illegible] | [illegible] | [illegible] | [illegible] | 6401 | 6045 | 5689 | 5332 | 4976 | 4620 | 4263 | [illegible] | [illegible] | [illegible] | [illegible] | 2 | 2123 | 165 | [illegible] | [illegible] |
| 77 | 47 | [illegible] | [illegible] | [illegible] | 18 | 6962 | 6605 | 6249 | 5893 | 5536 | 5180 | 4824 | 4467 | 4110 | 3754 | 3397 | 3040 | 2683 | 2326 | 169 | [illegible] |
| 71 | 48 | [illegible] | [illegible] | [illegible] | 12 | 7166 | 6810 | 6453 | 6097 | 5740 | 5384 | 5027 | 4671 | 4314 | 3957 | 3600 | 3243 | 2886 | 2529 | 166 | [illegible] |
| 65 | 49 | [illegible] | [illegible] | [illegible] | 6 | 7370 | 7014 | 6657 | 6301 | 5944 | 5587 | 5231 | 4874 | 4517 | 4160 | 3803 | 3446 | 3089 | 2732 | 169 | [illegible] |
| 59 | 50 | [illegible] | [illegible] | [illegible] | [illegible] | 7218 | 6861 | 6504 | 6148 | 5791 | 5434 | 507 | [illegible] | [illegible] | [illegible] | [illegible] | 3 | 2935 | [illegible] | [illegible] | [illegible] |
| 53 | 51 | [illegible] | [illegible] | [illegible] | 8 | 7422 | 7065 | 6708 | 6 | [illegible] | 5995 | 5638 | 5281 | [illegible] | [illegible] | [illegible] | 3 | 3138 | [illegible] | 1 | [illegible] |
| 47 | 52 | [illegible] | [illegible] | [illegible] | 2 | 7625 | 7269 | 6912 | 6 | [illegible] | 6198 | 5841 | [illegible] | [illegible] | [illegible] | [illegible] | 3 | 3340 | [illegible] | 2 | [illegible] |
| 41 | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3 | 3543 | [illegible] | 3 | [illegible] |
| 35 | 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4 | 3746 | [illegible] | 4 | [illegible] |
| 29 | 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4 | 3948 | [illegible] | 5 | [illegible] |
| 23 | 56 | [illegible] | [illegible] | [illegible] | [illegible] | 98 | 8440 | 8083 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4150 | [illegible] | 6 | [illegible] |
| 17 | 57 | [illegible] | [illegible] | [illegible] | 158 | 9001 | 8644 | 8287 | 7930 | 7572 | 7215 | 6857 | 6499 | 6142 | 5784 | 5426 | 5069 | 4711 | 4353 | 197 | [illegible] |
| 11 | 58 | [illegible] | [illegible] | [illegible] | 12 | 9205 | 8848 | 8490 | 8133 | 7775 | 7418 | 7060 | 6702 | 6345 | 5987 | 5630 | 5271 | 4915 | 4555 | 201 | 58 |
| 6 | 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxiliary Arguments.

| Auxil. Arg. 135° | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 270 6751 | 6394 | 6038 | 5681 | 5325 | 4968 | 4612 | 4255 | 3898 | 3541 | 3184 | 2827 | 2470 | 2113 | 1756 | 1399 | 1042 |
| 1 | 6956 | 6600 | 6243 | 5887 | 5530 | 5173 | 4816 | 4460 | 4103 | 3746 | 3389 | 3032 | 2675 | 2317 | 1960 | 1603 | 1246 |
| 2 | 7162 | 6805 | 6448 | 6092 | 5735 | 5378 | 5021 | 4664 | 4307 | 3950 | 3593 | 3236 | 2879 | 2522 | 2164 | 1807 | 1449 |
| 3 | 7367 | 7011 | 6654 | 6297 | 5940 | 5583 | 5226 | 4869 | 4512 | 4155 | 3798 | 3440 | 3083 | 2726 | 2368 | 2011 | 1653 |
| 4 | 7573 | 7216 | 6859 | 6502 | 6145 | 5788 | 5431 | 5074 | 4717 | 4359 | 4002 | 3645 | 3288 | 2930 | 2572 | 2215 | 1857 |
| 5 | 270 7778 | 7421 | 7064 | 6707 | 6350 | 5993 | 5636 | 5279 | 4921 | 4564 | 4207 | 3849 | 3491 | 3134 | 2777 | 2419 | 2061 |
| 6 | 7983 | 7626 | 7269 | 6912 | 6555 | 6198 | 5840 | 5483 | 5125 | 4768 | 4411 | 4053 | 3696 | 3338 | 2980 | 2622 | 2264 |
| 7 | 8188 | 7831 | 7474 | 7117 | 6760 | 6402 | 6045 | 5687 | 5330 | 4972 | 4615 | 4257 | 3900 | 3542 | 3184 | 2826 | 2468 |
| 8 | 8393 | 8036 | 7679 | 7322 | 6964 | 6607 | 6249 | 5892 | 5534 | 5176 | 4819 | 4461 | 4103 | 3745 | 3387 | 3029 | 2671 |
| 9 | 8598 | 8241 | 7884 | 7526 | 7169 | 6811 | 6454 | 6096 | 5738 | 5381 | 5023 | 4665 | 4307 | 3949 | 3591 | 3233 | 2875 |
| 10 | 270 8803 | 8446 | 8089 | 7731 | 7373 | 7016 | 6658 | 6300 | 5943 | 5585 | 5227 | 4870 | 4511 | 4153 | 3795 | 3437 | 3079 |
| 11 | 9008 | 8651 | 8293 | 7936 | 7578 | 7220 | 6862 | 6505 | 6147 | 5789 | 5431 | 5073 | 4715 | 4357 | 3999 | 3641 | 3283 |
| 12 | 9213 | 8855 | 8498 | 8140 | 7782 | 7425 | 7067 | 6709 | 6351 | 5993 | 5635 | 5276 | 4918 | 4560 | 4202 | 3843 | 3485 |
| 13 | 9418 | 9060 | 8703 | 8345 | 7987 | 7629 | 7271 | 6913 | 6555 | 6197 | 5838 | 5480 | 5122 | 4763 | 4405 | 4047 | 3688 |
| 14 | 9623 | 9265 | 8907 | 8549 | 8191 | 7833 | 7475 | 7117 | 6759 | 6400 | 6042 | 5684 | 5325 | 4967 | 4608 | 4250 | 3891 |
| 15 | 270 9828 | 9470 | 9112 | 8754 | 8396 | 8037 | 7679 | 7321 | 6963 | 6604 | 6246 | 5887 | 5529 | 5170 | 4812 | 4453 | 4094 |
| 16 | 271 (-720) 0033 | 9675 | 9316 | 8958 | 8600 | 8242 | 7883 | 7525 | 7166 | 6808 | 6449 | 6091 | 5732 | 5374 | 5015 | 4656 | 4297 |
| 17 | 0238 | 9880 | 9521 | 9162 | 8804 | 8446 | 8087 | 7729 | 7370 | 7012 | 6653 | 6294 | 5936 | 5577 | 5218 | 4859 | 4500 |
| 18 | 0443 | 0085 | 9726 | 9367 | 9008 | 8650 | 8291 | 7933 | 7574 | 7215 | 6856 | 6498 | 6139 | 5780 | 5421 | 5062 | 4703 |
| 19 | 0648 | 0290 | 9931 | 9572 | 9213 | 8854 | 8495 | 8136 | 7777 | 7418 | 7060 | 6701 | 6342 | 5983 | 5624 | 5265 | 4906 |
| 20 | 271 (-720) 0853 | 0495 | 0136 | 9777 | 9417 | 9058 | 8699 | 8340 | 7981 | 7622 | 7263 | 6904 | 6545 | 6186 | 5827 | 5468 | 5109 |
| 21 | 1058 | 0700 | 0341 | 9982 | 9622 | 9263 | 8903 | 8544 | 8185 | 7825 | 7466 | 7107 | 6748 | 6389 | 6030 | 5670 | 5311 |
| 22 | 1263 | 0905 | 0546 | 0187 | 9827 | 9467 | 9107 | 8747 | 8388 | 8028 | 7669 | 7311 | 6951 | 6592 | 6233 | 5873 | 5514 |
| 23 | 1468 | 1110 | 0751 | 0392 | 0032 | 9672 | 9312 | 8951 | 8591 | 8231 | 7872 | 7514 | 7154 | 6795 | 6436 | 6076 | 5717 |
| 24 | 1673 | 1315 | 0956 | 0597 | 0237 | 9876 | 9516 | 9156 | 8795 | 8435 | 8075 | 7717 | 7357 | 6998 | 6639 | 6279 | 5920 |
| 25 | 271 (-720) 1878 | 1520 | 1161 | 0802 | 0442 | 0081 | 9720 | 9360 | 9000 | 8639 | 8279 | 7920 | 7560 | 7201 | 6841 | 6482 | 6123 |
| 26 | 2083 | 1725 | 1366 | 1007 | 0647 | 0286 | 9925 | 9564 | 9204 | 8843 | 8483 | 8123 | 7763 | 7403 | 7044 | 6685 | 6326 |
| 27 | 2288 | 1930 | 1571 | 1212 | 0852 | 0491 | 0130 | 9768 | 9408 | 9047 | 8687 | 8326 | 7966 | 7606 | 7247 | 6888 | 6529 |
| 28 | 2493 | 2135 | 1776 | 1417 | 1057 | 0696 | 0335 | 9973 | 9612 | 9251 | 8891 | 8530 | 8170 | 7810 | 7450 | 7091 | 6732 |
| 29 | 2698 | 2340 | 1981 | 1622 | 1262 | 0901 | 0540 | 0178 | 9816 | 9455 | 9095 | 8734 | 8374 | 8014 | 7654 | 7294 | 6935 |
| 30 | 271 (-720) 2903 | 2545 | 2186 | 1827 | 1467 | 1106 | 0745 | 0383 | 0020 | 9659 | 9299 | 8938 | 8578 | 8218 | 7858 | 7498 | 7138 |
| 31 | 3108 | 2750 | 2391 | 2032 | 1672 | 1311 | 0950 | 0588 | 0225 | 9863 | 9503 | 9142 | 8782 | 8422 | 8062 | 7702 | 7342 |
| 32 | 3313 | 2955 | 2596 | 2237 | 1877 | 1516 | 1155 | 0793 | 0430 | 0067 | 9707 | 9346 | 8986 | 8626 | 8266 | 7906 | 7546 |
| 33 | 3518 | 3160 | 2801 | 2442 | 2082 | 1721 | 1360 | 0998 | 0635 | 0272 | 9911 | 9550 | 9190 | 8830 | 8470 | 8110 | 7750 |
| 34 | 3723 | 3365 | 3006 | 2647 | 2287 | 1926 | 1565 | 1203 | 0840 | 0477 | 0115 | 9754 | 9394 | 9034 | 8674 | 8314 | 7954 |
| 35 | 271 (-720) 3928 | 3570 | 3211 | 2852 | 2492 | 2131 | 1770 | 1408 | 1045 | 0682 | 0320 | 9958 | 9598 | 9238 | 8878 | 8518 | 8158 |
| 36 | 4133 | 3775 | 3416 | 3057 | 2697 | 2336 | 1975 | 1613 | 1250 | 0887 | 0525 | 0163 | 9802 | 9442 | 9082 | 8722 | 8362 |
| 37 | 4338 | 3980 | 3621 | 3262 | 2902 | 2541 | 2180 | 1818 | 1455 | 1092 | 0730 | 0368 | 0006 | 9646 | 9286 | 8926 | 8566 |
| 38 | 4543 | 4185 | 3826 | 3467 | 3107 | 2746 | 2385 | 2023 | 1660 | 1297 | 0935 | 0573 | 0211 | 9850 | 9490 | 9130 | 8770 |
| 39 | 4748 | 4390 | 4031 | 3672 | 3312 | 2951 | 2590 | 2228 | 1865 | 1502 | 1140 | 0778 | 0416 | 0054 | 9694 | 9334 | 8974 |
| 40 | 271 (-720) 4953 | 4595 | 4236 | 3877 | 3517 | 3156 | 2795 | 2433 | 2070 | 1707 | 1345 | 0983 | 0621 | 0259 | 9898 | 9538 | 9178 |
| 41 | 5158 | 4800 | 4441 | 4082 | 3722 | 3361 | 3000 | 2638 | 2275 | 1912 | 1550 | 1188 | 0826 | 0464 | 0102 | 9742 | 9382 |
| 42 | 5363 | 5005 | 4646 | 4287 | 3927 | 3566 | 3205 | 2843 | 2480 | 2117 | 1755 | 1393 | 1031 | 0669 | 0307 | 9946 | 9586 |
| 43 | 5568 | 5210 | 4851 | 4492 | 4132 | 3771 | 3410 | 3048 | 2685 | 2322 | 1960 | 1598 | 1236 | 0874 | 0512 | 0150 | 9790 |
| 44 | 5773 | 5415 | 5056 | 4697 | 4337 | 3976 | 3615 | 3253 | 2890 | 2527 | 2165 | 1803 | 1441 | 1079 | 0717 | 0355 | 9994 |
| 45 | 271 5978 | 5620 | 5261 | 4902 | 4542 | 4181 | 3820 | 3458 | 3095 | 2732 | 2370 | 2008 | 1646 | 1284 | 0922 | 0560 | 0198 |
| 46 | 6183 | 5825 | 5466 | 5107 | 4747 | 4386 | 4025 | 3663 | 3300 | 2937 | 2575 | 2213 | 1851 | 1489 | 1127 | 0765 | 0403 |
| 47 | 6388 | 6030 | 5671 | 5312 | 4952 | 4591 | 4230 | 3868 | 3505 | 3142 | 2780 | 2418 | 2056 | 1694 | 1332 | 0970 | 0608 |
| 48 | 6593 | 6235 | 5876 | 5517 | 5157 | 4796 | 4435 | 4073 | 3710 | 3347 | 2985 | 2623 | 2261 | 1899 | 1537 | 1175 | 0813 |
| 49 | 6798 | 6440 | 6081 | 5722 | 5362 | 5001 | 4640 | 4278 | 3915 | 3552 | 3190 | 2828 | 2466 | 2104 | 1742 | 1380 | 1018 |
| 50 | 271 7003 | 6645 | 6286 | 5927 | 5567 | 5206 | 4845 | 4483 | 4120 | 3757 | 3395 | 3033 | 2671 | 2309 | 1947 | 1585 | 1223 |
| 51 | 7208 | 6850 | 6491 | 6132 | 5772 | 5411 | 5050 | 4688 | 4325 | 3962 | 3600 | 3238 | 2876 | 2514 | 2152 | 1790 | 1428 |
| 52 | 7413 | 7055 | 6696 | 6337 | 5977 | 5616 | 5255 | 4893 | 4530 | 4167 | 3805 | 3443 | 3081 | 2719 | 2357 | 1995 | 1633 |
| 53 | 7618 | 7260 | 6901 | 6542 | 6182 | 5821 | 5460 | 5098 | 4735 | 4372 | 4010 | 3648 | 3286 | 2924 | 2562 | 2200 | 1838 |
| 54 | 7823 | 7465 | 7106 | 6747 | 6387 | 6026 | 5665 | 5303 | 4940 | 4577 | 4215 | 3853 | 3491 | 3129 | 2767 | 2405 | 2043 |
| 55 | 271 8028 | 7670 | 7311 | 6952 | 6592 | 6231 | 5870 | 5508 | 5145 | 4782 | 4420 | 4058 | 3696 | 3334 | 2972 | 2610 | 2248 |
| 56 | 8233 | 7875 | 7516 | 7157 | 6797 | 6436 | 6075 | 5713 | 5350 | 4987 | 4625 | 4263 | 3901 | 3539 | 3177 | 2815 | 2453 |
| 57 | 8371 | 8029 | 7647 | 7284 | 6922 | 6560 | 6197 | 5834 | 5472 | 5109 | 4746 | 4384 | 4021 | 3658 | 3295 | 2932 | 2569 |
| 58 | 8576 | 8234 | 7852 | 7489 | 7127 | 6765 | 6402 | 6039 | 5677 | 5314 | 4951 | 4589 | 4226 | 3863 | 3500 | 3137 | 2774 |
| 59 | 8781 | 8439 | 8057 | 7694 | 7332 | 6970 | 6607 | 6244 | 5882 | 5519 | 5156 | 4794 | 4431 | 4068 | 3705 | 3342 | 2979 |
| 60 | 8986 | 8644 | 8262 | 7899 | 7537 | 7175 | 6812 | 6449 | 6087 | 5724 | 5361 | 4999 | 4636 | 4273 | 3910 | 3547 | 3184 |
| | 9191 | 8849 | 8507 | 8165 | 7823 | 7480 | 7138 | 6795 | 6452 | 6110 | 5767 | 5424 | 5082 | 4739 | 4396 | 4053 | 3711 |
| | 9396 | 9054 | 8712 | 8370 | 8028 | 7685 | 7343 | 7000 | 6657 | 6315 | 5972 | 5629 | 5287 | 4944 | 4601 | 4258 | 3916 |
| | 9601 | 9259 | 8917 | 8575 | 8233 | 7890 | 7548 | 7205 | 6862 | 6520 | 6177 | 5834 | 5492 | 5149 | 4806 | 4463 | 4121 |
| | 9806 | 9464 | 9122 | 8780 | 8438 | 8095 | 7753 | 7410 | 7067 | 6725 | 6382 | 6039 | 5697 | 5354 | 5011 | 4668 | 4326 |
| | 0011 | 9669 | 9327 | 8985 | 8643 | 8300 | 7958 | 7615 | 7272 | 6930 | 6587 | 6244 | 5902 | 5559 | 5216 | 4873 | 4531 |
| | 0216 | 9874 | 9532 | 9190 | 8848 | 8505 | 8163 | 7820 | 7477 | 7135 | 6792 | 6449 | 6107 | 5764 | 5421 | 5078 | 4736 |
| | 0421 | 0079 | 9737 | 9395 | 9053 | 8710 | 8368 | 8025 | 7682 | 7340 | 6997 | 6654 | 6312 | 5969 | 5626 | 5283 | 4941 |
| | 0626 | 0284 | 9942 | 9600 | 9258 | 8915 | 8573 | 8230 | 7887 | 7545 | 7202 | 6859 | 6517 | 6174 | 5831 | 5488 | 5146 |
| | 0831 | 0489 | 0147 | 9805 | 9463 | 9120 | 8778 | 8435 | 8092 | 7750 | 7407 | 7064 | 6722 | 6379 | 6036 | 5693 | 5351 |
| | 1036 | 0694 | 0352 | 0010 | 9668 | 9325 | 8983 | 8640 | 8297 | 7955 | 7612 | 7269 | 6927 | 6584 | 6241 | 5898 | 5556 |
| | 1241 | 0899 | 0557 | 0215 | 9873 | 9530 | 9188 | 8845 | 8502 | 8160 | 7817 | 7474 | 7132 | 6789 | 6446 | 6103 | 5761 |
| | 1446 | 1104 | 0762 | 0420 | 0078 | 9735 | 9393 | 9050 | 8707 | 8365 | 8022 | 7679 | 7337 | 6994 | 6651 | 6308 | 5966 |
| | 1651 | 1309 | 0967 | 0625 | 0283 | 9940 | 9598 | 9255 | 8912 | 8570 | 8227 | 7884 | 7542 | 7199 | 6856 | 6513 | 6171 |
| | 1856 | 1514 | 1172 | 0830 | 0488 | 0145 | 9803 | 9460 | 9117 | 8775 | 8432 | 8089 | 7747 | 7404 | 7061 | 6718 | 6376 |
| | 2061 | 1719 | 1377 | 1035 | 0693 | 0350 | 0008 | 9665 | 9322 | 8980 | 8637 | 8294 | 7952 | 7609 | 7266 | 6923 | 6581 |
| | 2266 | 1924 | 1582 | 1240 | 0898 | 0555 | 0213 | 9870 | 9527 | 9185 | 8842 | 8499 | 8157 | 7814 | 7471 | 7128 | 6786 |
| | 2471 | 2129 | 1787 | 1445 | 1103 | 0760 | 0418 | 0075 | 9732 | 9390 | 9047 | 8704 | 8362 | 8019 | 7676 | 7333 | 6991 |
| | 2676 | 2334 | 1992 | 1650 | 1308 | 0965 | 0623 | 0280 | 9937 | 9595 | 9252 | 8909 | 8567 | 8224 | 7881 | 7538 | 7196 |
| | 2881 | 2539 | 2197 | 1855 | 1513 | 1170 | 0828 | 0485 | 0142 | 9800 | 9457 | 9114 | 8772 | 8429 | 8086 | 7743 | 7401 |
| | 3086 | 2744 | 2402 | 2060 | 1718 | 1375 | 1033 | 0690 | 0347 | 0005 | 9662 | 9319 | 8977 | 8634 | 8291 | 7948 | 7606 |
| | 3291 | 2949 | 2607 | 2265 | 1923 | 1580 | 1238 | 0895 | 0552 | 0210 | 9867 | 9524 | 9182 | 8839 | 8496 | 8153 | 7811 |
| | 3496 | 3154 | 2812 | 2470 | 2128 | 1785 | 1443 | 1100 | 0757 | 0415 | 0072 | 9729 | 9387 | 9044 | 8701 | 8358 | 8016 |
| | 3701 | 3359 | 3017 | 2675 | 2333 | 1990 | 1648 | 1305 | 0962 | 0620 | 0277 | 9934 | 9592 | 9249 | 8906 | 8563 | 8221 |
| | 3906 | 3564 | 3222 | 2880 | 2538 | 2195 | 1853 | 1510 | 1167 | 0825 | 0482 | 0139 | 9797 | 9454 | 9111 | 8768 | 8426 |
| | 4111 | 3769 | 3427 | 3085 | 2743 | 2400 | 2058 | 1715 | 1372 | 1030 | 0687 | 0344 | 0002 | 9659 | 9316 | 8973 | 8631 |
| | 4316 | 3974 | 3632 | 3290 | 2948 | 2605 | 2263 | 1920 | 1577 | 1235 | 0892 | 0549 | 0207 | 9864 | 9521 | 9178 | 8836 |
| | 4521 | 4179 | 3837 | 3495 | 3153 | 2810 | 2468 | 2125 | 1782 | 1440 | 1097 | 0754 | 0412 | 0069 | 9726 | 9383 | 9041 |
| | 4726 | 4384 | 4042 | 3700 | 3358 | 3015 | 2673 | 2330 | 1987 | 1645 | 1302 | 0959 | 0617 | 0274 | 9931 | 9588 | 9246 |
| | 4931 | 4589 | 4247 | 3905 | 3563 | 3220 | 2878 | 2535 | 2192 | 1850 | 1507 | 1164 | 0822 | 0479 | 0136 | 9793 | 9451 |
| | 5136 | 4794 | 4452 | 4110 | 3768 | 3425 | 3083 | 2740 | 2397 | 2055 | 1712 | 1369 | 1027 | 0684 | 0341 | 9998 | 9656 |
| | 5341 | 4999 | 4657 | 4315 | 3973 | 3630 | 3288 | 2945 | 2602 | 2260 | 1917 | 1574 | 1232 | 0889 | 0546 | 0203 | 9861 |
| | 5546 | 5204 | 4862 | 4520 | 4178 | 3835 | 3493 | 3150 | 2807 | 2465 | 2122 | 1779 | 1437 | 1094 | 0751 | 0408 | 0066 |
| | 5751 | 5409 | 5067 | 4725 | 4383 | 4040 | 3698 | 3355 | 3012 | 2670 | 2327 | 1984 | 1642 | 1299 | 0956 | 0613 | 0271 |
| | 5956 | 5614 | 5272 | 4930 | 4588 | 4245 | 3903 | 3560 | 3217 | 2875 | 2532 | 2189 | 1847 | 1504 | 1161 | 0818 | 0476 |
| | 6161 | 5819 | 5477 | 5135 | 4793 | 4450 | 4108 | 3765 | 3422 | 3080 | 2737 | 2394 | 2052 | 1709 | 1366 | 1023 | 0681 |
| | 6366 | 6024 | 5682 | 5340 | 4998 | 4655 | 4313 | 3970 | 3627 | 3285 | 2942 | 2599 | 2257 | 1914 | 1571 | 1228 | 0886 |
| | 6571 | 6229 | 5887 | 5545 | 5203 | 4860 | 4518 | 4175 | 3832 | 3490 | 3147 | 2804 | 2462 | 2119 | 1776 | 1433 | 1091 |
| | 6776 | 6434 | 6092 | 5750 | 5408 | 5065 | 4723 | 4380 | 4037 | 3695 | 3352 | 3009 | 2667 | 2324 | 1981 | 1638 | 1296 |
| | 6981 | 6639 | 6297 | 5955 | 5613 | 5270 | 4928 | 4585 | 4242 | 3900 | 3557 | 3214 | 2872 | 2529 | 2186 | 1843 | 1501 |
| | 7186 | 6844 | 6502 | 6160 | 5818 | 5475 | 5133 | 4790 | 4447 | 4105 | 3762 | 3419 | 3077 | 2734 | 2391 | 2048 | 1706 |
| | 7391 | 7049 | 6707 | 6365 | 6023 | 5680 | 5338 | 4995 | 4652 | 4310 | 3967 | 3624 | 3282 | 2939 | 2596 | 2253 | 1911 |
| | 7596 | 7254 | 6912 | 6570 | 6228 | 5885 | 5543 | 5200 | 4857 | 4515 | 4172 | 3829 | 3487 | 3144 | 2801 | 2458 | 2116 |
| | 7801 | 7459 | 7117 | 6775 | 6433 | 6090 | 5748 | 5405 | 5062 | 4720 | 4377 | 4034 | 3692 | 3349 | 3006 | 2663 | 2321 |
| | 8006 | 7664 | 7322 | 6980 | 6638 | 6295 | 5953 | 5610 | 5267 | 4925 | 4582 | 4239 | 3897 | 3554 | 3211 | 2868 | 2526 |
| | 8211 | 7869 | 7527 | 7185 | 6843 | 6500 | 6158 | 5815 | 5472 | 5130 | 4787 | 4444 | 4102 | 3759 | 3416 | 3073 | 2731 |
| | 8416 | 8074 | 7732 | 7390 | 7048 | 6705 | 6363 | 6020 | 5677 | 5335 | 4992 | 4649 | 4307 | 3964 | 3621 | 3278 | 2936 |
| | 8621 | 8279 | 7937 | 7595 | 7253 | 6910 | 6568 | 6225 | 5882 | 5540 | 5197 | 4854 | 4512 | 4169 | 3826 | 3483 | 3141 |
| | 8826 | 8484 | 8142 | 7800 | 7458 | 7115 | 6773 | 6430 | 6087 | 5745 | 5402 | 5059 | 4717 | 4374 | 4031 | 3688 | 3346 |
| | 9031 | 8689 | 8347 | 8005 | 7663 | 7320 | 6978 | 6635 | 6292 | 5950 | 5607 | 5264 | 4922 | 4579 | 4236 | 3893 | 3551 |
| | 9236 | 8894 | 8552 | 8210 | 7868 | 7525 | 7183 | 6840 | 6497 | 6155 | 5812 | 5469 | 5127 | 4784 | 4441 | 4098 | 3756 |
| | 9441 | 9099 | 8757 | 8415 | 8073 | 7730 | 7388 | 7045 | 6702 | 6360 | 6017 | 5674 | 5332 | 4989 | 4646 | 4303 | 3961 |
| | 9646 | 9304 | 8962 | 8620 | 8278 | 7935 | 7593 | 7250 | 6907 | 6565 | 6222 | 5879 | 5537 | 5194 | 4851 | 4508 | 4166 |
| | 9851 | 9509 | 9167 | 8825 | 8483 | 8140 | 7798 | 7455 | 7112 | 6770 | 6427 | 6084 | 5742 | 5399 | 5056 | 4713 | 4371 |
| | 0056 | 9714 | 9372 | 9030 | 8688 | 8345 | 8003 | 7660 | 7317 | 6975 | 6632 | 6289 | 5947 | 5604 | 5261 | 4918 | 4576 |
| | 0261 | 9919 | 9577 | 9235 | 8893 | 8550 | 8208 | 7865 | 7522 | 7180 | 6837 | 6494 | 6152 | 5809 | 5466 | 5123 | 4781 |
| | 0466 | 0124 | 9782 | 9440 | 9098 | 8755 | 8413 | 8070 | 7727 | 7385 | 7042 | 6699 | 6357 | 6014 | 5671 | 5328 | 4986 |
| | 0671 | 0329 | 9987 | 9645 | 9303 | 8960 | 8618 | 8275 | 7932 | 7590 | 7247 | 6904 | 6562 | 6219 | 5876 | 5533 | 5191 |
| | 0876 | 0534 | 0192 | 9850 | 9508 | 9165 | 8823 | 8480 | 8137 | 7795 | 7452 | 7109 | 6767 | 6424 | 6081 | 5738 | 5396 |
| | 1081 | 0739 | 0397 | 0055 | 9713 | 9370 | 9028 | 8685 | 8342 | 8000 | 7657 | 7314 | 6972 | 6629 | 6286 | 5943 | 5601 |
| | 1286 | 0944 | 0602 | 0260 | 9918 | 9575 | 9233 | 8890 | 8547 | 8205 | 7862 | 7519 | 7177 | 6834 | 6491 | 6148 | 5806 |
| | 1491 | 1149 | 0807 | 0465 | 0123 | 9780 | 9438 | 9095 | 8752 | 8410 | 8067 | 7724 | 7382 | 7039 | 6696 | 6353 | 6011 |
| | 1696 | 1354 | 1012 | 0670 | 0328 | 9985 | 9643 | 9300 | 8957 | 8615 | 8272 | 7929 | 7587 | 7244 | 6901 | 6558 | 6216 |
| | 1901 | 1559 | 1217 | 0875 | 0533 | 0190 | 9848 | 9505 | 9162 | 8820 | 8477 | 8134 | 7792 | 7449 | 7106 | 6763 | 6421 |
| | 2106 | 1764 | 1422 | 1080 | 0738 | 0395 | 0053 | 9710 | 9367 | 9025 | 8682 | 8339 | 7997 | 7654 | 7311 | 6968 | 6626 |
| | 2311 | 1969 | 1627 | 1285 | 0943 | 0600 | 0258 | 9915 | 9572 | 9230 | 8887 | 8544 | 8202 | 7859 | 7516 | 7173 | 6831 |
| | 2516 | 2174 | 1832 | 1490 | 1148 | 0805 | 0463 | 0120 | 9777 | 9435 | 9092 | 8749 | 8407 | 8064 | 7721 | 7378 | 7036 |
| | 2721 | 2379 | 2037 | 1695 | 1353 | 1010 | 0668 | 0325 | 9982 | 9640 | 9297 | 8954 | 8612 | 8269 | 7926 | 7583 | 7241 |
| | 2926 | 2584 | 2242 | 1900 | 1558 | 1215 | 0873 | 0530 | 0187 | 9845 | 9502 | 9159 | 8817 | 8474 | 8131 | 7788 | 7446 |
| | 3131 | 2789 | 2447 | 2105 | 1763 | 1420 | 1078 | 0735 | 0392 | 0050 | 9707 | 9364 | 9022 | 8679 | 8336 | 7993 | 7651 |
| | 3336 | 2994 | 2652 | 2310 | 1968 | 1625 | 1283 | 0940 | 0597 | 0255 | 9912 | 9569 | 9227 | 8884 | 8541 | 8198 | 7856 |
| | 3541 | 3199 | 2857 | 2515 | 2173 | 1830 | 1488 | 1145 | 0802 | 0460 | 0117 | 9774 | 9432 | 9089 | 8746 | 8403 | 8061 |
| | 3746 | 3404 | 3062 | 2720 | 2378 | 2035 | 1693 | 1350 | 1007 | 0665 | 0322 | 9979 | 9637 | 9294 | 8951 | 8608 | 8266 |
| | 3951 | 3609 | 3267 | 2925 | 2583 | 2240 | 1898 | 1555 | 1212 | 0870 | 0527 | 0184 | 9842 | 9499 | 9156 | 8813 | 8471 |
| | 4156 | 3814 | 3472 | 3130 | 2788 | 2445 | 2103 | 1760 | 1417 | 1075 | 0732 | 0389 | 0047 | 9704 | 9361 | 9018 | 8676 |
| | 4361 | 4019 | 3677 | 3335 | 2993 | 2650 | 2308 | 1965 | 1622 | 1280 | 0937 | 0594 | 0252 | 9909 | 9566 | 9223 | 8881 |
| | 4566 | 4224 | 3882 | 3540 | 3198 | 2855 | 2513 | 2170 | 1827 | 1485 | 1142 | 0799 | 0457 | 0114 | 9771 | 9428 | 9086 |
| | 4771 | 4429 | 4087 | 3745 | 3403 | 3060 | 2718 | 2375 | 2032 | 1690 | 1347 | 1004 | 0662 | 0319 | 9976 | 9633 | 9291 |
| | 4976 | 4634 | 4292 | 3950 | 3608 | 3265 | 2923 | 2580 | 2237 | 1895 | 1552 | 1209 | 0867 | 0524 | 0181 | 9838 | 9496 |
| | 5181 | 4839 | 4497 | 4155 | 3813 | 3470 | 3128 | 2785 | 2442 | 2100 | 1757 | 1414 | 1072 | 0729 | 0386 | 0043 | 9701 |
| | 5386 | 5044 | 4702 | 4360 | 4018 | 3675 | 3333 | 2990 | 2647 | 2305 | 1962 | 1619 | 1277 | 0934 | 0591 | 0248 | 9906 |
| | 5591 | 5249 | 4907 | 4565 | 4223 | 3880 | 3538 | 3195 | 2852 | 2510 | 2167 | 1824 | 1482 | 1139 | 0796 | 0453 | 0111 |
| | 5796 | 5454 | 5112 | 4770 | 4428 | 4085 | 3743 | 3400 | 3057 | 2715 | 2372 | 2029 | 1687 | 1344 | 1001 | 0658 | 0316 |
| | 6001 | 5659 | 5317 | 4975 | 4633 | 4290 | 3948 | 3605 | 3262 | 2920 | 2577 | 2234 | 1892 | 1549 | 1206 | 0863 | 0521 |
| | 6206 | 5864 | 5522 | 5180 | 4838 | 4495 | 4153 | 3810 | 3467 | 3125 | 2782 | 2439 | 2097 | 1754 | 1411 | 1068 | 0726 |
| | 6411 | 6069 | 5727 | 5385 | 5043 | 4700 | 4358 | 4015 | 3672 | 3330 | 2987 | 2644 | 2302 | 1959 | 1616 | 1273 | 0931 |
| | 6616 | 6274 | 5932 | 5590 | 5248 | 4905 | 4563 | 4220 | 3877 | 3535 | 3192 | 2849 | 2507 | 2164 | 1821 | 1478 | 1136 |
| | 6821 | 6479 | 6137 | 5795 | 5453 | 5110 | 4768 | 4425 | 4082 | 3740 | 3397 | 3054 | 2712 | 2369 | 2026 | 1683 | 1341 |
| | 7026 | 6684 | 6342 | 6000 | 5658 | 5315 | 4973 | 4630 | 4287 | 3945 | 3602 | 3259 | 2917 | 2574 | 2231 | 1888 | 1546 |
| | 7231 | 6889 | 6547 | 6205 | 5863 | 5520 | 5178 | 4835 | 4492 | 4150 | 3807 | 3464 | 3122 | 2779 | 2436 | 2093 | 1751 |
| | 7436 | 7094 | 6752 | 6410 | 6068 | 5725 | 5383 | 5040 | 4697 | 4355 | 4012 | 3669 | 3327 | 2984 | 2641 | 2298 | 1956 |
| | 7641 | 7299 | 6957 | 6615 | 6273 | 5930 | 5588 | 5245 | 4902 | 4560 | 4217 | 3874 | 3532 | 3189 | 2846 | 2503 | 2161 |
| | 7846 | 7504 | 7162 | 6820 | 6478 | 6135 | 5793 | 5450 | 5107 | 4765 | 4422 | 4079 | 3737 | 3394 | 3051 | 2708 | 2366 |
| | 8051 | 7709 | 7367 | 7025 | 6683 | 6340 | 5998 | 5655 | 5312 | 4970 | 4627 | 4284 | 3942 | 3599 | 3256 | 2913 | 2571 |
| | 8256 | 7914 | 7572 | 7230 | 6888 | 6545 | 6203 | 5860 | 5517 | 5175 | 4832 | 4489 | 4147 | 3804 | 3461 | 3118 | 2776 |
| | 8461 | 8119 | 7777 | 7435 | 7093 | 6750 | 6408 | 6065 | 5722 | 5380 | 5037 | 4694 | 4352 | 4009 | 3666 | 3323 | 2981 |
| | 8666 | 8324 | 7982 | 7640 | 7298 | 6955 | 6613 | 6270 | 5927 | 5585 | 5242 | 4899 | 4557 | 4214 | 3871 | 3528 | 3186 |
| | 8871 | 8529 | 8187 | 7845 | 7503 | 7160 | 6818 | 6475 | 6132 | 5790 | 5447 | 5104 | 4762 | 4419 | 4076 | 3733 | 3391 |
| | 9076 | 8734 | 8392 | 8050 | 7708 | 7365 | 7023 | 6680 | 6337 | 5995 | 5652 | 5309 | 4967 | 4624 | 4281 | 3938 | 3596 |
| | 9281 | 8939 | 8597 | 8255 | 7913 | 7570 | 7228 | 6885 | 6542 | 6200 | 5857 | 5514 | 5172 | 4829 | 4486 | 4143 | 3801 |
| | 9486 | 9144 | 8802 | 8460 | 8118 | 7775 | 7433 | 7090 | 6747 | 6405 | 6062 | 5719 | 5377 | 5034 | 4691 | 4348 | 4006 |
| | 9691 | 9349 | 9007 | 8665 | 8323 | 7980 | 7638 | 7295 | 6952 | 6610 | 6267 | 5924 | 5582 | 5239 | 4896 | 4553 | 4211 |
| | 9896 | 9554 | 9212 | 8870 | 8528 | 8185 | 7843 | 7500 | 7157 | 6815 | 6472 | 6129 | 5787 | 5444 | 5101 | 4758 | 4416 |
| | 0101 | 9759 | 9417 | 9075 | 8733 | 8390 | 8048 | 7705 | 7362 | 7020 | 6677 | 6334 | 5992 | 5649 | 5306 | 4963 | 4621 |
| | 0306 | 9964 | 9622 | 9280 | 8938 | 8595 | 8253 | 7910 | 7567 | 7225 | 6882 | 6539 | 6197 | 5854 | 5511 | 5168 | 4826 |
| | 0511 | 0169 | 9827 | 9485 | 9143 | 8800 | 8458 | 8115 | 7772 | 7430 | 7087 | 6744 | 6402 | 6059 | 5716 | 5373 | 5031 |
| | 0716 | 0374 | 0032 | 9690 | 9348 | 9005 | 8663 | 8320 | 7977 | 7635 | 7292 | 6949 | 6607 | 6264 | 5921 | 5578 | 5236 |
| | 0921 | 0579 | 0237 | 9895 | 9553 | 9210 | 8868 | 8525 | 8182 | 7840 | 7497 | 7154 | 6812 | 6469 | 6126 | 5783 | 5441 |
| | 1126 | 0784 | 0442 | 0100 | 9758 | 9415 | 9073 | 8730 | 8387 | 8045 | 7702 | 7359 | 7017 | 6674 | 6331 | 5988 | 5646 |
| | 1331 | 0989 | 0647 | 0305 | 9963 | 9620 | 9278 | 8935 | 8592 | 8250 | 7907 | 7564 | 7222 | 6879 | 6536 | 6193 | 5851 |
| | 1536 | 1194 | 0852 | 0510 | 0168 | 9825 | 9483 | 9140 | 8797 | 8455 | 8112 | 7769 | 7427 | 7084 | 6741 | 6398 | 6056 |
| | 1741 | 1399 | 1057 | 0715 | 0373 | 0030 | 9688 | 9345 | 9002 | 8660 | 8317 | 7974 | 7632 | 7289 | 6946 | 6603 | 6261 |
| | 1946 | 1604 | 1262 | 0920 | 0578 | 0235 | 9893 | 9550 | 9207 | 8865 | 8522 | 8179 | 7837 | 7494 | 7151 | 6808 | 6466 |
| | 2151 | 1809 | 1467 | 1125 | 0783 | 0440 | 0098 | 9755 | 9412 | 9070 | 8727 | 8384 | 8042 | 7699 | 7356 | 7013 | 6671 |
| | 2356 | 2014 | 1672 | 1330 | 0988 | 0645 | 0303 | 9960 | 9617 | 9275 | 8932 | 8589 | 8247 | 7904 | 7561 | 7218 | 6876 |
| | 2561 | 2219 | 1877 | 1535 | 1193 | 0850 | 0508 | 0165 | 9822 | 9480 

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts for Seconds of Auxil. Argum. | C. D. & A. D 135° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 391 | 0 | 270 (269) | 3685 | 3327 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 355 | 1 | | 0885 | 531 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 349 | 2 | | 1080 | 2734 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 343 | 3 | | 1280 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 337 | 4 | | 1480 | 1141 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 331 | 5 | 270 (269) | 1703 | 1345 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 325 | 6 | | 1904 | 1545 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 319 | 7 | | 2110 | 1752 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 313 | 8 | | 2313 | 1955 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 307 | 9 | | 3516 | 2158 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 301 | 10 | 270 (269) | 2720 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 295 | 11 | | 2923 | 2564 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 289 | 12 | | 3126 | 2767 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 283 | 13 | | 3329 | 2970 | 2612 | 2253 | 1894 | 1535 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 277 | 14 | | 3532 | 3173 | 2814 | 2456 | 2096 | 1737 | 1378 | 1019 | 0660 | 0301 | 9941 | 9582 | 9222 | 8863 | [illegible] | [illegible] |
| 271 | 15 | 270 (269) | 3735 | 3376 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 265 | 16 | | 3938 | 3570 | 3220 | 2861 | 2502 | 2142 | 1783 | 1424 | 1064 | 0705 | 0345 | 9985 | 9626 | 9266 | 8906 | 8547 |
| 259 | 17 | | 4141 | 3782 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 253 | 18 | | 4344 | 3984 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 247 | 19 | | 4547 | 4187 | 3828 | 3468 | 3109 | 2749 | 2389 | 2030 | 1670 | 1310 | 0950 | 0590 | 0230 | 9870 | 9510 | 9150 | 8790 |
| 241 | 20 | 270 (269) | 4749 | 4389 | 4030 | 3670 | 3311 | 2951 | 2591 | 2232 | 1872 | 1512 | 1152 | 0792 | 0432 | 0072 | 9711 | 9351 | 8991 |
| 235 | 21 | | 4952 | 4592 | 4232 | 3873 | 3513 | 3152 | 2793 | 2433 | 2074 | 1714 | 1353 | 0993 | 0633 | 0273 | 9913 | 9552 | 9192 |
| 229 | 22 | | 5154 | 4794 | 4435 | 4075 | 3715 | 3355 | [illegible] | [illegible] | [illegible] | 1915 | 1555 | 1195 | 0834 | 0474 | 0114 | 9753 | 9393 |
| 223 | 23 | | 5357 | 4997 | 4637 | 4277 | 3917 | 3557 | 3197 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 217 | 24 | | 5559 | 5199 | 4839 | 4479 | 4119 | 3759 | 3399 | 3039 | [illegible] | 2318 | 1958 | 1597 | 1237 | 0876 | 0516 | 0155 | 9794 |
| 211 | 25 | 270 (269) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 205 | 26 | 270 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 199 | 27 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 193 | 28 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 187 | 29 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 181 | 30 | 270 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 174 | 31 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 168 | 32 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 162 | 33 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 156 | 34 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 150 | 35 | 270 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 144 | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 138 | 37 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 132 | 38 | | 8387 | 8025 | 7664 | 7303 | 6941 | 6580 | 6218 | 5856 | 5495 | 5133 | 4771 | 4409 | 4047 | [illegible] | [illegible] | [illegible] | [illegible] |
| 126 | 39 | | 8588 | 8227 | 7865 | 7504 | 7142 | 6781 | 6410 | 6057 | 5695 | 5333 | 4971 | 461[illegible] | 4247 | [illegible] | [illegible] | [illegible] | [illegible] |
| 120 | 40 | 270 | 8790 | 8428 | 8067 | 7705 | 7343 | 6982 | 6620 | 6258 | 589[illegible] | [illegible] | [illegible] | 4810 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 114 | 41 | | 8991 | 8629 | 8268 | 7906 | 7544 | 7182 | 6821 | 6459 | 6097 | [illegible] | [illegible] | 5010 | 4648 | 4285 | [illegible] | [illegible] | [illegible] |
| 108 | 42 | | 9192 | 8831 | 8469 | 8107 | 7745 | 7383 | 7021 | 6659 | 6297 | [illegible] | [illegible] | 5210 | 4848 | 4485 | [illegible] | [illegible] | [illegible] |
| 102 | 43 | | 9394 | 9032 | 8670 | 8308 | 7946 | 7584 | 7222 | 6860 | 6498 | 61[illegible] | [illegible] | 5411 | 5018 | 4685 | [illegible] | [illegible] | [illegible] |
| 96 | 44 | | 9595 | 9233 | 8871 | 8509 | 8147 | 7785 | 7423 | 7060 | 6698 | 63[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 90 | 45 | 270 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5811 | 5448 | 5085 | 4722 | 4300 | 3997 |
| 84 | 46 | | 9997 | 9635 | 9273 | 8911 | 8548 | 8186 | 7824 | 7461 | 7099 | 6736 | 6375 | 6011 | 5648 | 5285 | 4922 | 4559 | 4196 |
| 78 | 47 | 271 (270) | 0198 | 9836 | 9474 | 9111 | 8749 | 8386 | 8024 | 7661 | 7299 | 6936 | 6573 | 6211 | 5848 | 5485 | 5122 | 4759 | 4396 |
| 72 | 48 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 66 | 49 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 60 | 50 | 271 (270) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 51 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | 53 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | 54 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | 55 | 271 (270) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18 | 57 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 12 | 58 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | 59 | | 2606 | 2243 | 1879 | 1516 | 1152 | 0788 | 0425 | 0061 | 9697 | 9333 | 8969 | 8605 | 8241 | 7877 | 7512 | 7148 | 6784 |

Sums for finding the Corrected Distances.

| Parts for Sec. of C. D. | C. D. 135° | Sums |
|---|---|---|
| | 0 | 570 7107 |
| | 1 | 7314 |
| | 2 | 7518 |
| 1 | 3 | 7723 |
| 1 | 4 | 7929 |
| 1 | 5 | 570 8134 |
| 2 | 6 | [illegible] |
| 2 | 7 | [illegible] |
| 2 | 8 | [illegible] |
| 2 | 9 | [illegible] |
| 3 | 10 | 570 9161 |
| 3 | 11 | [illegible] |
| 4 | 12 | [illegible] |
| 4 | 13 | 9771 |
| 4 | 14 | [illegible] |
| 5 | 15 | 571 [illegible] |
| 5 | 16 | [illegible] |
| 5 | 17 | [illegible] |
| 6 | 18 | [illegible] |
| 6 | 19 | [illegible] |
| 6 | 20 | 571 1203 |
| 7 | 21 | 1413 |
| 7 | 22 | 1617 |
| 7 | 23 | 1822 |
| 8 | 24 | [illegible] |
| 8 | 25 | 570 [illegible] |
| 8 | [illegible] | [illegible] |
| 9 | 27 | 2436 |
| 9 | 28 | 2641 |
| 9 | 29 | [illegible] |
| 10 | 30 | 570 [illegible] |
| 10 | 31 | [illegible] |
| 10 | 32 | [illegible] |
| 11 | 33 | [illegible] |
| 11 | 34 | [illegible] |
| 11 | 35 | 571 4461 |
| 12 | 36 | 4665 |
| 12 | 37 | 4870 |
| 12 | 38 | 5074 |
| 13 | 39 | [illegible] |
| 13 | 40 | 571 5483 |
| 14 | 41 | 5687 |
| 14 | 42 | [illegible] |
| 14 | 43 | [illegible] |
| 15 | 44 | [illegible] |
| 15 | 45 | 571 6304 |
| 15 | 46 | 6508 |
| 16 | 47 | 6713 |
| 16 | 48 | 6917 |
| 16 | 49 | 7122 |
| 17 | 50 | 571 7326 |
| 17 | 51 | 7530 |
| 17 | 52 | 7735 |
| 18 | 53 | [illegible] |
| 18 | 54 | [illegible] |
| 18 | 55 | 572 [illegible] |
| 19 | 56 | [illegible] |
| 19 | 57 | [illegible] |
| 19 | 58 | [illegible] |
| 20 | 59 | [illegible] |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

| Parts for Sec. of C.S.A. | C.S.A. 136° | Numbers |
|---|---|---|
| 0 | 0 | 0000 |
| 1 | 1 | 0001 |
| 2 | 2 | 0002 |
| 3 | 3 | 0004 |
| 4 | 4 | 0007 |
| 5 | 5 | 0011 |
| 6 | 6 | 0016 |
| 7 | 7 | 0022 |
| 8 | 8 | 0029 |
| 9 | 9 | 0037 |
| 10 | 10 | 0046 |
| 11 | 11 | 0056 |
| 12 | 12 | 0067 |
| 13 | 13 | 0079 |
| 14 | 14 | 0092 |
| 15 | 15 | 0106 |
| 16 | 16 | 0121 |
| 17 | 17 | 0137 |
| 18 | 18 | 0154 |
| 19 | 19 | 0172 |
| 20 | 20 | 0191 |
| 21 | 21 | 0211 |
| 22 | 22 | 0232 |
| 23 | 23 | 0254 |
| 24 | 24 | 0277 |
| 25 | 25 | 0301 |
| 26 | 26 | 0326 |
| 27 | 27 | 0352 |
| 28 | 28 | 0379 |
| 29 | 29 | 0407 |
| 30 | 30 | 0436 |
| 31 | 31 | 0466 |
| 32 | 32 | 0497 |
| 33 | 33 | 0529 |
| 34 | 34 | 0562 |
| 35 | 35 | 0596 |
| 36 | 36 | 0631 |
| 37 | 37 | 0667 |
| 38 | 38 | 0704 |
| 39 | 39 | 0742 |
| 40 | 40 | 0781 |
| 41 | 41 | 0821 |
| 42 | 42 | 0862 |
| 43 | 43 | 0904 |
| 44 | 44 | 0947 |
| 45 | 45 | 0991 |
| 46 | 46 | 1036 |
| 47 | 47 | 1082 |
| 48 | 48 | 1129 |
| 49 | 49 | 1177 |
| 50 | 50 | 1226 |
| 51 | 51 | 1276 |
| 52 | 52 | 1327 |
| 53 | 53 | 1379 |
| 54 | 54 | 1432 |
| 55 | 55 | 1486 |
| 56 | 56 | 1541 |
| 57 | 57 | 1597 |
| 58 | 58 | 1654 |
| 59 | 59 | 1712 |
| 60 | 60 | 1771 |

| Parts for Seconds of Auxil. Arcum | S.A.A. & A.D. 136° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | .171 | | | | | | | | | | | | | | | | |
| 1 | 1 | | | | | | | | | | | | | | | | | |
| 2 | 2 | | | | | | | | | | | | | | | | | |
| 3 | 3 | | | | | | | | | | | | | | | | | |
| 4 | 4 | | | | | | | | | | | | | | | | | |
| 5 | 5 | .71 | | | | | | | | | | | | | | | | |
| 6 | 6 | .72 (.271) | | | | | | | | | | | | | | | | |
| 7 | 7 | | | | | | | | | | | | | | | | | |
| 8 | 8 | | | | | | | | | | | | | | | | | |
| 9 | 9 | | | | | | | | | | | | | | | | | |
| 10 | 10 | .72 (.271) | | | | | | | | | | | | | | | | |
| 11 | 11 | | | | | | | | | | | | | | | | | |
| 12 | 12 | | | | | | | | | | | | | | | | | |
| 13 | 13 | | | | | | | | | | | | | | | | | |
| 14 | 14 | | | | | | | | | | | | | | | | | |
| 15 | 15 | .72 (.271) | | | | | | | | | | | | | | | | |
| 16 | 16 | | | | | | | | | | | | | | | | | |
| 17 | 17 | | 2402 | 2038 | 1673 | 1309 | 0945 | 0580 | 0216 | 9851 | 9486 | 9122 | 8757 | 8392 | 8027 | 7662 | 7297 | 6932 | 6567 |
| 18 | 18 | | | | | | | | | | | | | | | | | |
| 19 | 19 | | | | | | | | | | | | | | | | | |
| 20 | 20 | .72 (.271) | | | | | | | | | | | | | | | | |
| 21 | 21 | | | | | | | | | | | | | | | | | |
| 22 | 22 | | 3406 | 3041 | 2676 | 2312 | 1947 | 1582 | 1216 | 0851 | 0486 | 0121 | 9756 | 9390 | 9025 | 8659 | 8294 | 7928 | 7563 |
| 23 | 23 | | | | | | | | | | | | | | | | | |
| 24 | 24 | | | | | | | | | | | | | | | | | |
| 25 | 25 | .172 (.271) | | | | | | | | | | | | | | | | |
| 26 | 26 | | | | | | | | | | | | | | | | | |
| 27 | 27 | | | | | | | | | | | | | | | | | |
| 28 | 28 | | | | | | | | | | | | | | | | | |
| 29 | 29 | | | | | | | | | | | | | | | | | |
| 30 | 30 | .272 (.271) | | | | | | | | | | | | | | | | |
| 31 | 31 | | | | | | | | | | | | | | | | | |
| 32 | 32 | | | | | | | | | | | | | | | | | |
| 33 | 33 | | | | | | | | | | | | | | | | | |
| 34 | 34 | | | | | | | | | | | | | | | | | |
| 35 | 35 | .272 | | | | | | | | | | | | | | | | |
| 36 | 36 | | | | | | | | | | | | | | | | | |
| 37 | 37 | | | | | | | | | | | | | | | | | |
| 38 | 38 | | | | | | | | | | | | | | | | | |
| 39 | 39 | | | | | | | | | | | | | | | | | |
| 40 | 40 | .372 | | | | | | | | | | | | | | | | |
| 41 | 41 | | | | | | | | | | | | | | | | | |
| 42 | 42 | | | | | | | | | | | | | | | | | |
| 43 | 43 | | | | | | | | | | | | | | | | | |
| 44 | 44 | | | | | | | | | | | | | | | | | |
| 45 | 45 | .472 | | | | | | | | | | | | | | | | |
| 46 | 46 | | | | | | | | | | | | | | | | | |
| 47 | 47 | | | | | | | | | | | | | | | | | |
| 48 | 48 | | | | | | | | | | | | | | | | | |
| 49 | 49 | | | | | | | | | | | | | | | | | |
| 50 | 50 | .572 | | | | | | | | | | | | | | | | |
| 51 | 51 | | | | | | | | | | | | | | | | | |
| 52 | 52 | | | | | | | | | | | | | | | | | |
| 53 | 53 | | | | | | | | | | | | | | | | | |
| 54 | 54 | | | | | | | | | | | | | | | | | |
| 55 | 55 | .672 | | | | | | | | | | | | | | | | |
| 56 | 56 | | | | | | | | | | | | | | | | | |
| 57 | 57 | | | | | | | | | | | | | | | | | |
| 58 | 58 | | | | | | | | | | | | | | | | | |
| 59 | 59 | | | | | | | | | | | | | | | | | |
| 60 | 60 | .772 | | | | | | | | | | | | | | | | |
| 61 | 61 | | | | | | | | | | | | | | | | | |
| 62 | 62 | | | | | | | | | | | | | | | | | |
| 63 | 63 | | | | | | | | | | | | | | | | | |
| 64 | 64 | | | | | | | | | | | | | | | | | |
| 65 | 65 | .872 | | | | | | | | | | | | | | | | |
| 66 | 66 | | | | | | | | | | | | | | | | | |
| 67 | 67 | | | | | | | | | | | | | | | | | |
| 68 | 68 | | | | | | | | | | | | | | | | | |
| 69 | 69 | | | | | | | | | | | | | | | | | |
| 70 | 70 | .972 | | | | | | | | | | | | | | | | |
| 71 | 71 | | | | | | | | | | | | | | | | | |
| 72 | 72 | | | | | | | | | | | | | | | | | |
| 73 | 73 | | | | | | | | | | | | | | | | | |
| 74 | 74 | | | | | | | | | | | | | | | | | |
| 75 | 75 | .073 (.271) | | | | | | | | | | | | | | | | |
| 76 | 76 | | | | | | | | | | | | | | | | | |
| 77 | 77 | | | | | | | | | | | | | | | | | |
| 78 | 78 | | | | | | | | | | | | | | | | | |
| 79 | 79 | | | | | | | | | | | | | | | | | |
| 80 | 80 | .173 (.271) | | | | | | | | | | | | | | | | |
| 81 | 81 | | | | | | | | | | | | | | | | | |
| 82 | 82 | | | | | | | | | | | | | | | | | |
| 83 | 83 | | | | | | | | | | | | | | | | | |
| 84 | 84 | | | | | | | | | | | | | | | | | |
| 85 | 85 | .273 (.271) | | | | | | | | | | | | | | | | |
| 86 | 86 | | | | | | | | | | | | | | | | | |
| 87 | 87 | | | | | | | | | | | | | | | | | |
| 88 | 88 | | | | | | | | | | | | | | | | | |
| 89 | 89 | | | | | | | | | | | | | | | | | |
| 90 | 90 | .373 | | | | | | | | | | | | | | | | |
| 91 | 91 | | | | | | | | | | | | | | | | | |
| 92 | 92 | | | | | | | | | | | | | | | | | |
| 93 | 93 | | | | | | | | | | | | | | | | | |
| 94 | 94 | | | | | | | | | | | | | | | | | |
| 95 | 95 | .473 | | | | | | | | | | | | | | | | |
| 96 | 96 | | | | | | | | | | | | | | | | | |
| 97 | 97 | | | | | | | | | | | | | | | | | |
| 98 | 98 | | | | | | | | | | | | | | | | | |
| 99 | 99 | | | | | | | | | | | | | | | | | |
| 100 | 100 | .573 | | | | | | | | | | | | | | | | |
| 101 | 101 | | | | | | | | | | | | | | | | | |
| 102 | 102 | | | | | | | | | | | | | | | | | |
| 103 | 103 | | | | | | | | | | | | | | | | | |
| 104 | 104 | | | | | | | | | | | | | | | | | |
| 105 | 105 | .673 | | | | | | | | | | | | | | | | |
| 106 | 106 | | | | | | | | | | | | | | | | | |
| 107 | 107 | | | | | | | | | | | | | | | | | |
| 108 | 108 | | | | | | | | | | | | | | | | | |
| 109 | 109 | | | | | | | | | | | | | | | | | |
| 110 | 110 | .773 (.271) | | | | | | | | | | | | | | | | |
| 111 | 111 | | | | | | | | | | | | | | | | | |
| 112 | 112 | | | | | | | | | | | | | | | | | |
| 113 | 113 | | | | | | | | | | | | | | | | | |
| 114 | 114 | | | | | | | | | | | | | | | | | |
| 115 | 115 | .873 (.271) | | | | | | | | | | | | | | | | |
| 116 | 116 | | | | | | | | | | | | | | | | | |
| 117 | 117 | | | | | | | | | | | | | | | | | |
| 118 | 118 | | | | | | | | | | | | | | | | | |
| 119 | 119 | | | | | | | | | | | | | | | | | |
| 120 | 120 | .973 (.271) | | | | | | | | | | | | | | | | |
| 121 | 121 | | | | | | | | | | | | | | | | | |
| 122 | 122 | | | | | | | | | | | | | | | | | |
| 123 | 123 | | | | | | | | | | | | | | | | | |
| 124 | 124 | | | | | | | | | | | | | | | | | |
| 125 | 125 | .074 (.271) | | | | | | | | | | | | | | | | |
| 126 | 126 | | | | | | | | | | | | | | | | | |
| 127 | 127 | | | | | | | | | | | | | | | | | |
| 128 | 128 | | | | | | | | | | | | | | | | | |
| 129 | 129 | | | | | | | | | | | | | | | | | |
| 130 | 130 | .174 (.271) | | | | | | | | | | | | | | | | |
| 131 | 131 | | | | | | | | | | | | | | | | | |
| 132 | 132 | | | | | | | | | | | | | | | | | |
| 133 | 133 | | | | | | | | | | | | | | | | | |
| 134 | 134 | | | | | | | | | | | | | | | | | |
| 135 | 135 | .274 (.271) | | | | | | | | | | | | | | | | |
| 136 | 136 | | | | | | | | | | | | | | | | | |
| 137 | 137 | | | | | | | | | | | | | | | | | |
| 138 | 138 | | | | | | | | | | | | | | | | | |
| 139 | 139 | | | | | | | | | | | | | | | | | |
| 140 | 140 | .374 (.271) | | | | | | | | | | | | | | | | |
| 141 | 141 | | | | | | | | | | | | | | | | | |
| 142 | 142 | | | | | | | | | | | | | | | | | |
| 143 | 143 | | | | | | | | | | | | | | | | | |
| 144 | 144 | | | | | | | | | | | | | | | | | |
| 145 | 145 | .474 (.271) | | | | | | | | | | | | | | | | |
| 146 | 146 | | | | | | | | | | | | | | | | | |
| 147 | 147 | | | | | | | | | | | | | | | | | |
| 148 | 148 | | | | | | | | | | | | | | | | | |
| 149 | 149 | | | | | | | | | | | | | | | | | |
| 150 | 150 | .574 (.271) | | | | | | | | | | | | | | | | |
| 151 | 151 | | | | | | | | | | | | | | | | | |
| 152 | 152 | | | | | | | | | | | | | | | | | |
| 153 | 153 | | | | | | | | | | | | | | | | | |
| 154 | 154 | | | | | | | | | | | | | | | | | |
| 155 | 155 | .674 (.271) | | | | | | | | | | | | | | | | |
| 156 | 156 | | | | | | | | | | | | | | | | | |
| 157 | 157 | | | | | | | | | | | | | | | | | |
| 158 | 158 | | | | | | | | | | | | | | | | | |
| 159 | 159 | | | | | | | | | | | | | | | | | |
| 160 | 160 | .774 (.271) | | | | | | | | | | | | | | | | |
| 161 | 161 | | | | | | | | | | | | | | | | | |
| 162 | 162 | | | | | | | | | | | | | | | | | |
| 163 | 163 | | | | | | | | | | | | | | | | | |
| 164 | 164 | | | | | | | | | | | | | | | | | |
| 165 | 165 | .874 (.271) | | | | | | | | | | | | | | | | |
| 166 | 166 | | | | | | | | | | | | | | | | | |
| 167 | 167 | | | | | | | | | | | | | | | | | |
| 168 | 168 | | | | | | | | | | | | | | | | | |
| 169 | 169 | | | | | | | | | | | | | | | | | |
| 170 | 170 | .974 (.271) | | | | | | | | | | | | | | | | |
| 171 | 171 | | | | | | | | | | | | | | | | | |
| 172 | 172 | | | | | | | | | | | | | | | | | |
| 173 | 173 | | | | | | | | | | | | | | | | | |
| 174 | 174 | | | | | | | | | | | | | | | | | |
| 175 | 175 | .075 (.271) | | | | | | | | | | | | | | | | |
| 176 | 176 | | | | | | | | | | | | | | | | | |
| 177 | 177 | | | | | | | | | | | | | | | | | |
| 178 | 178 | | | | | | | | | | | | | | | | | |
| 179 | 179 | | | | | | | | | | | | | | | | | |
| 180 | 180 | .175 (.271) | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. and Numbers III. for Sums of Apparent Altitudes } for Apparent Distances ----- } and Auxiliary Arguments.

| Parts I. | ′ | Auxiliary Arguments. | | | | | | | | | | | | | | | | | Sums for finding the Corrected Distances. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Sines | 0 | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ | ′ | Sums | |
| Additive | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | | | |
| 360 | 0 | 271(270) | 2801 | 2443 | 2079 | 1715 | 1351 | | | | | | | | | 7711 | 7347 | | 0 | 571 | 9347 |
| 361 | 1 | | 3007 | 2643 | 2279 | 1915 | 1552 | 1188 | 0824 | 0460 | 0096 | 9732 | 9367 | 9003 | 8639 | 8274 | 7910 | 7545 | 7181 | 1 | | 9533 |
| 355 | 2 | | 3207 | 2843 | 2479 | 2115 | 1751 | 1387 | 1023 | 0659 | 0295 | 9931 | 9566 | 9202 | 8838 | 8473 | 8109 | 7744 | 7379 | 2 | | 9714 |
| 340 | 3 | | 3407 | 3043 | 2676 | 2315 | 1951 | 1587 | 1223 | 0859 | 0494 | 0130 | 9765 | 9401 | 9037 | 8672 | 8307 | 7943 | 7578 | 3 | | 9896 |
| 343 | 4 | | 3607 | 3243 | 2879 | 2515 | 2151 | 1787 | 1423 | 1059 | 0695 | 0330 | 9965 | 9601 | 9237 | 8873 | 8509 | 8141 | 7777 | 4 | 572 | 0078 |
| 337 | 5 | 271(270) | 3807 | 3443 | 3079 | 2714 | 2350 | 1986 | 1621 | 1257 | 0893 | 0528 | 0164 | 9800 | 9436 | 9072 | 8707 | 8343 | 7979 | 5 | 573 | 9259 |
| 332 | 6 | | 4007 | 3642 | 3278 | 2914 | 2550 | 2185 | 1821 | 1457 | 1092 | 0728 | 0363 | 9999 | 9635 | 9270 | 8906 | 8542 | 8177 | 6 | | 0441 |
| 324 | 7 | | 4206 | 3842 | 3478 | 3114 | 2749 | 2385 | 2021 | 1656 | 1292 | 0927 | 0563 | 0198 | 9834 | 9469 | 9105 | 8741 | 8376 | 7 | | 0623 |
| 318 | 8 | | 4406 | 4042 | 3677 | 3313 | 2949 | 2584 | 2220 | 1856 | 1491 | 1127 | 0762 | 0398 | 0033 | 9668 | 9304 | 8940 | 8575 | 8 | | 0805 |
| 312 | 9 | | 4606 | 4242 | 3877 | 3512 | 3148 | 2784 | 2419 | 2055 | 1691 | 1326 | 0962 | 0597 | 0233 | 9868 | 9504 | 9139 | 8775 | 9 | | 0987 |
| 306 | 10 | 271(270) | 4806 | 4441 | 4076 | 3712 | 3347 | 2982 | 2617 | 2252 | 1887 | 1522 | 1157 | 0792 | 0427 | 0062 | 9696 | 9331 | 8965 | 10 | | 1169 |
| 300 | 11 | | 5005 | 4641 | 4276 | 3911 | 3547 | 3182 | 2817 | 2452 | 2087 | 1722 | 1357 | 0992 | 0627 | 0262 | 9897 | 9532 | 9167 | 11 | | 1351 |
| 294 | 12 | | 5205 | 4840 | 4475 | 4110 | 3745 | 3380 | 3015 | 2650 | 2285 | 1920 | 1554 | 1189 | 0824 | 0458 | 0093 | 9727 | 9361 | 12 | | 1533 |
| 288 | 13 | | 5404 | 5039 | 4674 | 4309 | 3944 | 3579 | 3214 | 2849 | 2484 | 2118 | 1753 | 1387 | 1022 | 0656 | 0291 | 9925 | 9559 | 13 | | 1715 |
| 281 | 14 | | 5604 | 5239 | 4874 | 4508 | 4143 | 3778 | 3413 | 3048 | 2683 | 2317 | 1952 | 1586 | 1221 | 0854 | 0489 | 0123 | 9757 | 14 | | 1897 |
| 275 | 15 | 271 270 | 5803 | 5438 | 5073 | 4708 | 4342 | 3977 | 3612 | 3246 | 2881 | 2515 | 2150 | 1784 | 1418 | 1052 | 0686 | 0321 | 9955 | 15 | | 2079 |
| 269 | 16 | 271 | 6003 | 5637 | 5272 | 4907 | 4541 | 4176 | 3810 | 3445 | 3079 | 2714 | 2348 | 1982 | 1616 | 1250 | 0884 | 0518 | 0152 | 16 | | 2261 |
| 263 | 17 | | 6202 | 5836 | 5471 | 5106 | 4740 | 4375 | 4009 | 3643 | 3278 | 2912 | 2546 | 2180 | 1814 | 1448 | 1082 | 0716 | 0350 | 17 | | 2443 |
| 257 | 18 | | 6401 | 6035 | 5670 | 5304 | 4939 | 4573 | 4208 | 3842 | 3476 | 3110 | 2744 | 2378 | 2012 | 1646 | 1280 | 0914 | 0547 | 18 | | 2625 |
| 251 | 19 | | 6601 | 6234 | 5869 | 5503 | 5138 | 4772 | 4406 | 4040 | 3674 | 3308 | 2942 | 2576 | 2210 | 1844 | 1478 | 1111 | 0745 | 19 | | 2807 |
| 245 | 20 | 271 | 6800 | 6433 | 6068 | 5702 | 5337 | 4971 | 4605 | 4239 | 3873 | 3507 | 3141 | 2774 | 2408 | 2042 | 1675 | 1309 | 0943 | 20 | 574 | 2989 |
| 239 | 21 | | 6998 | 6632 | 6266 | 5901 | 5535 | 5169 | 4803 | 4437 | 4071 | 3705 | 3338 | 2972 | 2606 | 2239 | 1873 | 1507 | 1141 | 21 | | 3171 |
| 233 | 22 | | 7196 | 6831 | 6465 | 6099 | 5733 | 5367 | 5001 | 4635 | 4269 | 3903 | 3537 | 3171 | 2804 | 2438 | 2072 | 1705 | 1339 | 22 | | 3353 |
| 226 | 23 | | 7396 | 7030 | 6664 | 6298 | 5932 | 5566 | 5199 | 4833 | 4467 | 4101 | 3734 | 3368 | 3001 | 2634 | 2268 | 1902 | 1536 | 23 | | 3535 |
| 220 | 24 | | 7595 | 7228 | 6863 | 6497 | 6131 | 5765 | 5398 | 5032 | 4666 | 4299 | 3933 | 3566 | 3199 | 2832 | 2466 | 2099 | 1733 | 24 | | 3717 |
| 214 | 25 | 271 | 7794 | 7427 | 7062 | 6696 | 6330 | 5964 | 5597 | 5231 | 4864 | 4498 | 4131 | 3765 | 3398 | 3029 | 2662 | 2296 | 1929 | 25 | 575 | 3899 |
| 208 | 26 | | 7992 | 7626 | 7260 | 6895 | 6529 | 6163 | 5796 | 5430 | 5063 | 4697 | 4330 | 3963 | 3596 | 3228 | 2861 | 2494 | 2127 | 26 | | 4081 |
| 202 | 27 | | 8191 | 7824 | 7459 | 7094 | 6728 | 6362 | 5995 | 5629 | 5262 | 4895 | 4528 | 4161 | 3794 | 3427 | 3060 | 2693 | 2326 | 27 | | 4263 |
| 196 | 28 | | 8389 | 8023 | 7658 | 7293 | 6927 | 6561 | 6194 | 5828 | 5461 | 5094 | 4727 | 4360 | 3993 | 3626 | 3259 | 2892 | 2525 | 28 | | 4445 |
| 190 | 29 | | 8588 | 8222 | 7857 | 7492 | 7126 | 6760 | 6393 | 6027 | 5660 | 5293 | 4926 | 4559 | 4192 | 3825 | 3458 | 3091 | 2724 | 29 | | 4627 |
| 184 | 30 | 271 | 8787 | 8421 | 8056 | 7691 | 7325 | 6959 | 6592 | 6226 | 5859 | 5492 | 5125 | 4758 | 4391 | 4024 | 3657 | 3290 | 2923 | 30 | 576 | 4809 |
| 177 | 31 | | 8984 | 8618 | 8251 | 7884 | 7518 | 7152 | 6785 | 6416 | 6049 | 5682 | 5315 | 4948 | 4581 | 4214 | 3847 | 3480 | 3113 | 31 | | 4991 |
| 171 | 32 | | 9183 | 8816 | 8449 | 8082 | 7716 | 7350 | 6983 | 6617 | 6250 | 5883 | 5516 | 5149 | 4782 | 4415 | 4048 | 3681 | 3314 | 32 | | 5173 |
| 165 | 33 | | 9381 | 9014 | 8647 | 8280 | 7914 | 7548 | 7179 | 6811 | 6444 | 6077 | 5710 | 5343 | 4976 | 4609 | 4242 | 3875 | 3508 | 33 | | 5355 |
| 159 | 34 | | 9579 | 9212 | 8845 | 8478 | 8111 | 7744 | 7376 | 7009 | 6642 | 6274 | 5907 | 5540 | 5173 | 4806 | 4439 | 4072 | 3705 | 34 | | 5537 |
| 153 | 35 | 271 | 9777 | 9410 | 9043 | 8676 | 8309 | 7941 | 7574 | 7206 | 6839 | 6471 | 6104 | 5737 | 5370 | 5003 | 4636 | 4269 | 3902 | 35 | 577 | 5719 |
| 147 | 36 | | 9975 | 9608 | 9241 | 8874 | 8506 | 8139 | 7771 | 7404 | 7036 | 6668 | 6301 | 5934 | 5567 | 5200 | 4833 | 4466 | 4099 | 36 | | 5901 |
| 141 | 37 | | 0173 | 9806 | 9439 | 9071 | 8704 | 8336 | 7969 | 7601 | 7233 | 6866 | 6498 | 6130 | 5763 | 5396 | 5029 | 4662 | 4295 | 37 | | 6083 |
| 135 | 38 | | 0371 | 0004 | 9637 | 9269 | 8902 | 8534 | 8166 | 7798 | 7430 | 7063 | 6695 | 6327 | 5960 | 5593 | 5226 | 4859 | 4492 | 38 | | 6265 |
| 129 | 39 | | 0569 | 0202 | 9834 | 9467 | 9099 | 8731 | 8363 | 7996 | 7628 | 7260 | 6892 | 6525 | 6158 | 5791 | 5424 | 5057 | 4689 | 39 | | 6447 |
| 123 | 40 | 271 | 0767 | 0400 | 0032 | 9664 | 9296 | 8929 | 8561 | 8193 | 7825 | 7457 | 7089 | 6722 | 6355 | 5988 | 5621 | 5254 | 4886 | 40 | 578 | 6629 |
| 117 | 41 | | 0965 | 0597 | 0230 | 9862 | 9494 | 9126 | 8758 | 8390 | 8022 | 7654 | 7286 | 6919 | 6552 | 6185 | 5818 | 5451 | 5083 | 41 | | 6811 |
| 111 | 42 | | 1163 | 0795 | 0427 | 0059 | 9691 | 9323 | 8955 | 8587 | 8219 | 7851 | 7483 | 7116 | 6749 | 6382 | 6015 | 5648 | 5280 | 42 | | 6993 |
| 105 | 43 | | 1360 | 0992 | 0624 | 0256 | 9888 | 9520 | 9152 | 8784 | 8416 | 8048 | 7680 | 7313 | 6946 | 6579 | 6212 | 5845 | 5477 | 43 | | 7175 |
| 99 | 44 | | 1558 | 1190 | 0822 | 0454 | 0086 | 9717 | 9349 | 8981 | 8613 | 8245 | 7877 | 7510 | 7143 | 6776 | 6409 | 6042 | 5674 | 44 | | 7357 |
| 93 | 45 | 271(270) | 1755 | 1388 | 1019 | 0651 | 0283 | 9914 | 9546 | 9177 | 8809 | 8442 | 8074 | 7707 | 7340 | 6973 | 6606 | 6239 | 5871 | 45 | 579 | 7539 |
| 87 | 46 | | 1953 | 1586 | 1217 | 0848 | 0480 | 0111 | 9742 | 9374 | 9006 | 8639 | 8271 | 7904 | 7537 | 7170 | 6792 | 6423 | 6054 | 46 | | 7721 |
| 81 | 47 | | 2150 | 1783 | 1414 | 1045 | 0677 | 0308 | 9939 | 9571 | 9203 | 8836 | 8468 | 8101 | 7734 | 7367 | 6988 | 6610 | 6250 | 47 | | 7903 |
| 75 | 48 | | 2347 | 1980 | 1611 | 1242 | 0873 | 0505 | 0136 | 9768 | 9400 | 9033 | 8665 | 8298 | 7931 | 7564 | 7184 | 6815 | 6446 | 48 | 580 | 8085 |
| 69 | 49 | | 2544 | 2177 | 1808 | 1439 | 1070 | 0702 | 0333 | 9965 | 9597 | 9230 | 8862 | 8495 | 8128 | 7761 | 7011 | 6611 | 6642 | 49 | | 8267 |
| 63 | 50 | 272(271) | 2742 | 2374 | 2005 | 1636 | 1267 | 0899 | 0530 | 0161 | 9792 | 9423 | 9053 | 8684 | 8315 | 7945 | 7576 | 7207 | 6837 | 50 | 581 | 8449 |
| 57 | 51 | | 2939 | 2571 | 2202 | 1833 | 1464 | 1095 | 0726 | 0357 | 9988 | 9619 | 9250 | 8881 | 8512 | 8142 | 7773 | 7404 | 7035 | 51 | | 8631 |
| 49 | 52 | | 3136 | 2768 | 2399 | 2030 | 1661 | 1292 | 0923 | 0554 | 0184 | 9815 | 9446 | 9076 | 8707 | 8337 | 7967 | 7598 | 7228 | 52 | 582 | 8813 |
| 43 | 53 | | 3333 | 2965 | 2596 | 2227 | 1857 | 1488 | 1119 | 0750 | 0381 | 0011 | 9642 | 9272 | 8903 | 8533 | 8163 | 7793 | 7424 | 53 | | 8995 |
| 37 | 54 | | 3530 | 3162 | 2793 | 2424 | 2054 | 1685 | 1315 | 0946 | 0577 | 0207 | 9838 | 9469 | 9099 | 8729 | 8360 | 7990 | 7620 | 54 | | 9177 |
| 31 | 55 | | 3727 | 3359 | 2990 | 2621 | 2251 | 1882 | 1512 | 1143 | 0773 | 0404 | 0034 | 9665 | 9295 | 8925 | 8556 | 8186 | 7816 | 55 | 583 | 9359 |
| 25 | 56 | | 3924 | 3556 | 3187 | 2818 | 2448 | 2078 | 1709 | 1339 | 0970 | 0600 | 0230 | 9861 | 9491 | 9121 | 8752 | 8382 | 8012 | 56 | | 9541 |
| 19 | 57 | | 4121 | 3753 | 3384 | 3015 | 2645 | 2275 | 1906 | 1536 | 1166 | 0796 | 0426 | 0057 | 9687 | 9317 | 8948 | 8578 | 8208 | 57 | | 9723 |
| 13 | 58 | | 4318 | 3950 | 3581 | 3212 | 2842 | 2472 | 2102 | 1732 | 1362 | 0992 | 0622 | 0253 | 9883 | 9513 | 9144 | 8774 | 8404 | 58 | | 9905 |
| 7 | 59 | | 4515 | 4147 | 3778 | 3409 | 3039 | 2669 | 2299 | 1929 | 1559 | 1189 | 0819 | 0449 | 0080 | 9710 | 9340 | 8970 | 8600 | 59 | 584 | 0087 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Parts for 1′ | Numbers | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 1 | 0 | 274(273) | 0822 | 0448 | 0075 | 9701 | 9327 | 8954 | 8580 | 8206 | 7832 | 7458 | 7084 | 6710 | 6335 | 5961 | 5587 | 5212 |
| 2 | 1 | | | | | | | | | | | | | | | | | |
| 3 | 2 | | 1212 | 0838 | 0465 | 0091 | 9717 | 9343 | 8969 | 8595 | 8220 | 7846 | 7472 | 7098 | 6723 | 6349 | 5974 | 5600 |
| 4 | 3 | | 1407 | 1033 | 0659 | 0285 | 9911 | 9537 | 9163 | 8789 | 8415 | 8040 | 7666 | 7292 | 6917 | 6542 | 6168 | 5793 |
| 5 | 4 | | 1602 | 1228 | 0854 | 0480 | 0106 | 9732 | 9358 | 8983 | 8609 | 8234 | 7860 | 7485 | 7111 | 6736 | 6361 | 5987 |
| 6 | 5 | 274(273) | | | | | | | | | | | | | | | | |
| 7 | 6 | | 2186 | 1812 | 1438 | 1064 | 0689 | 0315 | 9940 | 9566 | 9191 | 8816 | | | | | | |
| 8 | 7 | | 2381 | 2007 | 1633 | 1258 | 0884 | 0509 | 0134 | 9760 | 9385 | 9010 | 8635 | 8260 | 7 | | | |
| 9 | 8 | | | | | | | | | | | | | | | | | |
| 10 | 9 | | | | | | | | | | | | | | | | | |
| 11 | 10 | | | | | | | | | | | | | | | | | |
| 12 | 11 | | | | | | | | | | | | | | | | | |
| 13 | 12 | | | | | | | | | | | | | | | | | |
| 14 | 13 | | | | | | | | | | | | | | | | | |
| 15 | 14 | | | | | | | | | | | | | | | | | |
| 16 | 15 | | | | | | | | | | | | | | | | | |
| 17 | 16 | | | | | | | | | | | | | | | | | |
| 18 | 17 | | | | | | | | | | | | | | | | | |
| 19 | 18 | | | | | | | | | | | | | | | | | |
| 20 | 19 | | | | | | | | | | | | | | | | | |
| 21 | 20 | 274(273) | 5136 | 4765 | 4394 | 4023 | 3653 | 3282 | 2911 | 2540 | 2169 | 1797 | 1426 | 1055 | 0683 | 0312 | 9941 | 9569 | 9197 |
| 22 | 21 | | | | | | | | | | | | | | | | | |
| 23 | 22 | | | | | | | | | | | | | | | | | |
| 24 | 23 | | | | | | | | | | | | | | | | | |
| 25 | 24 | | 5726 | 5355 | 4984 | 4613 | 4242 | 3871 | 3499 | 3128 | 2757 | 2385 | 2014 | 1642 | 1271 | 0899 | 0527 | 0155 | 9783 |
| 26 | 25 | | | | | | | | | | | | | | | | | |
| 27 | 26 | 275 | | | | | | | | | | | | | | | | |
| 28 | 27 | | | | | | | | | | | | | | | | | |
| 29 | 28 | | 6513 | 6142 | 5770 | 5399 | 5027 | 4655 | 4284 | 3912 | 3540 | 3168 | 2796 | 2425 | 2053 | 1680 | 1308 | 0936 | 0564 |
| 30 | 29 | | | | | | | | | | | | | | | | | |
| 31 | 30 | 275 | | | | | | | | | | | | | | | | |
| 32 | 31 | | | | | | | | | | | | | | | | | |
| 33 | 32 | | | | | | | | | | | | | | | | | |
| 34 | 33 | | | | | | | | | | | | | | | | | |
| 35 | 34 | | | | | | | | | | | | | | | | | |
| 36 | 35 | 275 | | | | | | | | | | | | | | | | |
| 37 | 36 | | | | | | | | | | | | | | | | | |
| 38 | 37 | | | | | | | | | | | | | | | | | |
| 39 | 38 | | | | | | | | | | | | | | | | | |
| 40 | 39 | | | | | | | | | | | | | | | | | |
| 41 | 40 | 275 | | | | | | | | | | | | | | | | |
| 42 | 41 | | | | | | | | | | | | | | | | | |
| 43 | 42 | | 9258 | 8886 | 8513 | 8140 | 7767 | 7394 | 7021 | 6648 | 6275 | 5902 | 5528 | 5155 | | | | |
| 44 | 43 | | 9454 | 9081 | 8708 | 8335 | 7962 | 7589 | 7216 | 6843 | 6470 | 6096 | 5723 | 5350 | | | | |
| 45 | 44 | | | | | | | | | | | | | | | | | |
| 46 | 45 | | | | | | | | | | | | | | | | | |
| 47 | 46 | | | | | | | | | | | | | | | | | |
| 48 | 47 | | | | | | | | | | | | | | | | | |
| 49 | 48 | | | | | | | | | | | | | | | | | |
| 50 | 49 | 274(273) | | | | | | | | | | | | | | | | |
| 51 | 50 | | | | | | | | | | | | | | | | | |
| 52 | 51 | | | | | | | | | | | | | | | | | |
| 53 | 52 | | | | | | | | | | | | | | | | | |
| 54 | 53 | | | | | | | | | | | | | | | | | |
| 55 | 54 | | | | | | | | | | | | | | | | | |
| 56 | 55 | 274(273) | | | | | | | | | | | | | | | | |
| 57 | 56 | | | | | | | | | | | | | | | | | |
| 58 | 57 | | 2186 | 1812 | 1438 | 1064 | 0689 | 0315 | 9940 | 9566 | 9191 | 8816 | | | | | | |
| 59 | 58 | | 2381 | 2007 | 1633 | 1258 | 0884 | 0509 | 0134 | 9760 | 9385 | 9010 | 8635 | 8260 | 7 | | | |
| 60 | 59 | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Sec. & Addit. | A.D. 137° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 373 | 0 | 272(271) | 4711 | 4342 | 3972 | 3602 | 3232 | 2862 | 2492 | 2122 | 1752 | 1382 | 1012 | 0642 | 0272 | 9901 | 9531 | 9160 | 8790 |
| 367 | 1 | | 4968 | 4538 | 4168 | 3798 | 3428 | 3058 | 2688 | 2318 | 1948 | 1578 | 1208 | 0837 | 0467 | 0096 | 9726 | 9355 | 8985 |
| 361 | 2 | | 5104 | 4734 | 4364 | 3995 | 3624 | 3254 | 2884 | 2514 | 2144 | 1774 | 1403 | 1033 | 0662 | 0292 | 9921 | 9550 | 9180 |
| 355 | 3 | | 5301 | 4931 | 4561 | 4191 | 3821 | 3450 | 3080 | 2710 | 2340 | 1969 | 1599 | 1228 | 0858 | 0487 | 0116 | 9745 | 9375 |
| 349 | 4 | | 5407 | 5127 | 4757 | 4387 | 4017 | 3646 | 3276 | 2906 | 2535 | 2165 | 1794 | 1423 | 1053 | 0682 | 0311 | 9940 | 9569 |
| 343 | 5 | 272(271) | 5693 | 5323 | 4953 | 4583 | 4212 | 3842 | 3472 | 3101 | 2731 | 2360 | 1989 | 1619 | 1248 | 0877 | 0506 | 0135 | 9764 |
| 337 | 6 | | 5889 | 5519 | 5149 | 4779 | 4408 | 4038 | 3667 | 3297 | 2926 | 2555 | 2185 | 1814 | 1443 | 1072 | 0701 | 0330 | 9959 |
| 331 | 7 | 272 | 6086 | 5715 | 5345 | 4975 | 4604 | 4234 | 3863 | 3492 | 3121 | 2751 | 2380 | 2009 | 1638 | 1267 | 0896 | 0524 | 0153 |
| 325 | 8 | | 6282 | 5911 | 5541 | 5170 | 4800 | 4429 | 4058 | 3688 | 3317 | 2946 | 2575 | 2204 | 1833 | 1462 | 1090 | 0719 | 0348 |
| 319 | 9 | | 6478 | 6107 | 5737 | 5366 | 4995 | 4625 | 4254 | 3883 | 3512 | 3141 | 2770 | 2399 | 2028 | 1656 | 1285 | 0914 | 0542 |
| 313 | 10 | 272 | 6674 | 6303 | 5933 | 5562 | 5191 | 4820 | 4449 | 4078 | 3707 | 3336 | 2965 | 2594 | 2223 | 1851 | 1480 | 1108 | 0737 |
| 307 | 11 | | 6870 | 6499 | 6128 | 5757 | 5387 | 5016 | 4645 | 4274 | 3903 | 3531 | 3160 | 2789 | 2417 | 2046 | 1674 | 1303 | 0931 |
| 301 | 12 | | 7066 | 6695 | 6324 | 5953 | 5582 | 5211 | 4841 | 4470 | 4099 | 3727 | 3356 | 2985 | 2613 | 2242 | 1871 | 1497 | 1125 |
| 295 | 13 | | 7261 | 6891 | 6520 | 6149 | 5777 | 5406 | 5035 | 4664 | 4292 | 3921 | 3550 | 3178 | 2806 | 2435 | 2063 | 1691 | 1319 |
| 289 | 14 | | 7457 | 7086 | 6715 | 6344 | 5973 | 5602 | 5230 | 4859 | 4487 | 4116 | 3744 | 3373 | 3001 | 2629 | 2257 | 1886 | 1514 |
| 283 | 15 | 272 | 7653 | 7282 | 6911 | 6540 | 6168 | 5797 | 5425 | 5054 | 4682 | 4311 | 3939 | 3567 | 3195 | 2823 | 2451 | 2079 | 1708 |
| 277 | 16 | | 7849 | 7477 | 7106 | 6735 | 6363 | 5992 | 5620 | 5249 | 4877 | 4505 | 4134 | 3762 | 3390 | 3018 | 2646 | 2274 | 1902 |
| 271 | 17 | | 8044 | 7673 | 7301 | 6930 | 6558 | 6187 | 5815 | 5444 | 5072 | 4700 | 4328 | 3956 | 3584 | 3212 | 2840 | 2468 | 2096 |
| 265 | 18 | | 8240 | 7868 | 7497 | 7125 | 6754 | 6382 | 6011 | 5639 | 5267 | 4896 | 4524 | 4151 | 3779 | 3407 | 3034 | 2662 | 2290 |
| 259 | 19 | | 8435 | 8064 | 7692 | 7320 | 6949 | 6577 | 6206 | 5834 | 5462 | 5090 | 4717 | 4345 | 3973 | 3601 | 3228 | 2856 | 2484 |
| 253 | 20 | 272 | 8630 | 8259 | 7887 | 7515 | 7144 | 6772 | 6401 | 6029 | 5657 | 5284 | 4912 | 4539 | 4167 | 3795 | 3423 | 3050 | 2677 |
| 247 | 21 | | 8826 | 8454 | 8082 | 7711 | 7339 | 6967 | 6595 | 6223 | 5850 | 5478 | 5106 | 4734 | 4361 | 3989 | 3617 | 3244 | 2871 |
| 241 | 22 | | 9021 | 8649 | 8277 | 7905 | 7533 | 7161 | 6789 | 6417 | 6045 | 5672 | 5300 | 4928 | 4555 | 4183 | 3811 | 3437 | 3065 |
| 235 | 23 | | 9216 | 8844 | 8472 | 8100 | 7728 | 7356 | 6984 | 6612 | 6239 | 5867 | 5494 | 5122 | 4749 | 4377 | 4004 | 3631 | 3258 |
| 229 | 24 | | 9411 | 9039 | 8667 | 8295 | 7923 | 7551 | 7178 | 6806 | 6434 | 6061 | 5689 | 5316 | 4943 | 4571 | 4198 | 3825 | 3452 |
| 223 | 25 | 272 | 9606 | 9234 | 8862 | 8490 | 8118 | 7745 | 7373 | 7000 | 6628 | 6255 | 5883 | 5511 | 5138 | 4765 | 4393 | 4020 | 3648 |
| 217 | 26 | | 9801 | 9429 | 9057 | 8685 | 8312 | 7940 | 7567 | 7195 | 6822 | 6449 | 6077 | 5704 | 5331 | 4958 | 4585 | 4212 | 3838 |
| 211 | 27 | | 9996 | 9624 | 9252 | 8879 | 8507 | 8134 | 7761 | 7389 | 7016 | 6643 | 6271 | 5898 | 5525 | 5152 | 4779 | 4406 | 4034 |
| 205 | 28 | 273(272) | 0191 | 9819 | 9446 | 9074 | 8701 | 8328 | 7956 | 7583 | 7210 | 6837 | 6464 | 6091 | 5718 | 5345 | 4972 | 4599 | 4225 |
| 199 | 29 | | 0386 | 0014 | 9641 | 9268 | 8896 | 8523 | 8150 | 7777 | 7404 | 7031 | 6658 | 6285 | 5912 | 5539 | 5165 | 4792 | 4419 |
| 193 | 30 | 273(272) | 0581 | 0208 | 9836 | 9463 | 9090 | 8717 | 8344 | 7971 | 7598 | 7225 | 6852 | 6479 | 6105 | 5732 | 5359 | 4985 | 4612 |
| 187 | 31 | | 0776 | 0403 | 0030 | 9657 | 9284 | 8911 | 8538 | 8165 | 7792 | 7419 | 7046 | 6672 | 6299 | 5926 | 5553 | 5179 | 4805 |
| 181 | 32 | | 0971 | 0597 | 0225 | 9852 | 9479 | 9106 | 8732 | 8359 | 7986 | 7613 | 7239 | 6866 | 6493 | 6119 | 5746 | 5373 | 4999 |
| 175 | 33 | | 1165 | 0792 | 0419 | 0046 | 9673 | 9300 | 8926 | 8553 | 8180 | 7806 | 7433 | 7059 | 6686 | 6312 | 5939 | 5565 | 5191 |
| 169 | 34 | | 1360 | 0986 | 0613 | 0240 | 9866 | 9493 | 9120 | 8746 | 8373 | 8000 | 7626 | 7253 | 6879 | 6506 | 6132 | 5758 | 5384 |
| 163 | 35 | 273(272) | 1554 | 1181 | 0808 | 0435 | 0062 | 9688 | 9315 | 8941 | 8568 | 8194 | 7821 | 7447 | 7074 | 6700 | 6327 | 5953 | 5577 |
| 157 | 36 | | 1748 | 1375 | 1002 | 0629 | 0255 | 9882 | 9508 | 9135 | 8761 | 8387 | 8014 | 7640 | 7267 | 6893 | 6519 | 6144 | 5770 |
| 151 | 37 | | 1943 | 1569 | 1196 | 0822 | 0449 | 0075 | 9702 | 9328 | 8954 | 8581 | 8207 | 7833 | 7460 | 7086 | 6712 | 6338 | 5964 |
| 145 | 38 | | 2137 | 1763 | 1390 | 1016 | 0643 | 0269 | 9895 | 9522 | 9148 | 8774 | 8400 | 8026 | 7652 | 7278 | 6904 | 6529 | 6155 |
| 139 | 39 | | 2331 | 1957 | 1584 | 1210 | 0837 | 0463 | 0089 | 9715 | 9341 | 8967 | 8593 | 8219 | 7845 | 7471 | 7096 | 6722 | 6347 |
| 133 | 40 | 273(272) | 2525 | 2151 | 1778 | 1404 | 1030 | 0657 | 0283 | 9909 | 9535 | 9161 | 8786 | 8412 | 8038 | 7664 | 7289 | 6915 | 6540 |
| 127 | 41 | | 2719 | 2346 | 1972 | 1598 | 1224 | 0850 | 0476 | 0102 | 9728 | 9354 | 8980 | 8605 | 8231 | 7857 | 7482 | 7107 | 6732 |
| 121 | 42 | | 2913 | 2540 | 2166 | 1792 | 1418 | 1044 | 0670 | 0295 | 9921 | 9547 | 9173 | 8798 | 8424 | 8049 | 7675 | 7300 | 6924 |
| 115 | 43 | | 3107 | 2733 | 2359 | 1985 | 1611 | 1237 | 0863 | 0489 | 0114 | 9740 | 9366 | 8991 | 8616 | 8242 | 7867 | 7492 | 7116 |
| 109 | 44 | | 3301 | 2927 | 2553 | 2179 | 1805 | 1431 | 1056 | 0682 | 0307 | 9933 | 9558 | 9184 | 8809 | 8434 | 8059 | 7683 | 7308 |
| 103 | 45 | 273(272) | 3495 | 3120 | 2747 | 2373 | 1999 | 1624 | 1250 | 0875 | 0500 | 0126 | 9751 | 9377 | 9002 | 8627 | 8252 | 7876 | 7500 |
| 97 | 46 | | 3689 | 3314 | 2940 | 2566 | 2192 | 1817 | 1443 | 1068 | 0693 | 0319 | 9944 | 9569 | 9194 | 8819 | 8443 | 8067 | 7691 |
| 91 | 47 | | 3883 | 3508 | 3134 | 2760 | 2385 | 2011 | 1636 | 1261 | 0887 | 0512 | 0137 | 9762 | 9387 | 9011 | 8636 | 8260 | 7883 |
| 85 | 48 | | 4077 | 3702 | 3327 | 2953 | 2578 | 2204 | 1829 | 1454 | 1080 | 0705 | 0330 | 9955 | 9580 | 9204 | 8828 | 8452 | 8076 |
| 79 | 49 | | 4271 | 3896 | 3521 | 3146 | 2772 | 2397 | 2022 | 1647 | 1272 | 0897 | 0522 | 0147 | 9772 | 9396 | 9020 | 8644 | 8268 |
| 73 | 50 | 273(272) | 4465 | 4090 | 3715 | 3340 | 2965 | 2590 | 2215 | 1840 | 1465 | 1090 | 0715 | 0340 | 9965 | 9589 | 9213 | 8837 | 8460 |
| 67 | 51 | | 4659 | 4284 | 3909 | 3534 | 3159 | 2783 | 2408 | 2033 | 1658 | 1283 | 0908 | 0532 | 0157 | 9781 | 9405 | 9029 | 8652 |
| 61 | 52 | | 4853 | 4478 | 4103 | 3727 | 3352 | 2977 | 2601 | 2226 | 1851 | 1476 | 1100 | 0725 | 0349 | 9973 | 9597 | 9221 | 8844 |
| 55 | 53 | | 5047 | 4672 | 4296 | 3921 | 3545 | 3170 | 2794 | 2419 | 2044 | 1668 | 1293 | 0917 | 0541 | 0165 | 9789 | 9413 | 9036 |
| 49 | 54 | | 5241 | 4866 | 4490 | 4114 | 3738 | 3363 | 2987 | 2612 | 2236 | 1861 | 1485 | 1109 | 0733 | 0357 | 9981 | 9605 | 9228 |
| 43 | 55 | 273(272) | 5435 | 5060 | 4684 | 4308 | 3932 | 3556 | 3180 | 2805 | 2429 | 2053 | 1677 | 1301 | 0925 | 0549 | 0173 | 9796 | 9420 |
| 37 | 56 | | 5629 | 5254 | 4878 | 4501 | 4125 | 3749 | 3373 | 2997 | 2621 | 2245 | 1869 | 1493 | 1117 | 0741 | 0365 | 9988 | 9612 |
| 31 | 57 | | 5823 | 5448 | 5071 | 4695 | 4319 | 3942 | 3566 | 3190 | 2814 | 2438 | 2061 | 1685 | 1309 | 0933 | 0557 | 0180 | 9804 |
| 25 | 58 | | 6017 | 5642 | 5265 | 4888 | 4512 | 4136 | 3759 | 3383 | 3006 | 2630 | 2254 | 1877 | 1501 | 1125 | 0748 | 0372 | 9996 |
| 19 | 59 | | 6211 | 5836 | 5459 | 5082 | 4706 | 4329 | 3952 | 3576 | 3199 | 2822 | 2446 | 2069 | 1693 | 1316 | 0940 | 0564 | 0187 |
| 13 | 60 | 273(272) | 6405 | 6030 | 5653 | 5276 | 4899 | 4522 | 4146 | 3769 | 3392 | 3015 | 2638 | 2262 | 1885 | 1508 | 1132 | 0755 | 0378 |
| 7 | 61 | | 6599 | 6224 | 5847 | 5470 | 5093 | 4716 | 4339 | 3962 | 3585 | 3208 | 2831 | 2454 | 2077 | 1700 | 1324 | 0947 | 0570 |
| 1 | 62 | | 6793 | 6418 | 6041 | 5664 | 5287 | 4910 | 4533 | 4156 | 3778 | 3401 | 3024 | 2647 | 2270 | 1893 | 1516 | 1139 | 0762 |

Sums for finding the Corrected Distances.

| Parts for Sec. of C. b. addit. | 137° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 573 1354 |
| 1 | 1 | 1554 |
| 2 | 2 | 1754 |
| 3 | 3 | 1954 |
| 4 | 4 | 2147 |
| 5 | 5 | 2345 |
| 6 | 6 | 2543 |
| 7 | 7 | 2741 |
| 8 | 8 | 2939 |
| 9 | 9 | 3136 |
| 10 | 10 | 3334 |
| 11 | 11 | 3531 |
| 12 | 12 | 3728 |
| 13 | 13 | 3927 |
| 14 | 14 | 4125 |
| 15 | 15 | 4323 |
| 16 | 16 | 4521 |
| 17 | 17 | 4717 |
| 18 | 18 | 4915 |
| 19 | 19 | 5111 |
| 20 | 20 | 5309 |
| 21 | 21 | 5507 |
| 22 | 22 | 5703 |
| 23 | 23 | 5901 |
| 24 | 24 | 6057 |
| 25 | 25 | 573 6254 |
| 26 | 26 | 6451 |
| 27 | 27 | 6647 |
| 28 | 28 | 6844 |
| 29 | 29 | 7041 |
| 30 | 30 | 573 7237 |
| 31 | 31 | 7434 |
| 32 | 32 | 7630 |
| 33 | 33 | 7827 |
| 34 | 34 | 8023 |
| 35 | 35 | 573 8219 |
| 36 | 36 | 8415 |
| 37 | 37 | 8611 |
| 38 | 38 | 8807 |
| 39 | 39 | 9003 |
| 40 | 40 | 573 9199 |
| 41 | 41 | 9395 |
| 42 | 42 | 9591 |
| 43 | 43 | 9787 |
| 44 | 44 | 9983 |
| 45 | 45 | 574 0179 |
| 46 | 46 | 0375 |
| 47 | 47 | 0571 |
| 48 | 48 | 0767 |
| 49 | 49 | 0963 |
| 50 | 50 | 574 1159 |
| 51 | 51 | 1355 |
| 52 | 52 | 1551 |
| 53 | 53 | 1747 |
| 54 | 54 | 1943 |
| 55 | 55 | 574 2139 |
| 56 | 56 | 2335 |
| 57 | 57 | 2531 |
| 58 | 58 | 2727 |
| 59 | 59 | 2923 |
| 60 | 60 | 574 3119 |
| 61 | 61 | 3315 |
| 62 | 62 | 3511 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - - } and Auxiliary Arguments.

| Parts for Sec. of Corr. addit. | A. D. 138° | Numbers | Parts for of Auxil. Argum. additive | A. A. A. D. 138° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 19 | 4 | 026 | 7148 | 377 | 6 | 274 (273) | 4777 | 2380 | 0021 | 1647 | 1274 | 0897 | 0522 | 0147 | 9773 | 9398 | 9022 | 8647 | 8272 | 7897 | 7521 | 7146 | 6771 |
| 18 | 1 | | 8065 | 378 | 1 | | 5168 | 4791 | 4414 | 4038 | 3661 | 3285 | 2908 | 2531 | 2155 | 1778 | 1401 | 1025 | 0648 | 0271 | 9895 | 9518 | 9142 |
| 19 | 2 | | 8981 | 379 | 2 | | 5559 | 5183 | 4806 | 4429 | 4053 | 3676 | 3299 | 2923 | 2546 | 2169 | 1793 | 1416 | 1039 | 0663 | 0286 | 9909 | 9533 |
| 18 | 3 | | 7893 | 380 | 3 | | 5950 | 5573 | 5197 | 4820 | 4443 | 4067 | 3690 | 3313 | 2937 | 2560 | 2183 | 1807 | 1430 | 1053 | 0677 | 0300 | 9923 |
| 19 | 4 | | 7553 | 381 | 4 | | 6341 | 5965 | 5588 | 5211 | 4835 | 4458 | 4081 | 3705 | 3328 | 2951 | 2575 | 2198 | 1821 | 1445 | 1068 | 0691 | 0314 |
| 18 | 5 | 026 | 7457 | 382 | 5 | 274 (273) | 6732 | 6356 | 5979 | 5602 | 5226 | 4849 | 4472 | 4096 | 3719 | 3342 | 2966 | 2589 | 2212 | 1836 | 1459 | 1082 | 0706 |
| 17 | 6 | | 7259 | 383 | 6 | | 7123 | 6746 | 6370 | 5993 | 5616 | 5240 | 4863 | 4486 | 4110 | 3733 | 3356 | 2980 | 2603 | 2226 | 1850 | 1473 | 1096 |
| 18 | 7 | | 7061 | 384 | 7 | | 7514 | 7137 | 6760 | 6384 | 6007 | 5630 | 5254 | 4877 | 4500 | 4124 | 3747 | 3370 | 2994 | 2617 | 2240 | 1864 | 1487 |
| 17 | 8 | | 6863 | 385 | 8 | | 7904 | 7528 | 7151 | 6774 | 6398 | 6021 | 5644 | 5268 | 4891 | 4514 | 4138 | 3761 | 3384 | 3008 | 2631 | 2254 | 1878 |
| 18 | 9 | | 6665 | 386 | 9 | | 8295 | 7918 | 7542 | 7165 | 6788 | 6412 | 6035 | 5658 | 5282 | 4905 | 4528 | 4152 | 3775 | 3398 | 3022 | 2645 | 2268 |
| 17 | 10 | 026 | 6468 | 387 | 10 | 274 (273) | 8686 | 8309 | 7932 | 7556 | 7179 | 6802 | 6426 | 6049 | 5672 | 5296 | 4919 | 4542 | 4166 | 3789 | 3412 | 3036 | 2659 |
| 16 | 11 | | 6270 | 388 | 11 | | 9076 | 8699 | 8323 | 7946 | 7569 | 7193 | 6816 | 6439 | 6063 | 5686 | 5309 | 4933 | 4556 | 4179 | 3803 | 3426 | 3049 |
| 17 | 12 | | 6073 | 389 | 12 | | 9466 | 9090 | 8713 | 8336 | 7960 | 7583 | 7206 | 6830 | 6453 | 6076 | 5700 | 5323 | 4946 | 4570 | 4193 | 3816 | 3440 |
| 154 | 13 | | 5875 | 296 | 13 | | 5294 | 4918 | 4543 | 4167 | 3791 | 3415 | 3038 | 2662 | 2286 | 1910 | 1533 | 1157 | 0781 | 0404 | 0027 | 9651 | 9274 |
| 151 | 14 | | 5677 | 295 | 14 | | 5684 | 5308 | 4932 | 4556 | 4180 | 3803 | 3427 | 3051 | 2675 | 2298 | 1922 | 1546 | 1169 | 0793 | 0417 | 0040 | 9664 |
| 147 | 15 | 026 | 5480 | 293 | 15 | 274 (273) | 6073 | 5697 | 5321 | 4945 | 4569 | 4193 | 3817 | 3441 | 3065 | 2689 | 2313 | 1937 | 1561 | 1185 | 0809 | 0433 | 0057 |
| 144 | 16 | | 5282 | 287 | 16 | | 6463 | 6087 | 5711 | 5335 | 4959 | 4583 | 4207 | 3831 | 3455 | 3079 | 2703 | 2327 | 1951 | 1575 | 1199 | 0823 | 0447 |
| 141 | 17 | | 5085 | 277 | 17 | 274 | 6852 | 6476 | 6100 | 5724 | 5348 | 4972 | 4596 | 4220 | 3844 | 3468 | 3092 | 2716 | 2340 | 1964 | 1588 | 1212 | 0836 |
| 138 | 18 | | 4888 | 274 | 18 | | 7242 | 6866 | 6490 | 6114 | 5738 | 5362 | 4986 | 4610 | 4234 | 3858 | 3482 | 3106 | 2730 | 2354 | 1978 | 1602 | 1226 |
| 134 | 19 | | 4691 | 268 | 19 | | 7631 | 7255 | 6879 | 6503 | 6127 | 5751 | 5375 | 4999 | 4623 | 4247 | 3871 | 3495 | 3119 | 2743 | 2367 | 1991 | 1615 |
| 131 | 20 | 026 | 4495 | 262 | 20 | 274 | 8020 | 7644 | 7268 | 6892 | 6516 | 6140 | 5764 | 5388 | 5012 | 4636 | 4260 | 3884 | 3508 | 3132 | 2756 | 2380 | 2004 |
| 128 | 21 | | 4299 | 256 | 21 | | 8409 | 8033 | 7657 | 7281 | 6905 | 6529 | 6153 | 5777 | 5401 | 5025 | 4649 | 4273 | 3897 | 3521 | 3145 | 2769 | 2393 |
| 124 | 22 | | 4102 | 249 | 22 | | 8798 | 8422 | 8046 | 7670 | 7294 | 6918 | 6542 | 6166 | 5790 | 5414 | 5038 | 4662 | 4286 | 3910 | 3534 | 3158 | 2782 |
| 121 | 23 | | 3905 | 243 | 23 | | 9187 | 8811 | 8435 | 8059 | 7683 | 7307 | 6931 | 6555 | 6179 | 5803 | 5427 | 5051 | 4675 | 4299 | 3923 | 3547 | 3171 |
| 118 | 24 | | 3709 | 237 | 24 | | 9576 | 9200 | 8824 | 8448 | 8072 | 7696 | 7320 | 6944 | 6568 | 6192 | 5816 | 5440 | 5064 | 4688 | 4312 | 3936 | 3560 |
| 114 | 25 | 026 | 3512 | 231 | 25 | 274 | 9965 | 9589 | 9213 | 8837 | 8461 | 8085 | 7709 | 7333 | 6957 | 6581 | 6205 | 5829 | 5453 | 5077 | 4701 | 4325 | 3949 |
| 111 | 26 | | 3316 | 225 | 26 | | 6354 | 5978 | 5602 | 5226 | 4850 | 4474 | 4098 | 3722 | 3346 | 2970 | 2594 | 2218 | 1842 | 1466 | 1090 | 0714 | 0338 |
| 108 | 27 | | 3119 | 218 | 27 | | 6743 | 6367 | 5991 | 5615 | 5239 | 4863 | 4487 | 4111 | 3735 | 3359 | 2983 | 2607 | 2231 | 1855 | 1479 | 1103 | 0727 |
| 104 | 28 | | 2923 | 212 | 28 | | 7132 | 6756 | 6380 | 6004 | 5628 | 5252 | 4876 | 4500 | 4124 | 3748 | 3372 | 2996 | 2620 | 2244 | 1868 | 1492 | 1116 |
| 101 | 29 | | 2727 | 195 | 29 | | 8300 | 8000 | 7631 | 7253 | 6876 | 6499 | 6121 | 5743 | 5365 | 4987 | 4609 | 4231 | 3853 | 3475 | 3097 | 2719 | 2341 |
| 97 | 30 | 026 | 2530 | 190 | 30 | 274 | 8689 | 8313 | 7936 | 7560 | 7183 | 6807 | 6430 | 6054 | 5677 | 5301 | 4924 | 4548 | 4171 | 3795 | 3418 | 3042 | 3665 |
| 94 | 31 | | 2334 | 183 | 31 | | 9077 | 8701 | 8325 | 7948 | 7572 | 7195 | 6819 | 6442 | 6066 | 5689 | 5313 | 4936 | 4560 | 4183 | 3807 | 3430 | 3054 |
| 92 | 32 | | 2138 | 176 | 32 | | 8964 | 8586 | 8208 | 7830 | 7453 | 7075 | 6697 | 6319 | 5941 | 5563 | 5184 | 4806 | 4428 | 4049 | 3671 | 3292 | 2914 |
| 88 | 33 | | 1941 | 170 | 33 | | 9353 | 8975 | 8597 | 8219 | 7841 | 7463 | 7085 | 6707 | 6329 | 5951 | 5573 | 5195 | 4817 | 4439 | 4061 | 3683 | 3305 |
| 85 | 34 | | 1744 | 163 | 34 | | 9741 | 9363 | 8985 | 8607 | 8229 | 7851 | 7473 | 7095 | 6717 | 6339 | 5961 | 5583 | 5205 | 4827 | 4449 | 4071 | 3693 |
| 81 | 35 | 026 | 1548 | 157 | 35 | 274 | 6541 | 6163 | 5785 | 5407 | 5029 | 4651 | 4273 | 3895 | 3517 | 3139 | 2761 | 2383 | 2005 | 1627 | 1249 | 0871 | 0493 |
| 78 | 36 | | 1351 | 151 | 36 | | 6930 | 6552 | 6174 | 5796 | 5418 | 5040 | 4662 | 4284 | 3906 | 3528 | 3150 | 2772 | 2394 | 2016 | 1638 | 1260 | 0882 |
| 75 | 37 | | 1155 | 144 | 37 | | 7318 | 6940 | 6562 | 6184 | 5806 | 5428 | 5050 | 4672 | 4294 | 3916 | 3538 | 3160 | 2782 | 2404 | 2026 | 1648 | 1270 |
| 71 | 38 | | 0957 | 138 | 38 | 274 (273) | 8118 | 7730 | 7352 | 6974 | 6596 | 6218 | 5840 | 5462 | 5084 | 4706 | 4328 | 3950 | 3572 | 3194 | 2816 | 2438 | 2060 |
| 68 | 39 | | 0761 | 132 | 39 | | 8506 | 8118 | 7740 | 7362 | 6984 | 6606 | 6228 | 5850 | 5472 | 5094 | 4716 | 4338 | 3960 | 3582 | 3204 | 2826 | 2448 |
| 65 | 40 | 026 | 0565 | 126 | 40 | 274 (273) | 8894 | 8506 | 8128 | 7750 | 7372 | 6994 | 6616 | 6238 | 5860 | 5482 | 5104 | 4726 | 4348 | 3970 | 3592 | 3214 | 2836 |
| 61 | 41 | | 0368 | 120 | 41 | | 9282 | 8894 | 8516 | 8138 | 7760 | 7382 | 7004 | 6626 | 6248 | 5870 | 5492 | 5114 | 4736 | 4358 | 3980 | 3602 | 3224 |
| 58 | 42 | | 0172 | 113 | 42 | | 9670 | 9282 | 8904 | 8526 | 8148 | 7770 | 7392 | 7014 | 6636 | 6258 | 5880 | 5502 | 5124 | 4746 | 4368 | 3990 | 3612 |
| 55 | 43 | 025 | 9977 | 107 | 43 | | 6058 | 9670 | 9292 | 8914 | 8536 | 8158 | 7780 | 7402 | 7024 | 6646 | 6268 | 5890 | 5512 | 5134 | 4756 | 4378 | 4000 |
| 51 | 44 | | 9781 | 101 | 44 | | 6446 | 6058 | 9680 | 9302 | 8924 | 8546 | 8168 | 7790 | 7412 | 7034 | 6656 | 6278 | 5900 | 5522 | 5144 | 4766 | 4388 |
| 48 | 45 | 025 | 9585 | 095 | 45 | 274 (273) | 6834 | 6446 | 6068 | 9690 | 9312 | 8934 | 8556 | 8178 | 7800 | 7422 | 7044 | 6666 | 6288 | 5910 | 5532 | 5154 | 4776 |
| 45 | 46 | | 9389 | 089 | 46 | | 7222 | 6834 | 6456 | 6078 | 9700 | 9322 | 8944 | 8566 | 8188 | 7810 | 7432 | 7054 | 6676 | 6298 | 5920 | 5542 | 5164 |
| 41 | 47 | | 9193 | 082 | 47 | | 7610 | 7222 | 6844 | 6466 | 6088 | 9710 | 9332 | 8954 | 8576 | 8198 | 7820 | 7442 | 7064 | 6686 | 6308 | 5930 | 5552 |
| 38 | 48 | | 8997 | 076 | 48 | | 7998 | 7610 | 7232 | 6854 | 6476 | 6098 | 9720 | 9342 | 8964 | 8586 | 8208 | 7830 | 7452 | 7074 | 6696 | 6318 | 5940 |
| 35 | 49 | | 8801 | 070 | 49 | | 8386 | 7998 | 7620 | 7242 | 6864 | 6486 | 6108 | 9730 | 9352 | 8974 | 8596 | 8218 | 7840 | 7462 | 7084 | 6706 | 6328 |
| 31 | 50 | 025 | 8605 | 064 | 50 | 274 (273) | 2410 | 8774 | 8396 | 8018 | 7640 | 7262 | 6884 | 6506 | 6128 | 5750 | 5372 | 4994 | 4616 | 4238 | 3860 | 3482 | 3104 |
| 28 | 51 | | 8409 | 057 | 51 | | 2798 | 8162 | 8784 | 8406 | 8028 | 7650 | 7272 | 6894 | 6516 | 6138 | 5760 | 5382 | 5004 | 4626 | 4248 | 3870 | 3492 |
| 25 | 52 | | 8213 | 051 | 52 | | 3186 | 8550 | 8172 | 7794 | 7416 | 7038 | 6660 | 6282 | 5904 | 5526 | 5148 | 4770 | 4392 | 4014 | 3636 | 3258 | 2880 |
| 21 | 53 | | 8017 | 045 | 53 | | 3574 | 8938 | 8560 | 8182 | 7804 | 7426 | 7048 | 6670 | 6292 | 5914 | 5536 | 5158 | 4780 | 4402 | 4024 | 3646 | 3268 |
| 18 | 54 | | 7821 | 038 | 54 | | 3962 | 9326 | 8948 | 8570 | 8192 | 7814 | 7436 | 7058 | 6680 | 6302 | 5924 | 5546 | 5168 | 4790 | 4412 | 4034 | 3656 |
| 16 | 55 | 025 | 7624 | 031 | 55 | 275 (274) | 3375 | 2995 | 2615 | 2235 | 1855 | 1475 | 1095 | 0714 | 0334 | 9954 | 9573 | 9193 | 8812 | 8432 | 8052 | | |
| 13 | 56 | | 7428 | 025 | 56 | | 3763 | 3383 | 3003 | 2623 | 2243 | 1863 | 1483 | 1103 | 0722 | 0342 | 9962 | 9581 | 9201 | 8820 | 8440 | | |
| 10 | 57 | | 7245 | 019 | 57 | | 3757 | 3377 | 2997 | 2616 | 2236 | 1856 | 1476 | 1095 | 0715 | 0334 | 9953 | 9573 | 9192 | 8811 | 843 | | |
| 7 | 58 | | 7039 | 013 | 58 | | 4151 | 3771 | 3391 | 3010 | 2630 | 2250 | 1870 | 1489 | 1109 | 0728 | 0348 | 9967 | 9587 | 9206 | 8826 | | |
| 3 | 59 | | 6855 | 006 | 59 | | 4139 | 3758 | 3378 | 2998 | 2617 | 2237 | 1856 | 1476 | 1095 | 0714 | 0333 | 9952 | 9571 | 9190 | 8809 | 842 | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts for Seconds of Auxil. Argum. additive | A. & A. D. 138° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 376 | 0 | 273 | 6805 | 6420 | 6044 | 5668 | 5289 | 4917 | 4541 | 4165 | 3789 | 3413 | 3037 | 2661 | 2284 | 1908 | 1532 | 1155 | 0779 | 0403 |
| 376 | 1 | | 6858 | 6482 | 6106 | 5730 | 5353 | 4980 | 4604 | 4228 | 3852 | 3476 | 3100 | 2724 | 2347 | 1971 | 1595 | 1218 | 0842 | 0466 |
| 377 | 2 | | 6911 | 6535 | 6159 | 5783 | 5406 | 5033 | 4657 | 4281 | 3905 | 3529 | 3153 | 2777 | 2400 | 2024 | 1648 | 1271 | 0895 | 0519 |
| 378 | 3 | | 6964 | 6588 | 6212 | 5836 | 5459 | 5086 | 4710 | 4334 | 3958 | 3582 | 3206 | 2830 | 2453 | 2077 | 1701 | 1324 | 0948 | 0572 |
| 379 | 4 | | 7017 | 6641 | 6265 | 5889 | 5512 | 5139 | 4763 | 4387 | 4011 | 3635 | 3259 | 2883 | 2506 | 2130 | 1754 | 1377 | 1001 | 0625 |
| 347 | 5 | 273 | 7386 | 7009 | 6633 | 6257 | 5880 | 5508 | 5132 | 4756 | 4380 | 4004 | 3628 | 3252 | 2875 | 2499 | 2123 | 1746 | 1370 | 0994 |
| 341 | 6 | | 7551 | 7175 | 6798 | 6422 | 6046 | 5673 | 5297 | 4921 | 4545 | 4169 | 3793 | 3417 | 3040 | 2664 | 2288 | 1911 | 1535 | 1159 |
| 338 | 7 | | 7744 | 7368 | 6992 | 6615 | 6239 | 5866 | 5490 | 5114 | 4738 | 4362 | 3986 | 3609 | 3233 | 2857 | 2481 | 2104 | 1728 | 1352 |
| 329 | 8 | | 7937 | 7561 | 7185 | 6808 | 6432 | 6059 | 5683 | 5307 | 4931 | 4555 | 4178 | 3802 | 3426 | 3050 | 2673 | 2297 | 1921 | 1545 |
| 322 | 9 | | 8130 | 7754 | 7377 | 7001 | 6625 | 6252 | 5876 | 5500 | 5123 | 4747 | 4371 | 3995 | 3619 | 3242 | 2866 | 2490 | 2114 | 1737 |
| 316 | 10 | 273 | 8321 | 7944 | 7568 | 7192 | 6815 | 6443 | 6067 | 5690 | 5314 | 4938 | 4562 | 4186 | 3809 | 3433 | 3057 | 2680 | 2304 | 1928 |
| 312 | 11 | | 8513 | 8137 | 7760 | 7384 | 7008 | 6635 | 6259 | 5883 | 5506 | 5130 | 4754 | 4378 | 4001 | 3625 | 3249 | 2872 | 2496 | 2120 |
| 308 | 12 | | 8706 | 8328 | 7952 | 7576 | 7199 | 6826 | 6450 | 6074 | 5698 | 5321 | 4945 | 4569 | 4193 | 3816 | 3440 | 3064 | 2687 | 2311 |
| 297 | 13 | | 8897 | 8520 | 8143 | 7766 | 7389 | 7012 | 6635 | 6258 | 5881 | 5503 | 5126 | 4748 | 4371 | 3993 | 3616 | 3238 | 2860 | 2483 |
| 291 | 14 | | 9088 | 8711 | 8335 | 7958 | 7581 | 7204 | 6827 | 6450 | 6073 | 5697 | 5320 | 4943 | 4566 | 4189 | 3812 | 3435 | 3058 | 2681 |
| 284 | 15 | 273 | 9281 | 8904 | 8527 | 8150 | 7773 | 7396 | 7019 | 6642 | 6265 | 5888 | 5511 | 5134 | 4757 | 4380 | 4003 | 3626 | 3249 | 2872 |
| 278 | 16 | | 9473 | 9096 | 8719 | 8342 | 7965 | 7588 | 7211 | 6834 | 6457 | 6080 | 5703 | 5326 | 4949 | 4572 | 4195 | 3818 | 3441 | 3064 |
| 272 | 17 | | 9665 | 9288 | 8911 | 8534 | 8157 | 7780 | 7403 | 7026 | 6649 | 6272 | 5895 | 5518 | 5141 | 4764 | 4387 | 4010 | 3633 | 3256 |
| 265 | 18 | | 9858 | 9481 | 9104 | 8727 | 8350 | 7973 | 7596 | 7219 | 6842 | 6465 | 6088 | 5711 | 5334 | 4957 | 4580 | 4203 | 3826 | 3449 |
| 258 | 19 | 274(273) | 0051 | 9674 | 9297 | 8920 | 8543 | 8166 | 7789 | 7412 | 7035 | 6658 | 6281 | 5904 | 5527 | 5150 | 4773 | 4396 | 4019 | 3642 |
| 253 | 20 | 274(273) | 0245 | 9868 | 9491 | 9114 | 8737 | 8360 | 7983 | 7606 | 7229 | 6852 | 6475 | 6098 | 5721 | 5344 | 4967 | 4590 | 4213 | 3836 |
| 246 | 21 | | 0432 | 0054 | 9676 | 9299 | 8921 | 8543 | 8165 | 7787 | 7409 | 7031 | 6653 | 6274 | 5896 | 5518 | 5139 | 4761 | 4382 | 4004 |
| 241 | 22 | | 0623 | 0245 | 9867 | 9489 | 9111 | 8733 | 8355 | 7977 | 7600 | 7221 | 6843 | 6465 | 6087 | 5709 | 5330 | 4952 | 4574 | 4196 |
| 234 | 23 | | 0815 | 0437 | 0059 | 9681 | 9303 | 8925 | 8547 | 8169 | 7791 | 7412 | 7034 | 6655 | 6277 | 5899 | 5521 | 5141 | 4762 | 4384 |
| 227 | 24 | | 1006 | 0628 | 0250 | 9872 | 9494 | 9116 | 8738 | 8360 | 7981 | 7603 | 7225 | 6847 | 6467 | 6089 | 5711 | 5332 | 4954 | 4576 |
| 221 | 25 | 274(273) | 1198 | 0820 | 0442 | 0064 | 9686 | 9308 | 8930 | 8552 | 8172 | 7793 | 7415 | 7037 | 6658 | 6280 | 5902 | 5523 | 5141 | 4767 |
| 215 | 26 | | 1384 | 1011 | 0632 | 0254 | 9877 | 9499 | 9121 | 8743 | 8365 | 7986 | 7608 | 7230 | 6852 | 6473 | 6095 | 5717 | 5338 | 4960 |
| 209 | 27 | | 1582 | 1202 | 0824 | 0445 | 0067 | 9689 | 9311 | 8933 | 8554 | 8176 | 7798 | 7419 | 7041 | 6663 | 6284 | 5906 | 5527 | 5149 |
| 202 | 28 | | 1771 | 1393 | 1014 | 0636 | 0257 | 9879 | 9501 | 9123 | 8745 | 8367 | 7988 | 7610 | 7232 | 6853 | 6475 | 6096 | 5718 | 5340 |
| 196 | 29 | | 1961 | 1584 | 1205 | 0827 | 0448 | 0070 | 9692 | 9313 | 8935 | 8556 | 8178 | 7799 | 7421 | 7043 | 6664 | 6286 | 5907 | 5529 |
| 190 | 30 | 274(273) | 2153 | 1775 | 1396 | 1018 | 0639 | 0260 | 9881 | 9503 | 9123 | 8744 | 8366 | 7987 | 7609 | 7230 | 6852 | 6473 | 6095 | 5716 |
| 183 | 31 | | 2344 | 1966 | 1587 | 1208 | 0830 | 0451 | 0072 | 9694 | 9314 | 8934 | 8555 | 8176 | 7797 | 7417 | 7038 | 6658 | 6279 | 5900 |
| 177 | 32 | | 2536 | 2158 | 1779 | 1400 | 1021 | 0642 | 0263 | 9885 | 9506 | 9126 | 8747 | 8368 | 7989 | 7609 | 7230 | 6851 | 6471 | 6092 |
| 171 | 33 | | 2726 | 2347 | 1968 | 1589 | 1211 | 0832 | 0453 | 0074 | 9696 | 9316 | 8936 | 8557 | 8177 | 7797 | 7417 | 7038 | 6658 | 6278 |
| 164 | 34 | | 2917 | 2538 | 2159 | 1780 | 1401 | 1022 | 0643 | 0264 | 9886 | 9507 | 9127 | 8747 | 8368 | 7988 | 7608 | 7228 | 6848 | 6468 |
| 158 | 35 | 274(273) | 3107 | 2729 | 2349 | 1970 | 1591 | 1212 | 0832 | 0453 | 0074 | 9696 | 9316 | 8936 | 8555 | 8175 | 7795 | 7415 | 7035 | 6655 |
| 152 | 36 | | 3297 | 2918 | 2539 | 2160 | 1781 | 1402 | 1023 | 0644 | 0265 | 9887 | 9508 | 9128 | 8748 | 8368 | 7988 | 7608 | 7228 | 6848 |
| 145 | 37 | | 3487 | 3108 | 2729 | 2350 | 1971 | 1592 | 1213 | 0834 | 0455 | 0076 | 9698 | 9318 | 8938 | 8558 | 8178 | 7798 | 7418 | 7038 |
| 139 | 38 | | 3677 | 3298 | 2919 | 2540 | 2161 | 1782 | 1403 | 1024 | 0645 | 0266 | 9888 | 9509 | 9129 | 8749 | 8369 | 7989 | 7609 | 7229 |
| 133 | 39 | | 3870 | 3490 | 3111 | 2731 | 2352 | 1972 | 1592 | 1213 | 0833 | 0453 | 0073 | 9693 | 9313 | 8933 | 8553 | 8172 | 7793 | 7413 |
| 127 | 40 | 274(273) | 4060 | 3681 | 3301 | 2922 | 2542 | 2163 | 1783 | 1404 | 1024 | 0645 | 0265 | 9886 | 9506 | 9126 | 8746 | 8366 | 7986 | 7606 |
| 120 | 41 | | 4252 | 3871 | 3491 | 3111 | 2732 | 2352 | 1973 | 1593 | 1213 | 0834 | 0454 | 0074 | 9695 | 9315 | 8935 | 8555 | 8175 | 7795 |
| 114 | 42 | | 4441 | 4062 | 3682 | 3302 | 2923 | 2543 | 2163 | 1784 | 1404 | 1024 | 0645 | 0265 | 9886 | 9506 | 9126 | 8746 | 8366 | 7986 |
| 107 | 43 | | 4631 | 4252 | 3872 | 3493 | 3113 | 2733 | 2354 | 1974 | 1594 | 1214 | 0835 | 0455 | 0075 | 9696 | 9316 | 8936 | 8556 | 8176 |
| 101 | 44 | | 4821 | 4442 | 4062 | 3683 | 3303 | 2924 | 2544 | 2164 | 1785 | 1405 | 1025 | 0645 | 0266 | 9886 | 9506 | 9126 | 8746 | 8366 |
| 97 | 45 | 274(273) | 5011 | 4631 | 4251 | 3871 | 3491 | 3111 | 2732 | 2352 | 1972 | 1592 | 1213 | 0833 | 0453 | 0073 | 9693 | 9313 | 8933 | 8553 |
| 89 | 46 | | 5201 | 4821 | 4441 | 4061 | 3681 | 3301 | 2922 | 2542 | 2162 | 1782 | 1403 | 1023 | 0643 | 0263 | 9883 | 9503 | 9123 | 8743 |
| 83 | 47 | | 5391 | 5011 | 4631 | 4251 | 3871 | 3491 | 3111 | 2732 | 2352 | 1972 | 1592 | 1213 | 0833 | 0453 | 0073 | 9693 | 9313 | 8933 |
| 76 | 48 | | 5581 | 5201 | 4820 | 4440 | 4060 | 3679 | 3299 | 2918 | 2537 | 2156 | 1776 | 1395 | 1014 | 0633 | 0252 | 9870 | 9489 | 9107 |
| 70 | 49 | | 5771 | 5391 | 5010 | 4630 | 4249 | 3869 | 3488 | 3108 | 2727 | 2347 | 1966 | 1586 | 1205 | 0825 | 0444 | 0063 | 9682 | 9301 |
| 63 | 50 | 274(273) | 5961 | 5581 | 5200 | 4820 | 4439 | 4059 | 3678 | 3298 | 2917 | 2537 | 2156 | 1776 | 1395 | 1014 | 0633 | 0252 | 9870 | 9489 |
| 57 | 51 | 274 | 6151 | 5771 | 5390 | 5010 | 4629 | 4249 | 3868 | 3488 | 3107 | 2727 | 2346 | 1965 | 1585 | 1204 | 0824 | 0443 | 0061 | 9680 |
| 51 | 52 | | 6340 | 5960 | 5579 | 5199 | 4817 | 4438 | 4058 | 3677 | 3297 | 2916 | 2536 | 2155 | 1774 | 1394 | 1013 | 0632 | 0251 | 9870 |
| 45 | 53 | | 6530 | 6149 | 5768 | 5387 | 5007 | 4627 | 4247 | 3867 | 3486 | 3106 | 2725 | 2345 | 1964 | 1583 | 1203 | 0822 | 0441 | 0060 |
| 38 | 54 | | 6719 | 6338 | 5957 | 5577 | 5196 | 4816 | 4436 | 4055 | 3675 | 3295 | 2914 | 2534 | 2153 | 1773 | 1392 | 1012 | 0631 | 0250 |
| 32 | 55 | 274 | 6909 | 6528 | 6147 | 5767 | 5386 | 5006 | 4625 | 4245 | 3865 | 3484 | 3104 | 2723 | 2343 | 1962 | 1582 | 1201 | 0821 | 0440 |
| 26 | 56 | | 7098 | 6717 | 6337 | 5956 | 5575 | 5195 | 4815 | 4434 | 4054 | 3673 | 3293 | 2913 | 2532 | 2152 | 1771 | 1391 | 1010 | 0630 |
| 19 | 57 | | 7287 | 6907 | 6526 | 6145 | 5765 | 5384 | 5004 | 4624 | 4243 | 3863 | 3482 | 3102 | 2722 | 2341 | 1961 | 1580 | 1200 | 0819 |
| 13 | 58 | | 7477 | 7096 | 6715 | 6335 | 5954 | 5574 | 5193 | 4813 | 4433 | 4052 | 3672 | 3291 | 2911 | 2531 | 2150 | 1770 | 1389 | 1009 |
| 6 | 59 | | 7666 | 7284 | 6903 | 6522 | 6140 | 5758 | 5377 | 4995 | 4613 | 4232 | 3850 | 3468 | 3086 | 2704 | 2321 | 1939 | 1557 | 1175 |

Sums for finding the Corrected Distances.

| Parts for Sec of C. D. additive | A. & A. D. 138° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 574 3145 |
| 3 | 1 | 3336 |
| 6 | 2 | 3527 |
| 10 | 3 | 3718 |
| 13 | 4 | 3909 |
| 16 | 5 | 574 4100 |
| 19 | 6 | 4291 |
| 22 | 7 | 4482 |
| 26 | 8 | 4673 |
| 29 | 9 | 4864 |
| 32 | 10 | 574 5055 |
| 35 | 11 | 5246 |
| 39 | 12 | 5437 |
| 42 | 13 | 5670 |
| 45 | 14 | 5819 |
| 48 | 15 | 574 6010 |
| 51 | 16 | 6201 |
| 55 | 17 | 6392 |
| 58 | 18 | 6583 |
| 61 | 19 | 6774 |
| 64 | 20 | 574 6965 |
| 68 | 21 | 7218 |
| 71 | 22 | 7413 |
| 74 | 23 | 7604 |
| 77 | 24 | 7795 |
| 82 | 25 | 574 7986 |
| 84 | 26 | 8184 |
| 87 | 27 | 8377 |
| 90 | 28 | 8568 |
| 93 | 29 | 8759 |
| 97 | 30 | 574 8950 |
| 100 | 31 | 9141 |
| 103 | 32 | 9332 |
| 106 | 33 | 9523 |
| 109 | 34 | 9714 |
| 113 | 35 | 574 9905 |
| 116 | 36 | 575 0096 |
| 119 | 37 | 0287 |
| 122 | 38 | 0478 |
| 125 | 39 | 0669 |
| 129 | 40 | 575 0860 |
| 132 | 41 | 1051 |
| 135 | 42 | 1242 |
| 138 | 43 | 1433 |
| 141 | 44 | 1624 |
| 145 | 45 | 575 1815 |
| 148 | 46 | 2006 |
| 151 | 47 | 2197 |
| 154 | 48 | 2415 |
| 158 | 49 | 2579 |
| 161 | 50 | 575 2770 |
| 164 | 51 | 2961 |
| 167 | 52 | 3152 |
| 170 | 53 | 3343 |
| 174 | 54 | 3534 |
| 177 | 55 | 575 3725 |
| 180 | 56 | 3916 |
| 183 | 57 | 4107 |
| 186 | 58 | 4298 |
| 190 | 59 | 4519 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C.S.A. | C.S.A. 139° | Numbers |
|---|---|---|
| 103 | 0 | 0661 |
| 102 | 1 | 0400 |
| 187 | 2 | 0272 |
| 183 | 3 | 0277 |
| 180 | 4 | 0383 |
| 177 | 5 | 0588 |
| 174 | 6 | 0494 |
| 170 | 7 | 0503 |
| 167 | 8 | 0514 |
| 164 | 9 | 0471 |
| 161 | 10 | 0438 |
| 158 | 11 | 0414 |
| 154 | 12 | 0433 |
| 151 | 13 | 4136 |
| 148 | 14 | 3941 |
| 145 | 15 | 3740 |
| 141 | 16 | 3656 |
| 138 | 17 | 3372 |
| 135 | 18 | 3168 |
| 132 | 19 | 2975 |
| 129 | 20 | 2782 |
| 126 | 21 | 2589 |
| 122 | 22 | 2397 |
| 119 | 23 | 2204 |
| 116 | 24 | 2012 |
| 113 | 25 | 1819 |
| 110 | 26 | 1626 |
| 107 | 27 | 1434 |
| 103 | 28 | 1241 |
| 100 | 29 | 1048 |
| 97 | 30 | 0856 |
| 93 | 31 | 0663 |
| 90 | 32 | 0470 |
| 87 | 33 | 0274 |
| 84 | 34 | 0081 |
| 81 | 35 | 9888 |
| 78 | 36 | 9695 |
| 74 | 37 | 9503 |
| 71 | 38 | 9312 |
| 68 | 39 | 9120 |
| 64 | 40 | 8928 |
| 61 | 41 | 8737 |
| 58 | 42 | 8546 |
| 55 | 43 | 8355 |
| 51 | 44 | 8165 |
| 48 | 45 | 7974 |
| 45 | 46 | 7785 |
| 42 | 47 | 7595 |
| 38 | 48 | 7406 |
| 35 | 49 | 7202 |
| 32 | 50 | 7011 |
| 29 | 51 | 6819 |
| 26 | 52 | 6628 |
| 22 | 53 | 6437 |
| 19 | 54 | 6245 |
| 16 | 55 | 6054 |
| 13 | 56 | 5863 |
| 10 | 57 | 5672 |
| 6 | 58 | 5481 |
| 3 | 59 | 5290 |

| Parts for Seconds of Auxil. Argum. | C.S.A. & A.D. 139° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 275(274) | 4320 | 3040 | 3552 | 3188 | 2948 | 2747 | 2584 | 2448 | 2332 | 2232 | 2144 | 2065 | 1992 | 1924 | 1860 | 1798 |
| 377 | 1 | | 4320 | 4144 | 3750 | 3379 | 3098 | 2867 | 2684 | 2532 | 2404 | 2295 | 2200 | 2116 | 2040 | 1971 | 1907 | 1847 |
| 371 | 2 | | 4711 | 4336 | 3905 | 3514 | 3185 | 2907 | 2677 | 2484 | 2321 | 2182 | 2062 | 1956 | 1862 | 1778 | 1702 | 1633 |
| 364 | 3 | | 4921 | 4521 | 4048 | 3650 | 3316 | 3027 | 2787 | 2585 | 2414 | 2268 | 2141 | 2030 | 1931 | 1843 | 1764 | 1692 |
| 358 | 4 | | 5002 | 4711 | 4338 | 3944 | 3607 | 3317 | 3067 | 2854 | 2672 | 2514 | 2375 | 2252 | 2142 | 2044 | 1956 | 1876 |
| 352 | 5 | 175(174) | 5202 | 4921 | 4521 | 4144 | 3759 | 3377 | 3037 | 2915 | 2734 | 2574 | 2433 | 2308 | 2196 | 2096 | 2005 | 1923 |
| 345 | 6 | | 5473 | 5002 | 4711 | 4338 | 3944 | 3557 | 3217 | 2915 | 2653 | 2423 | 2224 | 2051 | 1901 | 1770 | 1654 | 1551 |
| 339 | 7 | | 5003 | 5282 | 4921 | 4521 | 4139 | 3757 | 3377 | 3005 | 2673 | 2373 | 2114 | 1892 | 1701 | 1537 | 1396 | 1274 |
| 333 | 8 | | 5853 | 5473 | 5002 | 4711 | 4328 | 3947 | 3567 | 3194 | 2826 | 2473 | 2141 | 1837 | 1568 | 1332 | 1127 | 0951 |
| 327 | 9 | | 6024 | 5653 | 5282 | 4921 | 4518 | 4137 | 3757 | 3374 | 3000 | 2636 | 2288 | 1963 | 1668 | 1406 | 1178 | 0982 |
| 321 | 10 | 275 | 6034 | 5832 | 5472 | 5092 | 4708 | 4326 | 3945 | 3565 | 3181 | 2800 | 2423 | 2056 | 1708 | 1384 | 1092 | 0835 |
| 315 | 11 | | 6214 | 6042 | 5701 | 5279 | 4895 | 4511 | 4134 | 3755 | 3371 | 2989 | 2609 | 2236 | 1878 | 1543 | 1238 | 0967 |
| 309 | 12 | | 6314 | 6032 | 5931 | 5511 | 5087 | 4700 | 4314 | 3942 | 3570 | 3198 | 2826 | 2460 | 2109 | 1781 | 1483 | 1217 |
| 300 | 13 | | 6804 | 6422 | 6040 | 5659 | 5277 | 4895 | 4513 | 4131 | 3749 | 3367 | 2985 | 2603 | 2220 | 1838 | 1455 | 1073 | 0691 |
| 294 | 14 | | 6913 | 6621 | 6242 | 5848 | 5466 | 5084 | 4702 | 4321 | 3939 | 3556 | 3174 | 2791 | 2409 | 2027 | 1644 | 1261 | 0879 |
| 288 | 15 | 275 | 7183 | 6824 | 6420 | 6038 | 5656 | 5274 | 4892 | 4511 | 4127 | 3745 | 3363 | 2981 | 2598 | 2215 | 1833 | 1450 | 1067 |
| 281 | 16 | | 7373 | 7001 | 6600 | 6227 | 5845 | 5463 | 5081 | 4699 | 4316 | 3934 | 3551 | 3169 | 2786 | 2404 | 2021 | 1638 | 1255 |
| 275 | 17 | | 7563 | 7181 | 6790 | 6417 | 6034 | 5652 | 5270 | 4888 | 4505 | 4123 | 3740 | 3358 | 2975 | 2592 | 2210 | 1827 | 1444 |
| 268 | 18 | | 7752 | 7370 | 6988 | 6606 | 6223 | 5841 | 5459 | 5077 | 4694 | 4311 | 3929 | 3547 | 3165 | 2783 | 2401 | 2019 | 1636 |
| 262 | 19 | | 7941 | 7559 | 7178 | 6795 | 6413 | 6031 | 5649 | 5267 | 4883 | 4500 | 4117 | 3735 | 3353 | 2971 | 2589 | 2207 | 1825 |
| 256 | 20 | 275 | 8131 | 7749 | 7367 | 6985 | 6602 | 6220 | 5837 | 5454 | 5072 | 4689 | 4306 | 3923 | 3540 | 3157 | 2774 | 2391 | 2008 |
| 249 | 21 | | 8321 | 7938 | 7556 | 7174 | 6791 | 6409 | 6026 | 5644 | 5260 | 4877 | 4494 | 4111 | 3728 | 3345 | 2962 | 2579 | 2196 |
| 243 | 22 | | 8511 | 8127 | 7745 | 7363 | 6980 | 6597 | 6215 | 5832 | 5449 | 5066 | 4683 | 4300 | 3916 | 3533 | 3150 | 2767 | 2384 |
| 237 | 23 | | 8702 | 8317 | 7934 | 7552 | 7170 | 6788 | 6405 | 6023 | 5640 | 5257 | 4874 | 4491 | 4108 | 3725 | 3342 | 2959 | 2576 |
| 230 | 24 | | 8892 | 8506 | 8123 | 7741 | 7358 | 6976 | 6594 | 6211 | 5829 | 5446 | 5063 | 4680 | 4297 | 3914 | 3531 | 3148 | 2765 |
| 224 | 25 | 273 | 0082 | 8696 | 8313 | 7931 | 7547 | 7164 | 6781 | 6397 | 6014 | 5631 | 5248 | 4865 | 4481 | 4098 | 3715 | 3332 | 2949 |
| 217 | 26 | | 0273 | 8885 | 8501 | 8119 | 7737 | 7355 | 6972 | 6589 | 6206 | 5823 | 5440 | 5057 | 4674 | 4291 | 3908 | 3525 | 3141 |
| 211 | 27 | | 0463 | 9073 | 8690 | 8307 | 7924 | 7541 | 7158 | 6774 | 6391 | 6008 | 5624 | 5241 | 4857 | 4474 | 4091 | 3708 | 3325 |
| 205 | 28 | | 0653 | 9262 | 8878 | 8495 | 8111 | 7728 | 7344 | 6961 | 6578 | 6194 | 5811 | 5427 | 5044 | 4661 | 4277 | 3894 | 3511 |
| 199 | 29 | | 0843 | 9451 | 9067 | 8683 | 8299 | 7915 | 7531 | 7148 | 6764 | 6381 | 5997 | 5614 | 5230 | 4847 | 4464 | 4080 | 3697 |
| 192 | 30 | 272(271) | 1033 | 9640 | 9255 | 8871 | 8487 | 8103 | 7720 | 7336 | 6953 | 6569 | 6186 | 5802 | 5419 | 5035 | 4652 | 4268 | 3885 |
| 186 | 31 | | 1223 | 9829 | 9443 | 9059 | 8675 | 8291 | 7907 | 7523 | 7140 | 6756 | 6372 | 5989 | 5605 | 5222 | 4838 | 4455 | 4071 |
| 180 | 32 | | 1413 | 0018 | 9632 | 9247 | 8863 | 8479 | 8095 | 7711 | 7327 | 6943 | 6560 | 6176 | 5792 | 5409 | 5025 | 4642 | 4258 |
| 173 | 33 | | 0589 | 0206 | 9822 | 9438 | 9055 | 8671 | 8287 | 7903 | 7519 | 7135 | 6751 | 6367 | 5983 | 5599 | 5215 | 4830 | 4445 |
| 167 | 34 | | 0779 | 0396 | 0011 | 9626 | 9242 | 8858 | 8474 | 8090 | 7706 | 7322 | 6938 | 6554 | 6170 | 5786 | 5402 | 5017 | 4633 |
| 161 | 35 | 271(270) | 0969 | 0585 | 0201 | 9817 | 9434 | 9050 | 8666 | 8282 | 7898 | 7514 | 7130 | 6746 | 6362 | 5978 | 5594 | 5210 | 4825 |
| 154 | 36 | | 1159 | 0775 | 0391 | 0008 | 9625 | 9241 | 8857 | 8473 | 8089 | 7705 | 7321 | 6937 | 6553 | 6169 | 5785 | 5401 | 5017 |
| 148 | 37 | | 1349 | 0965 | 0581 | 0198 | 9816 | 9433 | 9049 | 8665 | 8281 | 7897 | 7513 | 7129 | 6745 | 6361 | 5977 | 5593 | 5209 |
| 142 | 38 | | 1539 | 1147 | 0763 | 0379 | 9995 | 9611 | 9227 | 8842 | 8458 | 8073 | 7689 | 7304 | 6919 | 6535 | 6150 | 5765 | 5381 |
| 136 | 39 | | 1729 | 1337 | 0953 | 0569 | 0185 | 9801 | 9417 | 9033 | 8649 | 8265 | 7881 | 7497 | 7113 | 6729 | 6345 | 5961 | 5577 |
| 129 | 40 | 270(269) | 1919 | 1527 | 1143 | 0759 | 0375 | 9991 | 9607 | 9224 | 8840 | 8456 | 8072 | 7688 | 7304 | 6920 | 6536 | 6152 | 5768 |
| 123 | 41 | | 2109 | 1717 | 1333 | 0949 | 0565 | 0181 | 9797 | 9414 | 9030 | 8646 | 8262 | 7878 | 7494 | 7110 | 6726 | 6342 | 5958 |
| 117 | 42 | | 2299 | 1907 | 1515 | 1131 | 0746 | 0362 | 9978 | 9594 | 9211 | 8827 | 8443 | 8059 | 7675 | 7291 | 6907 | 6523 | 6139 |
| 111 | 43 | | 2489 | 2097 | 1705 | 1321 | 0936 | 0552 | 0168 | 9784 | 9401 | 9017 | 8633 | 8249 | 7865 | 7481 | 7097 | 6713 | 6329 |
| 104 | 44 | | 2679 | 2287 | 1895 | 1511 | 1127 | 0743 | 0359 | 9975 | 9591 | 9207 | 8824 | 8440 | 8056 | 7672 | 7288 | 6904 | 6520 |
| 98 | 45 | 269(268) | 2869 | 2477 | 2085 | 1701 | 1317 | 0933 | 0549 | 0165 | 9781 | 9398 | 9014 | 8630 | 8246 | 7862 | 7478 | 7094 | 6710 |
| 92 | 46 | | 3059 | 2667 | 2275 | 1891 | 1507 | 1123 | 0739 | 0356 | 9972 | 9588 | 9204 | 8820 | 8437 | 8053 | 7669 | 7285 | 6901 |
| 86 | 47 | | 3249 | 2857 | 2465 | 2081 | 1697 | 1313 | 0930 | 0546 | 0162 | 9778 | 9395 | 9011 | 8627 | 8243 | 7859 | 7475 | 7092 |
| 79 | 48 | | 3439 | 3047 | 2655 | 2271 | 1887 | 1503 | 1120 | 0736 | 0352 | 9969 | 9585 | 9201 | 8817 | 8434 | 8050 | 7666 | 7282 |
| 73 | 49 | | 3599 | 3214 | 2829 | 2444 | 2058 | 1673 | 1288 | 0902 | 0517 | 0131 | 9746 | 9360 | 8974 | 8589 | 8203 | 7817 | 7432 |
| 67 | 50 | 268(267) | 3790 | 3408 | 3016 | 2634 | 2248 | 1863 | 1478 | 1093 | 0708 | 0323 | 9937 | 9551 | 9165 | 8779 | 8393 | 8007 | 7621 |
| 61 | 51 | | 3974 | 3580 | 3204 | 2818 | 2433 | 2047 | 1662 | 1276 | 0890 | 0505 | 0119 | 9733 | 9347 | 8961 | 8575 | 8189 | 7803 |
| 54 | 52 | | 4164 | 3770 | 3394 | 3008 | 2623 | 2237 | 1852 | 1466 | 1080 | 0695 | 0309 | 9923 | 9537 | 9151 | 8765 | 8379 | 7993 |
| 48 | 53 | | 4354 | 3960 | 3584 | 3198 | 2813 | 2427 | 2042 | 1656 | 1270 | 0885 | 0499 | 0113 | 9727 | 9341 | 8955 | 8569 | 8183 |
| 42 | 54 | | 4536 | 4150 | 3765 | 3379 | 2994 | 2608 | 2222 | 1836 | 1450 | 1064 | 0678 | 0292 | 9906 | 9520 | 9133 | 8747 | 8361 |
| 36 | 55 | 267(266) | 4726 | 4340 | 3955 | 3569 | 3184 | 2798 | 2412 | 2026 | 1640 | 1254 | 0868 | 0482 | 0096 | 9710 | 9323 | 8937 | 8551 |
| 30 | 56 | | 4916 | 4530 | 4145 | 3759 | 3374 | 2988 | 2602 | 2216 | 1830 | 1444 | 1058 | 0672 | 0286 | 9900 | 9513 | 9127 | 8741 |
| 24 | 57 | | 5106 | 4720 | 4335 | 3949 | 3564 | 3178 | 2792 | 2406 | 2020 | 1634 | 1248 | 0862 | 0476 | 0090 | 9703 | 9317 | 8931 |
| 18 | 58 | | 5296 | 4910 | 4525 | 4139 | 3754 | 3368 | 2982 | 2596 | 2210 | 1824 | 1438 | 1052 | 0666 | 0280 | 9893 | 9507 | 9121 |
| 12 | 59 | | 5472 | 5086 | 4700 | 4314 | 3927 | 3541 | 3155 | 2768 | 2382 | 1996 | 1609 | 1222 | 0836 | 0449 | 0062 | 9675 | 9288 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Auxiliary Arguments.

| Parts of Arg. Additive | A.A & A.D 59 | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 385 | 0 | 274 7855 | 7473 | 7092 | 6710 | 6329 | 5947 | 5565 | 5184 | 4802 | 4420 | 4038 | 3656 | 3274 | 2891 | 2509 | 2127 | 1745 |
| 378 | 1 | 8044 | 7662 | 7281 | 6899 | 6517 | 6136 | 5754 | 5372 | 4990 | 4608 | 4226 | 3844 | 3462 | 3079 | 2697 | 2315 | 1933 |
| 372 | 2 | 8233 | 7851 | 7470 | 7088 | 6706 | 6324 | 5942 | 5560 | 5178 | 4796 | 4414 | 4032 | 3650 | 3267 | 2885 | 2503 | 2121 |
| 365 | 3 | 8422 | 8040 | 7658 | 7277 | 6895 | 6513 | 6131 | 5749 | 5367 | 4984 | 4602 | 4220 | 3837 | 3455 | 3073 | 2691 | 2309 |
| 359 | 4 | 8611 | 8229 | 7847 | 7465 | 7083 | 6701 | 6319 | 5937 | 5555 | 5173 | 4791 | 4409 | 4025 | 3643 | 3261 | 2877 | 2497 |
| 352 | 5 | 274 8800 | 8418 | 8036 | 7654 | 7272 | 6889 | 6507 | 6125 | 5743 | 5361 | 4979 | 4596 | 4214 | 3832 | 3449 | 3067 | 2685 |
| 346 | 6 | 8989 | 8606 | 8224 | 7842 | 7460 | 7078 | 6695 | 6313 | 5931 | 5548 | 5166 | 4784 | 4402 | 4019 | 3637 | 3255 | 2873 |
| 340 | 7 | 9178 | 8795 | 8413 | 8031 | 7648 | 7266 | 6884 | 6501 | 6119 | 5737 | 5354 | 4972 | 4590 | 4208 | 3825 | 3443 | 3061 |
| 333 | 8 | 9366 | 8983 | 8601 | 8219 | 7837 | 7454 | 7072 | 6689 | 6307 | 5925 | 5543 | 5160 | 4778 | 4396 | 4013 | 3631 | 3249 |
| 327 | 9 | 9554 | 9172 | 8790 | 8407 | 8025 | 7642 | 7260 | 6877 | 6494 | 6111 | 5728 | 5345 | 4962 | 4580 | 4197 | 3815 | 3433 |
| 320 | 10 | 274 9743 | 9360 | 8978 | 8595 | 8213 | 7830 | 7448 | 7065 | 6682 | 6299 | 5916 | 5533 | 5150 | 4767 | 4384 | 4001 | 3617 |
| 314 | 11 | 9931 | 9549 | 9166 | 8784 | 8401 | 8018 | 7635 | 7253 | 6870 | 6487 | 6104 | 5720 | 5337 | 4954 | 4571 | 4188 | 3805 |
| 308 | 12 | 275 (274) 0120 | 9737 | 9354 | 8972 | 8589 | 8206 | 7823 | 7440 | 7057 | 6674 | 6291 | 5908 | 5524 | 5141 | 4758 | 4374 | 3991 |
| 301 | 13 | 0308 | 9925 | 9542 | 9160 | 8777 | 8394 | 8011 | 7628 | 7245 | 6862 | 6478 | 6095 | 5711 | 5328 | 4945 | 4561 | 4177 |
| 295 | 14 | 0496 | 0113 | 9731 | 9348 | 8965 | 8582 | 8199 | 7815 | 7432 | 7049 | 6666 | 6282 | 5899 | 5515 | 5132 | 4748 | 4364 |
| 288 | 15 | 275 (274) 0684 | 0301 | 9919 | 9536 | 9152 | 8769 | 8386 | 8003 | 7620 | 7236 | 6853 | 6469 | 6086 | 5702 | 5318 | 4935 | 4551 |
| 282 | 16 | 0872 | 0489 | 0106 | 9723 | 9340 | 8957 | 8574 | 8190 | 7807 | 7423 | 7040 | 6656 | 6273 | 5889 | 5505 | 5121 | 4738 |
| 276 | 17 | 1060 | 0677 | 0294 | 9911 | 9528 | 9145 | 8761 | 8378 | 7994 | 7611 | 7227 | 6843 | 6459 | 6076 | 5692 | 5308 | 4924 |
| 269 | 18 | 1248 | 0865 | 0482 | 0099 | 9716 | 9332 | 8949 | 8565 | 8181 | 7798 | 7414 | 7030 | 6646 | 6262 | 5878 | 5494 | 5110 |
| 263 | 19 | 1436 | 1053 | 0670 | 0286 | 9903 | 9520 | 9136 | 8752 | 8369 | 7985 | 7601 | 7217 | 6833 | 6449 | 6065 | 5681 | 5297 |
| 257 | 20 | 275 (274) 1624 | 1241 | 0858 | 0474 | 0090 | 9707 | 9323 | 8940 | 8556 | 8172 | 7788 | 7404 | 7020 | 6636 | 6252 | 5868 | 5484 |
| 251 | 21 | 1812 | 1429 | 1045 | 0662 | 0278 | 9894 | 9510 | 9127 | 8743 | 8359 | 7975 | 7591 | 7207 | 6822 | 6438 | 6054 | 5670 |
| 244 | 22 | 2000 | 1616 | 1233 | 0849 | 0465 | 0082 | 9698 | 9314 | 8930 | 8546 | 8162 | 7777 | 7393 | 7009 | 6625 | 6241 | 5857 |
| 238 | 23 | 2188 | 1804 | 1420 | 1036 | 0653 | 0269 | 9885 | 9501 | 9117 | 8733 | 8349 | 7964 | 7580 | 7196 | 6812 | 6428 | 6044 |
| 232 | 24 | 2375 | 1991 | 1608 | 1224 | 0840 | 0456 | 0072 | 9688 | 9303 | 8919 | 8535 | 8151 | 7767 | 7383 | 6999 | 6615 | 6231 |
| 226 | 25 | 275 (274) 2563 | 2179 | 1795 | 1411 | 1027 | 0643 | 0259 | 9875 | 9490 | 9106 | 8722 | 8337 | 7953 | 7569 | 7185 | 6801 | 6417 |
| 218 | 26 | 2750 | 2366 | 1982 | 1598 | 1214 | 0830 | 0446 | 0061 | 9677 | 9293 | 8908 | 8524 | 8139 | 7754 | 7369 | 6985 | 6600 |
| 211 | 27 | 2938 | 2554 | 2170 | 1785 | 1401 | 1017 | 0633 | 0248 | 9864 | 9479 | 9095 | 8710 | 8325 | 7940 | 7556 | 7171 | 6787 |
| 205 | 28 | 3125 | 2741 | 2357 | 1972 | 1588 | 1204 | 0819 | 0435 | 0050 | 9666 | 9281 | 8896 | 8511 | 8127 | 7742 | 7358 | 6973 |
| 199 | 29 | 3312 | 2928 | 2544 | 2159 | 1775 | 1391 | 1006 | 0621 | 0237 | 9852 | 9467 | 9082 | 8698 | 8313 | 7928 | 7544 | 7159 |
| 193 | 30 | 275 (274) | | | | | | | | | | | | | | | | |
| 187 | 31 | | | | | | | | | | | | | | | | | |
| 179 | 32 | 3874 | 3489 | 3105 | 2720 | 2335 | 1951 | 1566 | 1181 | 0796 | 0411 | 0026 | 9641 | 9256 | 8870 | 8485 | 8100 | |
| 173 | 33 | | | | | | | | | | | | | | | | | |
| 167 | 34 | | | | | | | | | | | | | | | | | |
| 160 | 35 | 275 (274) | | | | | | | | | | | | | | | | |
| 154 | 36 | | | | | | | | | | | | | | | | | |
| 147 | 37 | | | | | | | | | | | | | | | | | |
| 141 | 38 | | | | | | | | | | | | | | | | | |
| 135 | 39 | | | | | | | | | | | | | | | | | |
| 128 | 40 | 275 (274) | | | | | | | | | | | | | | | | |
| 122 | 41 | | | | | | | | | | | | | | | | | |
| 116 | 42 | | | | | | | | | | | | | | | | | |
| 109 | 43 | | | | | | | | | | | | | | | | | |
| 103 | 44 | | | | | | | | | | | | | | | | | |
| 97 | 45 | 275 | | | | | | | | | | | | | | | | |
| 90 | 46 | 6487 | 6101 | 5715 | 5329 | 4943 | 4557 | 4171 | 3784 | 3398 | 3012 | 2625 | 2239 | 1852 | 1466 | 1079 | 0692 | 0305 |
| 84 | 47 | | | | | | | | | | | | | | | | | |
| 78 | 48 | | | | | | | | | | | | | | | | | |
| 71 | 49 | | | | | | | | | | | | | | | | | |
| 65 | 50 | 275 | | | | | | | | | | | | | | | | |
| 59 | 51 | | | | | | | | | | | | | | | | | |
| 52 | 52 | | | | | | | | | | | | | | | | | |
| 46 | 53 | | | | | | | | | | | | | | | | | |
| 40 | 54 | | | | | | | | | | | | | | | | | |
| 32 | 55 | 275 8160 | 7773 | 7386 | 6999 | 6612 | 6225 | 5838 | 5451 | 5064 | 4677 | 4290 | 3903 | 3515 | 3128 | 2740 | 2353 | 1965 |
| 26 | 56 | | | | | | | | | | | | | | | | | |
| 19 | 57 | | | | | | | | | | | | | | | | | |
| 13 | 58 | 8716 | 8329 | 7942 | 7555 | 7168 | 6781 | 6393 | 6006 | 5619 | 5231 | 4844 | 4456 | 4068 | 3681 | 3293 | 2905 | 2517 |
| 6 | 59 | 8901 | 8514 | 8127 | 7740 | 7353 | 6966 | 6578 | 6191 | 5803 | 5416 | 5028 | 4640 | 4253 | 3865 | 3477 | | |

Sums for finding the Corrected Distances.

| Parts of Arg. Additive | A.A & A.D 59 | Sums |
|---|---|---|
| | | 180 |
| 0 | 0 | 576 471 |
| 3 | 1 | |
| 6 | 2 | |
| 9 | 3 | |
| 13 | 4 | |
| 16 | 5 | 575 |
| 19 | 6 | |
| 22 | 7 | |
| 25 | 8 | |
| 28 | 9 | |
| 31 | 10 | 575 |
| 35 | 11 | |
| 38 | 12 | |
| 41 | 13 | |
| 44 | 14 | |
| 47 | 15 | 575 |
| 50 | 16 | |
| 54 | 17 | |
| 57 | 18 | |
| 60 | 19 | |
| 63 | 20 | 575 |
| 66 | 21 | |
| 70 | 22 | |
| 73 | 23 | |
| 76 | 24 | |
| 79 | 25 | 575 |
| 82 | 26 | |
| 85 | 27 | |
| 88 | 28 | |
| 91 | 29 | |
| 94 | 30 | |
| 97 | 31 | |
| 100 | 32 | |
| 103 | 33 | |
| 106 | 34 | |
| 109 | 35 | 575 |
| 113 | 36 | |
| 116 | 37 | |
| 119 | 38 | |
| 123 | 39 | |
| 126 | 40 | 575 |
| 129 | 41 | |
| 132 | 42 | |
| 135 | 43 | |
| 138 | 44 | |
| 141 | 45 | 575 |
| 144 | 46 | |
| 147 | 47 | |
| 151 | 48 | |
| 154 | 49 | |
| 157 | 50 | 575 |
| 160 | 51 | |
| 163 | 52 | |
| 166 | 53 | |
| 169 | 54 | |
| 172 | 55 | 575 |
| 176 | 56 | |
| 179 | 57 | |
| 182 | 58 | |
| 185 | 59 | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Part for Sec. of C.S.A addit. | C.S.A. 140° | Numbers |
|---|---|---|
| 189 | 0 | 024 5100 |
| 180 | 1 | 4909 |
| 183 | 2 | 4718 |
| 180 | 3 | 4528 |
| 176 | 4 | 4337 |
| 173 | 5 | 024 4147 |
| 170 | 6 | 3956 |
| 167 | 7 | 3766 |
| 164 | 8 | 3575 |
| 161 | 9 | 3385 |
| 157 | 10 | 024 3195 |
| 154 | 11 | 3005 |
| 151 | 12 | 2815 |
| 148 | 13 | 2625 |
| 145 | 14 | 2435 |
| 142 | 15 | 024 2245 |
| 139 | 16 | 2055 |
| 135 | 17 | 1866 |
| 132 | 18 | 1676 |
| 129 | 19 | 1486 |
| 126 | 20 | 024 1297 |
| 123 | 21 | 1107 |
| 120 | 22 | 0918 |
| 117 | 23 | 0728 |
| 113 | 24 | 0539 |
| 110 | 25 | 024 0349 |
| 107 | 26 | 0160 |
| 104 | 27 | 023 9970 |
| 101 | 28 | 9783 |
| 98 | 29 | 9593 |
| 94 | 30 | 023 9405 |
| 91 | 31 | 9216 |
| 88 | 32 | 9026 |
| 85 | 33 | 8839 |
| 82 | 34 | 8647 |
| 78 | 35 | 023 8457 |
| 75 | 36 | 8268 |
| 72 | 37 | 8078 |
| 69 | 38 | 7888 |
| 66 | 39 | 7700 |
| 63 | 40 | 023 7511 |
| 60 | 41 | 7321 |
| 57 | 42 | 7131 |
| 54 | 43 | 6941 |
| 50 | 44 | 6751 |
| 47 | 45 | 023 6562 |
| 44 | 46 | 6372 |
| 41 | 47 | 6182 |
| 38 | 48 | 5992 |
| 35 | 49 | 5802 |
| 31 | 50 | 023 5613 |
| 28 | 51 | 5423 |
| 25 | 52 | 5233 |
| 22 | 53 | 5043 |
| 19 | 54 | 4853 |
| 16 | 55 | 023 4664 |
| 13 | 56 | 4474 |
| 10 | 57 | 4284 |
| 6 | 58 | 4094 |
| 3 | 59 | 3904 |

| Parts for Seconds of Arg. | S.A.A. & A.D. 140° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 277(276) | 5030 | 5227 | | | | | | | | | | | | | | |
| 1 | 1 | | 5845 | 5439 | 5736 | | | | | | | | | | | | | |
| 376 | 2 | | 6032 | 5646 | 5260 | 4873 | 4487 | 4100 | 3714 | 3327 | 2940 | 2554 | 2167 | 1780 | 1393 | 1006 | 0619 | 0232 | 9845 |
| 370 | 3 | 276 | 6219 | 5833 | 5446 | 5060 | 4673 | 4287 | 3900 | 3513 | 3126 | 2739 | 2353 | 1966 | 1578 | 1191 | 0804 | 0417 | 0030 |
| | 4 | | | | | | | | | | | | | | | | | | |
| 357 | 5 | 276 | | | | | | | | | | | | | | | | | |
| 351 | 6 | | | | | | | | | | | | | | | | | | |
| 344 | 7 | | | | | | | | | | | | | | | | | | |
| 337 | 8 | | | | | | | | | | | | | | | | | | |
| 331 | 9 | | | | | | | | | | | | | | | | | | |
| 325 | 10 | 276 | 7524 | 7137 | | | | | | | | | | | | | | | |
| 318 | 11 | | 7710 | 7323 | 6936 | 6549 | 6162 | 5774 | 5387 | 4999 | 4612 | 4224 | 3836 | 3449 | 3061 | 2673 | 2285 | | |
| 312 | 12 | | 7896 | 7509 | 7122 | 6735 | 6347 | 5960 | 5572 | 5185 | 4797 | 4409 | 4022 | 3634 | 3246 | 2858 | 2470 | | |
| 305 | 13 | | | | | | | | | | | | | | | | | | |
| 299 | 14 | | | | | | | | | | | | | | | | | | |
| 292 | 15 | 276 | | | | | | | | | | | | | | | | | |
| 286 | 16 | | | | | | | | | | | | | | | | | | |
| 279 | 17 | | | | | | | | | | | | | | | | | | |
| 273 | 18 | | 9012 | 8624 | 8236 | 7848 | 7461 | 7073 | 6685 | 6296 | 5908 | 5520 | 5132 | 4743 | 4355 | 3966 | 3578 | | |
| 266 | 19 | | | | | | | | | | | | | | | | | | |
| 260 | 20 | 276 | | | | | | | | | | | | | | | | | |
| 253 | 21 | | 9569 | 9181 | 8793 | 8405 | | | | | | | | | | | | | |
| 247 | 22 | | 9754 | 9366 | 8978 | 8590 | 8201 | 7813 | 7425 | 7036 | 6648 | 6259 | 5870 | 5481 | 5092 | 4704 | 4315 | 39 | |
| 240 | 23 | | 9940 | 9552 | 9163 | 8775 | 8386 | 7998 | 7609 | 7221 | 6832 | 6443 | 6055 | 5666 | 5277 | 4888 | 4499 | | |
| 234 | 24 | | | | | | | | | | | | | | | | | | |
| 227 | 25 | 277 | | | | | | | | | | | | | | | | | |
| 221 | 26 | | | | | | | | | | | | | | | | | | |
| 214 | 27 | | 0680 | 0292 | 9903 | 9515 | 9126 | 8737 | 8348 | 7959 | 7570 | 7181 | 6792 | 6403 | 6013 | 5624 | 5235 | 4845 | |
| 208 | 28 | | 0866 | 0477 | 0088 | 9700 | 9311 | 8922 | 8533 | 8144 | 7755 | 7365 | 6976 | 6587 | 6197 | 5808 | 5418 | 5029 | |
| 201 | 29 | | | | | | | | | | | | | | | | | | |
| 195 | 30 | 277(276) | | | | | | | | | | | | | | | | | |
| 188 | 31 | | 1421 | 1032 | 0643 | 0254 | 9864 | 9475 | 9086 | 8697 | 8307 | 7918 | 7528 | 7139 | 6749 | 6359 | 5969 | | |
| 182 | 32 | | | | | | | | | | | | | | | | | | |
| 175 | 33 | | | | | | | | | | | | | | | | | | |
| 169 | 34 | | | | | | | | | | | | | | | | | | |
| 162 | 35 | 277(276) | 2160 | 1770 | 1381 | 0991 | 0602 | 0212 | 9823 | 9433 | 9043 | 8653 | 8263 | 7873 | 7483 | 7093 | 6703 | 6313 | |
| 156 | 36 | | | | | | | | | | | | | | | | | | |
| 149 | 37 | | | | | | | | | | | | | | | | | | |
| 143 | 38 | | | | | | | | | | | | | | | | | | |
| 136 | 39 | | | | | | | | | | | | | | | | | | |
| 130 | 40 | | | | | | | | | | | | | | | | | | |
| 123 | 41 | | | | | | | | | | | | 9181 | 8791 | 8400 | 8009 | 7619 | 7228 | 6838 |
| 117 | 42 | | | | | | | | | | | | | | | | | | |
| 110 | 43 | | | | | | | | | | | | | | | | | | |
| 104 | 44 | | | | | | | | | | | | | | | | | | |
| 97 | 45 | 277(276) | | | | | | | | | | | | | | | | | |
| 91 | 46 | | | | | | | | | | | | | | | | | | |
| 84 | 47 | | | | | | | | | | | | | | | | | | |
| 78 | 48 | | | | | | | | | | | | | | | | | | |
| 71 | 49 | | | | | | | | | | | | | | | | | | |
| 65 | 50 | 277(276) | 4921 | 4531 | 4140 | 3749 | 3358 | 2967 | 2576 | 2185 | 1794 | 1403 | 1011 | 0620 | 0228 | 9837 | 9445 | 9054 | |
| 58 | 51 | | | | | | | | | | | | | | | | | | |
| 52 | 52 | | 5289 | 4898 | 4507 | 4116 | 3725 | 3333 | 2942 | 2551 | 2159 | 1768 | 1376 | 0985 | 0593 | 0202 | 9810 | 9418 | 9026 |
| 45 | 53 | | 5472 | 5081 | 4690 | 4299 | 3908 | 3516 | 3125 | 2734 | 2342 | 1951 | 1559 | 1167 | 0776 | 0385 | 9992 | 9600 | 9208 |
| 39 | 54 | | | | | | | | | | | | | | | | | | |
| 32 | 55 | 277(276) | | | | | | | | | | | | | | | | | |
| 26 | 56 | | | | | | | | | | | | | | | | | | |
| 20 | 57 | | | | | | | | | | | | | | | | | | |
| 13 | 58 | 277 | 6388 | 5997 | 5605 | 5214 | 4822 | 4430 | 4039 | 3647 | 3255 | 2863 | 2471 | 2079 | 1686 | 1294 | 0902 | 0510 | 0117 |
| 7 | 59 | | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| | ′ | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 390 | 0 | 275 | 9087 | 8700 | 8312 | 7925 | 7538 | 7150 | 6763 | 6375 | 5988 | 5600 | 5212 | 4825 | 4437 | 4049 | 3661 | 3273 | 2885 |
| 384 | 1 | | 9272 | 8885 | 8497 | 8110 | 7723 | 7335 | 6948 | 6560 | 6172 | 5785 | 5397 | 5009 | 4621 | 4233 | 3845 | 3457 | 3068 |
| 377 | 2 | | 9457 | 9070 | 8682 | 8295 | 7907 | 7520 | 7132 | 6744 | 6357 | 5969 | 5581 | 5193 | 4805 | 4417 | 4029 | 3640 | 3252 |
| 371 | 3 | | [illegible] | | | | | | | | | | | | | | | | |
| 364 | 4 | | 9827 | 9440 | 9052 | 8665 | 8277 | 7889 | 7501 | 7113 | 6725 | 6337 | 5949 | 5561 | 5173 | 4784 | 4396 | 4008 | 3619 |
| 358 | 5 | 276(275) | 0012 | 9625 | 9237 | 8849 | 8461 | 8074 | 7686 | 7298 | 6910 | 6521 | 6133 | 5745 | 5357 | 4968 | 4580 | 4191 | 3803 |
| 351 | 6 | | 0197 | 9810 | 9422 | 9034 | 8646 | 8258 | 7870 | 7482 | 7094 | 6705 | 6317 | 5929 | 5540 | 5152 | 4763 | 4375 | 3986 |
| 345 | 7 | | 0382 | 9994 | 9606 | 9219 | 8831 | 8442 | 8054 | 7666 | 7278 | 6889 | 6501 | 6113 | 5724 | 5336 | 4947 | 4559 | 4169 |
| 338 | 8 | | 0567 | 0179 | 9791 | 9403 | 9015 | 8627 | 8239 | 7850 | 7462 | 7073 | 6685 | 6296 | 5908 | 5519 | 5130 | 4742 | 4352 |
| 332 | 9 | | 0752 | 0364 | 9976 | 9588 | 9199 | 8811 | 8423 | 8034 | 7646 | 7257 | 6869 | 6480 | 6091 | 5703 | 5314 | 4925 | 4536 |
| [illegible] | 10 | 276(275) | 0936 | 0548 | 0160 | 9772 | 9384 | 8995 | 8607 | 8218 | 7830 | 7441 | 7052 | 6664 | 6275 | 5886 | 5497 | 5108 | 4719 |
| 311 | 11 | | 1121 | 0733 | 0345 | [illegible] | [illegible] | 9179 | 8791 | 8402 | 8014 | 7625 | 7236 | 6847 | 6458 | 6069 | 5681 | 5291 | 4902 |
| [illegible] | 12 | | 1306 | [illegible] | [illegible] | [illegible] | [illegible] | 9363 | 8975 | 8586 | 8197 | 7809 | 7420 | 7031 | 6642 | 6253 | 5864 | 5475 | 5085 |
| [illegible] | 13 | | 1490 | [illegible] | [illegible] | [illegible] | [illegible] | 9547 | 9159 | 8770 | 8381 | 7992 | 7603 | 7214 | 6825 | 6436 | 6047 | 5658 | 5268 |
| [illegible] | 14 | | 1675 | [illegible] | [illegible] | [illegible] | [illegible] | 9731 | 9343 | 8954 | 8565 | 8176 | 7787 | 7398 | 7008 | 6619 | 6230 | 5841 | 5451 |
| [illegible] | 15 | 276(275) | 1860 | [illegible] | [illegible] | [illegible] | [illegible] | 9915 | 9526 | 9137 | 8748 | 8359 | 7970 | 7581 | 7192 | 6802 | 6413 | 6024 | 5634 |
| [illegible] | 16 | | 2045 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9321 | 8932 | 8543 | 8154 | 7764 | 7375 | 6985 | 6596 | 6206 | 5817 |
| [illegible] | 17 | | 2230 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9115 | 8726 | 8337 | 7947 | 7558 | 7168 | 6779 | 6389 | 5999 | |
| [illegible] | 18 | | 2414 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9299 | 8909 | 8520 | 8130 | 7741 | 7351 | 6962 | 6572 | 6182 | |
| [illegible] | 19 | | 2599 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9482 | 9093 | 8703 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | 20 | 275 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9688 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | 21 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9230 | 9049 | 9459 | 9069 | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | 22 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 241 | 23 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | 24 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | 25 | 275 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1751 | 1361 | 0971 | 0581 | 0191 | 9801 | 9411 | 9020 | 8630 | 8240 | 7849 | 7459 |
| [illegible] | 26 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1934 | 1544 | 1154 | 0764 | 0374 | 9983 | 9593 | 9203 | 8813 | 8422 | 8032 | 7641 |
| [illegible] | 27 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2117 | 1727 | 1337 | 0947 | 0556 | 0166 | 9776 | 9385 | 8995 | 8604 | 8214 | 7823 |
| [illegible] | 28 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2300 | 1910 | 1520 | 1129 | 0739 | 0349 | 9958 | 9568 | 9177 | 8787 | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9350 | 8960 | [illegible] | [illegible] |
| 148 | 30 | 274 | [illegible] | [illegible] | 26 | 3836 | 3446 | 3056 | 2666 | 2275 | 1885 | 1495 | 1104 | 0714 | 0323 | 9932 | 9542 | 9151 | 8761 |
| [illegible] | 31 | | [illegible] | [illegible] | [illegible] | 4019 | 3629 | 3239 | 2849 | 2458 | 2068 | 1677 | 1287 | 0896 | 0505 | 0114 | 9724 | 9333 | [illegible] |
| [illegible] | 32 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9906 | 9515 | 9124 |
| 176 | 33 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2042 | 1651 | 1261 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 34 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 35 | 274 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2407 | 2016 | 1625 | 1234 | 0843 | 0451 | 0060 | 9669 | 9277 |
| [illegible] | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2589 | 2198 | 1807 | 1416 | 1024 | 0633 | 0242 | 9850 | 9459 |
| [illegible] | 37 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 38 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 39 | 276 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 40 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 41 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 42 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 43 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 44 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 45 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 46 | | [illegible] | 7150 | 6758 | 6367 | 5975 | 5583 | 5192 | 4800 | 4408 | 4016 | 3624 | 3232 | 2840 | 2447 | 2055 | 1663 | 1270 |
| [illegible] | 47 | | [illegible] | 7332 | 6941 | 6549 | 6157 | 5765 | 5373 | 4982 | 4590 | 4197 | 3805 | 3413 | 3021 | 2628 | 2236 | 1844 | 1451 |
| [illegible] | 48 | | [illegible] | 7514 | 7123 | 6731 | 6339 | 5947 | 5555 | 5163 | 4771 | 4379 | 3987 | 3594 | 3202 | 2809 | 2417 | [illegible] | [illegible] |
| [illegible] | 49 | | [illegible] | 7696 | 7305 | 6913 | 6521 | 6129 | 5737 | 5345 | 4952 | 4560 | 4168 | 3775 | 3383 | 2990 | 2598 | 2205 | 1812 |
| [illegible] | 50 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 51 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 204 | 53 | | [illegible] | 8816 | 8424 | 8032 | 7640 | 7247 | 6855 | 6462 | 6070 | 5077 | 5285 | 4892 | 4499 | 4106 | 3714 | 3321 | 2928 | 2534 |
| [illegible] | 54 | | [illegible] | 8998 | 8606 | 8213 | 7821 | 7429 | 7036 | 6644 | 6251 | 5858 | 5466 | 5073 | 4680 | 4287 | 3894 | 3501 | 3108 | 2715 |
| [illegible] | 55 | 276 | [illegible] | 9180 | 8787 | 8395 | 8003 | 7610 | 7217 | 6825 | 6432 | 6039 | 5647 | 5254 | 4861 | 4468 | 4075 | 3681 | 3288 | 2895 |
| 206 | 56 | | [illegible] | 9361 | 8969 | 8576 | 8184 | 7791 | 7399 | 7006 | 6613 | 6220 | 5827 | 5434 | 5041 | 4648 | 4255 | 3862 | 3469 | 3075 |
| [illegible] | 57 | | [illegible] | 9543 | 9150 | 8758 | 8365 | 7973 | 7580 | 7187 | 6794 | 6401 | 6008 | 5615 | 5222 | 4829 | 4436 | 4042 | 3649 | 3255 |
| 193 | 58 | | [illegible] | 9725 | 9332 | 8939 | 8547 | 8154 | 7761 | 7368 | 6975 | 6582 | 6189 | 5796 | 5403 | 5009 | 4616 | 4223 | 3829 | 3436 |
| 7 | 59 | | [illegible] | 9906 | 9513 | 9121 | 8728 | 8335 | 7942 | 7549 | 7156 | 6763 | 6370 | 5976 | 5583 | 5190 | 4796 | 4403 | 4009 | 3616 |

Sums for finding the Corrected Distance.

| | ′ | ″ | Sums |
|---|---|---|---|
| | | 14 | |
| adius. | ′ | | |
| 0 | 0 | 576 | 6044 |
| 3 | 1 | | 6231 |
| 6 | 2 | | 6418 |
| 9 | 3 | | [illegible] |
| 12 | 4 | | 6792 |
| 15 | 5 | 576 | 6979 |
| 18 | 6 | | 7165 |
| 22 | 7 | | 7352 |
| 25 | 8 | | 7538 |
| 28 | 9 | | 7725 |
| 31 | 10 | 576 | 7911 |
| 34 | 11 | | 8097 |
| 37 | 12 | | 8284 |
| 40 | 13 | | 8470 |
| 43 | 14 | | 8656 |
| 46 | 15 | 576 | 8842 |
| 49 | 16 | | 9028 |
| 52 | 17 | | 9214 |
| 55 | 18 | | 9400 |
| 58 | 19 | | [illegible] |
| 61 | 20 | 576 | [illegible] |
| 64 | 21 | | [illegible] |
| 68 | 22 | | [illegible] |
| 71 | 23 | | [illegible] |
| 74 | 24 | | [illegible] |
| 77 | 25 | 577 | [illegible] |
| 80 | 26 | | 0884 |
| 83 | 27 | | 1069 |
| 86 | 28 | | 1254 |
| 89 | 29 | | 1440 |
| 92 | 30 | 577 | 1625 |
| 95 | 31 | | 1810 |
| 98 | 32 | | 1995 |
| 101 | 33 | | 2180 |
| 104 | 34 | | 2365 |
| 108 | 35 | 577 | 2549 |
| 111 | 36 | | [illegible] |
| 114 | 37 | | [illegible] |
| 117 | 38 | | [illegible] |
| 120 | 39 | | [illegible] |
| 123 | 40 | 577 | [illegible] |
| 126 | 41 | | [illegible] |
| 129 | 42 | | [illegible] |
| 132 | 43 | | [illegible] |
| 135 | 44 | | [illegible] |
| 139 | 45 | 577 | [illegible] |
| 142 | 46 | | 4577 |
| 145 | 47 | | 4761 |
| 148 | 48 | | [illegible] |
| 151 | 49 | | 5128 |
| 154 | 50 | 577 | 5311 |
| 157 | 51 | | [illegible] |
| 160 | 52 | | [illegible] |
| 163 | 53 | | 5863 |
| 166 | 54 | | 6046 |
| 170 | 55 | 577 | 6230 |
| 173 | 56 | | 6413 |
| 176 | 57 | | 6596 |
| 179 | 58 | | 6780 |
| 182 | 59 | | 6962 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. | S.S.A. & A.D. 141° | Numbers |
|---|---|---|
| 0 | 0 | 0000 |
| 1 | 1 | 0043 |
| 2 | 2 | 0086 |
| 3 | 3 | 0129 |
| 4 | 4 | 0172 |
| 5 | 5 | 0215 |
| 6 | 6 | 0258 |
| 7 | 7 | 0301 |
| 8 | 8 | 0344 |
| 9 | 9 | 0387 |
| 10 | 10 | 0430 |
| 11 | 11 | 0473 |
| 12 | 12 | 0516 |
| 13 | 13 | 0559 |
| 14 | 14 | 0602 |
| 15 | 15 | 0645 |
| 16 | 16 | 0688 |
| 17 | 17 | 0731 |
| 18 | 18 | 0774 |
| 19 | 19 | 0817 |
| 20 | 20 | 0860 |
| 21 | 21 | 0903 |
| 22 | 22 | 0946 |
| 23 | 23 | 0989 |
| 24 | 24 | 1032 |
| 25 | 25 | 1075 |
| 26 | 26 | 1118 |
| 27 | 27 | 1161 |
| 28 | 28 | 1204 |
| 29 | 29 | 1247 |
| 30 | 30 | 1290 |
| 31 | 31 | 1333 |
| 32 | 32 | 1376 |
| 33 | 33 | 1419 |
| 34 | 34 | 1462 |
| 35 | 35 | 1505 |
| 36 | 36 | 1548 |
| 37 | 37 | 1591 |
| 38 | 38 | 1634 |
| 39 | 39 | 1677 |
| 40 | 40 | 1720 |
| 41 | 41 | 1763 |
| 42 | 42 | 1806 |
| 43 | 43 | 1849 |
| 44 | 44 | 1892 |
| 45 | 45 | 1935 |
| 46 | 46 | 1978 |
| 47 | 47 | 2021 |
| 48 | 48 | 2064 |
| 49 | 49 | 2107 |
| 50 | 50 | 2150 |
| 51 | 51 | 2193 |
| 52 | 52 | 2236 |
| 53 | 53 | 2279 |
| 54 | 54 | 2322 |
| 55 | 55 | 2365 |
| 56 | 56 | 2408 |
| 57 | 57 | 2451 |
| 58 | 58 | 2494 |
| 59 | 59 | 2537 |

| Parts for Seconds of Auxil. Argum. | S.S.A. & A.D. 141° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 301 | 0 | 7777 | 7393 | 7071 | 6748 | 6426 | 6104 | 5782 | 5460 | 5138 | 4816 | 4494 | 4172 | 3850 | 3528 | 3206 | 2884 | 2562 |
| 300 | 1 | 7753 | 7431 | 7109 | 6787 | 6465 | 6143 | 5821 | 5499 | 5177 | 4855 | 4533 | 4211 | 3889 | 3567 | 3245 | 2923 | 2601 |
| 302 | 2 | 7730 | 7408 | 7086 | 6764 | 6442 | 6120 | 5798 | 5476 | 5154 | 4832 | 4510 | 4188 | 3866 | 3544 | 3222 | 2900 | 2578 |
| 273 | 3 | 7707 | 7385 | 7063 | 6741 | 6419 | 6097 | 5775 | 5453 | 5131 | 4809 | 4487 | 4165 | 3843 | 3521 | 3199 | 2877 | 2555 |
| 274 | 4 | 7684 | 7362 | 7040 | 6718 | 6396 | 6074 | 5752 | 5430 | 5108 | 4786 | 4464 | 4142 | 3820 | 3498 | 3176 | 2854 | 2532 |
| 275 | 5 | 7661 | 7339 | 7017 | 6695 | 6373 | 6051 | 5729 | 5407 | 5085 | 4763 | 4441 | 4119 | 3797 | 3475 | 3153 | 2831 | 2509 |
| 276 | 6 | 7638 | 7316 | 6994 | 6672 | 6350 | 6028 | 5706 | 5384 | 5062 | 4740 | 4418 | 4096 | 3774 | 3452 | 3130 | 2808 | 2486 |
| 277 | 7 | 7615 | 7293 | 6971 | 6649 | 6327 | 6005 | 5683 | 5361 | 5039 | 4717 | 4395 | 4073 | 3751 | 3429 | 3107 | 2785 | 2463 |
| 278 | 8 | 7592 | 7270 | 6948 | 6626 | 6304 | 5982 | 5660 | 5338 | 5016 | 4694 | 4372 | 4050 | 3728 | 3406 | 3084 | 2762 | 2440 |
| 279 | 9 | 7569 | 7247 | 6925 | 6603 | 6281 | 5959 | 5637 | 5315 | 4993 | 4671 | 4349 | 4027 | 3705 | 3383 | 3061 | 2739 | 2417 |
| 280 | 10 | 7546 | 7224 | 6902 | 6580 | 6258 | 5936 | 5614 | 5292 | 4970 | 4648 | 4326 | 4004 | 3682 | 3360 | 3038 | 2716 | 2394 |
| 281 | 11 | 7523 | 7201 | 6879 | 6557 | 6235 | 5913 | 5591 | 5269 | 4947 | 4625 | 4303 | 3981 | 3659 | 3337 | 3015 | 2693 | 2371 |
| 282 | 12 | 7500 | 7178 | 6856 | 6534 | 6212 | 5890 | 5568 | 5246 | 4924 | 4602 | 4280 | 3958 | 3636 | 3314 | 2992 | 2670 | 2348 |
| 283 | 13 | 7477 | 7155 | 6833 | 6511 | 6189 | 5867 | 5545 | 5223 | 4901 | 4579 | 4257 | 3935 | 3613 | 3291 | 2969 | 2647 | 2325 |
| 284 | 14 | 7454 | 7132 | 6810 | 6488 | 6166 | 5844 | 5522 | 5200 | 4878 | 4556 | 4234 | 3912 | 3590 | 3268 | 2946 | 2624 | 2302 |
| 285 | 15 | 7431 | 7109 | 6787 | 6465 | 6143 | 5821 | 5499 | 5177 | 4855 | 4533 | 4211 | 3889 | 3567 | 3245 | 2923 | 2601 | 2279 |
| 286 | 16 | 7408 | 7086 | 6764 | 6442 | 6120 | 5798 | 5476 | 5154 | 4832 | 4510 | 4188 | 3866 | 3544 | 3222 | 2900 | 2578 | 2256 |
| 287 | 17 | 7385 | 7063 | 6741 | 6419 | 6097 | 5775 | 5453 | 5131 | 4809 | 4487 | 4165 | 3843 | 3521 | 3199 | 2877 | 2555 | 2233 |
| 288 | 18 | 7362 | 7040 | 6718 | 6396 | 6074 | 5752 | 5430 | 5108 | 4786 | 4464 | 4142 | 3820 | 3498 | 3176 | 2854 | 2532 | 2210 |
| 289 | 19 | 7339 | 7017 | 6695 | 6373 | 6051 | 5729 | 5407 | 5085 | 4763 | 4441 | 4119 | 3797 | 3475 | 3153 | 2831 | 2509 | 2187 |
| 290 | 20 | 7316 | 6994 | 6672 | 6350 | 6028 | 5706 | 5384 | 5062 | 4740 | 4418 | 4096 | 3774 | 3452 | 3130 | 2808 | 2486 | 2164 |
| 291 | 21 | 7293 | 6971 | 6649 | 6327 | 6005 | 5683 | 5361 | 5039 | 4717 | 4395 | 4073 | 3751 | 3429 | 3107 | 2785 | 2463 | 2141 |
| 292 | 22 | 7270 | 6948 | 6626 | 6304 | 5982 | 5660 | 5338 | 5016 | 4694 | 4372 | 4050 | 3728 | 3406 | 3084 | 2762 | 2440 | 2118 |
| 293 | 23 | 7247 | 6925 | 6603 | 6281 | 5959 | 5637 | 5315 | 4993 | 4671 | 4349 | 4027 | 3705 | 3383 | 3061 | 2739 | 2417 | 2095 |
| 294 | 24 | 7224 | 6902 | 6580 | 6258 | 5936 | 5614 | 5292 | 4970 | 4648 | 4326 | 4004 | 3682 | 3360 | 3038 | 2716 | 2394 | 2072 |
| 295 | 25 | 7201 | 6879 | 6557 | 6235 | 5913 | 5591 | 5269 | 4947 | 4625 | 4303 | 3981 | 3659 | 3337 | 3015 | 2693 | 2371 | 2049 |
| 296 | 26 | 7178 | 6856 | 6534 | 6212 | 5890 | 5568 | 5246 | 4924 | 4602 | 4280 | 3958 | 3636 | 3314 | 2992 | 2670 | 2348 | 2026 |
| 297 | 27 | 7155 | 6833 | 6511 | 6189 | 5867 | 5545 | 5223 | 4901 | 4579 | 4257 | 3935 | 3613 | 3291 | 2969 | 2647 | 2325 | 2003 |
| 298 | 28 | 7132 | 6810 | 6488 | 6166 | 5844 | 5522 | 5200 | 4878 | 4556 | 4234 | 3912 | 3590 | 3268 | 2946 | 2624 | 2302 | 1980 |
| 299 | 29 | 7109 | 6787 | 6465 | 6143 | 5821 | 5499 | 5177 | 4855 | 4533 | 4211 | 3889 | 3567 | 3245 | 2923 | 2601 | 2279 | 1957 |
| 300 | 30 | 7086 | 6764 | 6442 | 6120 | 5798 | 5476 | 5154 | 4832 | 4510 | 4188 | 3866 | 3544 | 3222 | 2900 | 2578 | 2256 | 1934 |
| 301 | 31 | 7063 | 6741 | 6419 | 6097 | 5775 | 5453 | 5131 | 4809 | 4487 | 4165 | 3843 | 3521 | 3199 | 2877 | 2555 | 2233 | 1911 |
| 302 | 32 | 7040 | 6718 | 6396 | 6074 | 5752 | 5430 | 5108 | 4786 | 4464 | 4142 | 3820 | 3498 | 3176 | 2854 | 2532 | 2210 | 1888 |
| 303 | 33 | 7017 | 6695 | 6373 | 6051 | 5729 | 5407 | 5085 | 4763 | 4441 | 4119 | 3797 | 3475 | 3153 | 2831 | 2509 | 2187 | 1865 |
| 304 | 34 | 6994 | 6672 | 6350 | 6028 | 5706 | 5384 | 5062 | 4740 | 4418 | 4096 | 3774 | 3452 | 3130 | 2808 | 2486 | 2164 | 1842 |
| 305 | 35 | 6971 | 6649 | 6327 | 6005 | 5683 | 5361 | 5039 | 4717 | 4395 | 4073 | 3751 | 3429 | 3107 | 2785 | 2463 | 2141 | 1819 |
| 306 | 36 | 6948 | 6626 | 6304 | 5982 | 5660 | 5338 | 5016 | 4694 | 4372 | 4050 | 3728 | 3406 | 3084 | 2762 | 2440 | 2118 | 1796 |
| 307 | 37 | 6925 | 6603 | 6281 | 5959 | 5637 | 5315 | 4993 | 4671 | 4349 | 4027 | 3705 | 3383 | 3061 | 2739 | 2417 | 2095 | 1773 |
| 308 | 38 | 6902 | 6580 | 6258 | 5936 | 5614 | 5292 | 4970 | 4648 | 4326 | 4004 | 3682 | 3360 | 3038 | 2716 | 2394 | 2072 | 1750 |
| 309 | 39 | 6879 | 6557 | 6235 | 5913 | 5591 | 5269 | 4947 | 4625 | 4303 | 3981 | 3659 | 3337 | 3015 | 2693 | 2371 | 2049 | 1727 |
| 310 | 40 | 6856 | 6534 | 6212 | 5890 | 5568 | 5246 | 4924 | 4602 | 4280 | 3958 | 3636 | 3314 | 2992 | 2670 | 2348 | 2026 | 1704 |
| 311 | 41 | 6833 | 6511 | 6189 | 5867 | 5545 | 5223 | 4901 | 4579 | 4257 | 3935 | 3613 | 3291 | 2969 | 2647 | 2325 | 2003 | 1681 |
| 312 | 42 | 6810 | 6488 | 6166 | 5844 | 5522 | 5200 | 4878 | 4556 | 4234 | 3912 | 3590 | 3268 | 2946 | 2624 | 2302 | 1980 | 1658 |
| 313 | 43 | 6787 | 6465 | 6143 | 5821 | 5499 | 5177 | 4855 | 4533 | 4211 | 3889 | 3567 | 3245 | 2923 | 2601 | 2279 | 1957 | 1635 |
| 314 | 44 | 6764 | 6442 | 6120 | 5798 | 5476 | 5154 | 4832 | 4510 | 4188 | 3866 | 3544 | 3222 | 2900 | 2578 | 2256 | 1934 | 1612 |
| 315 | 45 | 6741 | 6419 | 6097 | 5775 | 5453 | 5131 | 4809 | 4487 | 4165 | 3843 | 3521 | 3199 | 2877 | 2555 | 2233 | 1911 | 1589 |
| 316 | 46 | 6718 | 6396 | 6074 | 5752 | 5430 | 5108 | 4786 | 4464 | 4142 | 3820 | 3498 | 3176 | 2854 | 2532 | 2210 | 1888 | 1566 |
| 317 | 47 | 6695 | 6373 | 6051 | 5729 | 5407 | 5085 | 4763 | 4441 | 4119 | 3797 | 3475 | 3153 | 2831 | 2509 | 2187 | 1865 | 1543 |
| 318 | 48 | 6672 | 6350 | 6028 | 5706 | 5384 | 5062 | 4740 | 4418 | 4096 | 3774 | 3452 | 3130 | 2808 | 2486 | 2164 | 1842 | 1520 |
| 319 | 49 | 6649 | 6327 | 6005 | 5683 | 5361 | 5039 | 4717 | 4395 | 4073 | 3751 | 3429 | 3107 | 2785 | 2463 | 2141 | 1819 | 1497 |
| 320 | 50 | 6626 | 6304 | 5982 | 5660 | 5338 | 5016 | 4694 | 4372 | 4050 | 3728 | 3406 | 3084 | 2762 | 2440 | 2118 | 1796 | 1474 |
| 321 | 51 | 6603 | 6281 | 5959 | 5637 | 5315 | 4993 | 4671 | 4349 | 4027 | 3705 | 3383 | 3061 | 2739 | 2417 | 2095 | 1773 | 1451 |
| 322 | 52 | 6580 | 6258 | 5936 | 5614 | 5292 | 4970 | 4648 | 4326 | 4004 | 3682 | 3360 | 3038 | 2716 | 2394 | 2072 | 1750 | 1428 |
| 323 | 53 | 6557 | 6235 | 5913 | 5591 | 5269 | 4947 | 4625 | 4303 | 3981 | 3659 | 3337 | 3015 | 2693 | 2371 | 2049 | 1727 | 1405 |
| 324 | 54 | 6534 | 6212 | 5890 | 5568 | 5246 | 4924 | 4602 | 4280 | 3958 | 3636 | 3314 | 2992 | 2670 | 2348 | 2026 | 1704 | 1382 |
| 325 | 55 | 6511 | 6189 | 5867 | 5545 | 5223 | 4901 | 4579 | 4257 | 3935 | 3613 | 3291 | 2969 | 2647 | 2325 | 2003 | 1681 | 1359 |
| 326 | 56 | 6488 | 6166 | 5844 | 5522 | 5200 | 4878 | 4556 | 4234 | 3912 | 3590 | 3268 | 2946 | 2624 | 2302 | 1980 | 1658 | 1336 |
| 327 | 57 | 6465 | 6143 | 5821 | 5499 | 5177 | 4855 | 4533 | 4211 | 3889 | 3567 | 3245 | 2923 | 2601 | 2279 | 1957 | 1635 | 1313 |
| 328 | 58 | 6442 | 6120 | 5798 | 5476 | 5154 | 4832 | 4510 | 4188 | 3866 | 3544 | 3222 | 2900 | 2578 | 2256 | 1934 | 1612 | 1290 |
| 329 | 59 | 6419 | 6097 | 5775 | 5453 | 5131 | 4809 | 4487 | 4165 | 3843 | 3521 | 3199 | 2877 | 2555 | 2233 | 1911 | 1589 | 1267 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Sines of Auxil. Argum. additive | ′ | S. A.D. 141° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 396 | 0 | 277(276) | 0087 | 9695 | 9302 | 8909 | 8516 | 8123 | 7730 | 7337 | 6944 | 6550 | 6157 | 5763 | 5370 | 4976 | 4583 | 4189 | 3795 |
| | 1 | | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | | | |
| | 3 | | | | | | | | | | | | | | | | | | |
| | 4 | | | | | | | | | | | | | | | | | | |
| | 5 | 277(276) | | | | | | | | | | | | | | | | | |
| | 6 | | 1175 | | | | | | | | | | | | | | | | |
| 350 | 7 | | 1356 | 0962 | 0569 | 0175 | 9782 | 9388 | 8994 | 8600 | 8207 | 7813 | 7419 | 7025 | 6630 | 6236 | 5842 | 5448 | 5053 |
| 343 | 8 | | 1537 | 1143 | 0749 | 0356 | 9962 | 9568 | 9175 | 8781 | 8387 | 7993 | 7599 | 7204 | 6810 | 6416 | 6022 | 5627 | 5233 |
| | 9 | | 1717 | | | | | | | | | | | | | | | | |
| | 10 | 277(276) | | | | | | | | | | | | | | | | | |
| 323 | 11 | | 2079 | 1685 | 1291 | 0897 | 0503 | 0109 | 9715 | 9321 | 8927 | 8533 | 8138 | 7744 | 7349 | 6955 | 6560 | 6165 | 5771 |
| | 12 | | | | | | | | | | | | | | | | | | |
| | 13 | | 2440 | 2046 | 1652 | 1258 | 0864 | 0470 | | | | | | | | | | | |
| | 14 | | 2621 | 2227 | 1832 | 1438 | 1044 | 0650 | 0255 | 9861 | 9466 | | | | | | | | |
| | 15 | 277(276) | | | | | | | | | | | | | | | | | |
| | 16 | | | | | | | | | | | | | | | | | | |
| | 17 | | | | | | | | | | | | | | | | | | |
| | 18 | | 3334 | | | 2159 | 1764 | 1369 | 0975 | 0580 | 0185 | 9790 | 9395 | 9000 | 8605 | 8210 | 7814 | 7419 | 7023 |
| | 19 | | | | | | | | | | | | | | | | | | |
| | 20 | 277(276) | | | | | | | | | | | | | | | | | |
| | 21 | | 3882 | | | | | | | | | | 0328 | 9933 | 9537 | 9142 | 8746 | 8351 | 7955 | 7559 |
| | 22 | | | | | | | | | | | | | | | | | | | |
| | 23 | | | | | | | | | | | | | | | | | | | |
| | 24 | | | | | | | | | | | | | | | | | | | |
| | 25 | 277(276) | | | | | | | | | | | | | | | | | |
| | 26 | | | | | | | | | | | | | | | | | | | |
| | 27 | | | | | | | | | | | | | | | | | | | |
| | 28 | | | | | | | | | | | | | | | | | | | |
| | 29 | | | | | | | | | | | | | | | | | | | |
| | 30 | 277(276) | | | | | | | | | | | | | | | | | |
| | 31 | | | | | | | | | | | | | | | | | | | |
| | 32 | | | | | | | | | | | | | | | | | | | |
| 178 | 33 | | 6038 | 5642 | 5246 | 4850 | 4454 | 4058 | 3662 | 3266 | 2870 | 2474 | 2077 | 1681 | 1284 | 0888 | 0491 | 0094 | 9697 |
| | 34 | | | | | | | | | | | | | | | | | | |
| | 35 | 277 | 0396 | 0000 | 5004 | 5208 | 4812 | 4416 | 4020 | 3623 | 3227 | 2830 | 2434 | 2037 | 1640 | 1244 | 0847 | 0450 | 0053 |
| | 36 | | | | | | | | | | | | | | | | | | |
| | 37 | | | | | | | | | | | | | | | | | | |
| | 38 | | | | | | | | | | | | | | | | | | |
| 139 | 39 | | 7112 | 6716 | 6320 | 5923 | 5526 | 5130 | 4733 | 4337 | 3940 | 3543 | 3146 | 2740 | 2352 | 1955 | 1558 | 1160 | 0763 |
| | 40 | 277 | | | | | | | | | | | | | | | | | |
| | 41 | | | | | | | | | | | | | | | | | | |
| | 42 | | | | | | | | | | | | | | | | | | |
| | 43 | | | | | | | | | | | | | | | | | | |
| | 44 | | | | | | | | | | | | | | | | | | |
| | 45 | | | | | | | | | | | | | | | | | | |
| | 46 | | | | | | | | | | | | | | | | | | |
| | 47 | | | | | | | | | | | | | | | | | | |
| | 48 | | | | | | | | | | | | | | | | | | |
| | 49 | | | | | | | | | | | | | | | | | | |
| | 50 | 277 | | | | | | | | | | | | | | | | | |
| | 51 | | | | | | | | | | | | | | | | | | |
| | 52 | | | | | | | | | | | | | | | | | | |
| | 53 | | | | | | | | | | | | | | | | | | |
| 40 | 54 | | 9788 | 9300 | 8902 | 8504 | 8106 | 7708 | 7400 | 7002 | 6604 | 6206 | 5808 | 5400 | 5011 | 4613 | 4214 | 3815 | 3416 |
| | 55 | | | | | | | | | | | | | | | | | | |
| | 56 | | | | | | | | | | | | | | | | | | |
| | 57 | | | | | | | | | | | | | | | | | | |
| | 58 | | | | | | | | | | | | | | | | | | |
| | 59 | | | | | | | | | | | | | | | | | | |

Sums for finding the Corrected Distances.

| Parts for Sines of C. D. additive | ′ | S. A.D. 141° | Sums |
|---|---|---|---|
| | | | |
| 0 | 0 | 577 | 7146 |
| | 1 | | |
| | 2 | | 7514 |
| | 3 | | 7667 |
| | 4 | | 7787 |
| | 5 | 577 | 7886 |
| | 6 | | 8241 |
| 21 | 7 | | 8417 |
| 24 | 8 | | 8608 |
| | 9 | | |
| | 10 | 577 | |
| 33 | 11 | | 9156 |
| | 12 | | |
| | 13 | | |
| | 14 | | |
| 45 | 15 | 577 | |
| | 16 | | |
| 54 | 17 | | |
| | 18 | | 0430 |
| | 19 | | 0613 |
| | 20 | 577 | |
| | 21 | | |
| | 22 | | |
| | 23 | | |
| | 24 | | |
| | 25 | 577 | |
| | 26 | | |
| | 27 | | |
| | 28 | | |
| | 29 | | |
| | 30 | 577 | |
| | 31 | | |
| | 32 | | |
| 100 | 33 | | 3151 |
| | 34 | | |
| 100 | 35 | 579 | 3513 |
| | 36 | | |
| | 37 | | |
| | 38 | | |
| 118 | 39 | | 4235 |
| | 40 | | |
| 124 | 41 | | 4590 |
| 127 | 42 | | 4776 |
| 130 | 43 | | 4957 |
| 133 | 44 | | 5137 |
| | 45 | | |
| | 46 | | |
| | 47 | | |
| | 48 | | |
| | 49 | | |
| | 50 | | |
| | 51 | | |
| | 52 | | |
| | 53 | | |
| 163 | 54 | | 6935 |
| | 55 | | |
| | 56 | | |
| | 57 | | |
| | 58 | | |
| | 59 | | |

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of Add. | C. S. A 142° | Numbers |
|---|---|---|
| 181 | 0′ | 022 2671 |
| 178 | 1 | 2488 |
| 175 | 2 | 2305 |
| 172 | 3 | 2122 |
| 169 | 4 | 1940 |
| 166 | 5 | 022 1757 |
| 163 | 6 | 1574 |
| 160 | 7 | 1392 |
| 157 | 8 | 1209 |
| 154 | 9 | 1027 |
| 151 | 10 | 0844 |
| 148 | 11 | 0662 |
| 145 | 12 | 0480 |
| 142 | 13 | 0298 |
| 139 | 14 | 0116 |
| 136 | 15 | 021 9934 |
| 133 | 16 | 9752 |
| 130 | 17 | 9570 |
| 127 | 18 | 9388 |
| 124 | 19 | 9206 |
| 121 | 20 | 021 9024 |
| 118 | 21 | 8843 |
| 115 | 22 | 8661 |
| 112 | 23 | 8480 |
| 109 | 24 | 8298 |
| 106 | 25 | 021 8117 |
| 103 | 26 | 7935 |
| 100 | 27 | 7754 |
| 97 | 28 | 7573 |
| 94 | 29 | 7391 |
| 91 | 30 | 021 7210 |
| 88 | 31 | 7029 |
| 85 | 32 | 6848 |
| 82 | 33 | 6666 |
| 79 | 34 | 6485 |
| 76 | 35 | 021 6304 |
| 73 | 36 | 6123 |
| 70 | 37 | 5941 |
| 67 | 38 | 5760 |
| 64 | 39 | 5579 |
| 61 | 40 | 021 5398 |
| 58 | 41 | 5217 |
| 55 | 42 | 5036 |
| 52 | 43 | 4855 |
| 49 | 44 | 4674 |
| 46 | 45 | 021 4493 |
| 43 | 46 | 4313 |
| 40 | 47 | 4132 |
| 37 | 48 | 3951 |
| 34 | 49 | 3771 |
| 30 | 50 | 021 3590 |
| 27 | 51 | 3409 |
| 24 | 52 | 3229 |
| 21 | 53 | 3048 |
| 18 | 54 | 2868 |
| 15 | 55 | 021 2687 |
| 12 | 56 | 2507 |
| 9 | 57 | 2327 |
| 6 | 58 | 2147 |
| 3 | 59 | 1967 |

| Parts for Seconds of Auxil. Add. | & A. D. 142° | Auxiliary Arguments. 0′ | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 400 | 0 | 278 7614 | 7217 | 6819 | 6422 | 6025 | 5627 | 5230 | 4832 | 4434 | 4037 | 3640 | 3242 | 2845 | 2447 | 2050 | 1652 | 1255 |
| 393 | 1 | 7793 | 7395 | 6998 | 6601 | 6203 | 5806 | 5408 | 5011 | 4613 | 4215 | 3818 | 3420 | 3023 | 2625 | 2228 | 1830 | 1433 |
| 387 | 2 | 7972 | 7574 | 7177 | 6779 | 6382 | 5984 | 5587 | 5189 | 4791 | 4393 | 3996 | 3598 | 3201 | 2803 | 2406 | 2008 | 1611 |
| 380 | 3 | | | | | | | | | | | | | | | | | |
| 374 | 4 | 8320 | 7932 | 7534 | 7137 | 6739 | 6341 | 5943 | 5545 | 5147 | 4749 | 4351 | 3953 | 3556 | 3158 | 2761 | 2363 | 1966 |
| 367 | 5 | 278 8508 | 8110 | 7713 | 7315 | 6917 | 6519 | 6121 | 5723 | 5325 | 4927 | 4529 | 4131 | 3733 | 3336 | 2938 | 2541 | 2143 |
| 361 | 6 | | | | | | | | | | | | | | | | | |
| 354 | 7 | 8865 | 8467 | 8069 | 7672 | 7274 | 6876 | 6477 | 6079 | | | | | | | | | |
| 347 | 8 | 9044 | 8646 | 8248 | 7850 | 7452 | 7054 | 6655 | 6257 | | | | | | | | | |
| 340 | 9 | 9222 | 8824 | 8426 | 8028 | 7630 | 7232 | 6833 | 6435 | | | | | | | | | |
| 334 | 10 | | | | | | | | | | | | | | | | | |
| 327 | 11 | | | | | | | | | | | | | | | | | |
| 320 | 12 | 9757 | 9359 | 8960 | 8562 | 8164 | 7765 | 7367 | 6968 | 6569 | 6171 | 5772 | 5373 | 4974 | 4575 | 4176 | 3777 | 3378 |
| 314 | 13 | | | | | | | | | | | | | | | | | |
| 307 | 14 | | | | | | | | | | | | | | | | | |
| 300 | 15 | | | | | | | | | | | | | | | | | |
| 294 | 16 | | | | | | | | | | | | | | | | | |
| 287 | 17 | | | | | | | | | | | | | | | | | |
| 281 | 18 | | | | | | | | | | | | | | | | | |
| 274 | 19 | | | | | | | | | | | | | | | | | |
| 267 | 20 | | | | | | | | | | | | | | | | | |
| 261 | 21 | | | | | | | | | | | | | | | | | |
| 254 | 22 | | | | | | | | | | | | | | | | | |
| 247 | 23 | | | | | | | | | | | | | | | | | |
| 241 | 24 | | | | | | | | | | | | | | | | | |
| 234 | 25 | | | | | | | | | | | | | | | | | |
| 227 | 26 | | | | | | | | | | | | | | | | | |
| 221 | 27 | | | | | | | | | | | | | | | | | |
| 214 | 28 | 2600 | 2200 | 1800 | 1400 | 1001 | 0601 | 0201 | 9801 | 9401 | 9000 | 8600 | 8200 | 7799 | 7399 | 6999 | 6599 | 6198 |
| 207 | 29 | | | | | | | | | | | | | | | | | |
| 201 | 30 | | | | | | | | | | | | | | | | | |
| 194 | 31 | | | | | | | | | | | | | | | | | |
| 187 | 32 | | | | | | | | | | | | | | | | | |
| 180 | 33 | | | | | | | | | | | | | | | | | |
| 174 | 34 | | | | | | | | | | | | | | | | | |
| 167 | 35 | 279(278) 3838 | 3438 | 3037 | 2637 | 2236 | 1836 | 1435 | 1035 | 0634 | 0233 | 9832 | 9431 | 9030 | 8629 | 8228 | 7827 | 7426 |
| 160 | 36 | | | | | | | | | | | | | | | | | |
| 153 | 37 | 4191 | 3790 | 3390 | 2989 | 2589 | 2188 | 1787 | 1386 | 0985 | 0585 | 0184 | 9782 | 9381 | 8980 | 8579 | 8178 | 7777 |
| 147 | 38 | 4367 | 3967 | 3566 | 3166 | 2765 | 2364 | 1963 | 1562 | 1161 | 0760 | 0359 | 9958 | 9557 | 9156 | 8755 | 8354 | 7953 |
| 140 | 39 | 4544 | 4143 | 3743 | 3342 | 2941 | 2540 | 2139 | 1737 | 1337 | 0936 | 0535 | 0133 | 9732 | 9331 | 8930 | 8529 | 8128 |
| 133 | 40 | 279(278) 4720 | 4320 | 3919 | 3518 | 3117 | 2716 | 2315 | 1914 | 1513 | 1111 | 0710 | 0309 | 9907 | 9506 | 9105 | 8704 | 8303 |
| 127 | 41 | 4897 | 4496 | 4095 | 3694 | 3293 | 2892 | 2491 | 2090 | 1688 | 1287 | 0885 | 0484 | 0082 | 9681 | 9279 | 8878 | 8477 |
| 120 | 42 | 5073 | 4672 | 4271 | 3870 | 3469 | 3068 | 2666 | 2265 | 1864 | 1462 | 1061 | 0659 | 0257 | 9856 | 9454 | 9053 | 8651 |
| 113 | 43 | 5249 | 4848 | 4447 | 4046 | 3645 | 3243 | 2842 | 2441 | 2030 | 1638 | 1236 | 0834 | 0433 | 0031 | 9629 | 9228 | 8826 |
| 107 | 44 | 5425 | 5024 | 4623 | 4222 | 3820 | 3419 | 3018 | 2616 | 2215 | | | | | | | | |
| 100 | 45 | 279(278) 5601 | 5200 | 4799 | 4397 | 3996 | | | | | | | | | | | | |
| 93 | 46 | | | | | | | 3368 | 2967 | | | | | | | | | |
| 87 | 47 | | | | | | | | | | | | | | | | | |
| 80 | 48 | | | | | | | | | | | | | | | | | |
| 73 | 49 | | | | | | | | | | | | | | | | | |
| 67 | 50 | 279 | | | | | | | | | | | | | | | | |
| 60 | 51 | | | | | | | | | | | | | | | | | |
| 53 | 52 | | | | | | | | | | | | | | | | | |
| 47 | 53 | 76 | | | | | | | | | | | | | | | | |
| 40 | 54 | 71 | | | | | | | | | | | | | | | | |
| 33 | 55 | 279 7357 | | | | | | | | | | | | | | | | |
| 27 | 56 | 7533 | | | | | | | | | | | | | | | | |
| 20 | 57 | 7708 | | | | | | | | | | | | | | | | |
| 13 | 58 | 7883 | | | | | | | | | | | | | | | | |
| 7 | 59 | 58 | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Sums for finding the Corrected Distance.

Auxiliary Arguments.

| Diff. & A. D. | 17′ | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Num. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | | | | | | | 0000 | 7005 | 7207 | 9808 | 0406 | 0007 | 0607 | 1207 | 1807 | 4474 |
| 1 | | | | | | | | 0418 | 0019 | 7020 | 7221 | 0822 | 0423 | 0024 | 5624 | 5225 | 4825 |
| 2 | | | | | | | | 0835 | 0038 | 7033 | 7234 | 0835 | 0439 | 0040 | 5640 | 5241 | 4841 |
| 3 | | | | | | | | 0853 | 0056 | 7797 | 7397 | 9998 | 0598 | 0200 | 5800 | 5401 | 5001 |
| 4 | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | 8540 | 8140 | 7750 | 7351 | 6951 | 6552 | 6152 | 5753 | 5353 | |
| 6 | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | |
| 13 | | 3155 | 2750 | 2350 | 1950 | 1557 | 1157 | 0757 | 0358 | | | | | | | | |
| 14 | | 3332 | 2932 | 2532 | 2133 | 1733 | 1333 | 0933 | 0534 | 0134 | 9734 | 9333 | 8933 | 8533 | 8135 | 7732 | 7332 | 6931 |
| 15 | 278(277) | 3508 | 3108 | 2708 | 2309 | 1909 | 1509 | 1109 | 0709 | 0309 | 9909 | 9509 | 9109 | 8708 | 8308 | 7907 | 7507 | 7106 |
| 16 | | 3684 | 3285 | 2885 | 2485 | 2085 | 1685 | 1285 | 0885 | 0485 | 0085 | 9685 | 9284 | 8884 | 8483 | 8083 | 7682 | 7281 |
| 17 | | 3861 | 3461 | 3061 | 2661 | 2261 | 1861 | 1461 | 1061 | 0661 | 0260 | 9860 | 9460 | 9059 | 8659 | 8258 | 7857 | 7456 |
| 18 | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | |
| 20 | 278(277) | 4390 | 3989 | 3589 | 3189 | 2789 | 2389 | 1988 | 1588 | 1187 | 0787 | 0386 | 9985 | 9584 | 9184 | 8783 | 8382 | 7981 |
| 21 | | 4566 | 4165 | 3765 | 3365 | 2965 | 2564 | 2164 | 1763 | 1363 | 0962 | 0561 | 0160 | 9760 | 9359 | 8958 | 8557 | 8155 |
| 22 | | 4742 | 4341 | 3941 | 3541 | 3140 | 2740 | 2339 | 1939 | 1538 | 1137 | 0736 | 0335 | 9934 | 9534 | 9132 | 8731 | |
| 23 | | 4918 | 4517 | 4117 | 3716 | 3316 | 2915 | 2515 | 2114 | 1713 | 1312 | 0911 | 0510 | 0109 | 9708 | 9307 | | |
| 24 | | 5094 | 4693 | 4293 | 3892 | 3491 | 3090 | 2690 | 2289 | 1888 | 1487 | 1086 | 0685 | 0284 | 9883 | 9482 | 9080 | 8679 |
| 25 | 278(277) | 5269 | 4869 | 4468 | 4068 | 3667 | 3266 | 2865 | 2464 | 2063 | 1662 | 1261 | 0860 | 0459 | 0058 | 9656 | 9255 | 8853 |
| 26 | | 5445 | 5045 | 4644 | 4243 | 3843 | 3442 | 3041 | 2640 | 2239 | 1837 | 1436 | 1035 | 0634 | 0232 | 9831 | 9429 | 9028 |
| 27 | | 5621 | 5220 | 4819 | 4419 | 4018 | 3617 | 3216 | 2815 | 2414 | 2012 | 1611 | 1210 | 0808 | 0407 | 0005 | 9604 | 9202 |
| 28 | | 5797 | 5396 | 4995 | 4594 | 4193 | 3792 | 3391 | 2990 | 2589 | 2187 | 1786 | 1384 | 0983 | 0581 | 0180 | 9778 | 9376 |
| 29 | | 5972 | 5571 | 5170 | 4769 | 4368 | 3967 | 3566 | 3165 | 2763 | 2362 | 1961 | 1559 | 1157 | 0756 | 0354 | 9952 | 9550 |
| 30 | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | |
| 32 | 278 | | | | | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | | | | |
| 35 | 278 | | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | | | |
| 40 | 278 | | | | | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | | |
| 45 | 278 | | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | | | | |
| 50 | 278 | | | | | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | | | |
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| 59 | | | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | | | |

| Diff. | 1st | Sum |
|---|---|---|
| 0 | 0 | 1578 |
| 1 | 1 | |
| 2 | 2 | |
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| 16 | | |
| 17 | | |
| 18 | | |
| 19 | | |
| 20 | 20 | 579 |
| 21 | | |
| 22 | | |
| 23 | | |
| 24 | | |
| 25 | 25 | 570 |
| 26 | | |
| 27 | | |
| 28 | | |
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| 59 | | |
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Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments,
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of | C.S.A. 143° | Numbers |
|---|---|---|
| 177 | 0 | 221 1911 |
| 174 | 1 | 1681 |
| 171 | 2 | 1454 |
| 168 | 3 | 1228 |
| 165 | 4 | 1003 |
| 162 | 5 | 21 0779 |
| 159 | 6 | 0557 |
| 156 | 7 | 0335 |
| 153 | 8 | 0115 |
| 150 | 9 | 0 0 0 |
| 147 | 10 | 1141 0 0 |
| 144 | 11 | 0924 |
| 141 | 12 | 0707 |
| 138 | 13 | 0491 |
| 135 | 14 | 0276 |
| 132 | 15 | 0061 |
| 129 | 16 | 8754 |
| 126 | 17 | 8539 |
| 123 | 18 | 8326 |
| 120 | 19 | 8113 |
| 117 | 20 | 7900 |
| 115 | 21 | 8065 |
| 114 | 22 | 7854 |
| 111 | 23 | 7644 |
| 108 | 24 | 7433 |
| 105 | 25 | 7223 |
| 102 | 26 | 7013 |
| 99 | 27 | 6804 |
| 96 | 28 | 6594 |
| 93 | 29 | 6385 |
| 90 | 30 | 6177 |
| 87 | 31 | 5968 |
| 84 | 32 | 5760 |
| 81 | 33 | 5552 |
| 78 | 34 | 5344 |
| 75 | 35 | 5136 |
| 72 | 36 | 4929 |
| 69 | 37 | 4721 |
| 66 | 38 | 4514 |
| 63 | 39 | 4307 |
| 60 | 40 | 4100 |
| 57 | 41 | 3893 |
| 54 | 42 | 3686 |
| 51 | 43 | 3479 |
| 48 | 44 | 3272 |
| 45 | 45 | 3065 |
| 42 | 46 | 2858 |
| 39 | 47 | 2651 |
| 36 | 48 | 3294 |
| 33 | 49 | 3117 |
| 30 | 50 | 2940 |
| 27 | 51 | 2763 |
| 24 | 52 | 2586 |
| 21 | 53 | 2416 |
| 18 | 54 | 2241 |
| 15 | 55 | 2065 |
| 12 | 56 | 1890 |
| 9 | 57 | 1715 |
| 6 | 58 | 1539 |
| 3 | 59 | 1364 |

| Parts for Seconds of Auxil. Argum additive | S.A.A. & A. D. 143° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 41′ | 0 | 279 | | | | | | | | | | | | | | | | |
| | 1 | | | | | | | | | | | | | | | | | |
| | 2 | | | | | | | | | | | | | | | | | |
| 38 | 3 | | | | | | | | | | | | | | | | | |
| 37 | 4 | | | | | | | | | | | | | | | | | |
| 37 | 5 | 279 | | 7018 | 8301 | | | | | | | | | | | | | |
| | 6 | | | | | | | | | | | | | | | | | |
| 35 | 7 | | | | | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | | | | | |
| 34 | 9 | | | | | | | | | | | | | | | | | |
| | 10 | 279 | | | | | | | | | | | | | | | | |
| 33 | 11 | (279) | 1541 | | | | | | | | | | | | | | | |
| | 12 | | | | | | | | | | | | | | | | | |
| 31 | 13 | | | | | | | | | | | | | | | | | |
| 31 | 14 | | | | | | | | | | | | | | | | | |
| 30 | 15 | (279) | | | | | | | | | | | | | | | | |
| 29 | 16 | | | | | | | | | | | | | | | | | |
| | 17 | | | | | | | | | | | | | | | | | |
| 28 | 18 | | | | | | | | | | | | | | | | | |
| 27 | 19 | | 1545 | 1141 | 737 | 333 | | | | | | | | | | | | |
| 27 | 20 | 279 | 1741 | 1337 | | | | | | | | | | | | | | |
| 264 | 21 | | 1593 | 1466 | 1064 | 0660 | 0275 | 9870 | 9480 | 9081 | 8676 | | | | | | | |
| 257 | 22 | | 2066 | 1662 | 1257 | 0853 | 0448 | 0043 | 9639 | 9234 | 8829 | 8424 | 8019 | 7614 | 7209 | 6803 | 6398 | 5993 | 5587 |
| 250 | 23 | | 2240 | 1835 | 1431 | 1026 | 0621 | 0216 | 9812 | 9407 | 9002 | 8597 | 8192 | 7786 | 7381 | 6976 | 6570 | 6165 | 5759 |
| 243 | 24 | | 2413 | 2008 | 1604 | 1199 | 0794 | 0389 | 9984 | 9579 | 9174 | 8769 | 8364 | 7959 | 7553 | 7148 | 6743 | 6337 | 5931 |
| 236 | 25 | 280 (279) | 2586 | 2181 | 1777 | 1372 | 0967 | 0562 | 0157 | 9752 | 9347 | 8942 | 8536 | 8131 | 7725 | 7320 | 6915 | 6509 | 6103 |
| 229 | 26 | | 2760 | 2355 | 1950 | 1545 | 1140 | 0735 | 0330 | 9925 | 9520 | 9114 | 8709 | 8303 | 7898 | 7492 | 7087 | 6681 | 6275 |
| 222 | 27 | | | 2529 | 2123 | 1718 | 1313 | 0908 | 0503 | 0097 | 9692 | 9287 | 8881 | 8476 | 8070 | 7664 | 7259 | 6853 | 6447 |
| 215 | 28 | | 31 | 2701 | 2296 | 1891 | 1486 | 1080 | 0675 | 0270 | 9864 | 9459 | 9053 | 8648 | 8242 | 7836 | 7431 | 7025 | 6619 |
| 208 | 29 | | | | | | | | | | | | | | | | | | |
| 201 | 30 | | | | | | | | | | | | | | | | | | |
| 194 | 31 | | | | | | | | | | | | | | | | | | |
| 187 | 32 | | | | | | | | | | | | | | | | | | |
| 180 | 33 | | | | | | | | | | | | | | | | | | |
| 173 | 34 | | | | | | | | | | | | | | | | | | |
| 166 | 35 | 280 (279) | | | | | | | | | | | | | | | | | |
| 159 | 36 | | | | | | | | | | | | | | | | | | |
| 152 | 37 | | | | | | | | | | | | | | | | | | |
| 145 | 38 | | 4833 | 4427 | 4022 | 3616 | 3210 | 2803 | 2397 | 1991 | 1585 | 1179 | 0772 | 0366 | 9959 | | | 8739 | 8332 |
| 138 | 39 | | 5006 | 4600 | 4194 | 3788 | 3382 | 2975 | 25 | | | | | | | | | | |
| 131 | 40 | (279) | | | | | | | | | | | | | | | | | |
| 124 | 41 | | | | | | | | | | | | | | | | | | |
| 117 | 42 | | | | | | | | | | | | | | | | | | |
| 110 | 43 | | | | | | | | | | | | | | | | | | |
| 103 | 44 | | | | | | | | | | | | | | | | | | |
| 96 | 45 | (279) | | | | | | | | | | | | | | | | | |
| 89 | 46 | | | | | | | | | | | | | | | | | | |
| 82 | 47 | | | | | | | | | | | | | | | | | | |
| 35 | 48 | 280 | 6554 | 6147 | 5740 | 5334 | 4927 | 4520 | 4113 | 3706 | 3298 | 2891 | 2484 | 2077 | 1669 | 1262 | 0854 | 0446 | 0039 |
| 74 | 49 | | | | | | | | | | | | | | | | | | |
| 67 | 50 | | | | | | | | | | | | | | | | | | |
| 60 | 51 | | | | | | | | | | | | | | | | | | |
| 53 | 52 | | | | | | | | | | | | | | | | | | |
| 46 | 53 | | | | | | | | | | | | | | | | | | |
| 39 | 54 | | | | | | | | | | | | | | | | | | |
| 32 | 55 | | | | | | | | | | | | | | | | | | |
| 25 | 56 | | | | | | | | | | | | | | | | | | |
| 18 | 57 | | | | | | | | | | | | | | | | | | |
| 11 | 58 | | | | | | | | | | | | | | | | | | |
| 4 | 59 | | | | | | | | | | | | | | | | | | |
| 21 | 53 | | 7412 | 7004 | 6597 | 6190 | 5783 | 5375 | 4968 | 4560 | 4153 | 3745 | 3337 | 2930 | 2522 | 2114 | 1706 | 1298 | 0890 |
| 16 | 54 | | 7583 | 7176 | 6768 | 6361 | 5954 | 5546 | 5139 | 4731 | 4323 | 3916 | 35 | | | | | | |
| 11 | 55 | | 77 | | 6939 | 6532 | 6125 | 5717 | 5309 | 4902 | 4494 | 4086 | | | | | | | |
| 7 | 56 | | 79 | | 7110 | 6703 | 6295 | 5888 | 5480 | 5072 | 4664 | 4257 | 38 | | | | | | |
| 2 | 57 | | 80 | 089 | 7281 | 6874 | 6466 | 6058 | 5651 | 5243 | 4835 | | | | | | | | |
| 57 | 58 | | | 7860 | 7452 | 7045 | 6637 | 6229 | 58 | | | | | | | | | | |
| 53 | 59 | | | 8031 | 7623 | 7215 | 6808 | 6400 | 59 | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances - - - - - } and Auxiliary Arguments.

Terms for finding the Corrected Distances.

| Prop. for Seconds of Auxil. Argum. additive | S.A.A. & A. D. 143° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 407 | 0 | 279(278) 1382 | 0978 | 0575 | 0171 | 9767 | 9363 | 8959 | 8555 | 8151 | 7747 | 7343 | 6938 | 534 | 9129 | 5724 | [illegible] | [illegible] |
| 400 | 1 | 1555 | 1152 | 0748 | 0344 | 9940 | 9536 | 9132 | 8728 | 8324 | 7919 | 7515 | 7111 | 6707 | 6302 | 5898 | [illegible] | [illegible] |
| 393 | 2 | 1729 | 1325 | 0921 | 0517 | 0113 | 9709 | 9305 | 8901 | 8496 | 8092 | 7688 | 7283 | 6879 | 6474 | [illegible] | [illegible] | [illegible] |
| 387 | 3 | 1902 | 1498 | 1094 | 0690 | 0286 | 9882 | 9478 | 9073 | 8669 | 8265 | 7860 | 7455 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 380 | 4 | 2075 | 1671 | 1267 | 0863 | 0459 | 0055 | 9650 | 9246 | 8842 | 8437 | 8032 | 7628 | 7223 | [illegible] | [illegible] | [illegible] | [illegible] |
| 373 | 5 | 279(278) 2248 | 1844 | 1440 | 1036 | 0632 | 0227 | 9823 | 9419 | 9014 | 8609 | 8205 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 366 | 6 | 2421 | 2017 | 1613 | 1209 | 0804 | 0400 | 9996 | 9591 | 9186 | 8782 | 8377 | 7973 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 360 | 7 | 2594 | 2190 | 1786 | 1382 | 0977 | 0573 | 0168 | 9764 | 9359 | 8954 | 8549 | 8144 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 353 | 8 | 2767 | 2363 | 1959 | 1554 | 1150 | 0745 | 0340 | 9936 | 9531 | 9126 | 8721 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 346 | 9 | 2940 | 2536 | 2131 | 1727 | 1322 | 0918 | 0513 | 0108 | 9703 | 9298 | 8893 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 339 | 10 | 279(278) 3113 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 332 | 11 | 3286 | 2881 | 2477 | 2072 | 1667 | 1262 | 0857 | 0452 | 0047 | 9642 | 9237 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 326 | 12 | 3459 | 3054 | 2649 | 2244 | 1840 | 1435 | 1030 | 0624 | 0219 | 9814 | 9409 | 9003 | 8598 | [illegible] | [illegible] | [illegible] | [illegible] |
| 319 | 13 | 3631 | 3227 | 2822 | 2417 | 2013 | 1608 | 1203 | 0797 | 0392 | 9987 | 9581 | 9176 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 312 | 14 | 3804 | 3399 | 2994 | 2589 | 2184 | 1779 | 1374 | 0968 | 0563 | 0158 | 9752 | 9347 | 8941 | 8536 | [illegible] | [illegible] | [illegible] |
| 305 | 15 | 279(278) 3976 | 3571 | 3166 | 2761 | 2356 | 1951 | 1546 | 1140 | 0735 | 0329 | 9924 | 9518 | 9113 | [illegible] | [illegible] | [illegible] | [illegible] |
| 299 | 16 | 4149 | 3744 | 3339 | 2933 | 2528 | 2123 | 1718 | 1312 | 0907 | 0501 | 0095 | 9690 | 9284 | 8878 | 8472 | 8066 | 7660 |
| 292 | 17 | 4321 | 3916 | 3511 | 3106 | 2701 | 2296 | 1890 | 1485 | 1079 | 0674 | 0268 | 9862 | 9457 | 9051 | [illegible] | [illegible] | [illegible] |
| 285 | 18 | 4493 | 4088 | 3683 | 3278 | 2872 | 2467 | 2061 | 1656 | 1250 | 0844 | 0438 | 0032 | 9627 | 9221 | 8814 | 8408 | 8002 |
| 278 | 19 | 4665 | 4260 | 3855 | 3449 | 3044 | 2638 | 2233 | 1827 | 1422 | 1016 | 0610 | 0205 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 271 | 20 | 279(278) 4838 | 4432 | 4027 | 3621 | 3216 | 2810 | 2405 | 1999 | 1593 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 265 | 21 | 5010 | 4604 | 4199 | 3793 | 3388 | 2982 | 2576 | 2170 | 1764 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 258 | 22 | 5182 | 4777 | 4371 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 251 | 23 | 5354 | [illegible] | 4543 | 4137 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 244 | 24 | 5527 | [illegible] | 4715 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 237 | 25 | 279(278) 5698 | 5292 | 4886 | 4480 | 4074 | 3668 | 3262 | 2855 | 2449 | 2043 | 1636 | 1230 | 0823 | 0417 | 0010 | 9603 | 9196 |
| 231 | 26 | 5869 | 5463 | 5057 | 4651 | 4245 | 3839 | 3433 | 3027 | 2620 | 2214 | 1807 | 1401 | 0994 | 0587 | 0180 | 9774 | 9367 |
| 224 | 27 | 6041 | 5635 | 5229 | 4823 | 4417 | 4010 | 3604 | 3198 | 2791 | 2385 | 1978 | 1571 | 1165 | 0758 | 0351 | 9944 | 9537 |
| 217 | 28 | 6213 | 5807 | 5400 | 4994 | 4588 | 4182 | 3775 | 3369 | 2962 | 2556 | 2149 | 1742 | 1335 | 0928 | 0521 | 0114 | 9707 |
| 210 | 29 | 6384 | 5978 | 5572 | 5165 | 4759 | 4353 | 3946 | 3540 | 3133 | 2726 | 2320 | 1913 | 1506 | 1099 | 0692 | 0285 | 9877 |
| 204 | 30 | 279 6556 | 6149 | 5743 | 5337 | 4930 | 4524 | 4117 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 197 | 31 | 6727 | 6321 | 5914 | 5508 | 5101 | 4695 | 4288 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 190 | 32 | 6898 | 6492 | 6086 | 5679 | 5272 | 4866 | 4459 | 4052 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 183 | 33 | 7070 | 6663 | 6257 | 5850 | 5443 | 5037 | 4630 | 4223 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 176 | 34 | 7241 | 6834 | 6428 | 6021 | 5614 | 5207 | 4800 | 4393 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 170 | 35 | 279 7412 | 7006 | 6599 | 6192 | 5785 | 5378 | 4971 | 4563 | 4157 | 3749 | 3342 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 163 | 36 | 7583 | 7177 | 6770 | 6363 | 5956 | 5549 | 5141 | 4734 | 4327 | 3920 | 3512 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 156 | 37 | 7754 | 7347 | 6940 | 6533 | 6126 | 5719 | 5312 | 4905 | 4497 | 4090 | 3683 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 149 | 38 | 7925 | 7518 | 7111 | 6704 | 6297 | 5890 | 5482 | 5075 | 4668 | 4260 | 3853 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 143 | 39 | 8096 | 7689 | 7282 | 6875 | 6468 | 6060 | 5653 | 5245 | 4838 | 4430 | 4023 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 136 | 40 | 279 8267 | 7860 | 7453 | 7045 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 129 | 41 | 8438 | 8030 | 7623 | 7216 | 6808 | 6401 | 5993 | 5586 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 122 | 42 | 8608 | 8201 | 7794 | 7386 | 6979 | 6571 | 6164 | 5756 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 115 | 43 | 8779 | 8372 | 7964 | 7557 | 7149 | 6741 | 6334 | 5926 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 109 | 44 | 8950 | 8542 | 8134 | 7727 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 102 | 45 | 279 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 95 | 46 | 9290 | 8883 | 8475 | 8067 | 7659 | 7251 | 6843 | 6435 | 6027 | 5619 | 5211 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 88 | 47 | 9461 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 81 | 48 | 9631 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 75 | 49 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 68 | 50 | 279 9971 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 61 | 51 | 280(270) 0141 | 9733 | 9325 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 52 | 0311 | 9903 | 9495 | 9087 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | 53 | 0481 | 0073 | 9665 | 9256 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | 54 | [illegible] | [illegible] | 9834 | 9426 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 34 | 55 | [illegible] (279) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7 | 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| Prop. | | | Sums |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Diff. for 1 Sec. of S. A. | S. A. 144° | Numbers |
|---|---|---|
| | | |
| | | |
| | | |
| | 2 | 0340 |
| | 3 | 0665 |
| 161 | 4 | 0990 |
| 159 | 5 | 0320 0315 |
| 156 | 6 | 0141 |
| 153 | 7 | 0199 9966 |
| | 8 | |
| 147 | 9 | 9791 |
| 144 | 10 | 0190 9442 |
| 141 | 11 | 9269 |
| 138 | 12 | 9094 |
| 135 | 13 | 8920 |
| | 14 | 8746 |
| | 15 | 0190 8571 |
| | 16 | 8397 |
| 124 | 17 | 8224 |
| | 18 | 8050 |
| | 19 | 7876 |
| | 20 | 0190 7702 |
| | 21 | 7528 |
| | 22 | 7354 |
| | 23 | 7181 |
| | 24 | 7007 |
| | 25 | 0190 6833 |
| 93 | 26 | 6660 |
| | 27 | 6486 |
| | 28 | 6312 |
| | 29 | 6138 |
| | 30 | 0190 5970 |
| | 31 | 5796 |
| | 32 | 5622 |
| 78 | 33 | 5452 |
| 75 | 34 | 5279 |
| | 35 | 0190 5105 |
| 69 | 36 | 4934 |
| 66 | 37 | 4761 |
| 63 | 38 | 4589 |
| 61 | 39 | 4416 |
| 58 | 40 | 0190 4244 |
| 55 | 41 | 4072 |
| 52 | 42 | 3900 |
| 49 | 43 | 3727 |
| 46 | 44 | 3555 |
| 43 | 45 | 0190 3383 |
| 40 | 46 | 3211 |
| 37 | 47 | 3039 |
| 35 | 48 | 2867 |
| 32 | 49 | 2695 |
| 29 | 50 | 0190 2523 |
| 26 | 51 | 2351 |
| 23 | 52 | 2179 |
| 20 | 53 | 2007 |
| 17 | 54 | 1835 |
| 14 | 55 | 0190 1667 |
| 11 | 56 | 1499 |
| 8 | 57 | 1331 |
| 5 | 58 | 1164 |

| Diff. for 1 Sec. of Auxil. Argum. | Seconds of Auxil. Argum. | a A. D. 144° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| | 411 | 0 | 280 | | | | | | | | | | | | | | | | |
| | | 1 | | | | | | | | | | | | | | | | | |
| | 397 | 2 | | 8931 | 8435 | 7927 | 7419 | 6911 | 6403 | 5895 | 5388 | 4880 | 4372 | 3864 | 3356 | 2848 | 2340 | 1832 | 1324 |
| | 381 | 3 | | 0122 | 8714 | 8306 | 7898 | 7490 | 7081 | 6673 | 6265 | 5856 | 5448 | 5039 | 4630 | 4222 | 3813 | 3404 | 2995 |
| | 364 | 4 | | 9209 | 8800 | 8390 | 7980 | 7569 | 7159 | 6748 | 6338 | 5927 | 5517 | 5106 | 4696 | 4285 | 3875 | 3464 | 3054 |
| | 377 | 5 | 280 | 9463 | 9055 | 8647 | 8238 | 7830 | 7422 | 7013 | 6605 | 6196 | 5787 | 5379 | 4970 | 4561 | 4153 | 3744 | 3336 |
| | 370 | 6 | | 9634 | 9226 | 8817 | 8409 | 8000 | 7592 | 7183 | 6775 | 6366 | 5957 | 5548 | 5140 | 4731 | 4323 | 3914 | 3505 |
| | 363 | 7 | | 9804 | 9396 | 8987 | 8579 | 8170 | 7762 | 7353 | 6944 | 6536 | 6127 | 5718 | 5310 | 4901 | 4493 | 4084 | 3675 |
| | | 8 | | | | | | | | | | | | | | | | | |
| | 342 | 9 | | | | | | | | | | | | | | | | | |
| | 342 | 10 | 281(280) | 0315 | 9906 | 9498 | 9089 | 8680 | 8271 | 7862 | 7453 | 7044 | 6635 | 6226 | 5817 | 5408 | 4999 | 4590 | 4181 |
| | 336 | 11 | | 0485 | 0076 | 9668 | 9259 | 8850 | 8441 | 8032 | 7623 | 7214 | 6804 | 6395 | 5986 | 5577 | 5168 | 4759 | 4350 |
| | 328 | 12 | | 0655 | 0246 | 9838 | 9430 | 9020 | 8611 | 8202 | 7793 | 7384 | 6974 | 6565 | 6156 | 5747 | 5338 | 4929 | 4520 |
| | 322 | 13 | | 0825 | 0416 | 0007 | 9598 | 9190 | 8780 | 8371 | 7962 | 7553 | 7143 | 6734 | 6324 | 5915 | 5505 | 5095 | 4686 |
| | | 14 | | | | | | | | | | | | | | | | | |
| | | 15 | | | | | | | | | | | | | | | | | |
| | | 16 | | | | | | | | | | | | | | | | | |
| | 295 | 17 | | 1505 | 1095 | 0686 | 0277 | 9868 | 9458 | 9049 | 8639 | 8229 | 7820 | 7410 | 7000 | 6590 | 6180 | 5770 | 5361 |
| | | 18 | | | | | | | | | | | | | | | | | |
| | | 19 | | | | | | | | | | | | | | | | | |
| | | 20 | | | | | | | | | | | | | | | | | |
| | | 21 | | | | | | | | | | | | | | | | | |
| | | 22 | | | | | | | | | | | | | | | | | |
| | | 23 | | | | | | | | | | | | | | | | | |
| | | 24 | | | | | | | | | | | | | | | | | |
| | 240 | 25 | 281(280) | 2860 | 2450 | 2040 | 1631 | 1221 | 0810 | 0400 | 9990 | 9580 | 9170 | 8760 | 8350 | 7940 | 7530 | 7120 | 6710 |
| | 232 | 26 | | 3029 | 2619 | 2209 | 1799 | 1389 | 0979 | 0569 | 0158 | 9748 | 9338 | 8927 | 8517 | 8107 | 7696 | 7286 | 6876 |
| | | 27 | | | | | | | | | | | | | | | | | |
| | | 28 | | | | | | | | | | | | | | | | | |
| | | 29 | | | | | | | | | | | | | | | | | |
| | 206 | 30 | 281(280) | 3705 | 3295 | 2885 | 2474 | 2064 | 1653 | 1243 | 0832 | 04 | | | | | | | |
| | | 31 | | | | | | | | | | | | | | | | | |
| | | 32 | | | | | | | | | | | | | | | | | |
| | 185 | 33 | | | | | | | | | | | | | | | | | |
| | 178 | 34 | | | | | | | | | | | | | | | | | |
| | | 35 | | | | | | | | | | | | | | | | | |
| | 164 | 36 | | | | | | | | | | | | | | | | | |
| | 158 | 37 | | | | | | | | | | | | | | | | | |
| | 151 | 38 | | | | | | | | | | | | | | | | | |
| | 144 | 39 | | | | | | | | | | | | | | | | | |
| | 137 | 40 | | | | | | | | | | | | | | | | | |
| | 130 | 41 | | | | | | | | | | | | | | | | | |
| | 123 | 42 | | | | | | | | | | | | | | | | | |
| | 117 | 43 | | | | | | | | | | | | | | | | | |
| | 110 | 44 | | | | | | | | | | | | | | | | | |
| | 103 | 45 | | | | | | | | | | | | | | | | | |
| | 96 | 46 | | | | | | | | | | | | | | | | | |
| | 89 | 47 | | | | | | | | | | | | | | | | | |
| | 82 | 48 | 281 | | | | | | | | | | | | | | | | |
| | 75 | 49 | | | | | 5705 | 5253 | 4841 | 4428 | 4016 | | | | | | | | |
| | | 50 | | | | | | | | | | | | | | | | | |
| | | 51 | | | | | | | | | | | | | | | | | |
| | | 52 | | | | | | | | | | | | | | | | | |
| | | 53 | | | | | | | | | | | | | | | | | |
| | | 54 | | | | | | | | | | | | | | | | | |
| | | 55 | | | | | | | | | | | | | | | | | |
| | | 56 | | | | | | | | | | | | | | | | | |
| | | 57 | | | | | | | | | | | | | | | | | |
| | | 58 | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds | A.A. & A.D. | Auxiliary Arguments. | | | | | | | | | | | | | | | | | | Parts for Seconds | C.D. | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 144 | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ | | | 144 | |
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | | | | |
| 412 | 0 | 282(279) | 1662 | 1262 | 0851 | 0442 | 0033 | 9624 | 9215 | 8806 | 8396 | 7987 | 7577 | 7168 | 6758 | [illegible] | [illegible] | [illegible] | [illegible] | | 0 | 0 | 580 | 9017 |
| 403 | 1 | | 1638 | 1229 | 0820 | 0411 | 0002 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 1 | | 9188 | |
| 395 | 2 | | 2008 | 1599 | 1190 | 0780 | 0371 | 9962 | 9552 | 9143 | 8734 | 8324 | 7914 | 7505 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 2 | | 9359 | |
| 391 | 3 | | 2177 | 1768 | 1359 | 0949 | 0540 | 0131 | 9721 | 9312 | 8902 | 8492 | 8083 | 7673 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 3 | | 9530 | |
| 385 | 4 | | 2346 | 1937 | 1528 | 1118 | 0709 | 0299 | 9890 | 9480 | 9071 | 8661 | 8251 | 7841 | 7431 | [illegible] | [illegible] | [illegible] | [illegible] | | 4 | | 9700 | |
| 377 | 5 | 282(279) | 2515 | 2106 | 1697 | 1287 | 0878 | 0468 | 0059 | 9649 | 9239 | 8829 | 8419 | 8009 | 7599 | [illegible] | [illegible] | [illegible] | [illegible] | | 5 | | 9871 | |
| 371 | 6 | | 2684 | 2275 | 1866 | 1456 | 1046 | 0637 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 6 | | [illegible] | |
| 364 | 7 | | 2853 | 2444 | 2034 | 1625 | 1215 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 7 | | [illegible] | |
| 357 | 8 | | 3022 | 2613 | 2203 | 1793 | 1384 | 0974 | 0564 | 0154 | 9744 | 9334 | 8924 | 8513 | [illegible] | 7693 | 7282 | 6872 | 6461 | | 8 | | [illegible] | |
| 350 | 9 | | 3191 | 2781 | 2372 | 1962 | 1552 | 1142 | 0732 | 0322 | 9912 | 9502 | 9092 | 8681 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 9 | | [illegible] | |
| 343 | 10 | 280(279) | 3360 | 2950 | 2540 | 2130 | 1721 | 1311 | 0900 | 0490 | 0080 | 9670 | 9260 | 8849 | 8439 | 8028 | 7618 | [illegible] | [illegible] | | 10 | | [illegible] | |
| 337 | 11 | | 3529 | 3119 | 2709 | 2299 | 1889 | 1479 | 1069 | 0658 | 0248 | 9838 | 9427 | 9017 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 11 | | [illegible] | |
| 330 | 12 | | 3697 | 3287 | 2877 | 2467 | 2057 | 1647 | 1237 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 12 | | [illegible] | |
| 323 | 13 | | 3866 | 3456 | 3046 | 2636 | 2225 | 1815 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 13 | | [illegible] | |
| 317 | 14 | | 4034 | 3624 | 3214 | 2804 | 2394 | 1983 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 14 | | [illegible] | |
| 310 | 15 | 280(279) | 4203 | 3793 | 3382 | 2972 | 2562 | 2151 | 1741 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 15 | | [illegible] | |
| 303 | 16 | | 4371 | 3961 | 3551 | 3140 | 2730 | 2319 | [illegible] | [illegible] | 1087 | 0676 | 0266 | 9855 | 9444 | 9033 | [illegible] | [illegible] | [illegible] | | 16 | | [illegible] | |
| 296 | 17 | | 4539 | 4129 | 3719 | 3308 | 2898 | 2487 | 2076 | 1666 | 1255 | 0844 | 0433 | 0022 | 9611 | 9200 | 8789 | 8377 | 7966 | | 17 | | [illegible] | |
| 289 | 18 | | 4708 | 4297 | 3887 | 3476 | 3066 | 2655 | 2244 | 1833 | 1422 | 1011 | 0600 | 0189 | 9778 | 9367 | 8956 | 8544 | 8133 | | 18 | | [illegible] | |
| 282 | 19 | | 4876 | 4465 | 4055 | 3644 | 3233 | 2823 | 2412 | 2001 | 1590 | 1179 | 0768 | 0357 | 9945 | 9534 | 9123 | 8711 | 8300 | | 19 | | [illegible] | |
| 275 | 20 | 282(279) | 5044 | 4633 | 4222 | 3812 | 3401 | 2991 | 2580 | [illegible] | 1757 | 1347 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 20 | 581 | 2428 | |
| 268 | 21 | | 5212 | 4801 | 4391 | [illegible] | [illegible] | 3158 | 2747 | 2336 | 1925 | 1513 | 1102 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 21 | | [illegible] | |
| 261 | 22 | | 5380 | 4969 | 4558 | 4147 | 3736 | 3325 | 2914 | 2503 | 2092 | 1681 | 1270 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 22 | | [illegible] | |
| 254 | 23 | | 5548 | 5137 | 4726 | 4315 | 3904 | 3493 | 3082 | 2671 | 2259 | 1848 | 1437 | 1025 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 23 | | [illegible] | |
| 247 | 24 | | 5716 | 5305 | 4894 | 4483 | 4072 | 3660 | 3249 | 2838 | 2426 | 2015 | 1603 | 1192 | 0780 | 0368 | 9956 | 9544 | 9133 | | 24 | | [illegible] | |
| 240 | 25 | 280(279) | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 25 | 581 | [illegible] | |
| 233 | 26 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 26 | | [illegible] | |
| 227 | 27 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 27 | | [illegible] | |
| 220 | 28 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 28 | | [illegible] | |
| 213 | 29 | | [illegible] | [illegible] | 5731 | 5320 | 4908 | 4496 | 4085 | 3673 | 3261 | 2849 | 2437 | 2025 | 1613 | 1201 | [illegible] | [illegible] | [illegible] | | 29 | | [illegible] | |
| 206 | 30 | 280 | 6721 | 6310 | 5898 | 5487 | 5075 | 4663 | 4252 | 3840 | 3428 | 3016 | 2604 | 2192 | 1779 | [illegible] | [illegible] | [illegible] | [illegible] | | 30 | 581 | 4114 | |
| 199 | 31 | | 6889 | 6477 | 6065 | 5654 | 5242 | 4830 | 4418 | 4006 | 3594 | 3182 | 2770 | [illegible] | 1946 | 1535 | [illegible] | [illegible] | [illegible] | | 31 | | [illegible] | |
| 192 | 32 | | 7056 | 6644 | 6233 | 5821 | 5409 | 4997 | 4585 | 4173 | 3761 | 3349 | 2937 | [illegible] | 2112 | 1699 | 1287 | 0874 | [illegible] | | 32 | | [illegible] | |
| 185 | 33 | | 7223 | 6811 | 6400 | 5988 | 5576 | 5164 | 4752 | 4340 | 3928 | 3515 | 3103 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 33 | | [illegible] | |
| 178 | 34 | | 7390 | 6978 | 6567 | 6155 | 5743 | 5331 | 4918 | 4506 | 4094 | 3682 | 3270 | [illegible] | 1444 | 1032 | 1619 | 1206 | 0793 | | 34 | | [illegible] | |
| 172 | 35 | 280 | 7557 | 7145 | 6733 | 6321 | 5909 | 5497 | 5085 | 4673 | 4260 | 3848 | 3435 | 3023 | 2610 | 2198 | 1785 | 1372 | 0959 | | 35 | 581 | 4957 | |
| 165 | 36 | | 7724 | 7312 | 6900 | 6488 | 6076 | 5664 | 5252 | 4839 | 4427 | 4014 | 3602 | 3189 | 2776 | 2364 | 1951 | 1538 | 1125 | | 36 | | [illegible] | |
| 158 | 37 | | 7891 | 7479 | 7067 | 6655 | 6243 | 5830 | 5418 | 5006 | 4593 | 4180 | 3768 | 3355 | 2942 | 2529 | 2116 | 1703 | 1290 | | 37 | | [illegible] | |
| 151 | 38 | | 8058 | 7646 | 7234 | 6822 | 6409 | 5997 | 5584 | 5172 | 4759 | 4347 | 3934 | 3521 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 38 | | [illegible] | |
| 144 | 39 | | 8225 | 7813 | 7400 | 6988 | 6576 | 6163 | 5751 | 5338 | 4925 | 4513 | 4100 | 3688 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 39 | | [illegible] | |
| 137 | 40 | 280 | 8391 | 7979 | 7567 | 7155 | 6742 | 6329 | 5917 | 5504 | 5091 | 4679 | 4266 | 3853 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 40 | 581 | [illegible] | |
| 130 | 41 | | 8558 | 8146 | 7733 | 7321 | 6908 | 6495 | 6083 | 5670 | 5257 | 4844 | 4431 | 4018 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 41 | | [illegible] | |
| 124 | 42 | | 8725 | 8312 | 7900 | 7487 | 7075 | 6662 | 6249 | 5836 | 5423 | 5010 | 4597 | 4184 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 42 | | [illegible] | |
| 117 | 43 | | 8891 | 8479 | 8066 | 7654 | 7241 | 6828 | 6415 | 6002 | 5589 | 5176 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 43 | | [illegible] | |
| 110 | 44 | | 9058 | 8645 | 8233 | 7820 | 7407 | 6994 | 6581 | 6168 | 57[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 44 | | [illegible] | |
| 103 | 45 | 280 | 9224 | 8812 | 8399 | 7986 | 7573 | 7160 | 6747 | 6334 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 45 | [illegible] | [illegible] | |
| 96 | 46 | | 9391 | 8978 | 8565 | 8152 | 7739 | 7326 | 6913 | 6500 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 46 | | [illegible] | |
| 89 | 47 | | 9557 | 9144 | 8731 | 8318 | 7905 | 7492 | 7079 | 6665 | 6252 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 47 | | [illegible] | |
| 82 | 48 | | 9723 | 9310 | 8897 | 8484 | 8071 | 7657 | 7244 | 6831 | 6417 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 48 | | [illegible] | |
| 75 | 49 | | 9889 | 9476 | 9063 | 8650 | 8237 | 7823 | 7410 | 6996 | 65[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 49 | | [illegible] | |
| 68 | 50 | 280(279) | [illegible] | 55 | 9642 | 9229 | 8816 | 8402 | [illegible] | [illegible] | [illegible] | [illegible] | 8 | 6334 | 5921 | 5[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 50 | 581 | [illegible] | |
| 61 | 51 | | [illegible] | 9808 | 9395 | 8981 | 8568 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 51 | | [illegible] | |
| 55 | 52 | | [illegible] | 9974 | 9561 | 9147 | 8733 | 83[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 79 | 6665 | 6251 | 5[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 52 | | [illegible] | |
| 48 | 53 | | [illegible] | 0140 | 9726 | 9313 | 8899 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 53 | | [illegible] | |
| 41 | 54 | | [illegible] | 0305 | 9892 | 9478 | 9064 | 8650 | 8237 | 7823 | 7409 | 6995 | 6581 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 54 | | [illegible] | |
| 34 | 55 | 281(280) | 0885 | 0471 | 0057 | 9644 | 9230 | 8815 | 8402 | 7988 | 7574 | 7160 | 6746 | 6331 | 5917 | [illegible] | [illegible] | [illegible] | [illegible] | | 55 | [illegible] | [illegible] | |
| 28 | 56 | | 1050 | 0636 | 0223 | 9809 | 9395 | 8981 | 8567 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 56 | | [illegible] | |
| 21 | 57 | | 1216 | 0802 | 0388 | 9974 | 9560 | 9146 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 57 | | [illegible] | |
| 14 | 58 | | [illegible] | [illegible] | 0554 | 0140 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 58 | | [illegible] | |
| 7 | 59 | | [illegible] | [illegible] | 0720 | 0305 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7404 | 6990 | 6575 | 6161 | 5746 | 5331 | 4916 | 59 | | [illegible] | |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments,

| Parts for Seconds | Arg. 145 | Numbers |
|---|---|---|
| 10 | ′ | 0[illegible] |
| 10 | 1 | 0941 |
| 10 | 2 | 0947 |
| 10 | 3 | 0[illegible] |
| 10 | 4 | 0[illegible] |
| 10 | 5 | 0[illegible] |
| 10 | 6 | 0[illegible] |
| 10 | 7 | 0[illegible] |
| 10 | 8 | 0[illegible] |
| 10 | 9 | 0[illegible] |
| 11 | 10 | 0[illegible] |
| 11 | 11 | 8936 |
| 11 | 12 | 8[illegible] |
| 11 | 13 | 8[illegible] |
| 11 | 14 | 8[illegible] |
| 11 | 15 | 8[illegible] |
| 11 | 16 | 8[illegible] |
| 11 | 17 | 7916 |
| 11 | 18 | 7747 |
| 11 | 19 | 7577 |
| 11 | 20 | 0[illegible] |
| 11 | 21 | 7238 |
| 10 | 22 | 7[illegible] |
| 10 | 23 | 6[illegible] |
| 10 | 24 | 6[illegible] |
| 9 | 25 | 0[illegible] |
| 9 | 26 | 6392 |
| 9 | 27 | 6[illegible] |
| 9 | 28 | 6053 |
| 8 | 29 | 5883 |
| 8 | 30 | 0[illegible] |
| 8 | 31 | 5547 |
| 7 | 32 | 5378 |
| 7 | 33 | 5[illegible] |
| 7 | 34 | 5041 |
| 7 | 35 | 0[illegible] |
| 6 | 36 | 4703 |
| 6 | 37 | 4535 |
| 6 | 38 | 4367 |
| 5 | 39 | 4[illegible] |
| 5 | 40 | 0[illegible] |
| 5 | 41 | 3[illegible] |
| 4 | 42 | 3[illegible] |
| 4 | 43 | 3[illegible] |
| 4 | 44 | 3[illegible] |
| 4 | 45 | 0[illegible] |
| 3 | 46 | 2[illegible] |
| 3 | 47 | 2[illegible] |
| 3 | 48 | 2[illegible] |
| 3 | 49 | 2[illegible] |
| 2 | 50 | 0[illegible] |
| 2 | 51 | 1[illegible] |
| 2 | 52 | 1[illegible] |
| 2 | 53 | 1[illegible] |
| 1 | 54 | 1[illegible] |
| 1 | 55 | 0[illegible] |
| 1 | 56 | 1349 |
| 1 | 57 | 1182 |
| 0 | 58 | 1[illegible] |
| 0 | 59 | 0848 |

| Parts for Seconds | Arg. & A. D. 145 | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 41 | 0 | 281 | 8739 | 8327 | 7914 | 7501 | 7088 | 6675 | 6261 | 5848 | 5435 | 5021 | 4608 | 4195 | 3781 | 3367 | 2954 | 2540 | 2127 |
| 40 | 1 | | 8[illegible] | 8[illegible] | 7[illegible] | 7[illegible] | 7[illegible] | 6[illegible] | 6[illegible] | 5[illegible] | 5[illegible] | 5[illegible] | 4[illegible] | 4[illegible] | 3[illegible] | 3[illegible] | 2[illegible] | 2[illegible] | 1[illegible] |
| 40 | 2 | | 9[illegible] | 9[illegible] | 8[illegible] | 8[illegible] | 7[illegible] | 7[illegible] | 6[illegible] | 6[illegible] | 5[illegible] | 5[illegible] | 4[illegible] | 4[illegible] | 3[illegible] | 3[illegible] | 2[illegible] | 2[illegible] | 1[illegible] |
| 39 | 3 | | 9[illegible] | 9[illegible] | 8[illegible] | 8[illegible] | 7[illegible] | 7[illegible] | 6[illegible] | 6[illegible] | 5[illegible] | 5[illegible] | 4[illegible] | 4[illegible] | 3[illegible] | 3[illegible] | 2[illegible] | 2[illegible] | 1[illegible] |
| 39 | 4 | | 9[illegible] | 9[illegible] | 8[illegible] | 8[illegible] | 7[illegible] | 7[illegible] | 6[illegible] | 6[illegible] | 5[illegible] | 5[illegible] | 4[illegible] | 4[illegible] | 3[illegible] | 3[illegible] | 2[illegible] | 2[illegible] | 1[illegible] |
| 38 | 5 | 281 | 9572 | 9159 | 8746 | 8333 | 7919 | 7506 | 7093 | 6680 | 6267 | 5853 | 5440 | 5027 | 4614 | 4201 | 3788 | 3374 | 2961 |
| 38 | 6 | | 9739 | 9325 | 8912 | 8498 | 8085 | 7671 | 7258 | 6844 | [illegible] | [illegible] | 5188 | 4774 | 4361 | 3947 | 3534 | 3121 | 2707 |
| 37 | 7 | | 9905 | 9491 | 9078 | 8665 | 8251 | 7837 | 7424 | 7010 | [illegible] | [illegible] | 5354 | 4940 | 4527 | 4113 | 3700 | 3286 | 2873 |
| 37 | 8 | 282 | 0071 | 0244 | 0831 | 0417 | 0003 | 7589 | 7175 | 6761 | [illegible] | [illegible] | 5520 | 5106 | 4692 | 4279 | 3865 | 3452 | 3038 |
| 36 | 9 | | 0237 | 0744 | 0331 | 0917 | 0503 | 0089 | 7675 | 7261 | [illegible] | [illegible] | 5686 | 5272 | 4858 | 4444 | 4031 | 3617 | 3204 |
| 36 | 10 | 282 | 0403 | 0990 | 0577 | 0163 | 9749 | 9334 | 7921 | 7507 | [illegible] | [illegible] | 5852 | 5438 | 5025 | 4611 | 4197 | 3784 | 3370 |
| 35 | 11 | | 0570 | 1156 | 0742 | 0328 | 9914 | 9500 | 9086 | 8672 | [illegible] | [illegible] | 6018 | 5604 | 5190 | 4777 | 4363 | 3950 | 3536 |
| 35 | 12 | | 0736 | 1322 | 0908 | 0494 | 0080 | 9666 | 9252 | 8838 | [illegible] | [illegible] | 6184 | 5770 | 5356 | 4943 | 4529 | 4115 | 3702 |
| 34 | 13 | | 0902 | 1488 | 1074 | 0660 | 0246 | 9832 | 9418 | 9004 | [illegible] | [illegible] | 6350 | 5936 | 5522 | 5108 | 4695 | 4281 | 3868 |
| 34 | 14 | | 1067 | 1653 | 1239 | 0825 | 0411 | 9997 | 9583 | 9169 | [illegible] | [illegible] | 6515 | 6101 | 5688 | 5274 | 4860 | 4447 | 4033 |
| 33 | 15 | 283(281) | 1233 | 1819 | 1405 | 0991 | 0577 | 0163 | 9749 | 9335 | 8921 | 8507 | 6681 | 6267 | 5853 | 5439 | 5026 | 4612 | 4198 |
| 33 | 16 | | 1398 | 1984 | 1570 | 1156 | 0742 | 0327 | 9913 | 9499 | 9085 | 8671 | 6846 | 6432 | 6018 | 5604 | 5190 | 4776 | 4363 |
| 32 | 17 | | 1564 | 2150 | 1736 | 1321 | 0907 | 0493 | 0079 | 9665 | 9251 | 8834 | 7012 | 6598 | 6184 | 5770 | 5356 | 4942 | 4528 |
| 32 | 18 | | 1729 | 2315 | 1901 | 1487 | 1073 | 0658 | 0244 | 9830 | 9416 | 9002 | 7177 | 6763 | 6349 | 5935 | 5521 | 5107 | 4693 |
| 31 | 19 | | 1895 | 2481 | 2067 | 1653 | 1238 | 0824 | 0410 | 9996 | 9582 | 9168 | 7343 | 6929 | 6515 | 6101 | 5687 | 5273 | 4859 |
| 31 | 20 | 283(281) | 2060 | 2646 | 2232 | 1818 | 1404 | 0990 | 0576 | 0162 | 9748 | 9334 | 7508 | 7094 | 6680 | 6266 | 5852 | 5438 | 5024 |
| 30 | 21 | | 2226 | 2811 | 2397 | 1983 | 1569 | 1155 | 0741 | 0327 | 9913 | 9499 | 7674 | 7260 | 6846 | 6432 | 6018 | 5604 | 5190 |
| 30 | 22 | | 2391 | 2977 | 2563 | 2149 | 1735 | 1320 | 0906 | 0492 | 0078 | 9664 | 7839 | 7425 | 7011 | 6597 | 6183 | 5769 | 5355 |
| 29 | 23 | | 2557 | 3142 | 2728 | 2314 | 1900 | 1486 | 1072 | 0658 | 0244 | 9830 | 8005 | 7591 | 7177 | 6763 | 6349 | 5935 | 5521 |
| 29 | 24 | | 2722 | 3307 | 2893 | 2479 | 2065 | 1651 | 1237 | 0823 | 0409 | 9995 | 8170 | 7756 | 7342 | 6928 | 6514 | 6100 | 5686 |
| 28 | 25 | 283(281) | 2887 | 3472 | 3058 | 2644 | 2230 | 1816 | 1402 | 0988 | 0574 | 0160 | 8336 | 7922 | 7508 | 7094 | 6680 | 6266 | 5852 |
| 28 | 26 | | 3053 | 3637 | 3223 | 2809 | 2395 | 1981 | 1567 | 1153 | 0739 | 0325 | 8501 | 8087 | 7673 | 7259 | 6845 | 6431 | 6017 |
| 27 | 27 | | 3217 | 3802 | 3388 | 2974 | 2560 | 2146 | 1732 | 1318 | 0904 | 0490 | 8666 | 8252 | 7838 | 7424 | 7010 | 6596 | 6182 |
| 27 | 28 | | 3382 | 3967 | 3553 | 3139 | 2725 | 2311 | 1897 | 1483 | 1069 | 0655 | 8831 | 8417 | 8003 | 7589 | 7175 | 6761 | 6347 |
| 26 | 29 | | 3547 | 4132 | 3718 | 3304 | 2890 | 2476 | 2062 | 1648 | 1234 | 0820 | 8996 | 8582 | 8168 | 7754 | 7340 | 6926 | 6512 |
| 26 | 30 | 283(281) | 3711 | 4296 | 3882 | 3468 | 3054 | 2640 | 2226 | 1812 | 1398 | 0984 | 9160 | 8746 | 8332 | 7918 | 7504 | 7090 | 6676 |
| 25 | 31 | | 3876 | 4461 | 4047 | 3633 | 3219 | 2805 | 2391 | 1977 | 1563 | 1149 | 9325 | 8911 | 8497 | 8083 | 7669 | 7255 | 6841 |
| 25 | 32 | | 4041 | 4626 | 4212 | 3798 | 3384 | 2970 | 2556 | 2142 | 1728 | 1314 | 9490 | 9076 | 8662 | 8248 | 7834 | 7420 | 7006 |
| 24 | 33 | | 4205 | 4790 | 4376 | 3962 | 3548 | 3134 | 2720 | 2306 | 1892 | 1478 | 9654 | 9240 | 8826 | 8412 | 7998 | 7584 | 7170 |
| 24 | 34 | | 4370 | 4955 | 4541 | 4127 | 3713 | 3299 | 2885 | 2471 | 2057 | 1643 | 9819 | 9405 | 8991 | 8577 | 8163 | 7749 | 7335 |
| 23 | 35 | 282(281) | 4533 | 5118 | 4704 | 4290 | 3876 | 3462 | 3048 | 2634 | 2220 | 1806 | 9983 | 9569 | 9155 | 8741 | 8327 | 7913 | 7499 |
| 23 | 36 | | 4698 | 5282 | 4868 | 4454 | 4040 | 3626 | 3212 | 2798 | 2384 | 1970 | 0147 | 9733 | 9319 | 8905 | 8491 | 8077 | 7663 |
| 22 | 37 | | 4862 | 5447 | 5032 | 4618 | 4204 | 3790 | 3376 | 2962 | 2548 | 2134 | 0311 | 9897 | 9483 | 9069 | 8655 | 8241 | 7827 |
| 22 | 38 | | 5026 | 5611 | 5197 | 4783 | 4369 | 3955 | 3541 | 3127 | 2713 | 2299 | 0475 | 0061 | 9647 | 9233 | 8819 | 8405 | 7991 |
| 21 | 39 | | 5190 | 5774 | 5358 | 4942 | 4526 | 4110 | 3694 | 3278 | 2862 | 2446 | 0638 | 0224 | 9810 | 9396 | 8982 | 8568 | 8154 |
| 21 | 40 | | 5354 | 5938 | 5522 | 5106 | 4690 | 4274 | 3858 | 3442 | 3026 | 2610 | 0802 | 0388 | 9974 | 9560 | 9146 | 8732 | 8318 |
| 20 | 41 | | 5518 | 6102 | 5686 | 5270 | 4854 | 4438 | 4022 | 3606 | 3190 | 2774 | 0966 | 0552 | 0138 | 9724 | 9310 | 8896 | 8482 |
| 20 | 42 | | 5682 | 6266 | 5850 | 5434 | 5018 | 4602 | 4186 | 3770 | 3354 | 2938 | 1130 | 0716 | 0302 | 9888 | 9474 | 9060 | 8646 |
| 19 | 43 | | 5846 | 6430 | 6014 | 5598 | 5182 | 4766 | 4350 | 3934 | 3518 | 3102 | 1294 | 0880 | 0466 | 0052 | 9638 | 9224 | 8810 |
| 19 | 44 | | 6010 | 6594 | 6178 | 5762 | 5346 | 4930 | 4514 | 4098 | 3682 | 3266 | 1458 | 1044 | 0630 | 0216 | 9802 | 9388 | 8974 |
| 18 | 45 | 282(281) | 6173 | 6757 | 6341 | 5925 | 5509 | 5093 | 4677 | 4261 | 3845 | 3429 | 1622 | 1208 | 0794 | 0380 | 9966 | 9552 | 9138 |
| 18 | 46 | | 6337 | 6921 | 6505 | 6089 | 5673 | 5257 | 4841 | 4425 | 4009 | 3593 | 1786 | 1372 | 0958 | 0544 | 0130 | 9716 | 9302 |
| 17 | 47 | | 6501 | 7085 | 6669 | 6253 | 5837 | 5421 | 5005 | 4589 | 4173 | 3757 | 1950 | 1536 | 1122 | 0708 | 0294 | 9880 | 9466 |
| 17 | 48 | | 6665 | 7249 | 6833 | 6417 | 6001 | 5585 | 5169 | 4753 | 4337 | 3921 | 2114 | 1700 | 1286 | 0872 | 0458 | 0044 | 9630 |
| 16 | 49 | | 6829 | 7413 | 6997 | 6581 | 6165 | 5749 | 5333 | 4917 | 4501 | 4085 | 2278 | 1864 | 1450 | 1036 | 0622 | 0208 | 9794 |
| 16 | 50 | 282 | 6992 | 7576 | 7160 | 6744 | 6328 | 5912 | 5496 | 5080 | 4664 | 4248 | 2441 | 2027 | 1613 | 1199 | 0785 | 0371 | 9957 |
| 15 | 51 | | 7156 | 7740 | 7324 | 6908 | 6492 | 6076 | 5660 | 5244 | 4828 | 4412 | 2605 | 2191 | 1777 | 1363 | 0949 | 0535 | 0121 |
| 15 | 52 | | 7320 | 7904 | 7488 | 7072 | 6656 | 6240 | 5824 | 5408 | 4992 | 4576 | 2769 | 2355 | 1941 | 1527 | 1113 | 0699 | 0285 |
| 14 | 53 | | 7484 | 8068 | 7652 | 7236 | 6820 | 6404 | 5988 | 5572 | 5156 | 4740 | 2933 | 2519 | 2105 | 1691 | 1277 | 0863 | 0449 |
| 14 | 54 | | 7648 | 8232 | 7816 | 7400 | 6984 | 6568 | 6152 | 5736 | 5320 | 4904 | 3097 | 2683 | 2269 | 1855 | 1441 | 1027 | 0613 |
| 13 | 55 | 282 | 7806 | 7389 | 6971 | 6554 | 6136 | 5718 | 5301 | 4883 | 4465 | 4047 | 3629 | 3211 | 2793 | 2375 | 1956 | 1538 | 1119 |
| 13 | 56 | | 7969 | 7552 | 7134 | 6716 | 6299 | 5881 | 5463 | 5045 | 4627 | 4209 | 3791 | 3373 | 2955 | 2536 | 2118 | 1700 | 1281 |
| 12 | 57 | | 8132 | 7714 | 7297 | 6879 | 6461 | 6043 | 5625 | 5207 | 4789 | 4371 | 3953 | 3535 | 3117 | 2698 | 2280 | 1861 | 1443 |
| 12 | 58 | | 8295 | 7877 | 7459 | 7042 | 6624 | 6206 | 5788 | 5370 | 4952 | 4534 | 4116 | 3698 | 3279 | 2861 | 2443 | 2024 | 1606 |
| 11 | 59 | | 8457 | 8040 | 7622 | 7204 | 6786 | 6368 | 5950 | 5532 | 5114 | 4695 | 4277 | 3859 | 3440 | 3021 | 2603 | 2184 | 1765 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts for Seconds | S.A.A. & A.D. 145° | Auxiliary Arguments. | | | | | | | | | | | | | | | | | Parts for Sec. | Sums for finding the Corrected Distances. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ | | 145 | Sums |
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | | | |
| 417 | 0 | 281(280) | 1712 | 1296 | 0884 | 0472 | 0059 | 9647 | 9227 | 8813 | 8399 | 7984 | 7569 | 7154 | 6740 | 6325 | 5911 | 5495 | 0 | 0 | 581 6152 |
| 410 | 1 | | 1877 | 1463 | 1046 | 0633 | 0221 | 9806 | 9392 | 8977 | 8563 | 8148 | 7733 | 7318 | 6904 | 6489 | 6074 | 5659 | 1 | 3 | 6310 |
| 403 | 2 | | 2043 | 1628 | 1214 | 0801 | 0387 | 9971 | 9557 | 9142 | 8727 | 8313 | 7898 | 7483 | 7068 | 6653 | 6238 | 5823 | 2 | 5 | 9468 |
| 396 | 3 | | 2208 | 1793 | 1379 | 0965 | 0550 | 0136 | 9721 | 9307 | 8892 | 8477 | 8062 | 7647 | 7232 | 6817 | 6402 | 5987 | 3 | 8 | 9552 |
| 389 | 4 | | 2373 | 1958 | 1544 | 1130 | 0715 | 0301 | 9886 | 9471 | 9056 | 8641 | 8226 | 7811 | 7396 | 6981 | 6567 | 6151 | 4 | 11 | 9716 |
| 382 | 5 | 281(280) | 2538 | 2123 | 1709 | 1294 | 0880 | 0465 | 0050 | 9635 | 9221 | 8806 | 8391 | 7975 | 7560 | 7145 | 6730 | 6314 | 5899 | 14 | 5 | 581 9880 |
| 375 | 6 | | 2703 | 2288 | 1874 | 1459 | 1044 | 0630 | 0215 | 9800 | 9385 | 8970 | 8555 | 8139 | 7724 | 7309 | 6894 | 6478 | 6063 | 17 | 6 | 582 0144 |
| 368 | 7 | | 2868 | 2453 | 2038 | 1624 | 1209 | 0794 | 0379 | 9964 | 9549 | 9134 | 8719 | 8303 | 7888 | 7473 | 7057 | 6642 | 6226 | 19 | 7 | 0408 |
| 361 | 8 | | 3032 | 2618 | 2203 | 1788 | 1373 | 0958 | 0543 | 0128 | 9713 | 9298 | 8883 | 8467 | 8052 | 7636 | 7221 | 6805 | 6390 | 22 | 8 | 0672 |
| 354 | 9 | | 3197 | 2782 | 2368 | 1953 | 1538 | 1123 | 0708 | 0293 | 9877 | 9462 | 9047 | 8631 | 8216 | 7800 | 7384 | 6969 | 6553 | 25 | 9 | 0936 |
| 347 | 10 | 281(280) | 3362 | 2947 | 2532 | 2117 | 1702 | 1287 | 0872 | 0457 | 0041 | 9626 | 9210 | 8795 | 8379 | 7964 | 7548 | 7132 | 6716 | 27 | 10 | 581 1200 |
| 341 | 11 | | 3527 | 3112 | 2697 | 2282 | 1866 | 1451 | 1036 | 0621 | 0205 | 9790 | 9374 | 8959 | 8543 | 8127 | 7711 | [illegible] | | 30 | 11 | [illegible] |
| 334 | 12 | | 3691 | 3276 | 2861 | 2446 | 2031 | 1615 | 1200 | 0785 | 0369 | 9954 | 9538 | [illegible] | 8707 | 8291 | 7875 | 7459 | 7043 | 33 | 12 | 1464 |
| 327 | 13 | | 3855 | 3440 | 3025 | 2610 | 2195 | 1779 | 1364 | 0948 | 0533 | 0117 | 9702 | 9286 | 8870 | 8454 | 8038 | 7622 | 7206 | 36 | 13 | 1728 |
| 320 | 14 | | 4020 | 3605 | 3190 | 2774 | 2359 | 1943 | 1528 | 1112 | 0697 | 0281 | 9865 | 9449 | 9033 | 8617 | 8201 | 7785 | 7369 | 38 | 14 | 1992 |
| 313 | 15 | 281(280) | 4184 | 3768 | 3354 | 2938 | 2523 | 2107 | 1692 | 1276 | [illegible] | 0444 | 0028 | 9613 | 9197 | [illegible] | [illegible] | [illegible] | [illegible] | 41 | 15 | 582 1647 |
| 306 | 16 | | 4349 | 3933 | 3518 | 3102 | 2687 | 2271 | 1855 | 1440 | 1024 | 0608 | 0192 | 9776 | 9361 | [illegible] | [illegible] | [illegible] | [illegible] | 44 | 16 | 1911 |
| 299 | 17 | | 4513 | 4097 | 3682 | 3266 | 2851 | 2435 | 2019 | 1603 | 1187 | 0771 | 0355 | 9939 | 9523 | [illegible] | [illegible] | [illegible] | [illegible] | 47 | 17 | 2175 |
| 292 | 18 | | 4677 | 4261 | 3846 | 3430 | 3014 | 2599 | 2183 | 1767 | 1351 | 0935 | 0519 | 0102 | 9686 | 9270 | 8853 | 8437 | 8020 | 49 | 18 | 2439 |
| 285 | 19 | | 4841 | 4425 | 4010 | 3594 | 3178 | 2762 | 2346 | 1931 | 1514 | 1098 | 0682 | 0266 | 9849 | [illegible] | [illegible] | [illegible] | [illegible] | 52 | 19 | 2703 |
| 278 | 20 | 281(280) | 5004 | 4588 | 4174 | 3758 | 3342 | 2926 | 2510 | 2094 | 1678 | 1261 | 0845 | 0429 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 55 | 20 | 582 2967 |
| 271 | 21 | | 5168 | 4753 | 4337 | 3921 | 3505 | 3089 | 2673 | 2257 | 1841 | 1425 | 1008 | 0592 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 58 | 21 | 3231 |
| 264 | 22 | | 5333 | 4917 | 4501 | 4085 | 3669 | 3253 | 2837 | 2421 | 2005 | 1588 | 1172 | 0755 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 60 | 22 | 3495 |
| 257 | 23 | | 5497 | 5081 | 4664 | 4248 | 3832 | 3416 | 3000 | 2584 | 2167 | 1751 | 1334 | 0917 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 63 | 23 | 3759 |
| 250 | 24 | | 5660 | 5244 | 4828 | 4412 | 3996 | 3580 | 3163 | 2747 | 2330 | 1914 | 1497 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 66 | 24 | 4023 |
| 243 | 25 | 281(280) | 5824 | 5408 | 4992 | 4575 | 4159 | 3743 | 3326 | [illegible] | 2493 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 68 | 25 | [illegible] |
| 236 | 26 | | 5987 | 5571 | 5155 | 4739 | 4322 | 3906 | 3489 | 3073 | 2656 | 2239 | 1823 | 1406 | 0989 | 0572 | 0155 | 9738 | 9320 | 71 | 26 | 4551 |
| 229 | 27 | | 6151 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 74 | 27 | [illegible] |
| 222 | 28 | | 6314 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 77 | 28 | [illegible] |
| 216 | 29 | | 6477 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 79 | 29 | [illegible] |
| 209 | 30 | 281(280) | 6641 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 82 | 30 | [illegible] |
| 202 | 31 | 281 | 6804 | 6388 | 5971 | 5554 | 5137 | 4721 | 4304 | 3887 | 3470 | 3052 | 2635 | 2218 | 1801 | 1383 | 0966 | [illegible] | [illegible] | 85 | 31 | [illegible] |
| 195 | 32 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 87 | 32 | [illegible] |
| 188 | 33 | | 7130 | 6714 | 6297 | 5880 | 5463 | 5046 | 4629 | 4212 | 3794 | 3377 | 2960 | 2542 | 2125 | 1707 | 1290 | [illegible] | [illegible] | 90 | 33 | [illegible] |
| 181 | 34 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 93 | 34 | [illegible] |
| 174 | 35 | 281 | 7456 | 7040 | 6623 | 6205 | 5788 | 5371 | 4954 | 4536 | 4119 | 3702 | 3284 | 2866 | 2449 | 2031 | 1613 | 1195 | 0777 | 95 | 35 | [illegible] |
| 167 | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 98 | 36 | [illegible] |
| 160 | 37 | | 7782 | 7365 | 6948 | 6531 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 101 | 37 | [illegible] |
| 153 | 38 | | 7945 | 7528 | 7110 | 6693 | 6276 | 5858 | 5441 | 5023 | 4606 | 4188 | 3770 | 3352 | 2934 | 2516 | 2098 | 1680 | 1262 | 103 | 38 | [illegible] |
| 146 | 39 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 106 | 39 | [illegible] |
| 139 | 40 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 109 | 40 | [illegible] |
| 132 | 41 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 111 | 41 | [illegible] |
| 125 | 42 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 114 | 42 | [illegible] |
| 118 | 43 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 117 | 43 | [illegible] |
| 111 | 44 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 119 | 44 | [illegible] |
| 104 | 45 | 281 | 9082 | 8664 | 8247 | 7829 | 7411 | 6993 | 6575 | 6156 | 5738 | 532[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 122 | 45 | [illegible] |
| 097 | 46 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 125 | 46 | [illegible] |
| 090 | 47 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 128 | 47 | [illegible] |
| 083 | 48 | | 9514 | 9151 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 130 | 48 | [illegible] |
| 076 | 49 | | 9730 | 9312 | 8894 | 8476 | 8058 | 7639 | 7221 | 6803 | 6384 | 5965 | 5547 | 5128 | 4709 | 42[illegible] | [illegible] | [illegible] | [illegible] | 133 | 49 | [illegible] |
| 069 | 50 | 281 | 9892 | 9474 | 9056 | 8638 | 8219 | 7801 | 7382 | 6964 | 6545 | 612[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 136 | 50 | [illegible] |
| 063 | 51 | 282(281) | 0054 | 9636 | 9218 | 8799 | 8381 | 7962 | 7544 | 7125 | 6706 | 6288 | 5869 | 5450 | 5[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 139 | 51 | [illegible] |
| 056 | 52 | | 0216 | 9798 | 9379 | 8961 | 8542 | 8124 | 7705 | 7286 | 6867 | 6449 | 6030 | 5611 | 51[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 141 | 52 | [illegible] |
| 049 | 53 | | 0378 | 9959 | 9541 | 9122 | 8704 | 8285 | 7866 | 7447 | 7028 | 6610 | 6190 | 5771 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 144 | 53 | [illegible] |
| 042 | 54 | | 0539 | 0121 | 0702 | 0284 | 8865 | 8446 | 8027 | 7608 | 7189 | 6770 | 6351 | 5932 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 147 | 54 | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7350 | 0931 | 0512 | 0093 | 5[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 151 | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7511 | 7092 | 6673 | 6253 | 5[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 154 | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7672 | 7253 | 6833 | 6414 | 599[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 157 | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7994 | 6574 | 0155 | 7731 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 160 | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 163 | [illegible] |

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of C.S.A. | C.S.A. 146° | Numbers |
|---|---|---|
| 105 | 0 | 0181 |
| 102 | 1 | 0514 |
| 159 | 2 | 0848 |
| 157 | 3 | 1181 |
| 154 | 4 | 1515 |
| 151 | 5 | 1848 |
| 148 | 6 | 2182 |
| 146 | 7 | 2515 |
| 143 | 8 | 2849 |
| 140 | 9 | 3183 |
| 137 | 10 | 3517 |
| 135 | 11 | 3851 |
| 132 | 12 | 4185 |
| 129 | 13 | 4519 |
| 127 | 14 | 4853 |
| 124 | 15 | 5187 |
| 121 | 16 | 5522 |
| 118 | 17 | 5856 |
| 115 | 18 | 6191 |
| 113 | 19 | 6525 |
| 110 | 20 | 6860 |
| 107 | 21 | 7194 |
| 104 | 22 | 7529 |
| 102 | 23 | 7864 |
| 99 | 24 | 8199 |
| 96 | 25 | 8533 |
| 93 | 26 | 8868 |
| 91 | 27 | 9203 |
| 88 | 28 | 9538 |
| 85 | 29 | 9874 |
| 82 | 30 | 0209 |
| 80 | 31 | 0544 |
| 77 | 32 | 0880 |
| 74 | 33 | 1215 |
| 71 | 34 | 1551 |
| 69 | 35 | 1887 |
| 66 | 36 | 2223 |
| 63 | 37 | 2558 |
| 61 | 38 | 2894 |
| 58 | 39 | 3230 |
| 55 | 40 | 3566 |
| 52 | 41 | 3902 |
| 49 | 42 | 4238 |
| 47 | 43 | 4574 |
| 44 | 44 | 4910 |
| 42 | 45 | 5247 |
| 39 | 46 | 5583 |
| 36 | 47 | 5920 |
| 34 | 48 | 6256 |
| 31 | 49 | 6593 |
| 28 | 50 | 6929 |
| 26 | 51 | 7266 |
| 23 | 52 | 7603 |
| 20 | 53 | 7940 |
| 18 | 54 | 8277 |
| 15 | 55 | 8614 |
| 12 | 56 | 8951 |
| 10 | 57 | 9288 |
| 7 | 58 | 9625 |
| 4 | 59 | 9963 |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Seconds of Auxil. Argum. | C.S.A. & A. D. 146° | Auxiliary Arguments. ′0 | ′1 | ′2 | ′3 | ′4 | ′5 | ′6 | ′7 | ′8 | ′9 | ′10 | ′11 | ′12 | ′13 | ′14 | ′15 | ′16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 421 | 0 | 282 | 8626 | 8202 | 7784 | 7360 | 6944 | 6528 | 6112 | 5691 | 5276 | 4857 | 4439 | 4020 | 3602 | 3183 | 2764 | 2345 | 1927 |
| 414 | 1 | | 8782 | 8365 | 7947 | 7529 | 7111 | 6694 | 6274 | 5858 | 5437 | 5019 | 4600 | 4182 | 3763 | 3344 | 2925 | 2507 | 2088 |
| 407 | 2 | | 8945 | 8527 | 8109 | 7691 | 7273 | 6854 | 6438 | 6018 | 5599 | 5181 | 4762 | 4343 | 3925 | 3506 | 3087 | 2668 | 2249 |
| 401 | 3 | | 9107 | 8689 | 8271 | 7853 | 7435 | 7016 | 6598 | 6180 | 5761 | 5342 | 4924 | 4505 | 4086 | 3667 | 3248 | 2829 | 2411 |
| 395 | 4 | | 9270 | 8852 | 8433 | 8015 | 7597 | 7179 | 6761 | 6341 | 5923 | 5504 | 5085 | 4666 | 4248 | 3828 | 3409 | 2990 | 2572 |
| 389 | 5 | 282 | 9432 | 9014 | 8596 | 8177 | 7759 | 7341 | 6922 | 6503 | 6084 | 5665 | 5247 | 4828 | 4409 | 3990 | 3571 | 3151 | 2732 |
| 383 | 6 | | 9594 | 9176 | 8757 | 8339 | 7921 | 7502 | 7083 | 6665 | 6246 | 5827 | 5408 | 4989 | 4570 | 4151 | 3732 | 3312 | 2893 |
| 377 | 7 | | 9755 | 9337 | 8919 | 8501 | 8082 | 7664 | 7245 | 6826 | 6407 | 5988 | 5569 | 5150 | 4731 | 4312 | 3893 | 3473 | 3054 |
| 372 | 8 | | 9918 | 9500 | 9081 | 8663 | 8244 | 7825 | 7406 | 6988 | 6569 | 6150 | 5731 | 5311 | 4892 | 4473 | 4054 | 3634 | 3215 |
| 366 | 9 | 283 (282) | 0080 | 9662 | 9243 | 8824 | 8406 | 7987 | 7568 | 7149 | 6730 | 6311 | 5892 | 5472 | 5053 | 4634 | 4214 | 3795 | 3375 |
| 361 | 10 | 283 (282) | 0242 | 9824 | 9405 | 8986 | 8567 | 8148 | 7729 | 7310 | 6891 | 6472 | 6053 | 5633 | 5214 | 4795 | 4375 | 3956 | 3536 |
| 355 | 11 | | 0404 | 9985 | 9567 | 9148 | 8729 | 8310 | 7891 | 7472 | 7052 | 6633 | 6214 | 5794 | 5375 | 4955 | 4536 | 4116 | 3696 |
| 350 | 12 | | 0567 | 0147 | 9728 | 9309 | 8890 | 8471 | 8052 | 7633 | 7214 | 6794 | 6375 | 5955 | 5536 | 5116 | 4696 | 4277 | 3857 |
| 344 | 13 | | 0729 | 0309 | 9890 | 9471 | 9052 | 8632 | 8213 | 7794 | 7375 | 6955 | 6536 | 6116 | 5696 | 5277 | 4857 | 4437 | 4017 |
| 339 | 14 | | 0890 | 0470 | 0051 | 9632 | 9213 | 8794 | 8374 | 7955 | 7536 | 7117 | 6697 | 6277 | 5857 | 5437 | 5017 | 4598 | 4178 |
| 334 | 15 | 283 (282) | 1051 | 0632 | 0213 | 9793 | 9374 | 8955 | 8536 | 8116 | 7697 | 7277 | 6857 | 6438 | 6018 | 5598 | 5178 | 4758 | 4338 |
| 329 | 16 | | 1212 | 0793 | 0374 | 9955 | 9535 | 9116 | 8697 | 8277 | 7857 | 7438 | 7018 | 6598 | 6178 | 5758 | 5338 | 4918 | 4498 |
| 323 | 17 | | 1374 | 0954 | 0535 | 0116 | 9696 | 9277 | 8857 | 8438 | 8018 | 7598 | 7179 | 6759 | 6339 | 5919 | 5499 | 5079 | 4658 |
| 318 | 18 | | 1535 | 1115 | 0696 | 0277 | 9857 | 9438 | 9018 | 8599 | 8179 | 7759 | 7339 | 6919 | 6499 | 6079 | 5659 | 5238 | 4818 |
| 313 | 19 | | 1696 | 1276 | 0857 | 0438 | 0018 | 9599 | 9179 | 8759 | 8339 | 7919 | 7499 | 7079 | 6659 | 6239 | 5819 | 5398 | 4978 |
| 308 | 20 | 283 (282) | 1857 | 1438 | 1018 | 0599 | 0179 | 9760 | 9340 | 8920 | 8500 | 8080 | 7660 | 7240 | 6820 | 6400 | 5979 | 5559 | 5138 |
| 303 | 21 | | 2019 | 1599 | 1178 | 0760 | 0340 | 9921 | 9501 | 9081 | 8661 | 8241 | 7821 | 7401 | 6980 | 6560 | 6140 | 5718 | 5298 |
| 298 | 22 | | 2180 | 1760 | 1340 | 0921 | 0501 | 0081 | 9661 | 9241 | 8821 | 8401 | 7981 | 7561 | 7140 | 6720 | 6300 | 5878 | 5457 |
| 293 | 23 | | 2341 | 1921 | 1501 | 1081 | 0662 | 0242 | 9822 | 9401 | 8981 | 8561 | 8141 | 7720 | 7300 | 6879 | 6459 | 6038 | 5617 |
| 288 | 24 | | 2502 | 2082 | 1662 | 1242 | 0822 | 0402 | 9982 | 9562 | 9142 | 8721 | 8301 | 7880 | 7460 | 7039 | 6618 | 6198 | 5777 |
| 284 | 25 | 283 (282) | 2663 | 2243 | 1823 | 1403 | 0983 | 0563 | 0143 | 9723 | 9303 | 8882 | 8462 | 8041 | 7620 | 7199 | 6778 | 6357 | 5936 |
| 279 | 26 | | 2823 | 2403 | 1983 | 1563 | 1143 | 0723 | 0303 | 9882 | 9462 | 9041 | 8621 | 8200 | 7780 | 7359 | 6938 | 6517 | 6096 |
| 274 | 27 | | 2984 | 2564 | 2144 | 1724 | 1304 | 0883 | 0463 | 0043 | 9622 | 9201 | 8781 | 8360 | 7940 | 7519 | 7098 | 6677 | 6255 |
| 269 | 28 | | 3145 | 2725 | 2304 | 1884 | 1464 | 1044 | 0623 | 0203 | 9782 | 9361 | 8941 | 8520 | 8100 | 7679 | 7257 | 6836 | 6415 |
| 265 | 29 | | 3305 | 2885 | 2465 | 2044 | 1624 | 1204 | 0783 | 0363 | 9942 | 9521 | 9101 | 8680 | 8259 | 7838 | 7417 | 6996 | 6574 |
| 260 | 30 | 283 (282) | 3466 | 3045 | 2625 | 2205 | 1784 | 1364 | 0943 | 0523 | 0102 | 9681 | 9260 | 8839 | 8418 | 7997 | 7576 | 7155 | 6733 |
| 256 | 31 | | 3626 | 3206 | 2785 | 2365 | 1944 | 1524 | 1103 | 0682 | 0262 | 9841 | 9420 | 8999 | 8578 | 8157 | 7735 | 7314 | 6892 |
| 252 | 32 | | 3786 | 3366 | 2946 | 2525 | 2104 | 1683 | 1262 | 0842 | 0421 | 0000 | 9579 | 9158 | 8737 | 8316 | 7894 | 7473 | 7051 |
| 248 | 33 | | 3947 | 3526 | 3106 | 2685 | 2264 | 1843 | 1422 | 1001 | 0581 | 0160 | 9738 | 9317 | 8896 | 8475 | 8054 | 7632 | 7211 |
| 243 | 34 | | 4107 | 3686 | 3266 | 2845 | 2424 | 2003 | 1582 | 1161 | 0740 | 0319 | 9898 | 9477 | 9056 | 8634 | 8213 | 7791 | 7370 |
| 239 | 35 | 283 (282) | 4267 | 3847 | 3427 | 3006 | 2584 | 2163 | 1742 | 1321 | 0900 | 0479 | 0057 | 9636 | 9215 | 8793 | 8372 | 7950 | 7529 |
| 235 | 36 | | 4427 | 4007 | 3585 | 3165 | 2744 | 2323 | 1902 | 1481 | 1059 | 0638 | 0217 | 9795 | 9374 | 8952 | 8531 | 8109 | 7688 |
| 231 | 37 | | 4587 | 4167 | 3746 | 3325 | 2904 | 2482 | 2061 | 1640 | 1219 | 0797 | 0376 | 9954 | 9533 | 9111 | 8690 | 8268 | 7847 |
| 227 | 38 | | 4747 | 4327 | 3906 | 3485 | 3064 | 2642 | 2221 | 1800 | 1378 | 0957 | 0535 | 0113 | 9692 | 9270 | 8849 | 8427 | 8006 |
| 223 | 39 | | 4907 | 4487 | 4066 | 3645 | 3223 | 2802 | 2380 | 1959 | 1537 | 1116 | 0694 | 0272 | 9851 | 9429 | 9008 | 8586 | 8164 |
| 219 | 40 | 283 (282) | 5067 | 4647 | 4225 | 3803 | 3383 | 2961 | 2539 | 2118 | 1696 | 1275 | 0853 | 0431 | 0010 | 9588 | 9167 | 8744 | 8323 |
| 214 | 41 | | 5227 | 4805 | 4384 | 3963 | 3542 | 3120 | 2699 | 2277 | 1856 | 1434 | 1012 | 0590 | 0168 | 9746 | 9324 | 8902 | 8480 |
| 210 | 42 | | 5386 | 4965 | 4544 | 4122 | 3701 | 3279 | 2858 | 2436 | 2015 | 1593 | 1171 | 0749 | 0327 | 9905 | 9483 | 9061 | 8638 |
| 206 | 43 | | 5546 | 5125 | 4703 | 4282 | 3860 | 3439 | 3017 | 2595 | 2174 | 1752 | 1330 | 0908 | 0486 | 0064 | 9642 | 9220 | 8797 |
| 202 | 44 | | 5705 | 5284 | 4863 | 4441 | 4019 | 3598 | 3176 | 2754 | 2333 | 1911 | 1488 | 1067 | 0645 | 0223 | 9800 | 9378 | 8955 |
| 198 | 45 | 283 (282) | 5865 | 5443 | 5022 | 4600 | 4178 | 3757 | 3335 | 2913 | 2492 | 2070 | 1647 | 1225 | 0803 | 0381 | 9958 | 9536 | 9113 |
| 194 | 46 | | 6024 | 5603 | 5181 | 4759 | 4338 | 3916 | 3494 | 3072 | 2650 | 2228 | 1806 | 1383 | 0961 | 0539 | 0116 | 9694 | 9271 |
| 190 | 47 | | 6183 | 5762 | 5340 | 4918 | 4497 | 4075 | 3653 | 3231 | 2808 | 2386 | 1964 | 1541 | 1119 | 0697 | 0274 | 9852 | 9429 |
| 186 | 48 | | 6343 | 5921 | 5499 | 5077 | 4655 | 4234 | 3811 | 3389 | 2967 | 2544 | 2122 | 1699 | 1277 | 0854 | 0432 | 0009 | 9587 |
| 182 | 49 | | 6502 | 6080 | 5658 | 5236 | 4814 | 4393 | 3970 | 3548 | 3125 | 2703 | 2280 | 1858 | 1435 | 1012 | 0590 | 0167 | 9744 |
| 178 | 50 | 283 (282) | 6661 | 6239 | 5817 | 5395 | 4973 | 4551 | 4128 | 3706 | 3284 | 2861 | 2439 | 2016 | 1593 | 1171 | 0748 | 0325 | 9902 |
| 174 | 51 | | 6820 | 6398 | 5976 | 5554 | 5132 | 4709 | 4287 | 3865 | 3442 | 3020 | 2597 | 2174 | 1752 | 1329 | 0906 | 0483 | 0060 |
| 170 | 52 | | 6979 | 6557 | 6135 | 5713 | 5290 | 4868 | 4445 | 4023 | 3600 | 3177 | 2755 | 2332 | 1909 | 1486 | 1063 | 0641 | 0218 |
| 166 | 53 | | 7138 | 6716 | 6294 | 5871 | 5449 | 5026 | 4604 | 4181 | 3758 | 3335 | 2913 | 2490 | 2067 | 1644 | 1221 | 0798 | 0375 |
| 162 | 54 | | 7297 | 6875 | 6452 | 6030 | 5607 | 5185 | 4762 | 4339 | 3916 | 3493 | 3071 | 2648 | 2225 | 1802 | 1379 | 0956 | 0533 |
| 158 | 55 | 283 | 7456 | 7033 | 6611 | 6188 | 5766 | 5343 | 4920 | 4498 | 4075 | 3652 | 3229 | 2806 | 2383 | 1960 | 1537 | 1114 | 0691 |
| 154 | 56 | | 7614 | 7192 | 6769 | 6347 | 5924 | 5502 | 5079 | 4656 | 4233 | 3810 | 3387 | 2964 | 2541 | 2118 | 1695 | 1272 | 0849 |
| 150 | 57 | | 7773 | 7351 | 6928 | 6505 | 6083 | 5660 | 5237 | 4814 | 4391 | 3968 | 3545 | 3122 | 2699 | 2276 | 1853 | 1430 | 1007 |
| 146 | 58 | | 7931 | 7509 | 7087 | 6664 | 6241 | 5818 | 5395 | 4972 | 4549 | 4126 | 3703 | 3280 | 2857 | 2434 | 2011 | 1588 | 1165 |
| 142 | 59 | | 8090 | 7667 | 7244 | 6822 | 6399 | 5976 | 5553 | 5131 | 4707 | 4284 | 3861 | 3438 | 3015 | 2592 | 2169 | 1746 | 1323 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Sec. & A. D. 146° | ´ 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 282(281) 1508 | 1089 | 0670 | 0251 | 9831 | 9412 | 8993 | 8573 | 8154 | 7734 | 7315 | 6895 | 6475 | 6055 | 5635 | 5216 | 4796 |
| 1 | 1669 | 1250 | 0831 | 0411 | 9992 | 9573 | 9153 | 8734 | 8314 | 7895 | 7475 | 7056 | 6635 | 6216 | 5796 | 5376 | 4955 |
| 2 | 1830 | 1411 | 0992 | 0572 | 0153 | 9734 | 9314 | 8894 | 8475 | 8055 | 7635 | 7215 | 6796 | 6376 | 5956 | 5536 | 5115 |
| 3 | 1991 | 1572 | 1152 | 0733 | 0314 | 9894 | 9475 | 9055 | 8635 | 8215 | 7795 | 7376 | 6956 | 6536 | 6115 | 5695 | 5275 |
| 4 | 2152 | 1733 | 1313 | 0894 | 0474 | 0055 | 9635 | 9215 | 8795 | 8376 | 7956 | 7536 | 7116 | 6695 | 6275 | 5855 | 5435 |
| 5 | 282(281) 2313 | 1893 | 1474 | 1054 | 0635 | 0215 | 9795 | 9376 | 8956 | 8536 | 8116 | 7096 | 7275 | 6855 | 6435 | 6015 | 5594 |
| 6 | 2474 | 2054 | 1635 | 1215 | 0795 | 0375 | 9956 | 9536 | 9116 | 8696 | 8276 | 7855 | 7435 | 7015 | 6595 | 6174 | 5754 |
| 7 | 2634 | 2215 | 1795 | 1375 | 0956 | 0536 | 0116 | 9696 | 9276 | 8856 | 8436 | 8015 | 7595 | 7175 | 6754 | 6334 | 5913 |
| 8 | 2795 | 2375 | 1956 | 1536 | 1116 | 0696 | 0276 | 9856 | 9436 | 9016 | 8595 | 8175 | 7755 | 7334 | 6914 | 6493 | 6073 |
| 9 | 2956 | 2536 | 2116 | 1696 | 1276 | 0856 | 0436 | 0016 | 9596 | 9176 | 8755 | 8335 | 7914 | 7494 | 7073 | 6653 | 6232 |
| 10 | 282(281) 3116 | 2696 | 2276 | 1856 | 1436 | 1016 | 0596 | 0176 | 9756 | 9336 | 8915 | 8494 | 8074 | 7653 | 7233 | 6812 | 6391 |
| 11 | 3277 | 2857 | 2437 | 2017 | 1597 | 1176 | 0756 | 0336 | 9916 | 9495 | 9075 | 8654 | 8233 | 7813 | 7392 | 6971 | 6550 |
| 12 | 3437 | 3017 | 2597 | 2177 | 1757 | 1336 | 0916 | 0496 | 0075 | 9655 | 9234 | 8813 | 8393 | 7974 | 7552 | 7130 | 6709 |
| 13 | 3597 | 3177 | 2757 | 2337 | 1917 | 1496 | 1076 | 0655 | 0235 | 9814 | 9394 | 8973 | 8552 | 8131 | 7710 | 7289 | 6868 |
| 14 | 3758 | 3337 | 2917 | 2497 | 2077 | 1656 | 1236 | 0815 | 0394 | 9974 | 9553 | 9132 | 8711 | 8290 | 7869 | 7448 | 7027 |
| 15 | 282(281) 3918 | 3497 | 3077 | 2657 | 2236 | 1816 | 1395 | 0975 | 0554 | 0133 | 9712 | 9291 | 8870 | 8449 | 8028 | 7607 | 7186 |
| 16 | 4078 | 3657 | 3237 | 2817 | 2396 | 1976 | 1555 | 1134 | 0713 | 0293 | 9872 | 9451 | 9030 | 8608 | 8187 | 7766 | 7345 |
| 17 | 4238 | 3817 | 3397 | 2977 | 2556 | 2135 | 1715 | 1294 | 0873 | 0452 | 0031 | 9610 | 9189 | 8767 | 8346 | 7925 | 7503 |
| 18 | 4398 | 3977 | 3557 | 3136 | 2716 | 2295 | 1874 | 1453 | 1032 | 0611 | 0190 | 9769 | 9348 | 8926 | 8505 | 8084 | 7662 |
| 19 | 4558 | 4137 | 3717 | 3296 | 2875 | 2454 | 2033 | 1612 | 1191 | 0770 | 0349 | 9928 | 9507 | 9085 | 8664 | 8242 | 7821 |
| 20 | 282(281) 4718 | 4297 | 3876 | 3455 | 3035 | 2614 | 2193 | 1772 | 1351 | 0929 | 0508 | 0087 | 9665 | 9244 | 8822 | 8401 | 7979 |
| 21 | 4877 | 4457 | 4036 | 3615 | 3194 | 2773 | 2352 | 1931 | 1510 | 1088 | 0667 | 0246 | 9824 | 9403 | 8981 | 8559 | 8138 |
| 22 | 5037 | 4616 | 4195 | 3774 | 3353 | 2932 | 2511 | 2090 | 1669 | 1247 | 0826 | 0404 | 9983 | 9561 | 9140 | 8718 | 8296 |
| 23 | 5197 | 4776 | 4355 | 3934 | 3513 | 3092 | 2670 | 2249 | 1828 | 1406 | 0985 | 0563 | 0142 | 9720 | 9298 | 8876 | 8454 |
| 24 | 5356 | 4935 | 4514 | 4093 | 3672 | 3251 | 2829 | 2408 | 1987 | 1565 | 1144 | 0722 | 0300 | 9878 | 9457 | 9035 | 8613 |
| 25 | 282(281) 5516 | 5095 | 4673 | 4252 | 3831 | 3410 | 2988 | 2567 | 2145 | 1724 | 1302 | 0880 | 0459 | 0037 | 9615 | 9193 | 8771 |
| 26 | 5675 | 5254 | 4833 | 4411 | 3990 | 3569 | 3147 | 2726 | 2304 | 1882 | 1461 | 1039 | 0617 | 0195 | 9773 | 9351 | 8929 |
| 27 | 5834 | 5413 | 4992 | 4571 | 4149 | 3728 | 3307 | 2885 | 2463 | 2041 | 1619 | 1197 | 0775 | 0353 | 9931 | 9509 | 9087 |
| 28 | 5992 | 5572 | 5151 | 4730 | 4308 | 3886 | 3465 | 3043 | 2621 | 2200 | 1778 | 1356 | 0934 | 0512 | 0089 | 9667 | 9245 |
| 29 | 6153 | 5731 | 5310 | 4889 | 4467 | 4045 | 3624 | 3202 | 2780 | 2358 | 1936 | 1514 | 1092 | 0670 | 0247 | 9825 | 9403 |
| 30 | 282(281) 6312 | 5890 | 5469 | 5047 | 4626 | 4204 | 3782 | 3360 | 2939 | 2517 | 2094 | 1672 | 1250 | 0828 | 0406 | 9983 | 9561 |
| 31 | 6471 | 6049 | 5628 | 5206 | 4785 | 4363 | 3941 | 3519 | 3097 | 2675 | 2253 | 1830 | 1408 | 0986 | 0563 | 0141 | 9718 |
| 32 | 6630 | 6208 | 5787 | 5365 | 4943 | 4521 | 4099 | 3677 | 3255 | 2833 | 2411 | 1989 | 1566 | 1144 | 0721 | 0299 | 9876 |
| 33 | 282 6789 | 6367 | 5946 | 5524 | 5102 | 4680 | 4257 | 3836 | 3413 | 2991 | 2569 | 2147 | 1724 | 1302 | 0879 | 0456 | 0034 |
| 34 | 6948 | 6526 | 6104 | 5682 | 5260 | 4838 | 4416 | 3994 | 3572 | 3149 | 2727 | 2305 | 1882 | 1459 | 1037 | 0614 | 0191 |
| 35 | 282 7107 | 6685 | 6263 | 5841 | 5419 | 4997 | 4574 | 4152 | 3730 | 3307 | 2885 | 2462 | 2040 | 1617 | 1194 | 0772 | 0349 |
| 36 | 7265 | 6843 | 6421 | 5999 | 5577 | 5155 | 4733 | 4310 | 3888 | 3465 | 3043 | 2620 | 2198 | 1775 | 1352 | 0929 | 0506 |
| 37 | 7424 | 7002 | 6580 | 6158 | 5735 | 5313 | 4891 | 4468 | 4046 | 3623 | 3201 | 2778 | 2355 | 1932 | 1509 | 1087 | 0663 |
| 38 | 7583 | 7160 | 6738 | 6316 | 5894 | 5471 | 5049 | 4626 | 4204 | 3781 | 3358 | 2936 | 2513 | 2090 | 1667 | 1244 | 0821 |
| 39 | 7741 | 7319 | 6897 | 6474 | 6052 | 5629 | 5207 | 4784 | 4362 | 3939 | 3516 | 3093 | 2670 | 2247 | 1824 | 1401 | 0978 |
| 40 | 282 7899 | 7477 | 7055 | 6632 | 6210 | 5787 | 5365 | 4942 | 4519 | 4097 | 3674 | 3251 | 2828 | 2405 | 1982 | 1559 | 1135 |
| 41 | 8058 | 7635 | 7213 | 6791 | 6368 | 5945 | 5523 | 5100 | 4677 | 4254 | 3831 | 3408 | 2985 | 2562 | 2139 | 1715 | 1292 |
| 42 | 8216 | 7794 | 7371 | 6949 | 6526 | 6103 | 5681 | 5258 | 4835 | 4412 | 3989 | 3566 | 3143 | 2719 | 2296 | 1873 | 1449 |
| 43 | 8374 | 7952 | 7529 | 7107 | 6684 | 6261 | 5838 | 5415 | 4992 | 4569 | 4146 | 3723 | 3300 | 2876 | 2453 | 2030 | 1607 |
| 44 | 8532 | 8110 | 7687 | 7265 | 6842 | 6419 | 5996 | 5573 | 5150 | 4727 | 4304 | 3880 | 3457 | 3034 | 2611 | 2187 | 1764 |
| 45 | 282 8690 | 8268 | 7845 | 7422 | 7000 | 6577 | 6154 | 5731 | 5307 | 4884 | 4461 | 4037 | 3614 | 3191 | 2767 | 2343 | 1919 |
| 46 | 8848 | 8426 | 8003 | 7580 | 7157 | 6734 | 6311 | 5888 | 5465 | 5041 | 4618 | 4195 | 3771 | 3348 | 2924 | 2500 | 2076 |
| 47 | 9006 | 8584 | 8161 | 7738 | 7315 | 6892 | 6469 | 6045 | 5622 | 5199 | 4775 | 4352 | 3928 | 3504 | 3081 | 2657 | 2233 |
| 48 | 9164 | 8741 | 8318 | 7895 | 7472 | 7049 | 6626 | 6203 | 5779 | 5356 | 4932 | 4509 | 4085 | 3661 | 3237 | 2814 | 2390 |
| 49 | 9322 | 8899 | 8476 | 8053 | 7630 | 7207 | 6783 | 6360 | 5936 | 5513 | 5089 | 4666 | 4242 | 3818 | 3395 | 2971 | 2547 |
| 50 | 282 9480 | 9057 | 8634 | 8211 | 7787 | 7364 | 6940 | 6517 | 6093 | 5670 | 5246 | 4822 | 4399 | 3975 | 3551 | 3128 | 2704 |
| 51 | 9637 | 9214 | 8791 | 8368 | 7945 | 7521 | 7098 | 6674 | 6250 | 5827 | 5403 | 4979 | 4555 | 4131 | 3708 | 3284 | 2860 |
| 52 | 9795 | 9372 | 8949 | 8525 | 8102 | 7678 | 7255 | 6831 | 6407 | 5984 | 5560 | 5136 | 4712 | 4288 | 3864 | 3441 | 3017 |
| 53 | 9953 | 9530 | 9107 | 8683 | 8259 | 7835 | 7412 | 6988 | 6564 | 6140 | 5716 | 5293 | 4868 | 4444 | 4020 | 3597 | 3173 |
| 54 | 282(281) 0110 | 0687 | 9263 | 8840 | 8416 | 7992 | 7569 | 7145 | 6721 | 6297 | 5873 | 5449 | 5025 | 4601 | 4176 | 3752 | 3328 |
| 55 | 281(280) 0267 | 9844 | 9420 | 8997 | 8573 | 8149 | 7726 | 7302 | 6878 | 6454 | 6030 | 5606 | 5181 | 4757 | 4333 | 3909 | 3484 |
| 56 | 0425 | 0001 | 9578 | 9154 | 8730 | 8306 | 7883 | 7458 | 7035 | 6610 | 6186 | 5762 | 5338 | 4913 | 4489 | 4064 | 3640 |
| 57 | 0582 | 0158 | 9735 | 9311 | 8887 | 8463 | 8039 | 7615 | 7191 | 6767 | 6343 | 5918 | 5494 | 5069 | 4645 | 4220 | 3796 |
| 58 | 0739 | 0315 | 9892 | 9468 | 9044 | 8620 | 8196 | 7772 | 7348 | 6923 | 6499 | 6075 | 5650 | 5226 | 4801 | 4376 | 3952 |
| 59 | 0896 | 0472 | 0049 | 9625 | 9201 | 8777 | 8353 | 7928 | 7504 | 7080 | 6655 | 6231 | 5806 | 5382 | 4957 | 4533 | 4107 |

Sums for finding the Corrected Distances.

| Parts for Sec. & A. D. 146° | Sums |
|---|---|
| 0 | 582 9036 |
| 1 | 9200 |
| 2 | 9363 |
| 3 | 9525 |
| 4 | 9688 |
| 5 | 582 9850 |
| 6 | 583 0012 |
| 7 | 0174 |
| 8 | 0337 |
| 9 | 0499 |
| 10 | 583 0661 |
| 11 | 0823 |
| 12 | 0984 |
| 13 | 1146 |
| 14 | 1308 |
| 15 | 583 1470 |
| 16 | 1631 |
| 17 | 1793 |
| 18 | 1954 |
| 19 | 2115 |
| 20 | 583 2277 |
| 21 | 2438 |
| 22 | 2599 |
| 23 | 2760 |
| 24 | 2921 |
| 25 | 583 3081 |
| 26 | 3243 |
| 27 | 3404 |
| 28 | 3565 |
| 29 | 3725 |
| 30 | 583 3887 |
| 31 | 4047 |
| 32 | 4207 |
| 33 | 4367 |
| 34 | 4527 |
| 35 | 583 4687 |
| 36 | 4847 |
| 37 | 5007 |
| 38 | 5168 |
| 39 | 5328 |
| 40 | 583 5488 |
| 41 | 5647 |
| 42 | 5807 |
| 43 | 5967 |
| 44 | 6127 |
| 45 | 583 6287 |
| 46 | 6447 |
| 47 | 6607 |
| 48 | 6767 |
| 49 | 6927 |
| 50 | 583 7087 |
| 51 | 7244 |
| 52 | 7404 |
| 53 | 7564 |
| 54 | 7724 |
| 55 | 583 7884 |
| 56 | 8043 |
| 57 | 8203 |
| 58 | 8363 |
| 59 | 8523 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

| Diff. for Sec. of addit. | C.S.A. 147° | Numbers | Seconds of Auxil. addit. | A.D. 147° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | | | ′ | Numbers. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 158 | 1 | 0637 | 418 | 1 | 8406 | 7984 | 7561 | 7138 | 6715 | 6292 | 5869 | 5446 | 5023 | 4599 | 4176 | 3752 | 3329 | | | | |
| | 2 | | | 2 | | | | | | | | | | | | | | | | | |
| 153 | 3 | 0312 | 404 | 3 | 8723 | 8300 | 7877 | 7454 | 7031 | 6608 | 6184 | 5761 | 5338 | 4914 | 4491 | 4067 | 3643 | 3 | | | |
| | 4 | | 397 | 4 | 8881 | 8458 | 8035 | 7612 | 7189 | 6765 | 6342 | 5919 | 5495 | 5072 | 4648 | 4224 | 3800 | 3377 | | | |
| | 5 | | | 5 | | | | | | | | | | | | | | | | | |
| | 6 | | | 6 | | | | | | | | | | | | | | | | | |
| | 7 | | | 7 | | | | | | | | | | | | | | | | | |
| 139 | 8 | 9501 | 369 | 8 | 9513 | 9089 | 8666 | 8242 | 7819 | 7395 | 6972 | 6548 | 6124 | 5700 | 5276 | 4852 | 4428 | 4004 | 3580 | 31 | |
| | 9 | | | 9 | | | | | | | | | | | | | | | | | |
| | 10 | | | 10 | | | | | | | | | | | | | | | | | |
| | 11 | | | 11 | | | | | | | | | | | | | | | | | |
| | 12 | | | 12 | | | | | | | | | | | | | | | | | |
| | 13 | | | 13 | | | | | | | | | | | | | | | | | |
| | 14 | | | 14 | | | | | | | | | | | | | | | | | |
| | 15 | | | 15 | | | | | | | | | | | | | | | | | |
| | 16 | | | 16 | | | | | | | | | | | | | | | | | |
| | 17 | | | 17 | | | | | | | | | | | | | | | | | |
| 113 | 18 | 7885 | 298 | 18 | 1087 | 0663 | 0239 | 9814 | 9390 | 8966 | 8541 | 8117 | 7692 | 7267 | 6843 | 6418 | 5993 | 5568 | 5143 | 4718 | 4293 |
| | 19 | | | 19 | | | | | | | | | | | | | | | | | |
| | 20 | | | 20 | | | | | | | | | | | | | | | | | |
| | 21 | | | 21 | | | | | | | | | | | | | | | | | |
| | 22 | | | 22 | | | | | | | | | | | | | | | | | |
| | 23 | | | 23 | | | | | | | | | | | | | | | | | |
| | 24 | | | 24 | | | | | | | | | | | | | | | | | |
| | 25 | | | 25 | | | | | | | | | | | | | | | | | |
| | 26 | | | 26 | | | | | | | | | | | | | | | | | |
| | 27 | | | 27 | | | | | | | | | | | | | | | | | |
| | 28 | | | 28 | | | | | | | | | | | | | | | | | |
| | 29 | | | 29 | | | | | | | | | | | | | | | | | |
| | 30 | | | 30 | | | | | | | | | | | | | | | | | |
| | 31 | | | 31 | | | | | | | | | | | | | | | | | |
| | 32 | | | 32 | | | | | | | | | | | | | | | | | |
| | 33 | | | 33 | | | | | | | | | | | | | | | | | |
| | 34 | | | 34 | | | | | | | | | | | | | | | | | |
| | 35 | | | 35 | | | | | | | | | | | | | | | | | |
| | 36 | | | 36 | | | | | | | | | | | | | | | | | |
| | 37 | | | 37 | | | | | | | | | | | | | | | | | |
| | 38 | | | 38 | | | | | | | | | | | | | | | | | |
| | 39 | | | 39 | | | | | | | | | | | | | | | | | |
| | 40 | | | 40 | | | | | | | | | | | | | | | | | |
| | 41 | | | 41 | | | | | | | | | | | | | | | | | |
| | 42 | | | 42 | | | | | | | | | | | | | | | | | |
| 43 | 44 | 3714 | 113 | 44 | 5147 | 4720 | 4294 | 3868 | 3442 | 3015 | 2589 | 2162 | 1735 | 1309 | 0882 | 0455 | 0028 | 9601 | 9174 | 8747 | |
| | 45 | | | 45 | | | | | | | | | | | | | | | | | |
| 38 | 46 | 3395 | 99 | 46 | 5457 | 5030 | 4604 | 4178 | 3751 | 3325 | 2898 | 2471 | 2045 | 1618 | 1191 | 0764 | 0337 | 9909 | 9482 | 9055 | |
| | 47 | | | 47 | | | | | | | | | | | | | | | | | |
| | 48 | | | 48 | | | | | | | | | | | | | | | | | |
| 29 | 49 | 2917 | 78 | 49 | 5922 | 5495 | 5069 | 4642 | 4215 | 3789 | 3362 | 2935 | 2508 | 2080 | 1653 | 1226 | 0799 | 0371 | 9944 | 9516 | |
| | 50 | | | 50 | | | | | | | | | | | | | | | | | |
| | 51 | | | 51 | | | | | | | | | | | | | | | | | |
| | 52 | | | 52 | | | | | | | | | | | | | | | | | |
| 19 | 53 | 2281 | 50 | 53 | 6541 | 6114 | 5687 | 5260 | 4833 | 4406 | 3978 | 3551 | 3124 | 2697 | 2269 | 1841 | 1414 | 0986 | 0558 | 0131 | |
| | 54 | | | 54 | | | | | | | | | | | | | | | | | |
| | 55 | | | 55 | | | | | | | | | | | | | | | | | |
| | 56 | | | 56 | | | | | | | | | | | | | | | | | |
| 8 | 57 | 1646 | 21 | 57 | 7158 | 6731 | 6304 | 5877 | 5449 | 5022 | 4594 | 4167 | 3739 | 3311 | 2884 | 2456 | 2028 | 1600 | 1172 | 0744 | 031 |
| 5 | 58 | 1488 | 14 | 58 | 7313 | 6885 | 6458 | 6031 | 5603 | 5176 | 4748 | 4320 | 3893 | 3465 | 3037 | 2609 | 2181 | 1753 | 1324 | 0897 | 04 |
| 3 | 59 | 1329 | 7 | 59 | 7467 | 7039 | 6612 | 6185 | 5757 | 5329 | 4902 | 4474 | 4046 | 3618 | 3190 | 2762 | 2334 | 1906 | 1478 | 1050 | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances ------ }

Auxiliary Arguments.

| Parts for Seconds of Auxil. | S. A. & S. D. 147° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | | | | | | | | | | | | | | | | | |
| 42 | 1 | | | | | | | | | | | | | | | | | |
| 41 | 2 | | | | | | | | | | | | | | | | | |
| 41 | 3 | | | | | | | | | | | | | | | | | |
| 40 | 4 | | | | | | | | | | | | | | | | | |
| 391 | 5 | 283 (282) | | | | | | | | | | | | | | | | |
| 381 | 6 | | | | | | | | | | | | | | | | | |
| 377 | 7 | | 2150 | 1726 | 1302 | 0877 | 0452 | 0028 | 9603 | 9178 | 8753 | 8328 | 7903 | 7478 | 7053 | 6628 | 6202 | 5777 | 5351 |
| 37 | 8 | | | | | | | | | | | | | | | | | | |
| 36 | 9 | | | | | | | | | | | | | | | | | | |
| 35 | 10 | 283 (282) | | | | | | | | | | | | | | | | | |
| 34 | 11 | | | | | | | | | | | | | | | | | | |
| 34 | 12 | | | | | | | | | | | | | | | | | | |
| 33 | 13 | | | | | | | | | | | | | | | | | | |
| 347 | 14 | | 3244 | 2819 | 2394 | 1969 | 1544 | 1119 | 0693 | 0268 | 9842 | 9417 | 8991 | 8566 | 8141 | 7714 | 7288 | 6863 | 6438 |
| 32 | 15 | 283 (282) | | | | | | | | | | | | | | | | | |
| 313 | 16 | | 3556 | 3131 | 2706 | 2281 | 1855 | 1430 | 1004 | 0579 | 0153 | 9727 | 9301 | 8876 | 8450 | 8024 | 7598 | 7172 | 6746 |
| 31 | 17 | | | | | | | | | | | | | | | | | | |
| 299 | 18 | | 3868 | 3442 | 3017 | 2592 | 2166 | 1741 | 1315 | 0889 | 0463 | 0037 | 9611 | 9186 | 8760 | 8333 | 7907 | 7481 | 7055 |
| 29 | 19 | | | | | | | | | | | | | | | | | | |
| 285 | 20 | 283 (282) | | | | | | | | | | | | | | | | | |
| 278 | 21 | | 4334 | 3909 | 3483 | 3058 | 2632 | 2206 | 1780 | 1354 | 0928 | 0502 | 0076 | 9650 | 9223 | 8797 | 8371 | 7944 | 7518 |
| 27 | 22 | | | | | | | | | | | | | | | | | | |
| 263 | 23 | | 4645 | 4220 | 3794 | 3368 | 2942 | 2516 | 2090 | 1664 | 1238 | 0812 | 0385 | 9959 | 9532 | 9106 | 8679 | 8253 | 7826 |
| 25 | 24 | | | | | | | | | | | | | | | | | | |
| 249 | 25 | 283 (282) | 4956 | 4530 | 4104 | 3678 | 3252 | 2826 | 2400 | 1974 | 1547 | 1121 | 0694 | 0268 | 9841 | 9415 | 8988 | 8561 | 8134 |
| 24 | 26 | | | | | | | | | | | | | | | | | | |
| 235 | 27 | | | | | | | | | | | | | | | | | | |
| 228 | 28 | | 5421 | 4995 | 4569 | 4143 | 3717 | 3290 | 2864 | 2437 | 2011 | 1584 | 1157 | 0731 | 0304 | 9877 | 9450 | 9023 | 8596 |
| 221 | 29 | | | | | | | | | | | | | | | | | | |
| 214 | 30 | 283 (282) | | | | | | | | | | | | | | | | | |
| 206 | 31 | | 5886 | 5460 | 5033 | 4607 | 4180 | 3754 | 3327 | 2900 | 2473 | 2047 | 1620 | 1193 | 0766 | 0338 | 9911 | 9484 | 9056 |
| 199 | 32 | | | | | | | | | | | | | | | | | | |
| 192 | 33 | | | | | | | | | | | | | | | | | | |
| 185 | 34 | | | | | | | | | | | | | | | | | | |
| 178 | 35 | | | | | | | | | | | | | | | | | | |
| 171 | 36 | | | | | | | | | | | | | | | | | | |
| 164 | 37 | | 6814 | 6387 | 5960 | 5533 | 5106 | 4679 | 4252 | 3825 | 3397 | 2970 | 2542 | 2115 | 1687 | 1260 | 0832 | 0404 | 9976 |
| 157 | 38 | | | | | | | | | | | | | | | | | | |
| 150 | 39 | | | | | | | | | | | | | | | | | | |
| 142 | 40 | 283 | | | | | | | | | | | | | | | | | |
| 135 | 41 | | | | | | | | | | | | | | | | | | |
| 128 | 42 | | | | | | | | | | | | | | | | | | |
| 121 | 43 | | | | | | | | | | | | | | | | | | |
| 114 | 44 | | | | | | | | | | | | | | | | | | |
| 107 | 45 | 283 | | | | | | | | | | | | | | | | | |
| 100 | 46 | | | | | | | | | | | | | | | | | | |
| 93 | 47 | | | | | | | | | | | | | | | | | | |
| 85 | 48 | | | | | | | | | | | | | | | | | | |
| 78 | 49 | | 8661 | 8233 | 7806 | 7378 | 6950 | 6522 | 6094 | 5665 | 5237 | 4809 | 4381 | 3952 | 3524 | 3095 | 2666 | 2238 | 1809 |
| 71 | 50 | 283 | | | | | | | | | | | | | | | | | |
| 64 | 51 | | | | | | | | | | | | | | | | | | |
| 57 | 52 | | | | | | | | | | | | | | | | | | |
| 50 | 53 | | | | | | | | | | | | | | | | | | |
| 43 | 54 | | 9428 | 9000 | 8572 | 8143 | 7715 | 7286 | 6858 | 6429 | 6001 | 5672 | 5143 | 4715 | 4286 | 3857 | 3427 | 2998 | 2569 |
| 36 | 55 | 283 | 9581 | 9153 | 8724 | 8296 | 7868 | 7439 | 7011 | 6582 | 6153 | 5725 | 5296 | 4867 | 4438 | 4009 | 3580 | 3150 | 2721 |
| 29 | 56 | | 9734 | 9306 | 8877 | 8449 | 8021 | 7592 | 7163 | 6735 | 6306 | 5877 | 5448 | 5019 | 4590 | 4161 | 3732 | 3302 | 2873 |
| 21 | 57 | | 9887 | 9459 | 9030 | 8602 | 8173 | 7745 | 7316 | 6888 | 6459 | 6030 | 5600 | 5171 | 4742 | 4312 | 3884 | 3455 | 3025 |
| 14 | 58 | | | | | | | | | | | | | | | | | | |
| 7 | 59 | | 0193 | 9764 | 9336 | 8907 | 8478 | 8049 | 7621 | 7192 | 6763 | 6334 | 5904 | 5475 | 5046 | 4617 | 4187 | 3758 | 3328 |

Sums for finding the Corrected Distances.

| Parts for Seconds of C. D. | C. D. 147° | Sums |
|---|---|---|
| 0 | 0 | |
| 6 | 1 | |
| 12 | 2 | |
| 18 | 3 | |
| 24 | 4 | |
| 30 | 5 | 583 0462 |
| 36 | 6 | |
| 42 | 7 | 9778 |
| 48 | 8 | |
| 54 | 9 | |
| 60 | 10 | |
| 66 | 11 | |
| 72 | 12 | 0307 |
| 78 | 13 | 0784 |
| 84 | 14 | |
| 90 | 15 | 584 1090 |
| 96 | 16 | 1196 |
| 102 | 17 | |
| 108 | 18 | 1511 |
| 114 | 19 | 1668 |
| 120 | 20 | |
| 126 | 21 | 1982 |
| 132 | 22 | |
| 138 | 23 | 2296 |
| 144 | 24 | 2453 |
| 150 | 25 | |
| 156 | 26 | |
| 162 | 27 | |
| 168 | 28 | 3070 |
| 174 | 29 | |
| 180 | 30 | 584 3541 |
| 186 | 31 | 3548 |
| 192 | 32 | |
| 198 | 33 | |
| 204 | 34 | |
| 210 | 35 | |
| 216 | 36 | |
| 222 | 37 | 4484 |
| 228 | 38 | |
| 234 | 39 | |
| 240 | 40 | 584 4911 |
| 246 | 41 | |
| 252 | 42 | |
| 258 | 43 | |
| 264 | 44 | |
| 270 | 45 | |
| 276 | 46 | |
| 282 | 47 | |
| 288 | 48 | |
| 294 | 49 | 6348 |
| 300 | 50 | |
| 306 | 51 | |
| 312 | 52 | |
| 318 | 53 | |
| 324 | 54 | 7122 |
| 330 | 55 | 584 7276 |
| 336 | 56 | 7431 |
| 342 | 57 | 7585 |
| 348 | 58 | |
| 354 | 59 | 7894 |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

Numbers II. for Corrected Sums of Altitudes.

| Parts for 1 of Auxil. Argum. additive | ′ | Numbers |
|---|---|---|
| 4.3 | 0 | 16 1171 |
| 4.26 | 1 | 1113 |
| 4.17 | 2 | 1054 |
| 4.9 | 3 | 0996 |
| 4.0 | 4 | 0938 |
| 3.44 | 5 | 16 0880 |
| 3.27 | 6 | 0822 |
| 3.10 | 7 | 0764 |
| 2.53 | 8 | 15 0706 |
| 2.36 | 9 | 0648 |
| 2.19 | 10 | 15 0591 |
| 2.2 | 11 | 0533 |
| 1.45 | 12 | 0476 |
| 1.28 | 13 | 0418 |
| 1.11 | 14 | 0361 |
| 0.54 | 15 | 0304 |
| 0.37 | 16 | 0247 |
| 0.20 | 17 | 0190 |
| 0.3 | 18 | 0133 |
| 0.13 | 19 | 0076 |
| 0.30 | 20 | 15 0019 |
| 0.47 | 21 | 14 9962 |
| 1.4 | 22 | 9905 |
| 1.21 | 23 | 9848 |
| 1.38 | 24 | 9791 |
| 1.55 | 25 | 14 9734 |
| 2.12 | 26 | 9678 |
| 2.29 | 27 | 9621 |
| 2.46 | 28 | 9565 |
| 3.3 | 29 | 9508 |
| 3.20 | 30 | 14 9452 |
| 3.37 | 31 | 9396 |
| 3.54 | 32 | 9340 |
| 4.11 | 33 | 9284 |
| 4.28 | 34 | 9228 |
| 4.45 | 35 | 14 9172 |
| 5.2 | 36 | 9116 |
| 5.19 | 37 | 9060 |
| 5.36 | 38 | 9004 |
| 5.53 | 39 | 8948 |
| 6.10 | 40 | 8892 |
| 6.27 | 41 | 8837 |
| 6.44 | 42 | 8781 |
| 7.1 | 43 | 8725 |
| 7.18 | 44 | 8670 |
| 7.35 | 45 | 14 8614 |
| 7.52 | 46 | 8559 |
| 8.9 | 47 | 8503 |
| 8.26 | 48 | 8448 |
| 8.43 | 49 | 8393 |
| 9.0 | 50 | 8337 |
| 9.17 | 51 | 8282 |
| 9.34 | 52 | 8227 |
| 9.51 | 53 | 8172 |
| 10.8 | 54 | 8117 |
| 10.25 | 55 | 14 8062 |
| 10.42 | 56 | 8007 |
| 10.59 | 57 | 7952 |
| 11.16 | 58 | 7897 |
| 11.33 | 59 | 7842 |

| Parts for 1 of Auxil. Argum. additive | ′ | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 4.3 | 0 | 28 | | | | | | | | | | | | | | | | |
| 4.26 | 1 | | | | | | | | | | | | | | | | | |
| 4.17 | 2 | | | | | | | | | | | | | | | | | |
| 4.9 | 3 | | | | | | | | | | | | | | | | | |
| 4.0 | 4 | | | | | | | | | | | | | | | | | |
| 3.44 | 5 | 284 | | | | | | | | | | | | | | | | |
| 3.27 | 6 | | | | | | | | | | | | | | | | | |
| 3.10 | 7 | | | | | | | | | | | | | | | | | |
| 2.53 | 8 | | | | | | | | | | | | | | | | | |
| 2.36 | 9 | | 9005 | 8577 | 8148 | 7720 | 7292 | 6863 | 6435 | 6006 | 5578 | 5149 | 4721 | 4292 | 3863 | 3434 | 3005 | 2576 | 2147 |
| 2.19 | 10 | 284 | | | | | | | | | | | | | | | | | |
| 2.2 | 11 | | | | | | | | | | | | | | | | | | |
| 1.45 | 12 | | | | | | | | | | | | | | | | | | |
| 1.28 | 13 | | | | | | | | | | | | | | | | | | |
| 1.11 | 14 | | | | | | | | | | | | | | | | | | |
| 0.54 | 15 | 284 | | | | | | | | | | | | | | | | | |
| 0.37 | 16 | 285 (284) | | | | | | | | | | | | | | | | | |
| 0.20 | 17 | | | | | | | | | | | | | | | | | | |
| 0.3 | 18 | | | | | | | | | | | | | | | | | | |
| 0.13 | 19 | | | | | | | | | | | | | | | | | | |
| 0.30 | 20 | 285 (284) | | | | | | | | | | | | | | | | | |
| 0.47 | 21 | | | | | | | | | | | | | | | | | | |
| 1.4 | 22 | | | | | | | | | | | | | | | | | | |
| 1.21 | 23 | | | | | | | | | | | | | | | | | | |
| 1.38 | 24 | | | | | | | | | | | | | | | | | | |
| 1.55 | 25 | 285 (284) | 1452 | 1021 | 0591 | 0162 | 9732 | 9303 | 8873 | 8443 | 8014 | 7584 | 7154 | 6724 | 6294 | 5865 | 5435 | 5005 | 4575 |
| 2.12 | 26 | | 1022 | 1173 | 0744 | 0314 | 9884 | 9455 | 9025 | 8596 | 8166 | 7736 | 7306 | 6875 | 6445 | 6015 | 5584 | 5154 | 4724 |
| 2.29 | 27 | | 1735 | 1305 | 0875 | 0445 | 0016 | 9586 | 9156 | 8727 | 8297 | 7867 | 7437 | 7006 | 6576 | 6146 | 5715 | 5285 | 4855 |
| 2.46 | 28 | | 1967 | 1477 | 1047 | 0618 | 0188 | 9758 | 9329 | 8899 | 8469 | 8039 | 7608 | 7178 | 6747 | 6317 | 5886 | 5456 | 5025 |
| 3.3 | 29 | | 2080 | 1650 | 1220 | 0790 | 0360 | 9930 | 9500 | 9070 | 8640 | 8210 | 7779 | 7349 | 6918 | 6488 | 6057 | 5627 | 5196 |
| 3.20 | 30 | 285 (284) | 2112 | 1681 | 1251 | 0821 | 0391 | 9961 | 9531 | 9101 | 8671 | 8241 | 7810 | 7380 | 6949 | 6519 | 6088 | 5658 | 5227 |
| 3.37 | 31 | | 2063 | 1933 | 1503 | 1073 | 0643 | 0213 | 9783 | 9353 | 8923 | 8493 | 8062 | 7632 | 7201 | 6771 | 6340 | 5910 | 5479 |
| 3.54 | 32 | | 2514 | 2084 | 1658 | 1225 | 0794 | 0364 | 9934 | 9504 | 9074 | 8644 | 8213 | 7783 | 7351 | 6921 | 6490 | 6060 | 5629 |
| 4.11 | 33 | | 2666 | 2236 | 1806 | 1376 | 0946 | 0516 | 0085 | 9655 | 9224 | 8794 | 8363 | 7933 | 7502 | 7071 | 6641 | 6210 | 5779 |
| 4.28 | 34 | | 2818 | 2388 | 1958 | 1527 | 1097 | 0667 | 0237 | 9806 | 9375 | 8945 | 8514 | 8084 | 7653 | 7222 | 6792 | 6361 | 5930 |
| 4.45 | 35 | 285 (284) | 2969 | 2540 | 2110 | 1679 | 1249 | 0818 | 0388 | 9957 | 9527 | 9096 | 8666 | 8235 | 7804 | 7373 | 6943 | 6512 | 6081 |
| 5.2 | 36 | | 3121 | 2691 | 2262 | 1831 | 1401 | 0970 | 0540 | 0109 | 9679 | 9248 | 8817 | 8387 | 7956 | 7525 | 7094 | 6663 | 6232 |
| 5.19 | 37 | | 3272 | 2843 | 2413 | 1983 | 1553 | 1122 | 0692 | 0261 | 9831 | 9400 | 8969 | 8539 | 8108 | 7677 | 7246 | 6815 | 6384 |
| 5.36 | 38 | | 3424 | 2993 | 2563 | 2132 | 1702 | 1271 | 0841 | 0410 | 9979 | 9548 | 9117 | 8686 | 8255 | 7824 | 7393 | 6961 | 6530 |
| 5.53 | 39 | | 3575 | 3144 | 2714 | 2284 | 1853 | 1423 | 0992 | 0561 | 0131 | 9700 | 9269 | 8838 | 8407 | 7974 | 7543 | 7112 | 6680 |
| 6.10 | 40 | 285 (284) | 3727 | 3296 | 2865 | 2434 | 2004 | 1573 | 1143 | 0712 | 0281 | 9851 | 9420 | 8989 | 8558 | 8127 | 7695 | 7264 | 6833 |
| 6.27 | 41 | | 3877 | 3447 | 3016 | 2585 | 2155 | 1724 | 1294 | 0863 | 0432 | 0002 | 9571 | 9140 | 8709 | 8278 | 7847 | 7416 | 6984 |
| 6.44 | 42 | | 4028 | 3598 | 3167 | 2736 | 2306 | 1875 | 1444 | 1013 | 0583 | 0152 | 9721 | 9290 | 8859 | 8428 | 7997 | 7566 | 7135 |
| 7.1 | 43 | | 4179 | 3749 | 3318 | 2887 | 2457 | 2026 | 1595 | 1164 | 0734 | 0303 | 9872 | 9441 | 9010 | 8579 | 8148 | 7717 | 7286 |
| 7.18 | 44 | | 4330 | 3900 | 3469 | 3038 | 2608 | 2177 | 1746 | 1316 | 0885 | 0454 | 0023 | 9592 | 9161 | 8730 | 8299 | 7868 | 7437 |
| 7.35 | 45 | 285 (284) | 4481 | 4050 | 3619 | 3188 | 2757 | 2327 | 1896 | 1465 | 1035 | 0604 | 0173 | 9743 | 9312 | 8881 | 8450 | 8019 | 7588 |
| 7.52 | 46 | | 4632 | 4201 | 3770 | 3339 | 2908 | 2478 | 2047 | 1616 | 1186 | 0755 | 0324 | 9894 | 9463 | 9032 | 8601 | 8170 | 7739 |
| 8.9 | 47 | | 4783 | 4352 | 3921 | 3490 | 3059 | 2629 | 2198 | 1767 | 1337 | 0906 | 0475 | 0045 | 9614 | 9183 | 8752 | 8321 | 7890 |
| 8.26 | 48 | | 4934 | 4503 | 4072 | 3641 | 3210 | 2780 | 2349 | 1918 | 1488 | 1057 | 0626 | 0196 | 9765 | 9334 | 8903 | 8472 | 8041 |
| 8.43 | 49 | | 5084 | 4653 | 4223 | 3792 | 3361 | 2931 | 2500 | 2069 | 1639 | 1208 | 0777 | 0347 | 9916 | 9485 | 9054 | 8623 | 8192 |
| 9.0 | 50 | | 5235 | 4804 | 4374 | 3943 | 3512 | 3082 | 2651 | 2220 | 1790 | 1359 | 0928 | 0498 | 0067 | 9636 | 9205 | 8774 | 8343 |
| 9.17 | 51 | | 5385 | 4954 | 4524 | 4093 | 3663 | 3232 | 2801 | 2371 | 1940 | 1510 | 1079 | 0648 | 0218 | 9787 | 9356 | 8925 | 8494 |
| 9.34 | 52 | | 5535 | 5104 | 4674 | 4244 | 3813 | 3382 | 2952 | 2521 | 2091 | 1660 | 1230 | 0799 | 0368 | 9938 | 9507 | 9076 | 8645 |
| 9.51 | 53 | | 5685 | 5254 | 4824 | 4394 | 3963 | 3533 | 3102 | 2672 | 2241 | 1811 | 1380 | 0950 | 0519 | 0089 | 9658 | 9227 | 8796 |
| 10.8 | 54 | | 5834 | 5404 | 4975 | 4544 | 4114 | 3683 | 3253 | 2822 | 2392 | 1961 | 1531 | 1100 | 0670 | 0239 | 9809 | 9378 | 8947 |
| 10.25 | 55 | 285 (284) | 5984 | 5554 | 5124 | 4694 | 4264 | 3833 | 3403 | 2973 | 2542 | 2112 | 1681 | 1251 | 0821 | 0390 | 9960 | 9529 | 9099 |
| 10.42 | 56 | | 6134 | 5704 | 5274 | 4844 | 4414 | 3984 | 3553 | 3123 | 2693 | 2263 | 1832 | 1402 | 0972 | 0541 | 0111 | 9680 | 9250 |
| 10.59 | 57 | | 6284 | 5854 | 5424 | 4994 | 4564 | 4134 | 3704 | 3274 | 2843 | 2413 | 1983 | 1553 | 1122 | 0692 | 0262 | 9832 | 9401 |
| 11.16 | 58 | | 6434 | 6004 | 5574 | 5144 | 4714 | 4284 | 3854 | 3424 | 2994 | 2564 | 2134 | 1703 | 1273 | 0843 | 0413 | 9983 | 9553 |
| 11.33 | 59 | | 6584 | 6154 | 5722 | 5290 | 4858 | 4425 | 3993 | 3561 | 3128 | 2696 | 2263 | 1831 | 1398 | 0965 | 0532 | 0100 | 9667 |

# C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for 1′ of Argum. additive | A. & A. D. 148″ | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 431 | 0 | | | | | | | | | | | | | | | | | |
| 424 | 1 | 0498 | 0070 | 9641 | 9212 | 8783 | 8354 | 7925 | 7496 | 7067 | 6638 | 6208 | 5779 | 5350 | 4920 | 4490 | 4061 | 3631 |
| | 2 | | | | | | | | | | | | | | | | | |
| | 3 | | | | | | | | | | | | | | | | | |
| 403 | 4 | 0956 | 0527 | 0098 | 9669 | 9240 | 8811 | 8382 | 7952 | 7523 | 7093 | 6664 | 6235 | 5804 | 5375 | 4945 | 4515 | 4085 |
| | 5 | | | | | | | | | | | | | | | | | |
| 388 | 6 | 1261 | 0832 | 0403 | 9973 | 9544 | 9115 | 8685 | 8256 | 7827 | 7397 | 6967 | 6537 | 6107 | 5677 | 5247 | 4817 | 4387 |
| | 7 | | | | | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | | | | | |
| | 9 | 1717 | 1288 | 0859 | 0429 | 0000 | 9570 | 9141 | 8711 | 8281 | 7851 | 7421 | 0991 | 0561 | 0131 | 5701 | 5271 | 4840 |
| | 10 | | | | | | | | | | | | | | | | | |
| 352 | 11 | 2021 | 1592 | 1163 | 0733 | 0303 | 9874 | 9444 | 9014 | 8584 | 8154 | 7724 | 7294 | 6863 | 6433 | 6003 | 5572 | 5142 |
| 345 | 12 | 2173 | 1744 | 1314 | 0885 | 0455 | 0025 | 9595 | 9165 | 8735 | 8305 | 7875 | 7445 | 7014 | 6584 | 6154 | 5723 | 5292 |
| 338 | 13 | 2325 | 1896 | 1466 | 1036 | 0606 | 0177 | 9747 | 9317 | 8886 | 8456 | 8026 | 7596 | 7165 | 6735 | 6304 | 5874 | 5443 |
| | 14 | | | | | | | | | | | | | | | | | |
| | 15 | | | | | | | | | | | | | | | | | |
| | 16 | | | | | | | | | | | | | | | | | |
| | 17 | | | | | | | | | | | | | | | | | |
| | 18 | | | | | | | | | | | | | | | | | |
| | 19 | | | | | | | | | | | | | | | | | |
| | 20 | | | | | | | | | | | | | | | | | |
| | 21 | | | | | | | | | | | | | | | | | |
| 273 | 22 | 3689 | 3258 | 2828 | 2398 | 1967 | 1537 | 1106 | 0675 | 0244 | 9814 | 9383 | 8952 | 8520 | 8089 | 7658 | 7227 | 6795 |
| | 23 | | | | | | | | | | | | | | | | | |
| 259 | 24 | 3991 | 3561 | 3130 | 2699 | 2269 | 1838 | 1407 | 0976 | 0545 | 0114 | 9683 | 9252 | 8821 | 8390 | 7958 | 7527 | 7095 |
| | 25 | | | | | | | | | | | | | | | | | |
| | 26 | | | | | | | | | | | | | | | | | |
| | 27 | | | | | | | | | | | | | | | | | |
| 230 | 28 | 4595 | 4164 | 3733 | 3302 | 2871 | 2440 | 2009 | 1578 | 1146 | 0715 | 0284 | 9852 | 9421 | 8989 | 8557 | 8126 | 7694 |
| | 29 | 4745 | 4315 | 3884 | 3453 | 3022 | 2590 | 2159 | 1728 | 1297 | 0865 | 0434 | 0002 | 9571 | 9139 | 8707 | 8275 | 7843 |
| | 30 | | | | | | | | | | | | | | | | | |
| | 31 | | | | | | | | | | | | | | | | | |
| | 32 | | | | | | | | | | | | | | | | | |
| | 33 | | | | | | | | | | | | | | | | | |
| | 34 | | | | | | | | | | | | | | | | | |
| | 35 | | | | | | | | | | | | | | | | | |
| | 36 | | | | | | | | | | | | | | | | | |
| | 37 | | | | | | | | | | | | | | | | | |
| | 38 | | | | | | | | | | | | | | | | | |
| | 39 | | | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | | | |
| | 41 | | | | | | | | | | | | | | | | | |
| 129 | 42 | 6698 | 6266 | 5834 | 5402 | 4970 | 4538 | 4106 | 3674 | 3241 | 2809 | 2377 | 1944 | 1511 | 1079 | 0646 | 0213 | 9780 |
| 122 | 43 | 6848 | 6416 | 5984 | 5552 | 5120 | 4688 | 4255 | 3823 | | | | | | | | | |
| 115 | 44 | 6997 | 6565 | 6133 | 5701 | 5269 | 4837 | 4404 | 3972 | | | | | | | | | |
| | 45 | | | | | | | | | | | | | | | | | |
| | 46 | 7297 | 6864 | 6432 | 6000 | 5568 | 5135 | 4703 | 4270 | | | | | | | | | |
| | 47 | | | | | | | | | | | | | | | | | |
| | 48 | | | | | | | | | | | | | | | | | |
| | 49 | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | |
| | 51 | | | | | | | | | | | | | | | | | |
| | 52 | | | | | | | | | | | | | | | | | |
| | 53 | | | | | | | | | | | | | | | | | |
| | 54 | | | | | | | | | | | | | | | | | |
| 22 | 57 | 8936 | 8503 | 8070 | 7637 | 7204 | 6771 | 6337 | 5904 | 5470 | 5037 | 4603 | 4170 | 3736 | 3302 | 2868 | 2434 | 2000 |
| | 58 | | | | | | | | | | | | | | | | | |
| 7 | 59 | 9234 | 8800 | 8367 | 7934 | 7501 | 7067 | 6634 | 6200 | 5766 | 5333 | 4899 | 4465 | 4031 | 3597 | 3163 | 2729 | 2295 |

## Sums for finding the Corrected Distances.

| Parts for 1′ of C. D. additive | C. D. 148″ | Sums |
|---|---|---|
| | ′ | |
| | 0 | 5844 |
| | 1 | 8202 |
| | 2 | |
| | 3 | |
| | 4 | 8664 |
| | 5 | |
| | 6 | 8072 |
| | 7 | |
| | 8 | |
| | 9 | 9433 |
| | 10 | |
| | 11 | 9739 |
| | 12 | 9892 |
| | 13 | 5860046 |
| | 14 | |
| | 15 | |
| | 16 | |
| | 17 | |
| | 18 | 0871 |
| | 19 | |
| | 20 | |
| | 21 | |
| | 22 | 1422 |
| | 23 | 1575 |
| | 24 | 1727 |
| | 25 | 2854 1879 |
| | 26 | 2032 |
| | 27 | 2184 |
| | 28 | 2336 |
| | 29 | 2488 |
| | 30 | 2640 |
| | 31 | 2793 |
| | 32 | |
| | 33 | |
| | 34 | |
| | 35 | |
| | 36 | 3551 |
| | 37 | |
| | 38 | 3854 |
| | 39 | 4005 |
| | 40 | |
| | 41 | |
| | 42 | 4459 |
| | 43 | |
| | 44 | |
| | 45 | |
| | 46 | |
| | 47 | |
| | 48 | |
| | 49 | |
| | 50 | |
| | 51 | |
| | 52 | |
| | 53 | |
| | 54 | |
| | 55 | |
| | 56 | |
| 144 | 57 | 6718 |
| | 58 | |
| 149 | 59 | 7018 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts for Sec. of | C.S.A. 149° | Numbers |
|---|---|---|
| 0 | 0 | 015 1705 |
| 1 | 1 | 1044 |
| 2 | 2 | 1383 |
| 3 | 3 | 1722 |
| 4 | 4 | 2061 |
| 5 | 5 | 2400 |
| 6 | 6 | 2738 |
| 7 | 7 | 3077 |
| 8 | 8 | 3416 |
| 9 | 9 | 3754 |
| 10 | 10 | 4093 |
| 11 | 11 | 4431 |
| 12 | 12 | 4770 |
| 13 | 13 | 5108 |
| 14 | 14 | 5446 |
| 15 | 15 | 5784 |
| 16 | 16 | 6122 |
| 17 | 17 | 6460 |
| 18 | 18 | 6798 |
| 19 | 19 | 7136 |
| 20 | 20 | 7474 |
| 21 | 21 | 7812 |
| 22 | 22 | 8150 |
| 23 | 23 | 8487 |
| 24 | 24 | 8825 |
| 25 | 25 | 9162 |
| 26 | 26 | 9500 |
| 27 | 27 | 9837 |
| 28 | 28 | 0174 |
| 29 | 29 | 0512 |
| 30 | 30 | 0849 |
| 31 | 31 | 1186 |
| 32 | 32 | 1523 |
| 33 | 33 | 1860 |
| 34 | 34 | 2197 |
| 35 | 35 | 2534 |
| 36 | 36 | 2871 |
| 37 | 37 | 3208 |
| 38 | 38 | 3545 |
| 39 | 39 | 3882 |
| 40 | 40 | 4218 |
| 41 | 41 | 4555 |
| 42 | 42 | 4892 |
| 43 | 43 | 5228 |
| 44 | 44 | 5565 |
| 45 | 45 | 5901 |
| 46 | 46 | 6238 |
| 47 | 47 | 6574 |
| 48 | 48 | 6910 |
| 49 | 49 | 7247 |
| 50 | 50 | 7583 |
| 51 | 51 | 7919 |
| 52 | 52 | 8255 |
| 53 | 53 | 8591 |
| 54 | 54 | 8927 |
| 55 | 55 | 9263 |
| 56 | 56 | 9599 |
| 57 | 57 | 9935 |
| 58 | 58 | 0270 |
| 59 | 59 | 0606 |

| Parts for Seconds of Auxil. | S.A.A. & A.D. 149° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 435 | 0 | 285(284) 0735 | 0303 | 5871 | 5439 | 5007 | 4575 | 4142 | 3710 | 3278 | 2846 | 2412 | 1980 | 1547 | 1114 | 0681 | 0248 | 9815 |
| 428 | 1 | | 6855 | 6423 | 5991 | 5559 | 5126 | 4694 | 4262 | 3830 | 3397 | 2965 | 2532 | 2100 | 1668 | 1235 | 0803 | 0370 |
| 421 | 2 | 285 | 7035 | 6603 | 6171 | 5738 | 5306 | 4873 | 4441 | 4008 | 3576 | 3143 | 2710 | 2277 | 1844 | 1411 | 0978 | 0545 |
| 413 | 3 | | 7184 | 6752 | 6320 | 5888 | 5455 | 5023 | 4590 | 4157 | 3724 | 3292 | 2859 | 2426 | 1993 | 1560 | 1127 | 0694 |
| 406 | 4 | | 7334 | 6902 | 6469 | 6037 | 5604 | 5172 | 4739 | 4306 | 3873 | 3441 | 3008 | 2575 | 2142 | 1709 | 1275 | 0842 |
| 399 | 5 | 285 | 7483 | 7051 | 6618 | 6186 | 5753 | 5321 | 4888 | 4455 | 4022 | 3589 | 3156 | 2723 | 2290 | 1857 | 1424 | 0990 |
| 392 | 6 | | 7633 | 7200 | 6768 | 6335 | 5902 | 5470 | 5037 | 4604 | 4171 | 3738 | 3305 | 2872 | 2439 | 2005 | 1572 | 1139 |
| 384 | 7 | | 7782 | 7349 | 6917 | 6484 | 6051 | 5619 | 5186 | 4753 | 4320 | 3887 | 3454 | 3020 | 2587 | 2154 | 1720 | 1287 | 0853 |
| 377 | 8 | | 7931 | 7498 | 7066 | 6633 | 6200 | 5767 | 5334 | 4901 | 4468 | 4035 | 3602 | 3169 | 2735 | 2302 | 1868 | 1435 | 1001 |
| 370 | 9 | | 8080 | 7648 | 7215 | 6782 | 6349 | 5916 | 5483 | 5050 | 4617 | 4184 | 3750 | 3317 | 2884 | 2450 | 2016 | 1583 | 1149 |
| 363 | 10 | 285 | 8229 | 7797 | 7364 | 6931 | 6498 | 6065 | 5632 | 5199 | 4765 | 4332 | 3898 | 3465 | 3032 | 2598 | 2164 | 1731 | 1297 |
| 355 | 11 | | 8378 | 7945 | 7513 | 7080 | 6647 | 6213 | 5780 | 5347 | 4914 | 4480 | 4047 | 3613 | 3180 | 2746 | 2312 | 1879 | 1445 |
| 348 | 12 | | 8527 | 8094 | 7661 | 7228 | 6795 | 6362 | 5929 | 5495 | 5062 | 4629 | 4195 | 3761 | 3328 | 2894 | 2460 | 2026 | 1592 |
| 341 | 13 | | 8675 | 8242 | 7809 | 7376 | 6942 | 6509 | 6076 | 5643 | 5210 | 4777 | 4343 | 3910 | 3476 | 3042 | 2608 | 2174 | 1740 |
| 334 | 14 | | 8823 | 8391 | 7957 | 7524 | 7091 | 6658 | 6225 | 5792 | 5358 | 4925 | 4491 | 4058 | 3624 | 3190 | 2756 | 2322 | 1888 |
| 327 | 15 | 285 | 8972 | 8539 | 8105 | 7672 | 7239 | 6806 | 6373 | 5940 | 5507 | 5073 | 4640 | 4206 | 3773 | 3339 | 2905 | 2471 | 2037 |
| 319 | 16 | | 9122 | 8689 | 8256 | 7822 | 7389 | 6955 | 6522 | 6088 | 5655 | 5221 | 4787 | 4353 | 3919 | 3485 | 3051 | 2617 | 2183 |
| 312 | 17 | | 9271 | 8837 | 8404 | 7971 | 7537 | 7104 | 6671 | 6237 | 5803 | 5369 | 4935 | 4501 | 4067 | 3633 | 3198 | 2764 | 2330 |
| 305 | 18 | | 9419 | 8986 | 8553 | 8119 | 7686 | 7253 | 6819 | 6386 | 5952 | 5518 | 5084 | 4650 | 4214 | 3780 | 3346 | 2911 | 2477 |
| 298 | 19 | | 9568 | 9135 | 8701 | 8268 | 7835 | 7401 | 6968 | 6534 | 6100 | 5666 | 5232 | 4798 | 4364 | 3930 | 3495 | 3061 | 2626 |
| 291 | 20 | 285 | 9717 | 9284 | 8850 | 8417 | 7983 | 7550 | 7116 | 6683 | 6249 | 5815 | 5381 | 4947 | 4513 | 4078 | 3644 | 3209 | 2775 |
| 284 | 21 | | 9866 | 9433 | 8999 | 8565 | 8132 | 7698 | 7265 | 6831 | 6397 | 5963 | 5529 | 5095 | 4661 | 4227 | 3792 | 3358 | 2923 |
| 277 | 22 | | 0015 | 9582 | 9148 | 8714 | 8281 | 7847 | 7413 | 6980 | 6546 | 6112 | 5678 | 5244 | 4810 | 4375 | 3941 | 3506 | 3072 |
| 270 | 23 | | 0164 | 9727 | 9293 | 8859 | 8425 | 7991 | 7557 | 7123 | 6689 | 6254 | 5820 | 5386 | 4951 | 4516 | 4082 | 3647 | 3212 |
| 261 | 24 | | 0308 | 9875 | 9441 | 9007 | 8573 | 8139 | 7705 | 7270 | 6836 | 6402 | 5967 | 5533 | 5098 | 4663 | 4229 | 3794 | 3359 |
| 254 | 25 | | 0457 | 0024 | 9590 | 9156 | 8722 | 8288 | 7854 | 7419 | 6985 | 6551 | 6116 | 5682 | 5245 | 4810 | 4375 | 3940 | 3505 |
| 247 | 26 | | 0606 | 0173 | 9738 | 9304 | 8870 | 8436 | 8002 | 7567 | 7133 | 6699 | 6264 | 5830 | 5394 | 4957 | 4522 | 4086 | 3651 |
| 239 | 27 | | 0755 | 0322 | 9887 | 9453 | 9019 | 8585 | 8150 | 7716 | 7282 | 6847 | 6413 | 5978 | 5543 | 5109 | 4674 | 4239 | 3804 |
| 232 | 28 | | 0904 | 0471 | 0036 | 9602 | 9168 | 8733 | 8299 | 7865 | 7430 | 6996 | 6561 | 6126 | 5691 | 5256 | 4820 | 4385 | 3950 |
| 225 | 29 | | 1053 | 0620 | 0184 | 9751 | 9316 | 8882 | 8447 | 8013 | 7579 | 7144 | 6709 | 6274 | 5839 | 5403 | 4968 | 4532 | 4097 |
| 218 | 30 | 284 | 1202 | 0769 | 0333 | 9900 | 9465 | 9030 | 8596 | 8161 | 7727 | 7292 | 6857 | 6422 | 5987 | 5551 | 5116 | 4680 | 4244 |
| 210 | 31 | | 1343 | 0908 | 0474 | 0039 | 9605 | 9170 | 8736 | 8301 | 7866 | 7431 | 6996 | 6561 | 6126 | 5691 | 5256 | 4820 | 4385 |
| 203 | 32 | | 1492 | 1057 | 0623 | 0188 | 9753 | 9318 | 8884 | 8449 | 8014 | 7579 | 7145 | 6710 | 6275 | 5839 | 5404 | 4968 | 4533 |
| 196 | 33 | | 1637 | 1203 | 0768 | 0334 | 9899 | 9464 | 9030 | 8595 | 8160 | 7725 | 7290 | 6854 | 6419 | 5984 | 5549 | 5113 | 4678 |
| 189 | 34 | | 1786 | 1352 | 0917 | 0482 | 0047 | 9612 | 9178 | 8743 | 8307 | 7874 | 7438 | 7003 | 6568 | 6132 | 5697 | 5261 | 4826 |
| 181 | 35 | 284 | 1935 | 1501 | 1066 | 0631 | 0196 | 9761 | 9326 | 8891 | 8456 | 8021 | 7586 | 7151 | 6716 | 6280 | 5845 | 5409 | 4974 |
| 174 | 36 | | 2084 | 1650 | 1215 | 0780 | 0345 | 9910 | 9475 | 9040 | 8605 | 8170 | 7735 | 7300 | 6864 | 6429 | 5993 | 5558 | 5122 |
| 167 | 37 | | 2226 | 1791 | 1357 | 0922 | 0487 | 0052 | 9617 | 9181 | 8746 | 8311 | 7876 | 7440 | 7004 | 6569 | 6133 | 5697 | 5261 |
| 160 | 38 | | 2375 | 1940 | 1506 | 1071 | 0636 | 0201 | 9766 | 9330 | 8895 | 8460 | 8025 | 7589 | 7153 | 6718 | 6282 | 5846 | 5410 |
| 153 | 39 | | 2524 | 2089 | 1655 | 1220 | 0785 | 0350 | 9915 | 9479 | 9044 | 8609 | 8173 | 7738 | 7302 | 6866 | 6430 | 5994 | 5558 |
| 145 | 40 | 284 | 2673 | 2238 | 1804 | 1369 | 0934 | 0499 | 0064 | 9628 | 9193 | 8758 | 8322 | 7886 | 7451 | 7015 | 6579 | 6143 | 5707 |
| 138 | 41 | | 2822 | 2387 | 1953 | 1518 | 1083 | 0648 | 0213 | 9777 | 9342 | 8907 | 8471 | 8035 | 7599 | 7163 | 6727 | 6291 | 5855 |
| 131 | 42 | | 2971 | 2536 | 2102 | 1667 | 1232 | 0797 | 0362 | 9926 | 9491 | 9055 | 8620 | 8184 | 7748 | 7312 | 6876 | 6440 | 6004 |
| 124 | 43 | | 3120 | 2685 | 2251 | 1816 | 1381 | 0946 | 0511 | 0075 | 9640 | 9204 | 8768 | 8333 | 7896 | 7460 | 7024 | 6588 | 6152 |
| 116 | 44 | | 3269 | 2834 | 2400 | 1965 | 1530 | 1095 | 0660 | 0224 | 9789 | 9353 | 8917 | 8481 | 8045 | 7609 | 7173 | 6737 | 6301 |
| 109 | 45 | 284 | 3418 | 2983 | 2549 | 2114 | 1679 | 1244 | 0809 | 0373 | 9938 | 9502 | 9066 | 8630 | 8194 | 7758 | 7321 | 6885 | 6449 |
| 102 | 46 | | 3567 | 3132 | 2698 | 2263 | 1828 | 1393 | 0958 | 0522 | 0087 | 9651 | 9215 | 8778 | 8342 | 7906 | 7470 | 7034 | 6597 |
| 95 | 47 | | 3716 | 3281 | 2847 | 2412 | 1977 | 1542 | 1107 | 0671 | 0236 | 9800 | 9364 | 8927 | 8491 | 8055 | 7618 | 7182 | 6746 |
| 87 | 48 | | 3865 | 3430 | 2996 | 2561 | 2126 | 1691 | 1256 | 0820 | 0385 | 9949 | 9513 | 9076 | 8640 | 8203 | 7767 | 7331 | 6894 |
| 80 | 49 | | 4014 | 3579 | 3145 | 2710 | 2275 | 1840 | 1405 | 0969 | 0534 | 0098 | 9662 | 9225 | 8789 | 8352 | 7916 | 7479 | 7043 |
| 73 | 50 | 284 | 4163 | 3728 | 3294 | 2859 | 2424 | 1989 | 1554 | 1118 | 0683 | 0247 | 9811 | 9374 | 8938 | 8501 | 8065 | 7628 | 7192 |
| 65 | 51 | | 4278 | 3842 | 3406 | 2970 | 2534 | 2098 | 1662 | 1226 | 0789 | 0353 | 9917 | 9480 | 9044 | 8607 | 8171 | 7734 | 7298 |
| 58 | 52 | | 4427 | 3991 | 3555 | 3119 | 2683 | 2247 | 1811 | 1375 | 0939 | 0503 | 0067 | 9630 | 9194 | 8757 | 8321 | 7884 | 7447 |
| 51 | 53 | | 4577 | 4140 | 3704 | 3268 | 2832 | 2396 | 1960 | 1524 | 1088 | 0652 | 0216 | 9779 | 9343 | 8906 | 8470 | 8033 | 7597 |
| 44 | 54 | | 4726 | 4289 | 3853 | 3417 | 2981 | 2545 | 2109 | 1673 | 1237 | 0801 | 0365 | 9928 | 9492 | 9056 | 8619 | 8183 | 7746 |
| 36 | 55 | 284 | 4875 | 4438 | 4002 | 3566 | 3130 | 2694 | 2258 | 1822 | 1386 | 0950 | 0514 | 0077 | 9641 | 9205 | 8768 | 8332 | 7895 |
| 29 | 56 | | 5024 | 4587 | 4151 | 3715 | 3279 | 2843 | 2407 | 1971 | 1535 | 1099 | 0663 | 0226 | 9790 | 9354 | 8917 | 8481 | 8044 |
| 22 | 57 | | 5173 | 4736 | 4300 | 3864 | 3428 | 2992 | 2556 | 2120 | 1684 | 1248 | 0812 | 0375 | 9939 | 9503 | 9066 | 8630 | 8193 |
| 15 | 58 | | 5322 | 4885 | 4449 | 4013 | 3577 | 3141 | 2705 | 2269 | 1833 | 1397 | 0961 | 0524 | 0088 | 9652 | 9215 | 8779 | 8342 |
| 7 | 59 | | 5444 | 5007 | 4571 | 4134 | 3698 | 3261 | 2824 | 2388 | 1951 | 1514 | 1077 | 0640 | 0202 | 9765 | 9328 | 8890 | 8453 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Diffs for Seconds of Auxil. Argum. | A.S. & A.D. 149° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 43′ | 0 | 284 | 9382 | 9447 | 9515 | 9582 | 7740 | 7215 | 6775 | 6334 | 5914 | 5481 | 5047 | 4613 | 4179 | 3745 | 3311 | 2876 |
| 42′ | 1 | | 9531 | 9597 | 9664 | 9730 | 7797 | 7363 | 6923 | 6482 | 6062 | 5628 | 5194 | 4760 | 4326 | 3892 | 3458 | 3023 |
| 42′ | 2 | | 9679 | 9245 | 8812 | 8379 | 7945 | 7511 | 7078 | 6644 | 6210 | 5776 | 5342 | 4908 | 4474 | 4039 | 3605 | 3171 |
| 41′ | 3 | | 9827 | 9394 | 8960 | 8527 | 8093 | 7660 | 7226 | 6791 | 6358 | 5924 | 5490 | 5055 | 4621 | 4187 | 3753 | 3318 |
| 40′ | 4 | | 9975 | 9542 | 9108 | 8675 | 8241 | 7807 | 7373 | 6939 | 6505 | 6071 | 5637 | 5203 | 4768 | 4334 | 3900 | 3465 |
| 40′ | 5 | 285 284 | 0123 | 9690 | 9256 | 8823 | 8389 | 7955 | 7521 | 7087 | 6653 | 6219 | 5785 | 5351 | 4916 | 4482 | 4047 | 3612 |
| 39′ | 6 | | 0271 | 9838 | 9404 | 8971 | 8537 | 8103 | 7669 | 7234 | 6800 | 6366 | 5932 | 5497 | 5063 | 4628 | 4194 | 3759 |
| 38′ | 7 | | 0419 | 9986 | 9552 | 9119 | 8685 | 8251 | 7816 | 7382 | 6948 | 6513 | 6079 | 5644 | 5210 | 4775 | 4341 | 3906 |
| 37′ | 8 | | 0567 | 0134 | 9700 | 9267 | 8833 | 8398 | 7964 | 7530 | 7095 | 6661 | 6227 | 5792 | 5357 | 4922 | 4487 | 4053 |
| 37′ | 9 | | 0715 | 0282 | 9848 | 9415 | 8981 | 8546 | 8111 | 7677 | 7243 | 6808 | 6374 | 5939 | 5505 | 5069 | 4634 | 4199 |
| 36′ | 10 | 285 284 | 0863 | 0430 | 9996 | 9563 | 9129 | 8694 | 8259 | 7824 | 7390 | 6955 | 6521 | 6086 | 5651 | 5216 | 4781 | 4346 |
| 35′ | 11 | | 1011 | 0577 | 0144 | 9711 | 9276 | 8842 | 8407 | 7972 | 7538 | 7103 | 6668 | 6233 | 5798 | 5363 | 4928 | 4493 |
| 34′ | 12 | | 1158 | 0725 | 0292 | 9858 | 9424 | 8989 | 8554 | 8119 | 7685 | 7250 | 6815 | 6380 | 5945 | 5510 | 5075 | 4640 |
| 34′ | 13 | | 1306 | 0873 | 0440 | 0006 | 9572 | 9137 | 8702 | 8267 | 7832 | 7397 | 6962 | 6527 | 6092 | 5657 | 5222 | 4787 |
| 33′ | 14 | | 1454 | 1021 | 0588 | 0154 | 9719 | 9285 | 8850 | 8415 | 7980 | 7545 | 7110 | 6674 | 6239 | 5804 | 5369 | 4934 |
| 32′ | 15 | 285 284 | 1602 | 1169 | 0736 | 0302 | 9867 | 9432 | 8997 | 8562 | 8127 | 7692 | 7257 | 6821 | 6386 | 5951 | 5516 | 5081 |
| 32′ | 16 | | 1748 | 1314 | 0879 | 0445 | 0010 | 9575 | 9141 | 8706 | 8271 | 7836 | 7401 | 6966 | 6530 | 6095 | 5660 | 5224 | 4789 |
| 31′ | 17 | | 1895 | 1460 | 1026 | 0592 | 0157 | 9722 | 9287 | 8851 | 8416 | 7981 | 7545 | 7110 | 6675 | 6239 | 5804 | 5368 |
| 30′ | 18 | | 2043 | 1608 | 1173 | 0739 | 0304 | 9869 | 9434 | 8998 | 8563 | 8127 | 7692 | 7257 | 6821 | 6386 | 5950 | 5515 |
| 30′ | 19 | | 2191 | 1755 | 1320 | 0886 | 0451 | 0016 | 9581 | 9145 | 8710 | 8274 | 7839 | 7403 | 6968 | 6532 | 6097 | 5661 |
| 29′ | 20 | 285 284 | 2337 | 1902 | 1467 | 1032 | 0597 | 0163 | 9727 | 9292 | 8857 | 8422 | 7986 | 7551 | 7115 | 6680 | 6244 | 5808 |
| 28′ | 21 | | 2484 | 2049 | 1614 | 1179 | 0744 | 0309 | 9874 | 9439 | 9003 | 8568 | 8133 | 7697 | 7262 | 6826 | 6390 | 5954 | 5519 |
| 27′ | 22 | | 2631 | 2196 | 1761 | 1326 | 0891 | 0456 | 0020 | 9585 | 9150 | 8714 | 8279 | 7843 | 7408 | 6972 | 6536 | 6100 | 5665 |
| 27′ | 23 | | 2777 | 2343 | 1908 | 1472 | 1037 | 0603 | 0167 | 9732 | 9296 | 8860 | 8425 | 7989 | 7553 | 7118 | 6682 | 6246 | 5810 |
| 26′ | 24 | | 2924 | 2490 | 2054 | 1619 | 1184 | 0749 | 0313 | 9878 | 9442 | 9007 | 8571 | 8135 | 7699 | 7263 | 6826 | 6390 | 5955 |
| 25′ | 25 | 285 284 | 3071 | 2637 | 2201 | 1765 | 1330 | 0895 | 0459 | 0024 | 9588 | 9153 | 8717 | 8281 | 7845 | 7409 | 6973 | 6537 | 6101 |
| 24′ | 26 | | 3218 | 2784 | 2347 | 1912 | 1477 | 1041 | 0606 | 0170 | 9734 | 9299 | 8863 | 8427 | 7991 | 7555 | 7119 | 6683 | 6247 |
| 24′ | 27 | | 3364 | 2930 | 2494 | 2058 | 1623 | 1187 | 0752 | 0316 | 9880 | 9444 | 9008 | 8573 | 8137 | 7701 | 7264 | 6828 | 6392 |
| 23′ | 28 | | 3511 | 3077 | 2640 | 2204 | 1769 | 1333 | 0898 | 0462 | 0026 | 9590 | 9154 | 8718 | 8282 | 7846 | 7410 | 6974 | 6537 |
| 22′ | 29 | | 3657 | 3223 | 2787 | 2351 | 1915 | 1479 | 1044 | 0608 | 0172 | 9736 | 9300 | 8864 | 8428 | 7991 | 7555 | 7119 | 6683 |
| 21′ | 30 | 285 284 | 3803 | 3370 | 2933 | 2497 | 2061 | 1625 | 1189 | 0754 | 0318 | 9882 | 9446 | 9010 | 8573 | 8137 | 7701 | 7264 | 6828 |
| 21′ | 31 | | 3950 | 3516 | 3079 | 2643 | 2207 | 1771 | 1335 | 0899 | 0463 | 0027 | 9591 | 9155 | 8719 | 8282 | 7846 | 7410 | 6974 |
| 20′ | 32 | | 4096 | 3662 | 3225 | 2789 | 2353 | 1917 | 1481 | 1045 | 0609 | 0173 | 9737 | 9301 | 8864 | 8428 | 7991 | 7555 | 7117 |
| 19′ | 33 | | 4242 | 3809 | 3372 | 2935 | 2499 | 2063 | 1627 | 1191 | 0754 | 0318 | 9882 | 9446 | 9010 | 8573 | 8137 | 7700 | 7263 |
| 18′ | 34 | | 4388 | 3955 | 3518 | 3081 | 2644 | 2208 | 1772 | 1336 | 0900 | 0463 | 0027 | 9591 | 9154 | 8717 | 8281 | 7844 | 7407 |
| 18′ | 35 | 285 284 | 4534 | 4098 | 3662 | 3226 | 2790 | 2354 | 1918 | 1482 | 1045 | 0609 | 0172 | 9736 | 9300 | 8863 | 8427 | 7990 | 7553 |
| 17′ | 36 | | 4680 | 4244 | 3808 | 3372 | 2936 | 2500 | 2063 | 1627 | 1191 | 0754 | 0317 | 9881 | 9444 | 9007 | 8571 | 8134 | 7697 |
| 16′ | 37 | | 4826 | 4390 | 3954 | 3517 | 3081 | 2645 | 2209 | 1772 | 1336 | 0899 | 0463 | 0026 | 9590 | 9153 | 8717 | 8280 | 7842 |
| 16′ | 38 | | 4971 | 4535 | 4099 | 3663 | 3227 | 2790 | 2354 | 1918 | 1481 | 1044 | 0608 | 0171 | 9734 | 9297 | 8860 | 8423 | 7986 |
| 15′ | 39 | | 5117 | 4681 | 4245 | 3808 | 3372 | 2936 | 2500 | 2063 | 1627 | 1190 | 0753 | 0316 | 9879 | 9442 | 9005 | 8568 | 8131 |
| 14′ | 40 | 285 284 | 5263 | 4826 | 4390 | 3954 | 3517 | 3081 | 2644 | 2208 | 1771 | 1334 | 0897 | 0460 | 0023 | 9585 | 9148 | 8712 | 8275 |
| 13′ | 41 | | 5408 | 4972 | 4535 | 4099 | 3663 | 3226 | 2790 | 2353 | 1916 | 1479 | 1042 | 0605 | 0168 | 9731 | 9294 | 8857 | 8420 |
| 13′ | 42 | | 5554 | 5117 | 4681 | 4244 | 3808 | 3371 | 2934 | 2498 | 2061 | 1624 | 1187 | 0750 | 0313 | 9875 | 9438 | 9001 | 8563 |
| 12′ | 43 | | 5699 | 5263 | 4826 | 4390 | 3953 | 3516 | 3079 | 2643 | 2206 | 1769 | 1332 | 0894 | 0457 | 0020 | 9583 | 9145 | 8708 |
| 11′ | 44 | | 5844 | 5408 | 4971 | 4535 | 4099 | 3661 | 3224 | 2787 | 2351 | 1913 | 1476 | 1039 | 0602 | 0164 | 9727 | 9290 | 8852 |
| 10′ | 45 | 285 284 | 5990 | 5553 | 5116 | 4680 | 4243 | 3806 | 3370 | 2932 | 2495 | 2058 | 1621 | 1183 | 0746 | 0309 | 9871 | 9433 | 8996 |
| 10′ | 46 | | 6135 | 5698 | 5261 | 4825 | 4388 | 3951 | 3514 | 3077 | 2640 | 2202 | 1765 | 1328 | 0890 | 0453 | 0015 | 9577 | 9140 |
| 9′ | 47 | | 6280 | 5843 | 5406 | 4970 | 4533 | 4096 | 3658 | 3221 | 2784 | 2347 | 1910 | 1472 | 1035 | 0597 | 0159 | 9721 | 9284 |
| 8′ | 48 | | 6425 | 5988 | 5551 | 5114 | 4677 | 4240 | 3803 | 3366 | 2928 | 2491 | 2053 | 1616 | 1178 | 0741 | 0303 | 9865 | 9427 |
| 8′ | 49 | | 6570 | 6133 | 5696 | 5259 | 4822 | 4385 | 3948 | 3511 | 3073 | 2636 | 2198 | 1761 | 1323 | 0885 | 0447 | 0009 | 9571 |
| 7′ | 50 | 285 284 | 6715 | 6278 | 5841 | 5404 | 4967 | 4530 | 4093 | 3655 | 3218 | 2780 | 2343 | 1905 | 1467 | 1029 | 0591 | 0153 | 9715 |
| 6′ | 51 | | 6860 | 6423 | 5986 | 5549 | 5111 | 4674 | 4237 | 3800 | 3362 | 2925 | 2487 | 2049 | 1611 | 1173 | 0735 | 0297 | 9859 |
| 6′ | 52 | 285 | 7004 | 6568 | 6131 | 5693 | 5256 | 4819 | 4381 | 3944 | 3506 | 3068 | 2630 | 2192 | 1754 | 1316 | 0878 | 0440 | 0002 |
| 5′ | 53 | | 7149 | 6712 | 6275 | 5838 | 5400 | 4963 | 4525 | 4088 | 3650 | 3212 | 2774 | 2336 | 1898 | 1460 | 1022 | 0584 | 0145 |
| 4′ | 54 | | 7294 | 6857 | 6419 | 5982 | 5545 | 5107 | 4670 | 4232 | 3794 | 3356 | 2918 | 2480 | 2042 | 1603 | 1165 | 0727 | 0288 |
| 3′ | 55 | 285 | 7438 | 7001 | 6563 | 6126 | 5688 | 5251 | 4813 | 4375 | 3938 | 3500 | 3062 | 2624 | 2186 | 1747 | 1309 | 0871 | 0432 |
| 2′ | 56 | | 7583 | 7145 | 6708 | 6270 | 5833 | 5395 | 4957 | 4519 | 4081 | 3643 | 3205 | 2767 | 2329 | 1891 | 1453 | 1014 | 0575 |
| 2′ | 57 | | 7727 | 7289 | 6852 | 6414 | 5977 | 5539 | 5101 | 4663 | 4225 | 3787 | 3349 | 2911 | 2473 | 2034 | 1596 | 1157 | 0719 |
| 1′ | 58 | | 7871 | 7434 | 6996 | 6558 | 6121 | 5683 | 5245 | 4807 | 4369 | 3931 | 3493 | 3054 | 2616 | 2178 | 1739 | 1301 | 0862 |
| 0′ | 59 | | 8016 | 7578 | 7140 | 6702 | 6265 | 5827 | 5389 | 4951 | 4513 | 4074 | 3636 | 3197 | 2759 | 2321 | 1882 | 1444 | 1005 |

Sums for finding the Corrected Distance.

| Parts for Sec. of C. D. | C. D. 149° | Sums |
|---|---|---|
| ′ | ′ | |
| 0 | 0 | 585 7717 |
| 1 | 1 | 7317 |
| 2 | 2 | 7467 |
| 3 | 3 | 7617 |
| 4 | 4 | 7767 |
| 5 | 5 | 585 7915 |
| 6 | 6 | 8065 |
| 7 | 7 | 8214 |
| 8 | 8 | 8364 |
| 9 | 9 | 8513 |
| 10 | 10 | 585 8662 |
| 11 | 11 | 8811 |
| 12 | 12 | 8960 |
| 13 | 13 | 9109 |
| 14 | 14 | 9258 |
| 15 | 15 | 585 9406 |
| 16 | 16 | 9555 |
| 17 | 17 | 9703 |
| 18 | 18 | 9851 |
| 19 | 19 | 585 9999 |
| 20 | 20 | 586 0147 |
| 21 | 21 | 0295 |
| 22 | 22 | 0443 |
| 23 | 23 | 0591 |
| 24 | 24 | 0738 |
| 25 | 25 | 586 0886 |
| 26 | 26 | 1033 |
| 27 | 27 | 1180 |
| 28 | 28 | 1327 |
| 29 | 29 | 1474 |
| 30 | 30 | 586 1620 |
| 31 | 31 | 1767 |
| 32 | 32 | 1914 |
| 33 | 33 | 2060 |
| 34 | 34 | 2206 |
| 35 | 35 | 586 2352 |
| 36 | 36 | 2498 |
| 37 | 37 | 2644 |
| 38 | 38 | 2790 |
| 39 | 39 | 2935 |
| 40 | 40 | 587 3080 |
| 41 | 41 | 3225 |
| 42 | 42 | 3370 |
| 43 | 43 | 3515 |
| 44 | 44 | 3660 |
| 45 | 45 | 587 3804 |
| 46 | 46 | 3948 |
| 47 | 47 | 4092 |
| 48 | 48 | 4236 |
| 49 | 49 | 4380 |
| 50 | 50 | 587 4523 |
| 51 | 51 | 4666 |
| 52 | 52 | 4809 |
| 53 | 53 | 4952 |
| 54 | 54 | 5094 |
| 55 | 55 | 587 5236 |
| 56 | 56 | 5378 |
| 57 | 57 | 5520 |
| 58 | 58 | 5662 |
| 59 | 59 | 5803 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts | Numbers | Parts |
|---|---|---|
| 0 | 0000 | 60 |
| 1 | 0029 | 59 |
| 2 | 0058 | 58 |
| 3 | 0087 | 57 |
| 4 | 0116 | 56 |
| 5 | 0145 | 55 |
| 6 | 0174 | 54 |
| 7 | 0203 | 53 |
| 8 | 0232 | 52 |
| 9 | 0261 | 51 |
| 10 | 0290 | 50 |
| 11 | 0319 | 49 |
| 12 | 0348 | 48 |
| 13 | 0377 | 47 |
| 14 | 0406 | 46 |
| 15 | 0435 | 45 |
| 16 | 0464 | 44 |
| 17 | 0493 | 43 |
| 18 | 0522 | 42 |
| 19 | 0551 | 41 |
| 20 | 0580 | 40 |
| 21 | 0609 | 39 |
| 22 | 0638 | 38 |
| 23 | 0667 | 37 |
| 24 | 0696 | 36 |
| 25 | 0725 | 35 |
| 26 | 0754 | 34 |
| 27 | 0783 | 33 |
| 28 | 0812 | 32 |
| 29 | 0841 | 31 |
| 30 | 0870 | 30 |
| 31 | 0899 | 29 |
| 32 | 0928 | 28 |
| 33 | 0957 | 27 |
| 34 | 0986 | 26 |
| 35 | 1015 | 25 |
| 36 | 1044 | 24 |
| 37 | 1073 | 23 |
| 38 | 1102 | 22 |
| 39 | 1131 | 21 |
| 40 | 1160 | 20 |
| 41 | 1189 | 19 |
| 42 | 1218 | 18 |
| 43 | 1247 | 17 |
| 44 | 1276 | 16 |
| 45 | 1305 | 15 |
| 46 | 1334 | 14 |
| 47 | 1363 | 13 |
| 48 | 1392 | 12 |
| 49 | 1421 | 11 |
| 50 | 1450 | 10 |
| 51 | 1479 | 9 |
| 52 | 1508 | 8 |
| 53 | 1537 | 7 |
| 54 | 1566 | 6 |
| 55 | 1595 | 5 |
| 56 | 1624 | 4 |
| 57 | 1653 | 3 |
| 58 | 1682 | 2 |
| 59 | 1711 | 1 |
| 60 | 1740 | 0 |

| Parts | Numbers | Parts |
|---|---|---|
| 0 | 0000 | 60 |
| 1 | 0029 | 59 |
| 2 | 0058 | 58 |
| 3 | 0087 | 57 |
| 4 | 0116 | 56 |
| 5 | 0145 | 55 |
| 6 | 0174 | 54 |
| 7 | 0203 | 53 |
| 8 | 0232 | 52 |
| 9 | 0261 | 51 |
| 10 | 0290 | 50 |
| 11 | 0319 | 49 |
| 12 | 0348 | 48 |
| 13 | 0377 | 47 |
| 14 | 0406 | 46 |
| 15 | 0435 | 45 |
| 16 | 0464 | 44 |
| 17 | 0493 | 43 |
| 18 | 0522 | 42 |
| 19 | 0551 | 41 |
| 20 | 0580 | 40 |
| 21 | 0609 | 39 |
| 22 | 0638 | 38 |
| 23 | 0667 | 37 |
| 24 | 0696 | 36 |
| 25 | 0725 | 35 |
| 26 | 0754 | 34 |
| 27 | 0783 | 33 |
| 28 | 0812 | 32 |
| 29 | 0841 | 31 |
| 30 | 0870 | 30 |
| 31 | 0899 | 29 |
| 32 | 0928 | 28 |
| 33 | 0957 | 27 |
| 34 | 0986 | 26 |
| 35 | 1015 | 25 |
| 36 | 1044 | 24 |
| 37 | 1073 | 23 |
| 38 | 1102 | 22 |
| 39 | 1131 | 21 |
| 40 | 1160 | 20 |
| 41 | 1189 | 19 |
| 42 | 1218 | 18 |
| 43 | 1247 | 17 |
| 44 | 1276 | 16 |
| 45 | 1305 | 15 |
| 46 | 1334 | 14 |
| 47 | 1363 | 13 |
| 48 | 1392 | 12 |
| 49 | 1421 | 11 |
| 50 | 1450 | 10 |
| 51 | 1479 | 9 |
| 52 | 1508 | 8 |
| 53 | 1537 | 7 |
| 54 | 1566 | 6 |
| 55 | 1595 | 5 |
| 56 | 1624 | 4 |
| 57 | 1653 | 3 |
| 58 | 1682 | 2 |
| 59 | 1711 | 1 |
| 60 | 1740 | 0 |

| Days in Year | Days in Leap Year | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 0 | 286(285) 5589 | 5153 | 4716 | 4279 | 3843 | 3406 | 2969 | 2533 | 2095 | 1658 | 1221 | 0784 | 0347 | 9910 | 9472 | 9035 | 8597 |
| 1 | 1 | 5734 | 5298 | 4861 | 4425 | 3988 | 3551 | 3114 | 2677 | 2241 | 1804 | 1366 | 0929 | 0491 | 0054 | 9617 | 9179 | 8741 |
| 2 | 2 | 5880 | 5443 | 5006 | 4570 | 4133 | 3696 | 3259 | 2822 | 2385 | 1948 | 1510 | 1073 | 0636 | 0198 | 9761 | 9323 | 8886 |
| 3 | 3 | 6025 | 5588 | 5151 | 4715 | 4278 | 3841 | 3404 | 2967 | 2530 | 2092 | 1655 | 1218 | 0780 | 0343 | 9905 | 9467 | 9030 |
| 4 | 4 | 6170 | 5733 | 5296 | 4859 | 4423 | 3986 | 3549 | 3111 | 2674 | 2237 | 1800 | 1362 | 0924 | 0487 | 0049 | 9611 | 9173 |
| 5 | 5 | 6315 | 5878 | 5441 | 5004 | 4567 | 4130 | 3693 | 3256 | 2818 | 2381 | 1944 | 1506 | 1069 | 0631 | 0193 | 9755 | 9317 |
| 6 | 6 | 6460 | 6023 | 5586 | 5148 | 4712 | 4275 | 3837 | 3400 | 2963 | 2525 | 2088 | 1650 | 1213 | 0775 | 0337 | 9899 | 9461 |
| 7 | 7 | 6605 | 6168 | 5731 | 5294 | 4857 | 4419 | 3982 | 3545 | 3107 | 2670 | 2232 | 1794 | 1357 | 0919 | 0481 | 0043 | 9605 |
| 8 | 8 | 6750 | 6313 | 5876 | 5438 | 5001 | 4564 | 4126 | 3689 | 3251 | 2814 | 2376 | 1938 | 1501 | 1063 | 0625 | 0187 | 9748 |
| 9 | 9 | 6894 | 6457 | 6020 | 5583 | 5146 | 4708 | 4271 | 3833 | 3396 | 2958 | 2520 | 2082 | 1644 | 1206 | 0768 | 0330 | 9892 |
| 10 | 10 | 7039 | 6602 | 6165 | 5727 | 5290 | 4853 | 4415 | 3977 | 3540 | 3102 | 2664 | 2226 | 1788 | 1350 | 0912 | 0474 | 0036 |
| 11 | 11 | 7184 | 6747 | 6309 | 5872 | 5435 | 4997 | 4559 | 4121 | 3684 | 3246 | 2808 | 2370 | 1932 | 1494 | 1056 | 0617 | 0179 |
| 12 | 12 | 7328 | 6891 | 6454 | 6016 | 5579 | 5141 | 4703 | 4265 | 3828 | 3390 | 2952 | 2514 | 2076 | 1637 | 1199 | 0761 | 0322 |
| 13 | 13 | 7473 | 7035 | 6598 | 6161 | 5723 | 5285 | 4847 | 4409 | 3972 | 3534 | 3096 | 2657 | 2219 | 1781 | 1343 | 0904 | 0466 |
| 14 | 14 | 7617 | 7180 | 6742 | 6305 | 5867 | 5429 | 4991 | 4553 | 4115 | 3677 | 3239 | 2801 | 2363 | 1924 | 1486 | 1047 | 0609 |
| 15 | 15 | 7761 | 7324 | 6887 | 6449 | 6011 | 5573 | 5135 | 4697 | 4259 | 3821 | 3383 | 2944 | 2506 | 2068 | 1629 | 1191 | 0752 |
| 16 | 16 | 7906 | 7468 | 7030 | 6592 | 6155 | 5717 | 5279 | 4841 | 4403 | 3964 | 3526 | 3088 | 2650 | 2211 | 1772 | 1334 | 0895 |
| 17 | 17 | 8050 | 7612 | 7174 | 6736 | 6299 | 5861 | 5423 | 4984 | 4546 | 4108 | 3670 | 3231 | 2793 | 2354 | 1916 | 1477 | 1038 |
| 18 | 18 | 8194 | 7756 | 7318 | 6880 | 6442 | 6004 | 5566 | 5128 | 4690 | 4251 | 3813 | 3375 | 2936 | 2497 | 2059 | 1620 | 1181 |
| 19 | 19 | 8338 | 7900 | 7462 | 7024 | 6586 | 6148 | 5710 | 5272 | 4833 | 4395 | 3956 | 3518 | 3079 | 2640 | 2202 | 1763 | 1324 |
| 20 | 20 | 8482 | 8044 | 7606 | 7168 | 6730 | 6292 | 5853 | 5415 | 4977 | 4538 | 4100 | 3661 | 3222 | 2783 | 2345 | 1906 | 1467 |
| 21 | 21 | 8626 | 8188 | 7750 | 7312 | 6873 | 6435 | 5997 | 5558 | 5120 | 4681 | 4243 | 3804 | 3365 | 2927 | 2488 | 2049 | 1610 |
| 22 | 22 | 8769 | 8331 | 7893 | 7455 | 7017 | 6579 | 6141 | 5702 | 5263 | 4824 | 4386 | 3947 | 3508 | 3069 | 2631 | 2192 | 1753 |
| 23 | 23 | 8913 | 8475 | 8037 | 7599 | 7160 | 6722 | 6283 | 5845 | 5406 | 4967 | 4529 | 4090 | 3651 | 3212 | 2773 | 2334 | 1896 |
| 24 | 24 | 9057 | 8619 | 8180 | 7742 | 7304 | 6865 | 6427 | 5988 | 5549 | 5110 | 4672 | 4233 | 3794 | 3355 | 2916 | 2478 | 2039 |
| 25 | 25 | 9200 | 8762 | 8324 | 7885 | 7447 | 7008 | 6570 | 6131 | 5692 | 5253 | 4814 | 4375 | 3936 | 3497 | 3058 | 2619 | 2181 |
| 26 | 26 | 9344 | 8906 | 8467 | 8029 | 7591 | 7151 | 6713 | 6274 | 5835 | 5396 | 4957 | 4518 | 4079 | 3640 | 3201 | 2761 | 2322 |
| 27 | 27 | 9487 | 9049 | 8611 | 8172 | 7733 | 7295 | 6856 | 6417 | 5978 | 5539 | 5100 | 4661 | 4222 | 3782 | 3343 | 2904 | 2465 |
| 28 | 28 | 9631 | 9192 | 8754 | 8315 | 7876 | 7438 | 6999 | 6560 | 6121 | 5682 | 5243 | 4803 | 4364 | 3925 | 3485 | 3046 | 2607 |
| 29 | 29 | 9774 | 9335 | 8897 | 8458 | 8019 | 7581 | 7142 | 6703 | 6263 | 5824 | 5385 | 4946 | 4507 | 4067 | 3628 | 3189 | 2749 |
| 30 | 30 | 9917 | 9479 | 9040 | 8601 | 8162 | 7723 | 7284 | 6845 | 6406 | 5967 | 5528 | 5088 | 4649 | 4209 | 3770 | 3330 | 2890 |
| 31 | 31 | 287(286) 0060 | 9622 | 9183 | 8744 | 8305 | 7866 | 7427 | 6988 | 6548 | 6109 | 5670 | 5231 | 4791 | 4352 | 3912 | 3473 | 3032 |
| 32 | 32 | 0203 | 9765 | 9326 | 8887 | 8448 | 8009 | 7570 | 7130 | 6691 | 6252 | 5812 | 5373 | 4933 | 4494 | 4054 | 3614 | 3174 |
| 33 | 33 | 0346 | 9908 | 9469 | 9030 | 8591 | 8151 | 7712 | 7273 | 6834 | 6394 | 5955 | 5515 | 5075 | 4636 | 4196 | 3756 | 3316 |
| 34 | 34 | 0489 | 0051 | 9611 | 9172 | 8732 | 8294 | 7855 | 7415 | 6976 | 6536 | 6097 | 5657 | 5217 | 4778 | 4338 | 3898 | 3458 |
| 35 | 35 | 0632 | 0194 | 9754 | 9315 | 8876 | 8437 | 7997 | 7558 | 7118 | 6678 | 6239 | 5799 | 5359 | 4920 | 4480 | 404 | 3600 |
| 36 | 36 | 0775 | 0336 | 9897 | 9457 | 9018 | 8579 | 8139 | 7700 | 7260 | 6821 | 6381 | 5941 | 5501 | 5061 | 4621 | 4181 | 3741 |
| 37 | 37 | 0918 | 0478 | 0039 | 9600 | 9161 | 8721 | 8282 | 7842 | 7402 | 6963 | 6523 | 6083 | 5643 | 5203 | 4763 | 4323 | 3883 |
| 38 | 38 | 1061 | 0621 | 0182 | 9742 | 9303 | 8863 | 8424 | 7984 | 7544 | 7105 | 6665 | 6225 | 5785 | 5345 | 4905 | 4464 | 4024 |
| 39 | 39 | 1203 | 0763 | 0324 | 9885 | 9445 | 9006 | 8566 | 8126 | 7686 | 7247 | 6807 | 6367 | 5927 | 5486 | 5046 | 4606 | 4166 |
| 40 | 40 | 1346 | 0906 | 0466 | 0027 | 9587 | 9148 | 8708 | 8268 | 7828 | 7388 | 6948 | 6508 | 6068 | 5628 | 5188 | 4747 | 4307 |
| 41 | 41 | 1489 | 1048 | 0609 | 0169 | 9730 | 9290 | 8850 | 8410 | 7970 | 7530 | 7090 | 6650 | 6210 | 5769 | 5329 | 4889 | 4448 |
| 42 | 42 | 1631 | 1191 | 0751 | 0312 | 9872 | 9432 | 8992 | 8552 | 8112 | 7672 | 7232 | 6791 | 6351 | 5911 | 5470 | 5030 | 4589 |
| 43 | 43 | 1774 | 1333 | 0893 | 0454 | 0013 | 9574 | 9134 | 8694 | 8254 | 7814 | 7373 | 6933 | 6493 | 6052 | 5612 | 5171 | 4730 |
| 44 | 44 | 1917 | 1475 | 1035 | 0595 | 0155 | 9716 | 9275 | 8835 | 8395 | 7955 | 7515 | 7074 | 6634 | 6193 | 5753 | 5312 | 4872 |
| 45 | 45 | 2059(286) | 1617 | 1177 | 0737 | 0297 | 9858 | 9417 | 8977 | 8537 | 8096 | 7656 | 7216 | 6775 | 6335 | 5894 | 5453 | 5012 |
| 46 | 46 | 2202 | 1759 | 1319 | 0879 | 0439 | 9999 | 9559 | 9118 | 8678 | 8238 | 7797 | 7357 | 6916 | 6476 | 6035 | 5594 | 5153 |
| 47 | 47 | 2340 | 1901 | 1461 | 1021 | 0581 | 0141 | 9700 | 9260 | 8820 | 8379 | 7939 | 7498 | 7057 | 6617 | 6176 | 5735 | 5294 |
| 48 | 48 | 2487 | 2044 | 1603 | 1162 | 0722 | 0282 | 9842 | 9401 | 8961 | 8521 | 8080 | 7639 | 7198 | 6758 | 6317 | 5876 | 5435 |
| 49 | 49 | 2624 | 2184 | 1744 | 1304 | 0864 | 0423 | 9983 | 9543 | 9102 | 8662 | 8221 | 7780 | 7340 | 6899 | 6457 | 6016 | 5575 |
| 50 | 50 | 2766 | 2326 | 1886 | 1445 | 1005 | 0565 | 0124 | 9684 | 9243 | 8803 | 8362 | 7921 | 7480 | 7039 | 6598 | 6157 | 5716 |
| 51 | 51 | 2907 | 2467 | 2027 | 1587 | 1147 | 0706 | 0266 | 9825 | 9384 | 8944 | 8503 | 8062 | 7621 | 7180 | 6739 | 6298 | 5857 |
| 52 | 52 | 3049 | 2609 | 2168 | 1728 | 1288 | 0847 | 0407 | 9966 | 9525 | 9085 | 8644 | 8203 | 7762 | 7321 | 6880 | 6438 | 5997 |
| 53 | 53 | 3191 | 2750 | 2309 | 1869 | 1428 | 0988 | 0547 | 0107 | 9666 | 9225 | 8784 | 8343 | 7902 | 7461 | 7020 | 6579 | 6137 |
| 54 | 54 | 3332 | 2892 | 2451 | 2010 | 1569 | 1128 | 0688 | 0248 | 9807 | 9366 | 8925 | 8484 | 8043 | 7602 | 7160 | 6719 | 6278 |
| 55 | 55 | 3473 | 3033 | 2592 | 2151 | 1711 | 1269 | 0828 | 0388 | 9947 | 9507 | 9066 | 8625 | 8183 | 7742 | 7301 | 6859 | 6418 |
| 56 | 56 | 3615 | 3174 | 2734 | 2293 | 1852 | 1410 | 0969 | 0529 | 0088 | 9648 | 9207 | 8765 | 8324 | 7883 | 7442 | 7000 | 6559 |
| 57 | 57 | 3756 | 3315 | 2875 | 2434 | 1993 | 1552 | 1111 | 0670 | 0229 | 9788 | 9347 | 8906 | 8465 | 8024 | 7583 | 7141 | 6700 |
| 58 | 58 | 3897 | 3456 | 3016 | 2575 | 2134 | 1693 | 1252 | 0811 | 0370 | 9929 | 9487 | 9046 | 8605 | 8163 | 7721 | 7280 | 6839 |
| 59 | 59 | 4038 | 3597 | 3157 | 2716 | 2275 | 1834 | 1393 | 0952 | 0510 | 0069 | 9628 | 9186 | 8745 | 8303 | 7861 | 7420 | 6978 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Prop. for Seconds of Anxil. Argum. | Arg. A. D. 150° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 44 | 0 | 285 | 8167 | 7722 | 7284 | 6846 | 6408 | 5970 | 5532 | 5094 | 4656 | 4218 | 3780 | 3341 | 2903 | 2464 | 2025 | 1587 | 1148 |
| 43 | 1 | | 8304 | 7865 | 7427 | 6990 | 6552 | 6114 | 5676 | 5238 | 4800 | 4361 | 3923 | 3484 | 3046 | 2607 | 2168 | 1730 | 1291 |
| 42 | 2 | | 8448 | 8010 | 7572 | 7134 | 6696 | 6258 | 5820 | 5381 | 4943 | 4505 | 4066 | 3628 | 3189 | 2750 | 2311 | 1873 | 1434 |
| 41 | 3 | | 8592 | 8154 | 7716 | 7278 | 6840 | 6401 | 5963 | 5525 | 5087 | 4649 | 4210 | 3771 | 3333 | 2893 | 2454 | 2016 | 1577 |
| 40 | 4 | | 8736 | 8298 | 7860 | 7421 | 6983 | 6545 | 6107 | 5668 | 5230 | 4791 | 4353 | 3914 | 3475 | 3036 | 2597 | 2158 | 1719 |
| 39 | 5 | 285 | 8879 | 8441 | 8003 | 7565 | 7127 | 6688 | 6250 | 5812 | 5373 | 4934 | 4496 | 4057 | 3618 | 3179 | 2741 | 2301 | 1862 |
| 38 | 6 | | 9023 | 8588 | 8147 | 7708 | 7270 | 6832 | 6393 | 5955 | 5516 | 5077 | 4639 | 4200 | 3761 | 3322 | 2883 | 2444 | 2004 |
| 37 | 7 | | 9167 | 8728 | 8290 | 7852 | 7414 | 6975 | 6537 | 6098 | 5659 | 5220 | 4782 | 4343 | 3904 | 3464 | 3025 | 2586 | 2147 |
| 36 | 8 | | 9310 | 8872 | 8434 | 7996 | 7557 | 7119 | 6680 | 6241 | 5802 | 5363 | 4924 | 4485 | 4046 | 3607 | 3168 | 2729 | 2289 |
| 35 | 9 | | 9454 | 9015 | 8577 | 8139 | 7701 | 7261 | 6823 | 6384 | 5945 | 5506 | 5067 | 4628 | 4189 | 3750 | 3311 | 2871 | 2432 |
| 34 | 10 | 285 | 9597 | 9159 | 8720 | 8282 | 7843 | 7404 | 6966 | 6527 | 6088 | 5649 | 5210 | 4771 | 4331 | 3892 | 3453 | 3013 | 2574 |
| 33 | 11 | | 9741 | 9303 | 8864 | 8425 | 7986 | 7547 | 7108 | 6667 | 6231 | 5792 | 5353 | 4913 | 4474 | 4035 | 3595 | 3156 | 2716 |
| 32 | 12 | | 9884 | 9445 | 9007 | 8568 | 8129 | 7690 | 7251 | 6812 | 6373 | 5934 | 5495 | 5056 | 4616 | 4177 | 3737 | 3298 | 2858 |
| 345 | 13 | 286(285) | 0027 | 9588 | 9150 | 8711 | 8272 | 7833 | 7394 | 6955 | 6516 | 6077 | 5637 | 5198 | 4759 | 4319 | 3880 | 3440 | 3000 |
| 31 | 14 | | 0170 | 9731 | 9293 | 8854 | 8415 | 7976 | 7537 | 7098 | 6658 | 6219 | 5780 | 5341 | 4901 | 4461 | 4022 | 3582 | 3142 |
| 30 | 15 | 286(285) | 0313 | 9874 | 9436 | 8997 | 8558 | 8119 | 7680 | 7241 | 6801 | 6362 | 5923 | 5483 | 5043 | 4604 | 4164 | 3724 | 3284 |
| 29 | 16 | | 0457 | 0017 | 9579 | 9140 | 8701 | 8261 | 7822 | 7383 | 6943 | 6504 | 6064 | 5625 | 5185 | 4745 | 4305 | 3866 | 3426 |
| 316 | 17 | | 0599 | 0160 | 9721 | 9282 | 8843 | 8404 | 7965 | 7525 | 7086 | 6646 | 6207 | 5767 | 5327 | 4887 | 4448 | 4008 | 3568 |
| 28 | 18 | | 0742 | 0303 | 9864 | 9425 | 8986 | 8546 | 8107 | 7668 | 7228 | 6789 | 6346 | 5909 | 5469 | 5029 | 4589 | 4149 | 3709 |
| 27 | 19 | | 0885 | 0446 | 0007 | 9567 | 9128 | 8689 | 8249 | 7810 | 7371 | 6931 | 6491 | 6051 | 5611 | 5171 | 4731 | 4291 | 3851 |
| 26 | 20 | 286(285) | 1028 | 0588 | 0149 | 9710 | 9271 | 8831 | 8391 | 7951 | 7512 | 7073 | 6633 | 6193 | 5753 | 5313 | 4873 | 4433 | 3993 |
| 25 | 21 | | 1171 | 0731 | 0292 | 9853 | 9413 | 8973 | 8534 | 8094 | 7654 | 7215 | 6775 | 6335 | 5895 | 5455 | 5015 | 4574 | 4134 |
| 279 | 22 | | 1313 | 0873 | 0434 | 9995 | 9555 | 9116 | 8676 | 8236 | 7796 | 7357 | 6917 | 6477 | 6036 | 5596 | 5156 | 4716 | 4275 |
| 23 | 23 | | 1455 | 1016 | 0577 | 0137 | 9698 | 9258 | 8818 | 8378 | 7938 | 7498 | 7058 | 6618 | 6178 | 5738 | 5298 | 4857 | 4417 |
| 22 | 24 | | 1598 | 1158 | 0719 | 0279 | 9840 | 9400 | 8960 | 8520 | 8080 | 7640 | 7200 | 6760 | 6320 | 5880 | 5440 | 4999 | 4558 |
| 21 | 25 | 286(285) | 1740 | 1300 | 0861 | 0421 | 9981 | 9542 | 9102 | 8662 | 8222 | 7782 | 7342 | 6902 | 6461 | 6021 | 5580 | 5140 | 4700 |
| 20 | 26 | | 1882 | 1443 | 1003 | 0563 | 0123 | 9684 | 9244 | 8804 | 8364 | 7923 | 7483 | 7043 | 6602 | 6162 | 5722 | 5281 | 4841 |
| 242 | 27 | | 2024 | 1585 | 1145 | 0705 | 0265 | 9826 | 9385 | 8945 | 8505 | 8065 | 7625 | 7184 | 6744 | 6303 | 5863 | 5422 | 4981 |
| 238 | 28 | | 2167 | 1727 | 1287 | 0847 | 0407 | 9967 | 9527 | 9087 | 8647 | 8206 | 7766 | 7326 | 6885 | 6444 | 6004 | 5563 | 5122 |
| 237 | 29 | | 2310 | 1870 | 1430 | 0990 | 0550 | 0110 | 9670 | 9230 | 8788 | 8348 | 7907 | 7467 | 7026 | 6585 | 6144 | 5704 | 5263 |
| 2 | 30 | 286(285) | 2451 | 2011 | 1571 | 1131 | 0691 | 0251 | 9811 | 9370 | 8930 | 8490 | 8049 | 7608 | 7167 | 6727 | 6286 | 5845 | 5404 |
| 233 | 31 | | 2593 | 2153 | 1713 | 1273 | 0833 | 0392 | 9952 | 9511 | 9071 | 8631 | 8190 | 7749 | 7308 | 6867 | 6427 | 5986 | 5545 |
| 232 | 32 | | 2734 | 2294 | 1854 | 1414 | 0974 | 0534 | 0093 | 9652 | 9212 | 8772 | 8331 | 7890 | 7449 | 7008 | 6567 | 6126 | 5685 |
| 231 | 33 | | 2876 | 2436 | 1996 | 1555 | 1115 | 0675 | 0234 | 9794 | 9353 | 8913 | 8472 | 8031 | 7590 | 7149 | 6708 | 6267 | 5826 |
| 230 | 34 | | 3018 | 2577 | 2137 | 1697 | 1257 | 0816 | 0376 | 9935 | 9494 | 9054 | 8613 | 8172 | 7731 | 7290 | 6849 | 6408 | 5967 |
| 229 | 35 | 286(285) | 3159 | 2719 | 2278 | 1838 | 1398 | 0957 | 0517 | 0076 | 9635 | 9195 | 8754 | 8313 | 7872 | 7431 | 6990 | 6549 | 6108 |
| 17 | 36 | | 3301 | 2860 | 2420 | 1979 | 1539 | 1098 | 0658 | 0217 | 9777 | 9336 | 8895 | 8454 | 8013 | 7572 | 7131 | 6690 | 6249 |
| 227 | 37 | | 3442 | 3002 | 2561 | 2121 | 1680 | 1240 | 0799 | 0358 | 9918 | 9477 | 9036 | 8595 | 8154 | 7713 | 7272 | 6831 | 6390 |
| 161 | 38 | | 3584 | 3143 | 2703 | 2262 | 1821 | 1381 | 0940 | 0499 | 0059 | 9618 | 9177 | 8736 | 8295 | 7854 | 7413 | 6972 | 6531 |
| 154 | 39 | | 3725 | 3284 | 2844 | 2403 | 1962 | 1521 | 1081 | 0640 | 0199 | 9759 | 9318 | 8877 | 8436 | 7995 | 7554 | 7113 | 6672 |
| 147 | 40 | 286(285) | 3867 | 3426 | 2985 | 2544 | 2104 | 1663 | 1222 | 0781 | 0340 | 9900 | 9459 | 9018 | 8577 | 8136 | 7695 | 7254 | 6813 |
| 13 | 41 | | 4008 | 3567 | 3126 | 2685 | 2245 | 1804 | 1363 | 0922 | 0481 | 0041 | 9600 | 9159 | 8718 | 8277 | 7836 | 7395 | 6954 |
| 131 | 42 | | 4149 | 3708 | 3267 | 2826 | 2386 | 1945 | 1504 | 1063 | 0622 | 0181 | 9741 | 9300 | 8859 | 8418 | 7977 | 7536 | 7095 |
| 126 | 43 | | 4290 | 3849 | 3408 | 2967 | 2527 | 2086 | 1645 | 1204 | 0763 | 0322 | 9882 | 9441 | 9000 | 8559 | 8118 | 7677 | 7236 |
| 119 | 44 | | 4431 | 3990 | 3549 | 3108 | 2668 | 2227 | 1786 | 1345 | 0904 | 0463 | 0023 | 9582 | 9141 | 8700 | 8259 | 7818 | 7377 |
| 113 | 45 | 286(285) | 4571 | 4131 | 3690 | 3249 | 2809 | 2368 | 1927 | 1486 | 1045 | 0604 | 0164 | 9723 | 9282 | 8841 | 8400 | 7959 | 7518 |
| 108 | 46 | | 4712 | 4271 | 3830 | 3389 | 2948 | 2506 | 2065 | 1624 | 1182 | 0740 | 0299 | 9857 | 9415 | 8973 | 8531 | 8090 | 7647 |
| 98 | 47 | | 4851 | 4411 | 3970 | 3528 | 3087 | 2646 | 2205 | 1764 | 1323 | 0882 | 0441 | 0000 | 9558 | 9116 | 8674 | 8232 | 7790 |
| 92 | 48 | | 4992 | 4552 | 4111 | 3671 | 3230 | 2789 | 2348 | 1907 | 1466 | 1025 | 0584 | 0143 | 9702 | 9260 | 8818 | 8376 | 7934 |
| 81 | 49 | | 5134 | 4693 | 4252 | 3810 | 3369 | 2927 | 2486 | 2044 | 1602 | 1160 | 0719 | 0277 | 9835 | 9392 | 8950 | 8508 | 8066 |
| 75 | 50 | 286(285) | 5274 | 4833 | 4393 | 3952 | 3511 | 3070 | 2628 | 2187 | 1745 | 1303 | 0862 | 0420 | 9978 | 9536 | 9094 | 8652 | 8209 |
| 68 | 51 | | 5415 | 4974 | 4532 | 4091 | 3649 | 3208 | 2766 | 2324 | 1882 | 1440 | 0998 | 0556 | 0114 | 9672 | 9229 | 8787 | 8344 |
| 60 | 52 | | 5555 | 5114 | 4672 | 4230 | 3788 | 3346 | 2904 | 2462 | 2020 | 1578 | 1136 | 0694 | 0252 | 9810 | 9367 | 8925 | 8482 |
| 53 | 53 | | 5695 | 5254 | 4812 | 4370 | 3928 | 3486 | 3044 | 2602 | 2160 | 1718 | 1276 | 0834 | 0392 | 9950 | 9508 | 9065 | 8623 |
| 46 | 54 | | 5835 | 5394 | 4953 | 4511 | 4069 | 3627 | 3185 | 2743 | 2301 | 1859 | 1417 | 0974 | 0532 | 0090 | 9647 | 9204 | 8762 |
| 39 | 55 | 286(285) | 5975 | 5534 | 5093 | 4651 | 4209 | 3767 | 3325 | 2883 | 2441 | 1999 | 1557 | 1115 | 0673 | 0231 | 9788 | 9346 | 8903 |
| 32 | 56 | | 6114 | 5673 | 5232 | 4790 | 4348 | 3906 | 3464 | 3022 | 2580 | 2138 | 1696 | 1254 | 0812 | 0370 | 9928 | 9485 | 9043 |
| 25 | 57 | | 6253 | 5812 | 5371 | 4929 | 4487 | 4045 | 3603 | 3161 | 2719 | 2277 | 1835 | 1393 | 0951 | 0509 | 0067 | 9625 | 9183 |
| 18 | 58 | | 6392 | 5951 | 5510 | 5068 | 4626 | 4184 | 3742 | 3300 | 2858 | 2416 | 1974 | 1532 | 1090 | 0648 | 0206 | 9764 | 9322 |
| 11 | 59 | | 6531 | 6090 | 5649 | 5207 | 4765 | 4323 | 3881 | 3439 | 2997 | 2555 | 2113 | 1671 | 1229 | 0787 | 0345 | 9903 | 9461 |

Sums for finding the Corrected Distances.

| Prop. for Seconds of C. I. | Arg. A. D. 150° | Sums |
|---|---|---|
| | | |
| 0 | 0 | 586 6025 |
| 2 | 1 | 6171 |
| 5 | 2 | 6316 |
| 7 | 3 | 6461 |
| 10 | 4 | 6607 |
| 12 | 5 | 6752 |
| 14 | 6 | 6897 |
| 17 | 7 | 7043 |
| 19 | 8 | 7187 |
| 22 | 9 | 7333 |
| 24 | 10 | 586 7479 |
| 26 | 11 | 7624 |
| 29 | 12 | 7770 |
| 31 | 13 | 7914 |
| 33 | 14 | 8059 |
| 36 | 15 | 586 8205 |
| 38 | 16 | 8349 |
| 41 | 17 | 8497 |
| 43 | 18 | 8641 |
| 45 | 19 | 8786 |
| 48 | 20 | 586 8930 |
| 50 | 21 | 9074 |
| 53 | 22 | 9217 |
| 55 | 23 | 9361 |
| 57 | 24 | 9505 |
| 60 | 25 | 586 9650 |
| 62 | 26 | 9794 |
| 65 | 27 | 9936 |
| 67 | 28 | 587 0079 |
| 69 | 29 | 0222 |
| 72 | 30 | 587 0366 |
| 74 | 31 | 0509 |
| 77 | 32 | 0652 |
| 79 | 33 | 0795 |
| 81 | 34 | 0938 |
| 84 | 35 | 587 1081 |
| 86 | 36 | 1224 |
| 88 | 37 | 1367 |
| 91 | 38 | 1510 |
| 93 | 39 | 1653 |
| 96 | 40 | 587 1796 |
| 98 | 41 | 1937 |
| 100 | 42 | 2080 |
| 103 | 43 | 2223 |
| 105 | 44 | 2364 |
| 108 | 45 | 587 2507 |
| 110 | 46 | 2649 |
| 113 | 47 | 2790 |
| 115 | 48 | 2932 |
| 117 | 49 | 3074 |
| 120 | 50 | 587 3216 |
| 122 | 51 | 3357 |
| 124 | 52 | 3498 |
| 127 | 53 | 3641 |
| 129 | 54 | 3782 |
| 132 | 55 | 587 3924 |
| 134 | 56 | 4065 |
| 136 | 57 | 4206 |
| 139 | 58 | 4348 |
| 141 | 59 | 4489 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. | Sums. | Numbers |
|---|---|---|
| Argum. additive | 151° | |
| | ′ | |
| 1 | 0 | 913 3000 |
| 2 | 1 | 3000 |
| 3 | 2 | 3000 |
| 4 | 3 | 3000 |
| 5 | 4 | 3000 |
| 6 | 5 | 913 3000 |
| 7 | 6 | 3000 |
| 8 | 7 | 3000 |
| 9 | 8 | 3000 |
| 10 | 9 | 3000 |
| 11 | 10 | 913 3000 |
| 12 | 11 | 3000 |
| 13 | 12 | 3000 |
| 14 | 13 | 3000 |
| 15 | 14 | 3000 |
| 16 | 15 | 913 3000 |
| 17 | 16 | 3000 |
| 18 | 17 | 3000 |
| 19 | 18 | 3000 |
| 20 | 19 | 3000 |
| 21 | 20 | 913 3000 |
| 22 | 21 | 3000 |
| 23 | 22 | 3000 |
| 24 | 23 | 3000 |
| 25 | 24 | 3000 |
| 26 | 25 | 913 3000 |
| 27 | 26 | 3000 |
| 28 | 27 | 012 9931 |
| 29 | 28 | 9931 |
| 30 | 29 | 9931 |
| 31 | 30 | 9931 |
| 32 | 31 | 9931 |
| 33 | 32 | 9215 |
| 34 | 33 | 9215 |
| 35 | 34 | 9215 |
| 36 | 35 | 9215 |
| 37 | 36 | 9215 |
| 38 | 37 | 9215 |
| 39 | 38 | 9215 |
| 40 | 39 | 9215 |
| 41 | 40 | 9215 |
| 42 | 41 | 9215 |
| 43 | 42 | 9215 |
| 44 | 43 | 9215 |
| 45 | 44 | 9215 |
| 46 | 45 | 9215 |
| 47 | 46 | 7220 |
| 48 | 47 | 7078 |
| 49 | 48 | 7078 |
| 50 | 49 | 7078 |
| 51 | 50 | 7078 |
| 52 | 51 | 7078 |
| 53 | 52 | 6369 |
| 54 | 53 | 6369 |
| 55 | 54 | 6369 |
| 56 | 55 | 6369 |
| 57 | 56 | 6369 |
| 58 | 57 | 6369 |
| 59 | 58 | 6369 |
| 60 | 59 | 6369 |

| Parts for Seconds of Argum. additive | Sums & A. D. 151° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 444 | 0 | 287 (2804 | 8344 | 3907 | 3481 | 3074 | 2686 | 2315 | 1961 | 1624 | 1303 | 998 | 708 | 433 | 173 | 9443 | 9202 | 8978 |
| 438 | 1 | | 4384 | 3978 | 3573 | 3187 | 2819 | 2468 | 2135 | 1819 | 1519 | 1235 | 966 | 712 | 472 | 246 | 033 | 8834 |
| 432 | 2 | | 4401 | 4007 | 3635 | 3281 | 2945 | 2628 | 2329 | 2047 | 1782 | 1533 | 1299 | 1080 | 875 | 683 | 504 | 337 |
| 426 | 3 | | 4502 | 4161 | 3822 | 3508 | 3216 | 2945 | 2695 | 2465 | 2255 | 2064 | 1891 | 1736 | 1598 | 1476 | 1370 | 1279 |
| 420 | 4 | | 4741 | 4434 | 4154 | 3904 | 3683 | 3490 | 3324 | 3184 | 3069 | 2978 | 2911 | 2867 | 2845 | 2845 | 2866 | 2908 |
| 414 | 5 | 287 (2805 | 5183 | 5001 | 4870 | 4788 | 4755 | 4770 | 4833 | 4943 | 5100 | 5303 | 5552 | 5847 | 6187 | 6572 | 7001 | 7475 |
| 408 | 6 | | 5793 | 5720 | 5697 | 5724 | 5800 | 5925 | 6098 | 6320 | 6590 | 6907 | 7272 | 7684 | 8143 | 8649 | 9201 | 9800 |
| 402 | 7 | | 6544 | 6550 | 6636 | 6800 | 7043 | 7364 | 7763 | 8240 | 8795 | 9427 | 0138 | 0926 | 1791 | 2734 | 3754 | 4851 |
| 396 | 8 | | 7406 | 7491 | 7686 | 7987 | 8391 | 8898 | 9507 | 0218 | 1030 | 1943 | 2957 | 4071 | 5285 | 6599 | 8013 | 9527 |
| 390 | 9 | | 8378 | 8543 | 8847 | 9287 | 9862 | 0571 | 1412 | 2387 | 3494 | 4733 | 6104 | 7606 | 9238 | 0999 | 2889 | 4907 |
| 384 | 10 | 287 (2806 | 9469 | 9708 | 0120 | 0645 | 1383 | 2334 | 3497 | 4871 | 6455 | 8249 | 0253 | 2466 | 4887 | 7516 | 0353 | 3297 |
| 378 | 11 | | 0679 | 0994 | 1509 | 2124 | 2939 | 3952 | 5163 | 6572 | 8179 | 9984 | 1987 | 4188 | 6587 | 9184 | 1979 | 4972 |
| 372 | 12 | | 1911 | 2403 | 3021 | 3736 | 4647 | 5755 | 7060 | 8562 | 0262 | 2159 | 4253 | 6545 | 9035 | 1723 | 4609 | 7693 |
| 366 | 13 | | 3267 | 3941 | 4660 | 5477 | 6423 | 7497 | 8799 | 0299 | 1997 | 3893 | 5987 | 8279 | 0769 | 3457 | 6343 | 9427 |
| 360 | 14 | | 4747 | 5606 | 6427 | 7346 | 8394 | 9571 | 0877 | 2311 | 3874 | 5566 | 7387 | 9357 | 1526 | 3894 | 6461 | 9227 |
| 354 | 15 | 287 (2807 | 6353 | 7400 | 8322 | 9374 | 0555 | 1865 | 3304 | 4873 | 6572 | 8401 | 0360 | 2450 | 4670 | 7020 | 9500 | 2110 |
| 348 | 16 | | 8085 | 9324 | 0688 | 2132 | 3705 | 5408 | 7241 | 9205 | 1299 | 3524 | 5880 | 8367 | 0985 | 3734 | 6614 | 9625 |
| 342 | 17 | | 9944 | 1378 | 2885 | 4422 | 6090 | 7889 | 9819 | 1880 | 4072 | 6396 | 8852 | 1440 | 4160 | 7012 | 9997 | 3114 |
| 336 | 18 | | 1931 | 3564 | 5215 | 6846 | 8609 | 0504 | 2532 | 4693 | 6987 | 9414 | 1975 | 4669 | 7496 | 0457 | 3552 | 6781 |
| 330 | 19 | | 4048 | 5884 | 7677 | 9403 | 1261 | 3252 | 5377 | 7636 | 9929 | 2356 | 4917 | 7611 | 0439 | 3401 | 6497 | 9727 |
| 324 | 20 | 287 (2808 | 6297 | 8838 | 1513 | 3322 | 5265 | 7342 | 9554 | 1900 | 4380 | 6995 | 9744 | 2628 | 5647 | 8801 | 1990 | 5314 |
| 318 | 21 | 287 | 8681 | 1926 | 3305 | 5019 | 6868 | 8852 | 0971 | 3225 | 5614 | 8138 | 0797 | 3591 | 6520 | 9584 | 2783 | 6118 |
| 312 | 22 | 288 | 1088 | 3449 | 5232 | 7050 | 8904 | 0793 | 2717 | 4677 | 6672 | 8703 | 0870 | 3173 | 5611 | 8184 | 0892 | 3735 |
| 306 | 23 | 288 | 3526 | 5906 | 7693 | 9515 | 1373 | 3267 | 5196 | 7161 | 9162 | 1199 | 3272 | 5381 | 7525 | 9704 | 1918 | 4167 |
| 300 | 24 | 288 | 5996 | 8396 | 0230 | 2099 | 4004 | 5945 | 7922 | 9935 | 1984 | 4069 | 6190 | 8347 | 0539 | 2766 | 5028 | 7325 |
| 294 | 25 | 288 | 8498 | 0919 | 3400 | 5318 | 7273 | 9264 | 1291 | 3354 | 5453 | 7588 | 9759 | 1966 | 4209 | 6488 | 8803 | 1154 |
| 288 | 26 | 289 | 1032 | 3475 | 5904 | 8372 | 0876 | 3416 | 5992 | 8604 | 1252 | 3936 | 6656 | 9412 | 2204 | 5032 | 7896 | 0796 |
| 282 | 27 | 289 | 3599 | 6065 | 8543 | 1058 | 3609 | 6196 | 8819 | 1478 | 4173 | 6904 | 9671 | 2474 | 5313 | 8188 | 1099 | 4046 |
| 276 | 28 | 289 | 6199 | 8688 | 1217 | 3782 | 6383 | 8981 | 1615 | 4285 | 6991 | 9734 | 2513 | 5328 | 8179 | 1066 | 3989 | 6948 |
| 270 | 29 | 289 | 8832 | 1344 | 3925 | 6542 | 9196 | 1886 | 4613 | 7376 | 0175 | 2990 | 5841 | 8728 | 1651 | 4610 | 7605 | 0636 |
| 264 | 30 | 290 | 1498 | 4033 | 6667 | 9337 | 2044 | 4788 | 7568 | 0384 | 3236 | 6124 | 9048 | 1998 | 4984 | 8006 | 1064 | 4158 |
| 258 | 31 | 290 | 4198 | 6756 | 9444 | 2168 | 4929 | 7727 | 0561 | 3431 | 6337 | 9279 | 2257 | 5271 | 8321 | 1407 | 4529 | 7687 |
| 252 | 32 | 290 | 6931 | 9513 | 2256 | 5036 | 7853 | 0707 | 3597 | 6523 | 9485 | 2483 | 5517 | 8587 | 1693 | 4835 | 7913 | 0927 |
| 246 | 33 | 290 | 9697 | 2305 | 5102 | 7936 | 0807 | 3715 | 6660 | 9641 | 2658 | 5711 | 8800 | 1925 | 4986 | 8083 | 1116 | 4084 |
| 240 | 34 | 291 | 2497 | 5132 | 7984 | 0870 | 3793 | 6753 | 9749 | 2781 | 5849 | 8853 | 1894 | 4871 | 7784 | 0633 | 3418 | 6139 |
| 234 | 35 | 291 | 5331 | 7994 | 0901 | 3840 | 6815 | 9826 | 2873 | 5956 | 8975 | 1930 | 4821 | 7648 | 0412 | 3112 | 5748 | 8320 |
| 228 | 36 | 291 | 8199 | 0891 | 3853 | 6851 | 9885 | 2955 | 6061 | 9103 | 2081 | 5096 | 8048 | 0936 | 3760 | 6520 | 9216 | 1848 |
| 222 | 37 | 292 | 1102 | 3823 | 6841 | 9895 | 2985 | 6112 | 9275 | 2374 | 5410 | 8383 | 1293 | 4140 | 6923 | 9643 | 2299 | 4891 |
| 216 | 38 | 292 | 4040 | 6791 | 9868 | 2982 | 6133 | 9321 | 2546 | 5708 | 8807 | 1844 | 4818 | 7729 | 0577 | 3362 | 6084 | 8744 |
| 210 | 39 | 292 | 7013 | 9795 | 2933 | 6109 | 9322 | 2573 | 5861 | 9087 | 2251 | 5353 | 8393 | 1370 | 4284 | 7135 | 0023 | 2849 |
| 204 | 40 | 293 | 0021 | 2835 | 6037 | 9274 | 2549 | 5862 | 9213 | 2502 | 5730 | 8896 | 2000 | 5042 | 8022 | 1040 | 4096 | 7190 |
| 198 | 41 | 293 | 3064 | 5911 | 9179 | 2477 | 5814 | 9190 | 2604 | 5957 | 9249 | 2479 | 5648 | 8756 | 1802 | 4886 | 7908 | 0968 |
| 192 | 42 | 293 | 6142 | 9023 | 2359 | 5719 | 9118 | 2557 | 5994 | 9374 | 2693 | 5951 | 9148 | 2284 | 5358 | 8470 | 1620 | 4808 |
| 186 | 43 | 293 | 9256 | 2172 | 5578 | 8999 | 2461 | 5964 | 9405 | 2786 | 6106 | 9365 | 2563 | 5700 | 8776 | 1890 | 4943 | 7935 |
| 180 | 44 | 294 | 2406 | 5358 | 8835 | 2317 | 5843 | 9308 | 2712 | 6055 | 9337 | 2558 | 5718 | 8817 | 1855 | 4832 | 7748 | 0604 |
| 174 | 45 | 294 | 5592 | 8582 | 2130 | 5674 | 9264 | 2793 | 6262 | 9670 | 3017 | 6303 | 9529 | 2695 | 5801 | 8847 | 1833 | 4759 |
| 168 | 46 | 294 | 8815 | 1845 | 5464 | 9070 | 2725 | 6320 | 9855 | 3325 | 6735 | 9984 | 3173 | 6303 | 9373 | 2383 | 5333 | 8224 |
| 162 | 47 | 295 | 2076 | 5148 | 8838 | 2506 | 6227 | 9888 | 3489 | 7030 | 0512 | 4034 | 7497 | 0900 | 4244 | 7528 | 0753 | 3919 |
| 156 | 48 | 295 | 5376 | 8491 | 2253 | 6003 | 9794 | 3525 | 7196 | 0808 | 4361 | 7855 | 1290 | 4666 | 8002 | 1278 | 4494 | 7650 |
| 150 | 49 | 295 | 8716 | 1875 | 5710 | 9541 | 3404 | 7309 | 0955 | 4442 | 7870 | 1239 | 4548 | 7797 | 1006 | 4155 | 7244 | 0273 |
| 144 | 50 | 296 | 2096 | 5300 | 9210 | 3121 | 7056 | 0931 | 4645 | 8199 | 1694 | 5129 | 8504 | 1819 | 5074 | 8268 | 1402 | 4476 |
| 138 | 51 | 296 | 5518 | 8768 | 2753 | 6744 | 0751 | 4600 | 8390 | 2121 | 5793 | 9405 | 3057 | 6649 | 0181 | 3653 | 7065 | 0417 |
| 132 | 52 | 296 | 8982 | 2280 | 6340 | 0411 | 4490 | 8511 | 2473 | 6377 | 0222 | 4008 | 7734 | 1400 | 5006 | 8552 | 2038 | 5464 |
| 126 | 53 | 297 | 2490 | 5837 | 9973 | 3923 | 8274 | 2592 | 6799 | 0947 | 5035 | 9064 | 3033 | 6942 | 0791 | 4579 | 8307 | 2014 |
| 120 | 54 | 297 | 5991 | 9440 | 3652 | 7482 | 2104 | 6720 | 1112 | 5545 | 9919 | 4233 | 8487 | 2681 | 6815 | 0889 | 5003 | 9057 |
| 114 | 55 | 297 | 9537 | 3089 | 7378 | 1088 | 5982 | 0895 | 5471 | 9988 | 4445 | 8843 | 3181 | 7459 | 1677 | 5835 | 0033 | 4171 |
| 108 | 56 | 298 | 3128 | 6786 | 1152 | 5742 | 0408 | 5119 | 9866 | 4554 | 9183 | 3753 | 8263 | 2713 | 7103 | 1433 | 5703 | 0013 |
| 102 | 57 | 298 | 6764 | 0532 | 4975 | 0446 | 4884 | 9394 | 4312 | 8879 | 3387 | 7836 | 2225 | 6554 | 0823 | 5032 | 9181 | 3270 |
| 96 | 58 | 299 | 0446 | 4329 | 8849 | 4202 | 9413 | 3722 | 8812 | 3258 | 7645 | 2012 | 6319 | 0566 | 4753 | 8879 | 3044 | 7149 |
| 90 | 59 | 299 | 4176 | 8177 | 2776 | 8011 | 3996 | 8105 | 2366 | 6668 | 1010 | 5392 | 9714 | 4076 | 8378 | 2619 | 6900 | 1120 |
| 84 | 60 | 299 | 7955 | 2077 | 6757 | 1875 | 8634 | 2544 | 6966 | 1428 | 5930 | 0472 | 4954 | 9376 | 3737 | 8037 | 2276 | 6455 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

| Prop. Parts | Auxil. Argum. additive | Auxiliary Arguments. | | | | | | | | | | | | | | | | | Sums |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | | |
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | |
| 445 | 0 | 286(285) 6676 | 6234 | 5792 | 5350 | 4907 | 4465 | 4023 | 3580 | 3138 | 2695 | 2252 | 1810 | 1367 | 0924 | 0481 | 0038 | 9595 | 0 |
| 437 | 1 | [illegible] | 6373 | 5931 | 5489 | 5047 | 4604 | 4162 | 3719 | 3277 | 2834 | 2391 | 1949 | 1506 | 1063 | 0620 | 0176 | 9733 | 1 |
| 430 | 2 | [illegible] | 6513 | 6071 | 5628 | 5186 | 4744 | 4301 | 3859 | 3416 | 2973 | 2530 | 2087 | 1644 | 1201 | 0758 | 0315 | 9872 | 2 |
| 422 | 3 | 286 7095 | 6653 | 6210 | 5768 | 5325 | 4883 | 4440 | 3998 | 3555 | 3112 | 2669 | 2226 | 1783 | 1340 | 0897 | 0453 | 0010 | 3 |
| 415 | 4 | 7234 | 6792 | 6350 | 5907 | 5465 | 5022 | 4579 | 4137 | 3694 | 3251 | 2808 | 2365 | 1922 | 1479 | 1036 | 0592 | 0148 | 4 |
| 407 | 5 | 286 7374 | 6931 | 6489 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 5 |
| 400 | 6 | 7513 | 7071 | 6628 | 6185 | 5743 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 6 |
| 393 | 7 | 7652 | 7210 | 6767 | 6324 | 5882 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 7 |
| 385 | 8 | 7791 | 7349 | 6906 | 6463 | 6021 | 5578 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8 |
| 378 | 9 | 7931 | 7488 | 7045 | 6602 | 6159 | 5717 | 5274 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9 |
| 370 | 10 | 286 8070 | 7627 | 7184 | 6741 | 6298 | 5855 | 5412 | 4969 | 4526 | 4082 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 10 |
| 363 | 11 | 8209 | 7766 | 7323 | 6880 | 6437 | 5994 | 5551 | 5107 | 4664 | 4221 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 11 |
| 356 | 12 | 8348 | 7905 | 7462 | 7019 | 6576 | 6132 | 5689 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12 |
| 348 | 13 | 8486 | 8043 | 7600 | 7157 | 6714 | 6271 | 5828 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 13 |
| 341 | 14 | [illegible] | [illegible] | 7737 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 14 |
| 333 | 15 | 286 8764 | 8321 | 7878 | 7434 | 6991 | 6548 | 6104 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 15 |
| 326 | 16 | 8902 | 8459 | 8016 | 7573 | 7129 | 6686 | 6242 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 16 |
| 319 | 17 | 9041 | 8598 | 8154 | 7711 | 7268 | 6824 | 6380 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 17 |
| 311 | 18 | 9179 | 8736 | 8293 | 7849 | 7406 | 6962 | 6518 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 18 |
| 304 | 19 | 9318 | 8874 | 8431 | 7987 | 7544 | 7100 | 6656 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 19 |
| 296 | 20 | 286 9456 | 9013 | 8569 | 8126 | 7682 | 7238 | 6794 | 6350 | 5900 | 5460 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 20 |
| 289 | 21 | 9594 | 9151 | 8707 | 8264 | 7820 | 7376 | 6932 | 6488 | 6044 | 5600 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 21 |
| 282 | 22 | 9733 | 9289 | 8845 | 8401 | 7958 | 7514 | 7070 | 6626 | 6182 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 22 |
| 274 | 23 | 9871 | 9427 | 8983 | 8539 | 8095 | 7652 | 7208 | 6763 | 6319 | 5875 | 5431 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 23 |
| 267 | 24 | 287(286) 0009 | 9565 | 9121 | 8677 | 8233 | 7789 | 7345 | 6901 | 6457 | 6013 | 5568 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24 |
| 259 | 25 | 287(286) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 25 |
| 252 | 26 | 0284 | 9841 | 9397 | 8953 | 8509 | 8064 | 7620 | 7176 | 6731 | 6287 | 5843 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26 |
| 245 | 27 | 0422 | 9978 | 9534 | 9090 | 8646 | 8202 | 7757 | 7313 | 6869 | 6424 | 5980 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 27 |
| 237 | 28 | 0560 | 0116 | 9672 | 9228 | 8783 | 8339 | 7895 | 7450 | 7006 | 6561 | 6117 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 28 |
| 230 | 29 | 0698 | 0254 | 9809 | 9365 | 8921 | 8476 | 8032 | 7587 | 7143 | 6698 | 6253 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 29 |
| 222 | 30 | 287(286) 0835 | 0391 | 9947 | 9502 | 9058 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 30 |
| 215 | 31 | 0972 | 0528 | 0084 | 9640 | 9195 | 8751 | 8306 | 7862 | 7417 | 6997 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 31 |
| 207 | 32 | 1110 | 0666 | 0221 | 9777 | 9333 | 8888 | 8443 | 7999 | 7554 | 7110 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 32 |
| [illegible] | 33 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 33 |
| 193 | 34 | 1385 | 0940 | 0496 | 0051 | 9607 | 9162 | 8717 | 8272 | 7828 | 7382 | 6937 | 6492 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 34 |
| 185 | 35 | 287(286) 1522 | 1077 | 0633 | 0188 | 9743 | 9299 | 8854 | 8409 | 7964 | 7519 | 7074 | 6628 | 6183 | [illegible] | [illegible] | [illegible] | [illegible] | 35 |
| [illegible] | 36 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 36 |
| 170 | 37 | 1796 | 1351 | 0907 | 0462 | 0017 | 9572 | 9127 | 8682 | 8237 | 7792 | 7346 | 6901 | 6456 | 6010 | 5565 | 5119 | 4674 | 37 |
| 163 | 38 | 1933 | 1488 | 1044 | 0599 | 0154 | 9709 | 9264 | 8819 | 8373 | 7928 | 7483 | 7037 | 6592 | 6146 | 5700 | 5255 | 4809 | 38 |
| 156 | 39 | 2070 | 1625 | 1180 | 0735 | 0290 | 9845 | 9400 | 8955 | 8510 | 8064 | 7619 | 7173 | 6728 | 6282 | 5836 | 5391 | 4945 | 39 |
| 148 | 40 | 287(286) 2207 | 1762 | 1317 | 0872 | 0427 | 9982 | 9537 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 40 |
| 141 | 41 | 2344 | 1899 | 1454 | 1009 | 0563 | 0118 | 9673 | 9228 | 8783 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 41 |
| [illegible] | 42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 42 |
| 126 | 43 | 2617 | 2172 | 1727 | 1282 | 0836 | 0391 | 9945 | 9500 | 9054 | 8609 | 8163 | 7717 | 7271 | 6825 | 6379 | 5933 | 5487 | 43 |
| 119 | 44 | 2754 | 2308 | 1863 | 1418 | 0973 | 0527 | 0082 | 9636 | 9190 | 8745 | 8299 | 7853 | 7407 | 6961 | 6515 | 6069 | 5623 | 44 |
| 111 | 45 | 287(286) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 45 |
| [illegible] | 46 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 46 |
| 96 | 47 | 3165 | 2717 | 2272 | 1826 | 1381 | 0935 | 0490 | 0044 | 9598 | 9152 | 8706 | 8260 | 7814 | 7368 | 6921 | 6475 | 6028 | 47 |
| 89 | 48 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 48 |
| 82 | 49 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 49 |
| 74 | 50 | 287(286) 3571 | 3126 | 2680 | 2234 | 1789 | 1343 | 0897 | 0451 | 0005 | 9559 | 9112 | 8666 | 8220 | 7773 | 7327 | 6880 | 6434 | 50 |
| [illegible] | 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 51 |
| [illegible] | 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 52 |
| [illegible] | 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 53 |
| [illegible] | 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 54 |
| [illegible] | 55 | 287(286) [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 55 |
| [illegible] | 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 56 |
| [illegible] | 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 57 |
| 15 | 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 58 |
| 7 | 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 59 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances } and Auxillary Arguments.

| Parts in Seconds of Auxil. Argum. | Years & A.D. 152° | Numbers |
|---|---|---|
| 135 | 0 | 012 5230 |
| 136 | 1 | 5098 |
| 134 | 2 | 4958 |
| 132 | 3 | 4817 |
| 130 | 4 | 4676 |
| 127 | 5 | 012 4535 |
| 125 | 6 | 4395 |
| 122 | 7 | 4254 |
| 120 | 8 | 4114 |
| 118 | 9 | 3974 |
| 115 | 10 | 012 3833 |
| 113 | 11 | 3693 |
| 111 | 12 | 3553 |
| 108 | 13 | 3413 |
| 106 | 14 | 3273 |
| 104 | 15 | 012 3133 |
| 102 | 16 | 2994 |
| 99 | 17 | 2854 |
| 97 | 18 | 2714 |
| 95 | 19 | 2575 |
| 92 | 20 | 012 2435 |
| 90 | 21 | 2296 |
| 88 | 22 | 2156 |
| 85 | 23 | 2017 |
| 83 | 24 | 1878 |
| 81 | 25 | 012 1738 |
| 78 | 26 | 1600 |
| 76 | 27 | 1461 |
| 74 | 28 | 1322 |
| 72 | 29 | 1183 |
| 69 | 30 | 012 1044 |
| 67 | 31 | 0905 |
| 65 | 32 | 0767 |
| 62 | 33 | 0628 |
| 60 | 34 | 0490 |
| 58 | 35 | 012 0351 |
| 55 | 36 | 0213 |
| 53 | 37 | 0075 |
| 51 | 38 | 011 9937 |
| 48 | 39 | 9799 |
| 46 | 40 | 9661 |
| 44 | 41 | 9523 |
| 41 | 42 | 9385 |
| 39 | 43 | 9247 |
| 37 | 44 | 9110 |
| 35 | 45 | 011 8974 |
| 32 | 46 | 8838 |
| 30 | 47 | 8702 |
| 28 | 48 | 8566 |
| 25 | 49 | 8431 |
| 23 | 50 | 011 8296 |
| 21 | 51 | 8161 |
| 18 | 52 | 8026 |
| 16 | 53 | 7892 |
| 14 | 54 | 7758 |
| 12 | 55 | 011 7624 |
| 9 | 56 | 7490 |
| 7 | 57 | 7356 |
| 5 | 58 | 7222 |
| 2 | 59 | 7088 |

| Parts in Seconds of Auxil. Argum. | Years & A.D. 152° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 448 | 0 | 288(287) 2503 | 2058 | 1613 | 1168 | 0722 | 0277 | 9832 | 9386 | 8941 | 8495 | 8050 | 7604 | 7159 | 6712 | 6266 | 5820 | 5374 |
| 440 | 1 | 2639 | 2194 | 1749 | 1304 | 0859 | 0413 | 9968 | 9522 | 9077 | 8631 | 8185 | 7740 | 7294 | 6848 | 6402 | 5956 | 5510 |
| 433 | 2 | 2776 | 2331 | 1885 | 1440 | 0995 | 0549 | 0104 | 9658 | 9213 | 8767 | 8321 | 7875 | 7429 | 6983 | 6537 | 6091 | 5645 |
| 425 | 3 | 2912 | 2467 | 2021 | 1576 | 1131 | 0685 | 0240 | 9794 | 9348 | 8903 | 8457 | 8011 | 7565 | 7119 | 6673 | 6227 | 5781 |
| 418 | 4 | 3048 | 2603 | 2157 | 1712 | 1267 | 0821 | 0376 | 9930 | 9484 | 9038 | 8592 | 8146 | 7700 | 7254 | 6808 | 6362 | 5916 |
| 410 | 5 | 288(287) 3184 | 2739 | 2293 | 1848 | 1403 | 0957 | 0511 | 0066 | 9620 | 9174 | 8728 | 8282 | 7836 | 7390 | 6943 | 6497 | 6051 |
| 403 | 6 | 3320 | 2875 | 2429 | 1984 | 1538 | 1093 | 0647 | 0201 | 9755 | 9309 | 8863 | 8417 | 7971 | 7525 | 7078 | 6632 | 6185 |
| 395 | 7 | 3456 | 3011 | 2565 | 2120 | 1674 | 1228 | 0783 | 0337 | 9891 | 9445 | 8998 | 8552 | 8106 | 7660 | 7213 | 6767 | 6320 |
| 388 | 8 | 3592 | 3147 | 2701 | 2256 | 1810 | 1364 | 0918 | 0472 | 0026 | 9580 | 9134 | 8687 | 8242 | 7795 | 7348 | 6902 | 6455 |
| 380 | 9 | 3728 | 3283 | 2837 | 2391 | 1945 | 1499 | 1054 | 0607 | 0161 | 9715 | 9269 | 8823 | 8376 | 7930 | 7483 | 7037 | 6590 |
| 373 | 10 | 288(287) 3864 | 3418 | 2973 | 2527 | 2081 | 1635 | 1189 | 0743 | 0297 | 9851 | 9404 | 8958 | 8511 | 8065 | 7618 | 7171 | 6724 |
| 365 | 11 | 4000 | 3554 | 3108 | 2662 | 2216 | 1770 | 1324 | 0878 | 0432 | 9985 | 9539 | 9093 | 8646 | 8199 | 7753 | 7306 | 6858 |
| 358 | 12 | 4136 | 3690 | 3244 | 2797 | 2352 | 1906 | 1459 | 1013 | 0567 | 0120 | 9674 | 9227 | 8781 | 8334 | 7887 | 7441 | 6994 |
| 350 | 13 | 4271 | 3825 | 3379 | 2933 | 2487 | 2041 | 1595 | 1148 | 0702 | 0255 | 9809 | 9362 | 8916 | 8469 | 8022 | 7575 | 7128 |
| 343 | 14 | 4407 | 3961 | 3514 | 3068 | 2622 | 2176 | 1730 | 1283 | 0837 | 0390 | 0044 | 9497 | 9050 | 8603 | 8157 | 7710 | 7262 |
| 336 | 15 | 288(287) 4543 | 4096 | 3650 | 3204 | 2757 | 2311 | 1865 | 1418 | 0972 | 0525 | 0078 | 9632 | 9185 | 8738 | 8291 | 7844 | 7397 |
| 328 | 16 | 4677 | 4231 | 3785 | 3339 | 2892 | 2446 | 2000 | 1553 | 1106 | 0660 | 0213 | 9766 | 9319 | 8872 | 8425 | 7978 | 7531 |
| 321 | 17 | 4812 | 4366 | 3920 | 3474 | 3027 | 2581 | 2134 | 1688 | 1241 | 0794 | 0348 | 9901 | 9454 | 9007 | 8560 | 8112 | 7665 |
| 313 | 18 | 4948 | 4501 | 4055 | 3609 | 3162 | 2716 | 2269 | 1823 | 1377 | 0930 | 0482 | 0035 | 9588 | 9141 | 8694 | 8247 | 7799 |
| 306 | 19 | 5083 | 4636 | 4190 | 3744 | 3297 | 2851 | 2404 | 1957 | 1511 | 1064 | 0617 | 0170 | 9723 | 9275 | 8828 | 8381 | 7933 |
| 298 | 20 | 288(287) 5219 | 4771 | 4325 | 3879 | 3432 | 2985 | 2539 | 2092 | 1645 | 1198 | 0751 | 0304 | 9857 | 9409 | 8962 | 8515 | 8067 |
| 291 | 21 | 5353 | 4905 | 4459 | 4013 | 3567 | 3120 | 2673 | 2226 | 1779 | 1332 | 0885 | 0438 | 9991 | 9543 | 9096 | 8648 | 8201 |
| 283 | 22 | 5488 | 5041 | 4594 | 4148 | 3702 | 3254 | 2808 | 2361 | 1914 | 1467 | 1019 | 0572 | 0125 | 9677 | 9230 | 8783 | 8335 |
| 276 | 23 | 5622 | 5175 | 4728 | 4282 | 3837 | 3391 | 2944 | 2496 | 2049 | 1602 | 1154 | 0707 | 0260 | 9813 | 9366 | 8918 | 8471 |
| 268 | 24 | 5757 | 5311 | 4863 | 4417 | 3972 | 3526 | 3079 | 2632 | 2185 | 1738 | 1291 | 0844 | 0396 | 9949 | 9502 | 9054 | 8607 |
| 261 | 25 | 288(287) 5892 | 5445 | 5000 | 4551 | 4105 | 3658 | 3211 | 2765 | 2318 | 1870 | 1422 | 0974 | 0527 | 0079 | 9631 | 9184 | 8737 |
| 253 | 26 | 6026 | 5581 | 5134 | 4686 | 4239 | 3792 | 3345 | 2898 | 2451 | 2003 | 1555 | 1108 | 0660 | 0213 | 9767 | 9319 | 8872 |
| 246 | 27 | 6161 | 5715 | 5269 | 4823 | 4376 | 3929 | 3482 | 3035 | 2584 | 2137 | 1689 | 1242 | 0794 | 0347 | 9900 | 9453 | 9006 |
| 238 | 28 | 6296 | 5850 | 5404 | 4958 | 4511 | 4065 | 3618 | 3171 | 2724 | 2277 | 1829 | 1382 | 0935 | 0488 | 0041 | 9594 | 9147 |
| 231 | 29 | 6431 | 5985 | 5539 | 5093 | 4647 | 4201 | 3754 | 3307 | 2860 | 2413 | 1965 | 1518 | 1071 | 0624 | 0176 | 9729 | 9282 |
| 224 | 30 | 288(287) 6564 | 6117 | 5671 | 5225 | 4779 | 4333 | 3887 | 3441 | 2995 | 2548 | 2101 | 1654 | 1207 | 0760 | 0313 | 9866 | 9419 |
| 216 | 31 | 6698 | 6251 | 5804 | 5358 | 4913 | 4467 | 4021 | 3575 | 3129 | 2682 | 2236 | 1789 | 1342 | 0895 | 0448 | 0001 | 9554 |
| 209 | 32 | 6832 | 6385 | 5938 | 5492 | 5047 | 4601 | 4155 | 3709 | 3263 | 2816 | 2370 | 1923 | 1476 | 1029 | 0582 | 0135 | 9688 |
| 201 | 33 | 6966 | 6519 | 6072 | 5624 | 5177 | 4729 | 4282 | 3834 | 3387 | 2939 | 2491 | 2043 | 1595 | 1147 | 0698 | 0250 | 9802 |
| 194 | 34 | 7100 | 6653 | 6206 | 5758 | 5311 | 4863 | 4415 | 3967 | 3520 | 3072 | 2624 | 2176 | 1728 | 1280 | 0831 | 0383 | 9936 |
| 187 | 35 | 288 | 6787 | 6339 | 5892 | 5445 | 4997 | 4549 | 4101 | 3653 | 3206 | 2757 | 2309 | 1861 | 1413 | 0965 | 0517 | 0069 |
| 179 | 36 | 7 | 6921 | 6473 | 6025 | 5578 | 5131 | 4683 | 4235 | 3787 | 3339 | 2891 | 2443 | 1994 | 1546 | 1098 | 0650 | 0202 |
| 172 | 37 | 7 | 7055 | 6606 | 6158 | 5711 | 5264 | 4816 | 4368 | 3920 | 3472 | 3024 | 2575 | 2127 | 1679 | 1231 | 0783 | 0335 |
| 164 | 38 | 7 | 7189 | 6740 | 6292 | 5844 | 5397 | 4949 | 4501 | 4053 | 3605 | 3157 | 2708 | 2260 | 1811 | 1363 | 0914 | 0467 |
| 157 | 39 | 7 | 7323 | 6873 | 6425 | 5977 | 5530 | 5082 | 4634 | 4186 | 3738 | 3290 | 2841 | 2393 | 1944 | 1496 | 1047 | 0599 |
| 149 | 40 | 288 | 7457 | 7007 | 6559 | 6111 | 5663 | 5215 | 4767 | 4319 | 3871 | 3423 | 2974 | 2526 | 2077 | 1629 | 1180 | 0732 |
| 142 | 41 | 8 | 7591 | 7141 | 6692 | 6244 | 5796 | 5348 | 4900 | 4452 | 4004 | 3555 | 3107 | 2658 | 2210 | 1761 | 1313 | 0864 |
| 134 | 42 | 8 | 7725 | 7274 | 6826 | 6377 | 5929 | 5481 | 5033 | 4585 | 4136 | 3688 | 3240 | 2791 | 2343 | 1894 | 1446 | 0997 |
| 127 | 43 | 8303 | 7855 | 7407 | 6959 | 6511 | 6063 | 5614 | 5166 | 4718 | 4269 | 3821 | 3372 | 2923 | 2474 | 2026 | 1577 | 1128 |
| 119 | 44 | 8437 | 7989 | 7541 | 7093 | 6644 | 6196 | 5748 | 5299 | 4851 | 4402 | 3954 | 3505 | 3056 | 2608 | 2159 | 1710 | 1261 |
| 112 | 45 | 288 | 8123 | 7675 | 7227 | 6778 | 6330 | 5881 | 5433 | 4984 | 4535 | 4087 | 3638 | 3189 | 2741 | 2292 | 1843 | 1394 |
| 104 | 46 | 8702 | 8254 | 7806 | 7358 | 6910 | 6461 | 6012 | 5564 | 5115 | 4667 | 4218 | 3769 | 3320 | 2871 | 2422 | 1973 | 1524 |
| 97 | 47 | 8 | 8388 | 7940 | 7492 | 7043 | 6594 | 6145 | 5697 | 5248 | 4799 | 4350 | 3901 | 3452 | 3003 | 2554 | 2105 | 1656 |
| 89 | 48 | 9 | 8522 | 8074 | 7625 | 7176 | 6727 | 6278 | 5829 | 5380 | 4931 | 4482 | 4033 | 3584 | 3135 | 2686 | 2237 | 1788 |
| 82 | 49 | 9 | 8656 | 8207 | 7759 | 7309 | 6860 | 6411 | 5962 | 5513 | 5064 | 4615 | 4166 | 3717 | 3268 | 2819 | 2370 | 1921 |
| 74 | 50 | 288 | 8790 | 8341 | 7893 | 7443 | 6993 | 6544 | 6095 | 5646 | 5197 | 4748 | 4299 | 3850 | 3401 | 2952 | 2503 | 2054 |
| 67 | 51 | 9 | 8924 | 8475 | 8026 | 7576 | 7126 | 6677 | 6228 | 5779 | 5330 | 4881 | 4432 | 3983 | 3534 | 3085 | 2636 | 2187 |
| 59 | 52 | 9 | 9058 | 8608 | 8160 | 7709 | 7259 | 6810 | 6361 | 5912 | 5463 | 5014 | 4565 | 4116 | 3667 | 3218 | 2769 | 2320 |
| 52 | 53 | 9 | 9192 | 8742 | 8293 | 7843 | 7392 | 6943 | 6494 | 6045 | 5596 | 5147 | 4698 | 4249 | 3800 | 3351 | 2902 | 2453 |
| 44 | 54 | 9 | 9326 | 8876 | 8427 | 7976 | 7526 | 7076 | 6627 | 6178 | 5729 | 5280 | 4831 | 4382 | 3933 | 3484 | 3035 | 2586 |
| 37 | 55 | 288 | 9460 | 9009 | 8560 | 8110 | 7659 | 7209 | 6760 | 6311 | 5862 | 5413 | 4964 | 4515 | 4066 | 3617 | 3168 | 2719 |
| 29 | 56 | 288(287) | 9593 | 9143 | 8694 | 8243 | 7793 | 7342 | 6893 | 6444 | 5995 | 5546 | 5097 | 4648 | 4199 | 3750 | 3301 | 2852 |
| 22 | 57 | 0161 | 9713 | 9264 | 8815 | 8365 | 7916 | 7467 | 7018 | 6569 | 6119 | 5670 | 5220 | 4771 | 4321 | 3871 | 3421 | 2971 |
| 15 | 58 | 0294 | 9845 | 9396 | 8947 | 8497 | 8048 | 7599 | 7150 | 6700 | 6251 | 5801 | 5351 | 4902 | 4452 | 4002 | 3552 | 3102 |
| 7 | 59 | 0426 | 9977 | 9525 | 9079 | 8629 | 8180 | 7731 | 7281 | 6832 | 6383 | 5933 | 5483 | 5033 | 4583 | 4133 | 3683 | 3233 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.

| Parts or Seconds of Auxil. Argum. | S.A.A. or A. D. 152° | Auxiliary Argument. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 440 | 0 | 5287(288) 4963 | 4617 | 4271 | 3924 | 3578 | 3231 | 2884 | 2538 | 2191 | 1844 | 1497 | 1150 | 0803 | 0456 | 0109 | | |
| 441 | 1 | 5063 | 4617 | 4171 | 3724 | 3278 | 2831 | 2384 | 1938 | 1491 | 1044 | 0597 | 0150 | 9703 | 9256 | 8808 | 8361 | 7914 |
| 442 | 2 | 5110 | 4663 | 4216 | 3769 | 3323 | 2876 | 2430 | 1983 | 1536 | 1089 | 0643 | 0196 | 9749 | 9302 | 8855 | 8408 | 7961 |
| 443 | 3 | 5354 | 4907 | 4460 | 4013 | 3566 | 3120 | 2673 | 2226 | 1779 | 1333 | 0886 | 0439 | 9992 | 9545 | 9098 | 8651 | 8204 |
| 444 | 4 | 5401 | 4954 | 4507 | 4060 | 3613 | 3166 | 2719 | 2272 | 1826 | 1379 | 0932 | 0485 | 0038 | 9591 | 9144 | 8697 | 8250 |
| 445 | 5 | 5287(286) 5448 | 5001 | 4554 | 4107 | 3660 | 3213 | 2766 | 2319 | 1872 | 1425 | 0978 | 0531 | 0084 | 9637 | 9190 | 8743 | 8296 |
| 446 | 6 | 5738 | 5291 | 4845 | 4398 | 3951 | 3504 | 3057 | 2611 | 2164 | 1717 | 1270 | 0823 | 0376 | 9929 | 9482 | 9035 | 8588 |
| 447 | 7 | 5784 | 5338 | 4891 | 4445 | 3998 | 3551 | 3104 | 2657 | 2210 | 1763 | 1316 | 0869 | 0422 | 9975 | 9528 | 9081 | 8634 |
| 389 | 8 | 6009 | 5562 | 5115 | 4668 | 4221 | 3774 | 3327 | 2879 | 2432 | 1985 | 1537 | 1090 | 0642 | 0194 | 9747 | 9299 | 8851 |
| 390 | 9 | 6143 | 5697 | 5249 | 4802 | 4355 | 3908 | 3461 | 3014 | 2567 | 2120 | 1673 | 1226 | 0779 | 0332 | 9885 | 9438 | 8991 |
| 391 | 10 | 5287(289) 6237 | 5791 | 5345 | 4898 | 4451 | 4004 | 3557 | 3110 | 2663 | 2216 | 1769 | 1322 | 0875 | 0428 | 9981 | 9534 | 9087 |
| 392 | 11 | 6284 | 5838 | 5391 | 4945 | 4498 | 4051 | 3604 | 3157 | 2710 | 2263 | 1816 | 1369 | 0922 | 0475 | 0028 | 9581 | 9134 |
| 393 | 12 | 6331 | 5885 | 5438 | 4991 | 4545 | 4098 | 3651 | 3204 | 2757 | 2310 | 1863 | 1416 | 0969 | 0522 | 0075 | 9628 | 9181 |
| 394 | 13 | 6575 | 6128 | 5682 | 5235 | 4788 | 4342 | 3895 | 3448 | 3001 | 2554 | 2107 | 1660 | 1213 | 0766 | 0319 | 9872 | 9425 |
| 395 | 14 | 6621 | 6175 | 5728 | 5282 | 4835 | 4388 | 3941 | 3494 | 3047 | 2600 | 2153 | 1706 | 1259 | 0812 | 0365 | 9918 | 9471 |
| 396 | 15 | 6866 | 6419 | 5972 | 5525 | 5079 | 4632 | 4185 | 3738 | 3291 | 2844 | 2397 | 1950 | 1503 | 1056 | 0609 | 0162 | 9715 |
| 397 | 16 | 7112 | 6665 | 6218 | 5771 | 5324 | 4877 | 4430 | 3983 | 3536 | 3089 | 2642 | 2195 | 1748 | 1301 | 0854 | 0407 | 9960 |
| 398 | 17 | 287 7358 | 6911 | 6464 | 6017 | 5570 | 5123 | 4676 | 4229 | 3782 | 3335 | 2888 | 2441 | 1994 | 1547 | 1100 | 0653 | 0206 |
| 399 | 18 | 7352 | 6904 | 6457 | 6010 | 5563 | 5116 | 4669 | 4222 | 3775 | 3328 | 2881 | 2434 | 1987 | 1540 | 1093 | 0646 | 0199 |
| 400 | 19 | 7598 | 7151 | 6704 | 6257 | 5810 | 5363 | 4916 | 4469 | 4022 | 3575 | 3128 | 2681 | 2234 | 1787 | 1340 | 0893 | 0446 |
| 401 | 20 | 287 7844 | 7397 | 6950 | 6503 | 6056 | 5609 | 5162 | 4715 | 4268 | 3821 | 3374 | 2927 | 2480 | 2033 | 1586 | 1139 | 0692 |
| 402 | 21 | 7791 | 7344 | 6897 | 6450 | 6003 | 5556 | 5109 | 4662 | 4215 | 3768 | 3321 | 2874 | 2427 | 1980 | 1533 | 1086 | 0639 |
| 403 | 22 | 8037 | 7590 | 7143 | 6696 | 6249 | 5802 | 5355 | 4908 | 4461 | 4014 | 3567 | 3120 | 2673 | 2226 | 1779 | 1332 | 0885 |
| 277 | 23 | 8021 | 7573 | 7125 | 6677 | 6229 | 5781 | 5333 | 4885 | 4436 | 3988 | 3539 | 3091 | 2642 | 2194 | 1745 | 1296 | 0847 |
| 278 | 24 | 8135 | 7687 | 7239 | 6791 | 6343 | 5894 | 5446 | 4998 | 4549 | 4101 | 3652 | 3204 | 2755 | 2307 | 1858 | 1410 | 0961 |
| 279 | 25 | 287 8282 | 7834 | 7386 | 6938 | 6490 | 6042 | 5594 | 5146 | 4698 | 4250 | 3802 | 3354 | 2906 | 2458 | 2010 | 1562 | 1114 |
| 280 | 26 | 8429 | 7981 | 7533 | 7085 | 6637 | 6189 | 5741 | 5293 | 4845 | 4397 | 3949 | 3501 | 3053 | 2605 | 2157 | 1709 | 1261 |
| 281 | 27 | 8575 | 8127 | 7679 | 7231 | 6783 | 6335 | 5887 | 5439 | 4991 | 4543 | 4095 | 3647 | 3199 | 2751 | 2303 | 1855 | 1407 |
| 282 | 28 | 8722 | 8274 | 7826 | 7378 | 6930 | 6482 | 6034 | 5586 | 5138 | 4690 | 4242 | 3794 | 3346 | 2898 | 2450 | 2002 | 1554 |
| 283 | 29 | 8868 | 8421 | 7973 | 7525 | 7077 | 6629 | 6181 | 5733 | 5285 | 4837 | 4389 | 3941 | 3493 | 3045 | 2597 | 2149 | 1701 |
| 284 | 30 | 287 9015 | 8567 | 8120 | 7672 | 7224 | 6776 | 6328 | 5880 | 5432 | 4984 | 4536 | 4088 | 3640 | 3192 | 2744 | 2296 | 1848 |
| 285 | 31 | 9161 | 8714 | 8266 | 7819 | 7371 | 6923 | 6475 | 6027 | 5579 | 5131 | 4683 | 4235 | 3787 | 3339 | 2891 | 2443 | 1995 |
| 286 | 32 | 9308 | 8860 | 8413 | 7965 | 7518 | 7070 | 6622 | 6174 | 5726 | 5278 | 4830 | 4382 | 3934 | 3486 | 3038 | 2590 | 2142 |
| 287 | 33 | 9454 | 9007 | 8559 | 8112 | 7664 | 7216 | 6768 | 6320 | 5872 | 5424 | 4976 | 4528 | 4080 | 3632 | 3184 | 2736 | 2288 |
| 288 | 34 | 9601 | 9153 | 8706 | 8258 | 7811 | 7363 | 6915 | 6467 | 6019 | 5571 | 5123 | 4675 | 4227 | 3779 | 3331 | 2883 | 2435 |
| 289 | 35 | 287 9747 | 9300 | 8852 | 8405 | 7957 | 7509 | 7061 | 6613 | 6165 | 5717 | 5269 | 4821 | 4373 | 3925 | 3477 | 3029 | 2581 |
| 290 | 36 | 9894 | 9446 | 8999 | 8551 | 8104 | 7656 | 7208 | 6760 | 6312 | 5864 | 5416 | 4968 | 4520 | 4072 | 3624 | 3176 | 2728 |
| 291 | 37 | 9940 | 9493 | 9045 | 8598 | 8151 | 7703 | 7255 | 6807 | 6359 | 5911 | 5463 | 5015 | 4567 | 4119 | 3671 | 3223 | 2775 |
| 292 | 38 | 288(287) 0087 | 9640 | 9192 | 8745 | 8298 | 7850 | 7402 | 6954 | 6506 | 6058 | 5610 | 5162 | 4714 | 4266 | 3818 | 3370 | 2922 |
| 293 | 39 | 0233 | 9786 | 9339 | 8891 | 8444 | 7996 | 7548 | 7100 | 6652 | 6204 | 5756 | 5308 | 4860 | 4412 | 3964 | 3516 | 3068 |
| 294 | 40 | 288(287) 0380 | 9933 | 9485 | 9038 | 8591 | 8143 | 7695 | 7247 | 6799 | 6351 | 5903 | 5455 | 5007 | 4559 | 4111 | 3663 | 3215 |
| 295 | 41 | 0426 | 9979 | 9532 | 9085 | 8638 | 8190 | 7742 | 7294 | 6846 | 6398 | 5950 | 5502 | 5054 | 4606 | 4158 | 3710 | 3262 |
| 296 | 42 | 0573 | 0126 | 9678 | 9231 | 8784 | 8336 | 7888 | 7440 | 6992 | 6544 | 6096 | 5648 | 5200 | 4752 | 4304 | 3856 | 3408 |
| 297 | 43 | 0719 | 0272 | 9825 | 9377 | 8931 | 8483 | 8035 | 7587 | 7139 | 6691 | 6243 | 5795 | 5347 | 4899 | 4451 | 4003 | 3555 |
| 298 | 44 | 0866 | 0419 | 9971 | 9524 | 9077 | 8629 | 8181 | 7733 | 7285 | 6837 | 6389 | 5941 | 5493 | 5045 | 4597 | 4149 | 3701 |
| 299 | 45 | 0912 | 0465 | 0018 | 9571 | 9124 | 8676 | 8228 | 7780 | 7332 | 6884 | 6436 | 5988 | 5540 | 5092 | 4644 | 4196 | 3748 |
| 105 | 46 | 1075 | 0625 | 0176 | 9727 | 9277 | 8827 | 8377 | 7927 | 7477 | 7027 | 6577 | 6127 | 5677 | 5227 | 4777 | 4326 | 3876 |
| 106 | 47 | 1218 | 0768 | 0319 | 9870 | 9420 | 8970 | 8520 | 8070 | 7620 | 7170 | 6720 | 6270 | 5820 | 5370 | 4920 | 4470 | 4020 |
| 107 | 48 | 1361 | 0911 | 0461 | 0011 | 9561 | 9111 | 8661 | 8211 | 7761 | 7311 | 6861 | 6411 | 5961 | 5511 | 5061 | 4611 | 4161 |
| 108 | 49 | 1504 | 1054 | 0604 | 0154 | 9704 | 9254 | 8804 | 8354 | 7904 | 7454 | 7004 | 6554 | 6104 | 5654 | 5204 | 4754 | 4304 |
| 109 | 50 | 1647 | 1197 | 0747 | 0297 | 9847 | 9397 | 8947 | 8497 | 8047 | 7597 | 7147 | 6697 | 6247 | 5797 | 5347 | 4897 | 4447 |
| 110 | 51 | 1790 | 1340 | 0890 | 0440 | 9990 | 9540 | 9090 | 8640 | 8190 | 7740 | 7290 | 6840 | 6390 | 5940 | 5490 | 5040 | 4590 |
| 111 | 52 | 1933 | 1483 | 1033 | 0583 | 0133 | 9683 | 9233 | 8783 | 8333 | 7883 | 7433 | 6983 | 6533 | 6083 | 5633 | 5183 | 4733 |
| 112 | 53 | 2076 | 1626 | 1176 | 0726 | 0276 | 9826 | 9376 | 8926 | 8476 | 8026 | 7576 | 7126 | 6676 | 6226 | 5776 | 5326 | 4876 |
| 113 | 54 | 2219 | 1769 | 1319 | 0869 | 0419 | 9969 | 9519 | 9069 | 8619 | 8169 | 7719 | 7269 | 6819 | 6369 | 5919 | 5469 | 5019 |
| 114 | 55 | 2259 | 1809 | 1359 | 0909 | 0459 | 0009 | 9559 | 9109 | 8659 | 8209 | 7759 | 7309 | 6859 | 6409 | 5959 | 5509 | 5059 |
| 115 | 56 | 2399 | 1949 | 1499 | 1049 | 0599 | 0149 | 9699 | 9249 | 8799 | 8349 | 7899 | 7449 | 6999 | 6549 | 6099 | 5649 | 5199 |
| 116 | 57 | 2541 | 2091 | 1641 | 1191 | 0741 | 0291 | 9841 | 9391 | 8941 | 8491 | 8041 | 7591 | 7141 | 6691 | 6241 | 5791 | 5341 |
| 117 | 58 | 2683 | 2233 | 1783 | 1333 | 0883 | 0433 | 9983 | 9533 | 9083 | 8633 | 8183 | 7733 | 7283 | 6833 | 6383 | 5933 | 5483 |
| 118 | 59 | 2825 | 2375 | 1925 | 1475 | 1025 | 0575 | 0125 | 9675 | 9225 | 8775 | 8325 | 7875 | 7425 | 6975 | 6525 | 6075 | 5625 |

| for Sec. of C. D. | C. D. 152° | Sums |
|---|---|---|
| 0 | 0 | |
| 1 | 1 | 3084 |
| 2 | 2 | 3221 |
| 3 | 3 | 3357 |
| 4 | 4 | 3493 |
| 5 | 5 | 3629 |
| 6 | 6 | 3765 |
| 7 | 7 | 3902 |
| 8 | 8 | 4038 |
| 9 | 9 | 4174 |
| 10 | 10 | 4310 |
| 11 | 11 | 4446 |
| 12 | 12 | 4581 |
| 13 | 13 | 4717 |
| 14 | 14 | 4852 |
| 15 | 15 | 4988 |
| 16 | 16 | 5123 |
| 17 | 17 | 5258 |
| 18 | 18 | 5394 |
| 19 | 19 | 5529 |
| 20 | 20 | 5664 |
| 21 | 21 | 5799 |
| 22 | 22 | 5934 |
| 23 | 23 | 6069 |
| 24 | 24 | 6204 |
| 25 | 25 | 6338 |
| 26 | 26 | 6473 |
| 27 | 27 | 6607 |
| 28 | 28 | 6742 |
| 29 | 29 | 6876 |
| 30 | 30 | 7011 |
| 31 | 31 | 7145 |
| 32 | 32 | 7279 |
| 33 | 33 | 7413 |
| 34 | 34 | 7547 |
| 35 | 35 | 7681 |
| 36 | 36 | 7815 |
| 37 | 37 | 7949 |
| 38 | 38 | 8083 |
| 39 | 39 | 8217 |
| 40 | 40 | 8351 |
| 41 | 41 | 8484 |
| 42 | 42 | 8618 |
| 43 | 43 | 8751 |
| 44 | 44 | 8884 |
| 45 | 45 | 9017 |
| 46 | 46 | 9150 |
| 47 | 47 | 9283 |
| 48 | 48 | 9416 |
| 49 | 49 | 9549 |
| 50 | 50 | 9682 |
| 51 | 51 | 9815 |
| 52 | 52 | 9947 |
| 53 | 53 | 0080 |
| 54 | 54 | 0212 |
| 55 | 55 | 0344 |
| 56 | 56 | 0476 |
| 57 | 57 | 0608 |
| 58 | 58 | 0740 |
| 59 | 59 | 0872 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| | | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0 | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
| | | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| | 5 | 1099 | 9660 | 9210 | 8761 | 8312 | 7862 | 7413 | 6963 | 6514 | 6064 | 5614 | 5164 | 4714 | 4264 | 3814 | 3364 |
| | 9 | 41 | 9792 | 9342 | 8893 | 8443 | 7994 | 7544 | 7095 | 6645 | 6195 | 5745 | 5295 | 4845 | 4395 | 3945 | 3495 |
| | 0821 | 0372 | 9923 | 9474 | 9024 | 8575 | 8125 | 7676 | 7226 | 6776 | 6326 | 5876 | 5427 | 5976 | 4526 | 4076 | 3626 |
| | 0953 | 0504 | 0055 | 9605 | 9156 | 8706 | 8257 | 7807 | 7357 | 6907 | 6457 | 6007 | 5557 | 5107 | 4657 | 4207 | 3757 |
| | | | | | 9287 | 8838 | 8388 | 7938 | 7489 | 7039 | 6589 | 6139 | 5689 | 5239 | 4788 | 4338 | 3887 |
| | 289(288) 1217 | 0767 | 0318 | 9868 | 9419 | 8969 | 8519 | 8070 | 7620 | 7170 | 6720 | 6269 | 5819 | 5369 | 4919 | 4466 | 4018 |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | 1011 | 1162 | 0712 | 0262 | 9812 | 9362 | 8913 | 8463 | 8013 | 7562 | 7112 | 6662 | 6211 | 5761 | 5310 | 4859 | 4409 |
| | 1742 | 1293 | 0843 | 0393 | 9944 | 9493 | 9044 | 8593 | 8143 | | | 6792 | 6342 | 5892 | 5441 | 4990 | 4539 |
| | 1874 | 1424 | 0974 | 0524 | 0075 | 9624 | 0174 | 8724 | 8274 | 7824 | 7373 | 6923 | 6473 | 6022 | 5571 | 5120 | 4670 |
| | 2005 | 1555 | 1105 | 0655 | 0205 | 9755 | 9305 | 8855 | | 7954 | 7504 | 7054 | 6603 | 6153 | | | |
| | 2136 | 1686 | 1236 | 0786 | 0336 | 9886 | 9436 | 8986 | 8535 | 8085 | 7634 | 7184 | 6733 | 6283 | 5832 | | |
| | 2267 | 1817 | 1367 | 0917 | 0467 | 0017 | 9567 | 9117 | 8666 | 8215 | 7765 | 7314 | 6864 | 6413 | 59 | | |
| | 2398 | 1948 | 1498 | 1048 | 0598 | 0148 | 9697 | 9247 | 8796 | 8346 | 7895 | 7444 | 6994 | 6543 | 609 | | |
| | 2529 | 2079 | 1629 | 1179 | 0728 | 0278 | 9828 | 9377 | | | | | 7124 | 6673 | 6222 | | |
| | 2660 | 2210 | 1760 | 1309 | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | 3054 | | 2151 | 1701 | | | | | | | | | | | | | |
| | 3182 | 2732 | 2282 | 1831 | 1381 | 0930 | 0479 | 0028 | 9577 | 9126 | 8675 | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | 3574 | 3123 | 2672 | 2222 | 1771 | 1320 | 0869 | 0418 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | 3834 | 3383 | 2932 | 2482 | 2031 | 1580 | 1129 | 0677 | 0226 | 9775 | 9324 | | | | | | |
| | 3964 | 3513 | 3062 | 2611 | 2160 | 1709 | 1258 | 0807 | 0356 | 9904 | 9453 | | | | | | |
| | 4094 | 3643 | 3192 | 2741 | 2290 | 1839 | 1388 | 0937 | 0485 | 0034 | 9582 | 9131 | 8679 | 8227 | 7776 | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| 30 | 289(288) 448 | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | | |
| 40 | 289(288) 5777 | 5325 | 4874 | | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | | |
| 44 | 6292 | 5840 | 5388 | 4936 | 4484 | 4032 | 3580 | 3127 | | | | | | | | | |
| 45 | 6421 | 5969 | 5517 | 5065 | 4612 | 4160 | 3708 | 3255 | | | | | 0992 | 0539 | 0086 | 9633 | 9180 |
| 46 | 6549 | 6097 | 5645 | 5193 | 4741 | 4288 | 3836 | 3383 | | | | | | | | | |
| 47 | | | | | 4869 | 4417 | 3964 | 3511 | | | | | | | | | |
| 48 | 6806 | 6354 | 5902 | 5449 | 4997 | 4545 | 4092 | 3639 | | | | 281 | 1828 | 1375 | 0922 | | |
| 49 | 6935 | 6482 | 6030 | 5577 | 125 | 4673 | | | | | | 409 | 1956 | 1503 | | | |
| 50 | 7063 | 6611 | 6158 | 5705 | | | | | | | | 536 | 2083 | 1630 | 1177 | | |
| 51 | 7191 | 6739 | 6286 | 5833 | | | | | | | | | 2211 | 1758 | | | |
| 52 | 7319 | 6867 | 6414 | 5961 | | | | | | | | | 2338 | 1885 | 1431 | 0978 | |
| 53 | 7447 | 6995 | 6542 | 6089 | | | | | | | | | | 2012 | 1559 | 110 | |
| 54 | 7575 | 7123 | 6670 | 6217 | | | | | | | | | 593 | 2139 | 1686 | 1232 | |
| 55 | 289 7703 | 7250 | 6798 | 6345 | | | | 4533 | 408 | | | 720 | 2266 | 1813 | 1359 | | |
| 56 | 7831 | 7378 | | | | | | 4661 | 420 | | | 47 | 2393 | 1940 | | | |
| 57 | 7959 | 7506 | 7053 | 6600 | 6147 | 5694 | 5241 | 4788 | 4334 | | | 74 | 2520 | 2067 | 1613 | 1159 | 0706 |
| 58 | 8086 | 7633 | 7180 | 6727 | 6274 | 5821 | 5368 | 4915 | 4461 | | | 101 | 2647 | 2194 | 1740 | 1286 | 0833 |
| 59 | 8214 | 7761 | 7308 | 6855 | 6402 | 5949 | 5496 | 5042 | 4588 | | | | | | | | |

| | | | |
|---|---|---|---|
| 0 | 60 | | |
| 1 | 59 | 011 | 0185 |
| 2 | 58 | | 0052 |
| 3 | 57 | 010 | 9920 |
| 4 | 56 | | 9787 |
| 5 | 55 | | 9655 |
| 6 | 54 | 010 | 9522 |
| 7 | 53 | | 9390 |
| 8 | 52 | | 9258 |
| 9 | 51 | | 9126 |
| 10 | 50 | | 8993 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Sums of Auxil. Argum. | C.A. & A.D. 153° | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N | N. | N. |
| 452 | 0′ | 288(287) 2914 | 2464 | 2013 | 1563 | 1112 | 0662 | 0211 | 9761 | 9309 | 8858 | 8407 | 7956 | 7505 | 7054 | 6603 | 6151 | 5700 |
| 445 | 1 | 3045 | 2594 | 2144 | 1693 | 1243 | 0792 | 0341 | 9891 | 9440 | 8989 | 8538 | 8087 | 7636 | 7185 | 6734 | 6283 | 5832 |
| 437 | 2 | 3175 | 2725 | 2275 | 1824 | 1373 | 0923 | 0472 | 0021 | 9570 | 9119 | 8668 | 8217 | 7766 | 7315 | 6864 | 6413 | 5962 |
| 430 | 3 | 3306 | 2856 | 2405 | 1954 | 1504 | 1053 | 0602 | 0151 | 9700 | 9249 | 8798 | 8347 | 7896 | 7445 | 6994 | 6543 | 6092 |
| 422 | 4 | 3437 | 2986 | 2536 | 2085 | 1634 | 1183 | 0732 | 0281 | 9830 | 9379 | 8928 | 8477 | 8026 | 7575 | 7124 | 6673 | 6222 |
| 415 | 5 | 288(287) 3567 | 3117 | 2666 | 2215 | 1764 | 1313 | 0862 | 0411 | 9960 | 9509 | 9057 | 8606 | 8155 | 7704 | 7253 | 6802 | 6351 |
| 407 | 6 | 3698 | 3247 | 2796 | 2345 | 1894 | 1443 | 0992 | 0541 | 0090 | 9639 | 9187 | 8736 | 8285 | 7834 | 7383 | 6932 | 6481 |
| 400 | 7 | 3828 | 3377 | 2926 | 2476 | 2024 | 1573 | 1122 | 0671 | 0220 | 9768 | 9317 | 8866 | 8414 | 7962 | 7510 | 7059 | 6607 |
| 392 | 8 | 3958 | 3507 | 3057 | 2606 | 2154 | 1703 | 1252 | 0801 | 0350 | 9898 | 9447 | 8996 | 8544 | 8092 | 7640 | 7189 | 6737 |
| 385 | 9 | 4088 | 3638 | 3187 | 2736 | 2284 | 1833 | 1382 | 0931 | 0479 | 0028 | 9577 | 9126 | 8674 | 8222 | 7770 | 7318 | 6867 |
| 377 | 10 | 288(287) 4218 | 3768 | 3317 | 2866 | 2414 | 1963 | 1512 | 1061 | 0609 | 0157 | 9706 | 9254 | 8803 | 8351 | 7899 | 7447 | 6995 |
| 370 | 11 | 4348 | 3898 | 3447 | 2996 | 2544 | 2093 | 1642 | 1191 | 0738 | 0287 | 9835 | 9383 | 8931 | 8479 | 8027 | 7575 | 7123 |
| 362 | 12 | 4478 | 4028 | 3577 | 3126 | 2674 | 2223 | 1771 | 1320 | 0868 | 0416 | 9965 | 9513 | 9060 | 8608 | 8156 | 7703 | 7251 |
| 354 | 13 | 4608 | 4158 | 3707 | 3255 | 2804 | 2353 | 1901 | 1449 | 0997 | 0545 | 0093 | 9641 | 9189 | 8736 | 8284 | 7831 | 7379 |
| 347 | 14 | 4738 | 4287 | 3837 | 3385 | 2933 | 2482 | 2030 | 1578 | 1127 | 0675 | 0223 | 9771 | 9318 | 8865 | 8413 | 7960 | 7507 |
| 339 | 15 | 288(287) 4868 | 4417 | 3966 | 3514 | 3063 | 2611 | 2159 | 1707 | 1256 | 0804 | 0352 | 9899 | 9447 | 8994 | 8541 | 8089 | 7636 |
| 332 | 16 | 4998 | 4547 | 4096 | 3643 | 3192 | 2741 | 2289 | 1837 | 1385 | 0933 | 0481 | 0028 | 9576 | 9123 | 8671 | 8218 | 7765 |
| 324 | 17 | 5128 | 4677 | 4225 | 3773 | 3321 | 2870 | 2418 | 1966 | 1514 | 1062 | 0610 | 0157 | 9705 | 9252 | 8799 | 8347 | 7894 |
| 317 | 18 | 5257 | 4806 | 4354 | 3902 | 3451 | 2999 | 2547 | 2095 | 1643 | 1191 | 0739 | 0286 | 9834 | 9381 | 8928 | 8476 | 8023 |
| 309 | 19 | 5387 | 4936 | 4484 | 4031 | 3580 | 3128 | 2676 | 2224 | 1772 | 1320 | 0868 | 0415 | 9963 | 9510 | 9057 | 8605 | 8152 |
| 302 | 20 | 288(287) 5516 | 5064 | 4613 | 4161 | 3709 | 3257 | 2805 | 2353 | 1901 | 1449 | 0997 | 0544 | 0092 | 9639 | 9186 | 8733 | 8281 |
| 294 | 21 | 5645 | 5194 | 4742 | 4290 | 3838 | 3386 | 2934 | 2482 | 2030 | 1577 | 1125 | 0673 | 0220 | 9767 | 9315 | 8862 | 8409 |
| 287 | 22 | 5775 | 5323 | 4871 | 4419 | 3967 | 3515 | 3063 | 2611 | 2159 | 1706 | 1254 | 0801 | 0349 | 9896 | 9443 | 8990 | 8538 |
| 279 | 23 | 5904 | 5452 | 5000 | 4548 | 4096 | 3644 | 3192 | 2740 | 2287 | 1835 | 1382 | 0929 | 0477 | 0024 | 9571 | 9119 | 8666 |
| 272 | 24 | 6033 | 5581 | 5129 | 4677 | 4225 | 3772 | 3320 | 2868 | 2416 | 1963 | 1511 | 1058 | 0606 | 0153 | 9700 | 9247 | 8794 |
| 264 | 25 | 288(287) 6162 | 5710 | 5258 | 4806 | 4354 | 3901 | 3449 | 2997 | 2544 | 2092 | 1639 | 1187 | 0734 | 0281 | 9828 | 9375 | 8922 |
| 256 | 26 | 6291 | 5839 | 5387 | 4935 | 4482 | 4030 | 3578 | 3125 | 2673 | 2220 | 1767 | 1315 | 0862 | 0409 | 9956 | 9503 | 9050 |
| 249 | 27 | 6420 | 5968 | 5516 | 5064 | 4611 | 4158 | 3706 | 3254 | 2801 | 2349 | 1896 | 1443 | 0990 | 0537 | 0084 | 9631 | 9178 |
| 241 | 28 | 6549 | 6097 | 5645 | 5193 | 4740 | 4287 | 3835 | 3382 | 2930 | 2477 | 2024 | 1571 | 1118 | 0665 | 0212 | 9759 | 9306 |
| 234 | 29 | 6677 | 6225 | 5773 | 5320 | 4868 | 4415 | 3963 | 3510 | 3057 | 2605 | 2152 | 1699 | 1246 | 0793 | 0339 | 9886 | 9433 |
| 226 | 30 | 288(287) 6806 | 6354 | 5901 | 5449 | 4996 | 4544 | 4091 | 3638 | 3186 | 2733 | 2280 | 1827 | 1374 | 0920 | 0467 | 0014 | 9560 |
| 219 | 31 | 6935 | 6482 | 6030 | 5577 | 5125 | 4672 | 4219 | 3767 | 3314 | 2861 | 2408 | 1955 | 1501 | 1048 | 0595 | 0141 | 9688 |
| 211 | 32 | 7063 | 6611 | 6158 | 5706 | 5253 | 4800 | 4347 | 3895 | 3442 | 2989 | 2536 | 2082 | 1629 | 1176 | 0722 | 0269 | 9815 |
| 204 | 33 | 7192 | 6739 | 6287 | 5834 | 5381 | 4929 | 4476 | 4023 | 3571 | 3118 | 2665 | 2212 | 1758 | 1305 | 0852 | 0398 | 9945 |
| 196 | 34 | 288 7320 | 6867 | 6415 | 5962 | 5509 | 5056 | 4603 | 4150 | 3697 | 3244 | 2791 | 2338 | 1884 | 1431 | 0977 | 0524 | 0070 |
| 189 | 35 | 288 7448 | 6995 | 6543 | 6090 | 5637 | 5184 | 4731 | 4277 | 3824 | 3371 | 2918 | 2465 | 2011 | 1558 | 1104 | 0651 | 0197 |
| 181 | 36 | 7577 | 7124 | 6671 | 6218 | 5765 | 5312 | 4858 | 4405 | 3952 | 3499 | 3045 | 2592 | 2138 | 1685 | 1231 | 0777 | 0324 |
| 174 | 37 | 7704 | 7252 | 6799 | 6346 | 5893 | 5440 | 4986 | 4533 | 4079 | 3626 | 3172 | 2719 | 2265 | 1811 | 1359 | 0905 | 0451 |
| 166 | 38 | 7832 | 7380 | 6927 | 6474 | 6021 | 5568 | 5115 | 4661 | 4208 | 3755 | 3301 | 2847 | 2394 | 1940 | 1486 | 1032 | 0578 |
| 158 | 39 | 7960 | 7508 | 7055 | 6602 | 6149 | 5695 | 5242 | 4789 | 4335 | 3882 | 3428 | 2975 | 2521 | 2067 | 1613 | 1159 | 0705 |
| 151 | 40 | 288 8088 | 7636 | 7183 | 6730 | 6277 | 5823 | 5370 | 4916 | 4463 | 4009 | 3556 | 3102 | 2648 | 2195 | 1741 | 1287 | 0833 |
| 143 | 41 | 8216 | 7764 | 7311 | 6858 | 6405 | 5951 | 5498 | 5044 | 4591 | 4137 | 3683 | 3230 | 2776 | 2322 | 1868 | 1414 | 0960 |
| 136 | 42 | 8344 | 7891 | 7438 | 6985 | 6531 | 6078 | 5624 | 5171 | 4717 | 4264 | 3810 | 3356 | 2902 | 2448 | 1994 | 1540 | 1086 |
| 128 | 43 | 8472 | 8019 | 7566 | 7113 | 6659 | 6206 | 5752 | 5298 | 4845 | 4391 | 3937 | 3483 | 3029 | 2575 | 2121 | 1667 | 1213 |
| 121 | 44 | 8600 | 8147 | 7694 | 7241 | 6787 | 6333 | 5879 | 5426 | 4972 | 4518 | 4064 | 3610 | 3156 | 2702 | 2248 | 1794 | 1340 |
| 113 | 45 | 288 8728 | 8275 | 7822 | 7369 | 6915 | 6461 | 6007 | 5553 | 5099 | 4645 | 4191 | 3737 | 3283 | 2829 | 2375 | 1921 | 1467 |
| 106 | 46 | 8856 | 8403 | 7950 | 7497 | 7043 | 6588 | 6134 | 5680 | 5226 | 4772 | 4318 | 3864 | 3410 | 2956 | 2502 | 2048 | 1594 |
| 98 | 47 | 8982 | 8528 | 8075 | 7621 | 7167 | 6714 | 6260 | 5807 | 5353 | 4899 | 4445 | 3991 | 3537 | 3083 | 2629 | 2175 | 1721 |
| 91 | 48 | 9109 | 8655 | 8202 | 7748 | 7295 | 6841 | 6387 | 5934 | 5480 | 5026 | 4572 | 4118 | 3664 | 3210 | 2756 | 2302 | 1848 |
| 83 | 49 | 9237 | 8783 | 8330 | 7876 | 7422 | 6968 | 6514 | 6060 | 5607 | 5153 | 4699 | 4245 | 3791 | 3337 | 2883 | 2429 | 1975 |
| 76 | 50 | 288 9365 | 8911 | 8458 | 8004 | 7550 | 7095 | 6641 | 6186 | 5733 | 5279 | 4825 | 4371 | 3917 | 3463 | 3009 | 2555 | 2101 |
| 68 | 51 | 9490 | 9037 | 8584 | 8131 | 7677 | 7221 | 6767 | 6313 | 5859 | 5405 | 4951 | 4497 | 4043 | 3589 | 3135 | 2681 | 2227 |
| 61 | 52 | 9617 | 9164 | 8710 | 8257 | 7803 | 7348 | 6894 | 6440 | 5986 | 5532 | 5078 | 4624 | 4170 | 3716 | 3262 | 2808 | 2354 |
| 53 | 53 | 9744 | 9291 | 8837 | 8383 | 7930 | 7475 | 7021 | 6567 | 6113 | 5659 | 5205 | 4751 | 4297 | 3843 | 3389 | 2935 | 2481 |
| 46 | 54 | 9871 | 9417 | 8963 | 8509 | 8056 | 7602 | 7148 | 6694 | 6240 | 5786 | 5332 | 4878 | 4424 | 3970 | 3516 | 3062 | 2608 |
| 38 | 55 | 9997 | 9544 | 9090 | 8636 | 8183 | 7729 | 7275 | 6821 | 6367 | 5913 | 5459 | 5005 | 4551 | 4097 | 3643 | 3189 | 2735 |
| 31 | 56 | 0124 | 9671 | 9217 | 8763 | 8309 | 7856 | 7402 | 6948 | 6494 | 6040 | 5586 | 5132 | 4678 | 4224 | 3770 | 3316 | 2862 |
| 23 | 57 | 0251 | 9798 | 9344 | 8890 | 8436 | 7982 | 7528 | 7075 | 6621 | 6167 | 5713 | 5259 | 4805 | 4351 | 3897 | 3443 | 2989 |
| 16 | 58 | 0378 | 9925 | 9471 | 9017 | 8563 | 8109 | 7655 | 7201 | 6747 | 6293 | 5839 | 5385 | 4931 | 4477 | 4023 | 3569 | 3115 |
| 8 | 59 | 0505 | 0052 | 9598 | 9144 | 8690 | 8236 | 7782 | 7328 | 6874 | 6420 | 5966 | 5512 | 5058 | 4604 | 4150 | 3696 | 3242 |
| 1 | 60 | 0632 | 0179 | 9725 | 9271 | 8817 | 8363 | 7909 | 7455 | 7001 | 6547 | 6093 | 5639 | 5185 | 4731 | 4277 | 3823 | 3369 |

Sums for finding the Corrected Distances.

| Part. for Sec. of C. D. | 153 | Sums |
|---|---|---|
| | ° | |
| 0 | 0 | 589 1227 |
| 2 | 1 | 1130 |
| 4 | 2 | 1270 |
| 7 | 3 | 1409 |
| 9 | 4 | 1548 |
| 11 | 5 | 1687 |
| 13 | 6 | 1826 |
| 15 | 7 | 1965 |
| 17 | 8 | 2104 |
| 19 | 9 | 2243 |
| 21 | 10 | 589 2382 |
| 24 | 11 | 2521 |
| 26 | 12 | 2659 |
| 28 | 13 | 2798 |
| 30 | 14 | 2937 |
| 32 | 15 | 589 3076 |
| 34 | 16 | 3215 |
| 36 | 17 | 3354 |
| 39 | 18 | 3493 |
| 41 | 19 | 3632 |
| 43 | 20 | 589 3771 |
| 45 | 21 | 3910 |
| 47 | 22 | 4049 |
| 49 | 23 | 4188 |
| 51 | 24 | 4327 |
| 54 | 25 | 589 4466 |
| 56 | 26 | 4605 |
| 58 | 27 | 4744 |
| 60 | 28 | 4883 |
| 62 | 29 | 5022 |
| 64 | 30 | 589 5161 |
| 66 | 31 | 5300 |
| 69 | 32 | 5194 |
| 71 | 33 | 5577 |
| 73 | 34 | 5453 |
| 75 | 35 | 589 5716 |
| 77 | 36 | 5855 |
| 79 | 37 | 5994 |
| 81 | 38 | 6133 |
| 84 | 39 | 6272 |
| 86 | 40 | 589 6411 |
| 88 | 41 | 6550 |
| 91 | 42 | 6689 |
| 93 | 43 | 6828 |
| 95 | 44 | 6967 |
| 97 | 45 | 589 7106 |
| 99 | 46 | 7245 |
| 101 | 47 | 7384 |
| 103 | 48 | 7523 |
| 105 | 49 | 7662 |
| 107 | 50 | 589 7801 |
| 110 | 51 | 7941 |
| 112 | 52 | 8080 |
| 114 | 53 | 8219 |
| 116 | 54 | 8358 |
| 118 | 55 | 589 8497 |
| 120 | 56 | 8636 |
| 122 | 57 | 8775 |
| 124 | 58 | 8914 |
| 127 | 59 | 9053 |
| 129 | 60 | 8666 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. | D. S. A. ° ′ | Numbers |
|---|---|---|
| 0 | 0 0 | 0000 |
| 1 | 0 2 | 0873 |
| 2 | 0 4 | 1745 |
| 3 | 0 6 | 2618 |
| 4 | 0 8 | 3491 |
| 5 | 0 10 | 4363 |
| 6 | 0 12 | 5236 |
| 7 | 0 14 | 6108 |
| 8 | 0 16 | 6981 |
| 9 | 0 18 | 7853 |
| 10 | 0 20 | 8726 |
| 11 | 0 22 | 9598 |
| 12 | 0 24 | 10471 |
| 13 | 0 26 | 11343 |
| 14 | 0 28 | 12216 |
| 15 | 0 30 | 13088 |
| 16 | 0 32 | 13961 |
| 17 | 0 34 | 14833 |
| 18 | 0 36 | 15706 |
| 19 | 0 38 | 16578 |
| 20 | 0 40 | 17451 |
| 21 | 0 42 | 18323 |
| 22 | 0 44 | 19196 |
| 23 | 0 46 | 20068 |
| 24 | 0 48 | 20941 |
| 25 | 0 50 | 21813 |
| 26 | 0 52 | 22686 |
| 27 | 0 54 | 23558 |
| 28 | 0 56 | 24430 |
| 29 | 0 58 | 25303 |
| 30 | 1 0 | 26175 |
| 31 | 1 2 | 27048 |
| 32 | 1 4 | 27920 |
| 33 | 1 6 | 28793 |
| 34 | 1 8 | 29665 |
| 35 | 1 10 | 30538 |
| 36 | 1 12 | 31410 |
| 37 | 1 14 | 32283 |
| 38 | 1 16 | 33155 |
| 39 | 1 18 | 34028 |
| 40 | 1 20 | 34900 |
| 41 | 1 22 | 35773 |
| 42 | 1 24 | 36645 |
| 43 | 1 26 | 37518 |
| 44 | 1 28 | 38390 |
| 45 | 1 30 | 39263 |
| 46 | 1 32 | 40135 |
| 47 | 1 34 | 41008 |
| 48 | 1 36 | 41880 |
| 49 | 1 38 | 42753 |
| 50 | 1 40 | 43625 |
| 51 | 1 42 | 44498 |
| 52 | 1 44 | 45370 |
| 53 | 1 46 | 46243 |
| 54 | 1 48 | 47115 |
| 55 | 1 50 | 47988 |
| 56 | 1 52 | 48860 |
| 57 | 1 54 | 49733 |
| 58 | 1 56 | 50605 |
| 59 | 1 58 | 51478 |
| 60 | 2 0 | 52350 |

| Parts for Seconds of A. | Numbers |
|---|---|
| 0 | 0000 |
| 1 | 0003 |
| 2 | 0006 |
| 3 | 0009 |
| 4 | 0012 |
| 5 | 0015 |
| 6 | 0017 |
| 7 | 0020 |
| 8 | 0023 |
| 9 | 0026 |
| 10 | 0029 |
| 11 | 0032 |
| 12 | 0035 |
| 13 | 0038 |
| 14 | 0041 |
| 15 | 0044 |
| 16 | 0047 |
| 17 | 0049 |
| 18 | 0052 |
| 19 | 0055 |
| 20 | 0058 |
| 21 | 0061 |
| 22 | 0064 |
| 23 | 0067 |
| 24 | 0070 |
| 25 | 0073 |
| 26 | 0076 |
| 27 | 0078 |
| 28 | 0081 |
| 29 | 0084 |
| 30 | 0087 |
| 31 | 0090 |
| 32 | 0093 |
| 33 | 0096 |
| 34 | 0099 |
| 35 | 0102 |
| 36 | 0105 |
| 37 | 0107 |
| 38 | 0110 |
| 39 | 0113 |
| 40 | 0116 |
| 41 | 0119 |
| 42 | 0122 |
| 43 | 0125 |
| 44 | 0128 |
| 45 | 0131 |
| 46 | 0134 |
| 47 | 0136 |
| 48 | 0139 |
| 49 | 0142 |
| 50 | 0145 |
| 51 | 0148 |
| 52 | 0151 |
| 53 | 0154 |
| 54 | 0157 |
| 55 | 0160 |
| 56 | 0163 |
| 57 | 0165 |
| 58 | 0168 |
| 59 | 0171 |
| 60 | 0174 |

| & A. D. | Auxiliary Arguments. ′ 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 54 | Numbers N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 8341 | 7888 | 7435 | 6982 | 6529 | 6076 | 5623 | 5170 | 4717 | 4264 | 3811 | 3358 | 2905 | 2452 | 1999 | 1546 | 1093 |
| 1 | 8469 | 8016 | 7563 | 7109 | 6656 | 6203 | 5749 | 5296 | 4842 | 4389 | 3935 | 3481 | 3027 | 2573 | 2119 | 1665 | 1211 |
| 2 | 8596 | 8143 | 7689 | 7236 | 6782 | 6329 | 5876 | 5422 | 4969 | 4515 | 4062 | 3608 | 3154 | 2700 | 2246 | 1792 | 1338 |
| 3 | 8724 | 8270 | 7817 | 7363 | 6909 | 6456 | 6002 | 5549 | 5095 | 4642 | 4188 | 3734 | 3281 | 2827 | 2372 | 1918 | 1464 |
| 4 | 8851 | 8398 | 7944 | 7490 | 7037 | 6583 | 6130 | 5676 | 5222 | 4768 | 4315 | 3861 | 3407 | 2953 | 2499 | 2045 | 1591 |
| 5 | 8979 | 8525 | 8071 | 7617 | 7163 | 6710 | 6257 | 5803 | 5349 | 4895 | 4441 | 3987 | 3533 | 3079 | 2625 | 2171 | 1717 |
| 6 | 9106 | 8652 | 8198 | 7744 | 7291 | 6837 | 6383 | 5930 | 5476 | 5022 | 4568 | 4114 | 3659 | 3205 | 2751 | 2297 | 1843 |
| 7 | 9234 | 8779 | 8325 | 7871 | 7417 | 6964 | 6510 | 6056 | 5602 | 5148 | 4694 | 4240 | 3786 | 3331 | 2877 | 2423 | 1969 |
| 8 | 9361 | 8907 | 8452 | 7998 | 7544 | 7090 | 6637 | 6183 | 5729 | 5275 | 4821 | 4367 | 3913 | 3457 | 3003 | 2549 | 2095 |
| 9 | 9488 | 9034 | 8579 | 8125 | 7671 | 7217 | 6763 | 6310 | 5856 | 5402 | 4948 | 4494 | 4039 | 3585 | 3129 | 2675 | 2221 |
| 10 | 9616 | 9161 | 8706 | 8252 | 7798 | 7344 | 6890 | 6436 | 5982 | 5528 | 5074 | 4620 | 4166 | 3711 | 3257 | 2803 | 2348 |
| 11 | 9743 | 9288 | 8833 | 8379 | 7925 | 7471 | 7017 | 6563 | 6109 | 5655 | 5201 | 4747 | 4293 | 3838 | 3384 | 2929 | 2475 |
| 12 | 9870 | 9415 | 8960 | 8506 | 8052 | 7598 | 7144 | 6690 | 6236 | 5782 | 5328 | 4873 | 4419 | 3965 | 3510 | 3056 | 2602 |
| 13 | 9997 | 9542 | 9087 | 8633 | 8179 | 7725 | 7271 | 6817 | 6363 | 5909 | 5455 | 5000 | 4546 | 4092 | 3638 | 3183 | 2729 |
| 14 | 0124 | 9670 | 9214 | 8760 | 8306 | 7852 | 7398 | 6944 | 6490 | 6036 | 5581 | 5127 | 4673 | 4219 | 3764 | 3310 | 2856 |
| 15 | 0252 | 9797 | 9341 | 8887 | 8433 | 7979 | 7525 | 7071 | 6617 | 6162 | 5708 | 5254 | 4800 | 4346 | 3891 | 3437 | 2983 |
| 16 | 0379 | 9924 | 9468 | 9014 | 8560 | 8106 | 7652 | 7198 | 6744 | 6289 | 5835 | 5381 | 4927 | 4473 | 4018 | 3564 | 3110 |
| 17 | 0506 | 0051 | 9595 | 9141 | 8687 | 8233 | 7779 | 7325 | 6870 | 6416 | 5962 | 5508 | 5054 | 4600 | 4145 | 3691 | 3237 |
| 18 | 0633 | 0178 | 9722 | 9268 | 8814 | 8360 | 7906 | 7452 | 6997 | 6543 | 6089 | 5635 | 5181 | 4727 | 4272 | 3818 | 3364 |
| 19 | 0760 | 0305 | 9849 | 9395 | 8941 | 8487 | 8033 | 7579 | 7124 | 6670 | 6216 | 5762 | 5308 | 4853 | 4399 | 3945 | 3491 |
| 20 | 0887 | 0432 | 9976 | 9522 | 9068 | 8614 | 8160 | 7705 | 7251 | 6797 | 6343 | 5889 | 5435 | 4980 | 4526 | 4072 | 3618 |
| 21 | 1014 | 0559 | 0103 | 9649 | 9195 | 8741 | 8287 | 7832 | 7378 | 6924 | 6470 | 6016 | 5562 | 5107 | 4653 | 4199 | 3745 |
| 22 | 1141 | 0686 | 0230 | 9776 | 9322 | 8868 | 8414 | 7959 | 7505 | 7051 | 6597 | 6143 | 5688 | 5234 | 4780 | 4326 | 3872 |
| 23 | 1253 | 0798 | 0344 | 9889 | 9434 | 8980 | 8525 | 8070 | 7615 | 7160 | 6705 | 6250 | 5794 | 5339 | 4884 | 4429 | 3973 |
| 24 | 1378 | 0923 | 0469 | 0014 | 9559 | 9105 | 8650 | 8195 | 7740 | 7285 | 6830 | 6375 | 5919 | 5464 | 5008 | 4553 | 4098 |
| 25 | 1504 | 1049 | 0595 | 0140 | 9685 | 9230 | 8775 | 8320 | 7865 | 7410 | 6955 | 6500 | 6044 | 5589 | 5133 | 4678 | 4223 |
| 26 | 1631 | 1176 | 0722 | 0267 | 9812 | 9357 | 8902 | 8447 | 7992 | 7537 | 7082 | 6627 | 6171 | 5716 | 5260 | 4805 | 4350 |
| 27 | 1758 | 1303 | 0849 | 0394 | 9939 | 9484 | 9029 | 8574 | 8119 | 7664 | 7209 | 6753 | 6298 | 5842 | 5387 | 4932 | 4476 |
| 28 | 1885 | 1430 | 0976 | 0521 | 0066 | 9611 | 9156 | 8701 | 8246 | 7791 | 7335 | 6880 | 6425 | 5969 | 5514 | 5059 | 4603 |
| 29 | 2012 | 1557 | 1103 | 0648 | 0193 | 9738 | 9283 | 8828 | 8373 | 7918 | 7462 | 7007 | 6552 | 6096 | 5641 | 5186 | 4730 |
| 30 | 2139 | 1684 | 1230 | 0775 | 0320 | 9865 | 9410 | 8955 | 8500 | 8045 | 7589 | 7134 | 6679 | 6223 | 5768 | 5313 | 4857 |
| 31 | 2267 | 1812 | 1357 | 0902 | 0447 | 9992 | 9537 | 9082 | 8627 | 8172 | 7716 | 7261 | 6806 | 6350 | 5895 | 5440 | 4984 |
| 32 | 2394 | 1939 | 1484 | 1029 | 0574 | 0119 | 9664 | 9209 | 8754 | 8299 | 7843 | 7388 | 6933 | 6477 | 6022 | 5567 | 5111 |
| 33 | 2521 | 2066 | 1611 | 1156 | 0701 | 0246 | 9791 | 9336 | 8881 | 8426 | 7970 | 7515 | 7060 | 6604 | 6149 | 5694 | 5238 |
| 34 | 2648 | 2193 | 1738 | 1283 | 0828 | 0373 | 9918 | 9463 | 9008 | 8553 | 8097 | 7642 | 7187 | 6731 | 6276 | 5821 | 5365 |
| 35 | 2775 | 2320 | 1865 | 1410 | 0955 | 0500 | 0045 | 9590 | 9135 | 8680 | 8224 | 7769 | 7314 | 6858 | 6403 | 5948 | 5492 |
| 36 | 2902 | 2447 | 1992 | 1537 | 1082 | 0627 | 0172 | 9717 | 9262 | 8807 | 8351 | 7896 | 7441 | 6985 | 6530 | 6075 | 5619 |
| 37 | 3030 | 2575 | 2120 | 1665 | 1210 | 0755 | 0300 | 9845 | 9390 | 8935 | 8479 | 8024 | 7569 | 7113 | 6658 | 6203 | 5747 |
| 38 | 3157 | 2702 | 2247 | 1792 | 1337 | 0882 | 0427 | 9972 | 9517 | 9062 | 8606 | 8151 | 7696 | 7240 | 6785 | 6330 | 5874 |
| 39 | 3284 | 2829 | 2374 | 1919 | 1464 | 1009 | 0554 | 0099 | 9644 | 9189 | 8733 | 8278 | 7823 | 7367 | 6912 | 6457 | 6001 |
| 40 | 3411 | 2956 | 2501 | 2046 | 1591 | 1136 | 0681 | 0226 | 9771 | 9316 | 8860 | 8405 | 7950 | 7494 | 7039 | 6584 | 6128 |
| 41 | 3503 | 3047 | 2592 | 2136 | 1680 | 1224 | 0768 | 0312 | 9856 | 9400 | 8944 | 8487 | 8031 | 7575 | 7118 | 6661 | 6205 |
| 42 | 3662 | 3207 | 2752 | 2296 | 1840 | 1384 | 0928 | 0472 | 0016 | 9560 | 9104 | 8647 | 8191 | 7735 | 7278 | 6821 | 6365 |
| 43 | 3789 | 3334 | 2879 | 2423 | 1967 | 1511 | 1054 | 0598 | 0141 | 9685 | 9228 | 8771 | 8314 | 7857 | 7400 | 6943 | 6486 |
| 44 | 3916 | 3461 | 3006 | 2550 | 2094 | 1638 | 1181 | 0725 | 0269 | 9812 | 9355 | 8898 | 8441 | 7984 | 7527 | 7070 | 6613 |
| 45 | 4043 | 3588 | 3133 | 2677 | 2221 | 1765 | 1308 | 0852 | 0396 | 9939 | 9482 | 9025 | 8568 | 8111 | 7654 | 7197 | 6740 |
| 46 | 4170 | 3715 | 3260 | 2804 | 2348 | 1892 | 1435 | 0979 | 0523 | 0066 | 9609 | 9152 | 8695 | 8238 | 7781 | 7324 | 6867 |
| 47 | 4298 | 3843 | 3388 | 2932 | 2476 | 2020 | 1563 | 1107 | 0650 | 0193 | 9736 | 9279 | 8822 | 8365 | 7908 | 7451 | 6994 |
| 48 | 4425 | 3970 | 3515 | 3059 | 2603 | 2147 | 1690 | 1234 | 0777 | 0320 | 9863 | 9406 | 8949 | 8492 | 8035 | 7578 | 7121 |
| 49 | 4495 | 4039 | 3583 | 3127 | 2670 | 2214 | 1757 | 1301 | 0844 | 0388 | 9931 | 9474 | 9017 | 8560 | 8103 | 7646 | 7189 |
| 50 | 4679 | 4223 | 3767 | 3311 | 2854 | 2398 | 1941 | 1485 | 1028 | 0572 | 0115 | 9658 | 9201 | 8744 | 8287 | 7830 | 7373 |
| 51 | 4806 | 4350 | 3894 | 3438 | 2981 | 2525 | 2068 | 1612 | 1155 | 0699 | 0242 | 9785 | 9328 | 8871 | 8414 | 7957 | 7500 |
| 52 | 4933 | 4477 | 4021 | 3565 | 3108 | 2652 | 2195 | 1739 | 1282 | 0826 | 0369 | 9912 | 9455 | 8998 | 8541 | 8084 | 7627 |
| 53 | 5060 | 4604 | 4148 | 3692 | 3235 | 2779 | 2322 | 1866 | 1409 | 0953 | 0496 | 0039 | 9582 | 9125 | 8668 | 8211 | 7754 |
| 54 | 5188 | 4732 | 4276 | 3820 | 3363 | 2907 | 2450 | 1994 | 1537 | 1080 | 0623 | 0166 | 9709 | 9252 | 8795 | 8338 | 7881 |
| 55 | 5315 | 4859 | 4403 | 3947 | 3490 | 3034 | 2577 | 2121 | 1664 | 1207 | 0750 | 0293 | 9836 | 9379 | 8922 | 8465 | 8008 |
| 56 | 5442 | 4986 | 4530 | 4074 | 3617 | 3161 | 2704 | 2248 | 1791 | 1334 | 0877 | 0420 | 9963 | 9506 | 9049 | 8592 | 8135 |
| 57 | 5482 | 5026 | 4569 | 4112 | 3656 | 3199 | 2742 | 2285 | 1828 | 1370 | 0913 | 0456 | 9998 | 9541 | 9083 | 8626 | 8168 |
| 58 | 5696 | 5240 | 4783 | 4326 | 3870 | 3413 | 2956 | 2499 | 2042 | 1585 | 1128 | 0671 | 0214 | 9757 | 9300 | 8843 | 8386 |
| 59 | 5823 | 5367 | 4910 | 4453 | 3997 | 3540 | 3083 | 2626 | 2169 | 1712 | 1255 | 0798 | 0341 | 9884 | 9427 | 8970 | 8513 |
| 60 | 5950 | 5494 | 5037 | 4580 | 4124 | 3667 | 3210 | 2753 | 2296 | 1839 | 1382 | 0925 | 0468 | 0011 | 9554 | 9097 | 8640 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts of Second Argument | Arg. & A.D. 154 | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 450 | 0 | 289(288) | 0931 | 9176 | 9722 | 9268 | 8813 | 8359 | 7904 | 7449 | 6995 | 6540 | 6085 | 5630 | 5175 | 4720 | 4264 | 3809 | 3354 |
| 440 | 1 | | 0757 | 0303 | 9848 | 9394 | 8939 | 8485 | 8030 | 7575 | 7120 | 6666 | 6211 | 5755 | 5300 | 4845 | 4390 | 3934 | 3479 |
| 431 | 2 | | 0583 | 0429 | 9974 | 9520 | 9065 | 8611 | 8156 | 7701 | 7246 | 6791 | 6336 | 5881 | 5426 | 4971 | 4515 | 4060 | 3604 |
| 434 | 3 | | 1009 | 0555 | 0101 | 9646 | 9191 | 8736 | 8282 | 7827 | 7372 | 6917 | 6462 | 6006 | 5551 | 5096 | 4640 | 4185 | 3729 |
| 426 | 4 | | 1135 | 0681 | 0226 | 9772 | 9317 | 8862 | 8407 | 7952 | 7497 | 7042 | 6587 | 6132 | 5677 | 5221 | 4766 | 4310 | 3854 |
| 418 | 5 | 289(288) | 1261 | 0807 | 0352 | 9898 | 9443 | 8988 | 8533 | 8078 | 7623 | 7168 | 6712 | 6257 | 5802 | 5346 | 4891 | 4435 | 3979 |
| 411 | 6 | | 1387 | 0933 | 0478 | 0023 | 9569 | 9114 | 8659 | 8203 | 7748 | 7293 | 6838 | 6382 | 5927 | 5471 | 5016 | 4560 | 4104 |
| 403 | 7 | | 1513 | 1059 | 0604 | 0149 | 9694 | 9239 | 8784 | 8329 | 7874 | 7418 | 6963 | 6508 | 6052 | 5596 | 5141 | 4685 | 4229 |
| 396 | 8 | | 1639 | 1184 | 0730 | 0275 | 9820 | 9365 | 8909 | 8454 | 7999 | 7544 | 7088 | 6633 | 6177 | 5721 | 5266 | 4810 | 4354 |
| 388 | 9 | | 1765 | 1310 | 0855 | 0401 | 9945 | 9490 | 9035 | 8580 | 8124 | 7669 | 7213 | 6758 | 6302 | 5846 | 5390 | 4935 | 4479 |
| 382 | 10 | 289(288) | 1891 | 1436 | 0981 | 0526 | 0070 | 9615 | 9160 | 8705 | 8249 | 7794 | 7338 | 6883 | 6427 | 5971 | 5515 | 5059 | 4603 |
| 373 | 11 | | 2016 | 1561 | 1106 | 0651 | 0196 | 9741 | 9285 | 8830 | 8374 | 7919 | 7463 | 7007 | 6552 | 6096 | 5640 | 5184 | 4728 |
| 365 | 12 | | 2142 | 1687 | 1231 | 0776 | 0321 | 9866 | 9410 | 8955 | 8499 | 8044 | 7588 | 7132 | 6676 | 6220 | 5764 | 5308 | 4852 |
| 358 | 13 | | 2267 | 1812 | 1357 | 0902 | 0446 | 9991 | 9535 | 9080 | 8624 | 8169 | 7713 | 7257 | 6801 | 6345 | 5889 | 5433 | 4977 |
| 350 | 14 | | 2392 | 1937 | 1482 | 1027 | 0571 | 0116 | 9660 | 9205 | 8749 | 8293 | 7837 | 7382 | 6926 | 6470 | 6013 | 5557 | 5101 |
| 342 | 15 | 289(288) | 2518 | 2062 | 1607 | 1152 | 0696 | 0241 | 9785 | 9330 | 8874 | 8418 | 7962 | 7506 | 7050 | 6594 | 6138 | 5682 | 5225 |
| 335 | 16 | | 2643 | 2187 | 1732 | 1277 | 0821 | 0366 | 9910 | 9454 | 8998 | 8543 | 8087 | 7631 | 7175 | 6719 | 6262 | 5806 | 5349 |
| 327 | 17 | | 2768 | 2312 | 1857 | 1402 | 0946 | 0490 | 0035 | 9579 | 9123 | 8667 | 8211 | 7755 | 7299 | 6843 | 6387 | 5930 | 5473 |
| 320 | 18 | | 2893 | 2437 | 1982 | 1526 | 1071 | 0615 | 0159 | 9704 | 9248 | 8792 | 8335 | 7879 | 7423 | 6967 | 6511 | 6054 | 5597 |
| 312 | 19 | | 3018 | 2562 | 2107 | 1651 | 1196 | 0740 | 0284 | 9828 | 9372 | 8916 | 8460 | 8004 | 7547 | 7091 | 6635 | 6178 | 5721 |
| 304 | 20 | 289(288) | 3143 | 2687 | 2232 | 1776 | 1320 | 0864 | 0408 | 9952 | 9496 | 9040 | 8584 | 8128 | 7671 | 7215 | 6759 | 6302 | 5845 |
| 297 | 21 | | 3268 | 2812 | 2356 | 1901 | 1445 | 0989 | 0533 | 0077 | 9621 | 9165 | 8708 | 8252 | 7795 | 7339 | 6882 | 6426 | 5969 |
| 289 | 22 | | 3392 | 2937 | 2481 | 2025 | 1569 | 1113 | 0657 | 0201 | 9745 | 9289 | 8832 | 8376 | 7919 | 7463 | 7006 | 6550 | 6093 |
| 281 | 23 | | 3517 | 3061 | 2605 | 2150 | 1694 | 1238 | 0782 | 0325 | 9869 | 9413 | 8956 | 8500 | 8043 | 7587 | 7131 | 6673 | 6216 |
| 274 | 24 | | 3641 | 3186 | 2730 | 2274 | 1818 | 1362 | 0906 | 0450 | 9993 | 9537 | 9080 | 8624 | 8167 | 7711 | 7254 | 6797 | 6340 |
| 266 | 25 | 289(288) | 3766 | 3310 | 2854 | 2398 | 1942 | 1486 | 1030 | 0574 | 0117 | 9661 | 9204 | 8748 | 8291 | 7834 | 7377 | 6921 | 6464 |
| 259 | 26 | | 3890 | 3435 | 2979 | 2523 | 2066 | 1610 | 1154 | 0698 | 0241 | 9785 | 9328 | 8871 | 8415 | 7958 | 7501 | 7044 | 6587 |
| 251 | 27 | | 4015 | 3559 | 3103 | 2647 | 2190 | 1734 | 1278 | 0821 | 0365 | 9908 | 9452 | 8995 | 8538 | 8081 | 7624 | 7167 | 6710 |
| 243 | 28 | | 4139 | 3683 | 3227 | 2771 | 2314 | 1858 | 1402 | 0945 | 0489 | 0032 | 9575 | 9119 | 8662 | 8205 | 7748 | 7291 | 6834 |
| 236 | 29 | | 4263 | 3807 | 3351 | 2895 | 2438 | 1982 | 1526 | 1069 | 0612 | 0156 | 9699 | 9242 | 8785 | 8328 | 7871 | 7414 | 6957 |
| 228 | 30 | 289(288) | 4387 | 3931 | 3475 | 3019 | 2562 | 2106 | 1649 | 1193 | 0736 | 0279 | 9822 | 9366 | 8909 | 8452 | 7994 | 7537 | 7080 |
| 221 | 31 | | 4511 | 4055 | 3599 | 3143 | 2686 | 2230 | 1773 | 1316 | 0860 | 0403 | 9946 | 9489 | 9032 | 8575 | 8118 | 7660 | 7203 |
| 213 | 32 | | 4635 | 4179 | 3723 | 3266 | 2810 | 2353 | 1897 | 1440 | 0983 | 0526 | 0069 | 9612 | 9155 | 8698 | 8241 | 7783 | 7326 |
| 205 | 33 | | 4759 | 4303 | 3847 | 3390 | 2934 | 2477 | 2020 | 1563 | 1107 | 0649 | 0193 | 9735 | 9278 | 8821 | 8364 | 7906 | 7449 |
| 198 | 34 | | 4883 | 4427 | 3971 | 3514 | 3057 | 2600 | 2144 | 1687 | 1230 | 0773 | 0316 | 9859 | 9401 | 8944 | 8487 | 8029 | 7572 |
| 190 | 35 | 289(288) | 5007 | 4551 | 4094 | 3637 | 3181 | 2724 | 2267 | 1810 | 1353 | 0896 | 0439 | 9982 | 9524 | 9067 | 8609 | 8152 | 7694 |
| 183 | 36 | | 5131 | 4674 | 4218 | 3761 | 3304 | 2847 | 2390 | 1933 | 1476 | 1019 | 0562 | 0105 | 9647 | 9190 | 8732 | 8275 | 7817 |
| 175 | 37 | | 5254 | 4798 | 4341 | 3884 | 3427 | 2970 | 2514 | 2056 | 1599 | 1142 | 0685 | 0227 | 9770 | 9313 | 8855 | 8397 | 7940 |
| 167 | 38 | | 5378 | 4921 | 4464 | 4008 | 3551 | 3094 | 2637 | 2179 | 1722 | 1265 | 0808 | 0352 | 9893 | 9435 | 8978 | 8520 | 8062 |
| 160 | 39 | | 5501 | 5045 | 4588 | 4131 | 3674 | 3217 | 2760 | 2302 | 1845 | 1388 | 0931 | 0473 | 0015 | 9558 | 9101 | 8642 | 8185 |
| 152 | 40 | 289(288) | 5625 | 5168 | 4711 | 4254 | 3797 | 3340 | 2883 | 2425 | 1968 | 1511 | 1053 | 0596 | 0138 | 9681 | 9223 | 8765 | 8307 |
| 145 | 41 | | 5748 | 5291 | 4834 | 4377 | 3920 | 3463 | 3006 | 2548 | 2091 | 1634 | 1176 | 0718 | 0261 | 9803 | 9345 | 8887 | 8429 |
| 137 | 42 | | 5871 | 5414 | 4957 | 4500 | 4043 | 3586 | 3128 | 2671 | 2214 | 1756 | 1299 | 0841 | 0383 | 9925 | 9467 | 9009 | 8551 |
| 129 | 43 | | 5994 | 5537 | 5080 | 4623 | 4166 | 3709 | 3251 | 2794 | 2336 | 1879 | 1421 | 0963 | 0506 | 0048 | 9590 | 9132 | 8673 |
| 122 | 44 | | 6117 | 5660 | 5203 | 4746 | 4289 | 3831 | 3374 | 2916 | 2459 | 2001 | 1544 | 1086 | 0628 | 0170 | 9712 | 9254 | 8796 |
| 114 | 45 | 289(288) | 6240 | 5783 | 5326 | 4869 | 4411 | 3954 | 3497 | 3039 | 2581 | 2124 | 1666 | 1208 | 0750 | 0292 | 9834 | 9376 | 8918 |
| 106 | 46 | | 6363 | 5906 | 5449 | 4992 | 4534 | 4077 | 3619 | 3161 | 2704 | 2246 | 1788 | 1330 | 0872 | 0414 | 9956 | 9498 | 9040 |
| 99 | 47 | | 6486 | 6029 | 5572 | 5114 | 4657 | 4199 | 3742 | 3284 | 2826 | 2368 | 1910 | 1452 | 0994 | 0536 | 0077 | 9620 | 9161 |
| 91 | 48 | | 6609 | 6151 | 5694 | 5237 | 4779 | 4322 | 3864 | 3406 | 2948 | 2491 | 2033 | 1574 | 1116 | 0658 | 0200 | 9742 | 9283 |
| 84 | 49 | | 6732 | 6274 | 5817 | 5359 | 4902 | 4444 | 3986 | 3528 | 3071 | 2613 | 2155 | 1696 | 1238 | 0780 | 0322 | 9863 | 9405 |
| 76 | 50 | 289(288) | 6854 | 6397 | 5939 | 5482 | 5024 | 4567 | 4109 | 3651 | 3193 | 2735 | 2277 | 1818 | 1360 | 0902 | 0443 | 9985 | 9526 |
| 68 | 51 | | 6977 | 6520 | 6062 | 5604 | 5146 | 4689 | 4231 | 3773 | 3315 | 2857 | 2399 | 1941 | 1482 | 1024 | 0565 | 0107 | 9648 |
| 61 | 52 | | 7099 | 6642 | 6184 | 5727 | 5269 | 4811 | 4353 | 3895 | 3437 | 2979 | 2520 | 2062 | 1604 | 1145 | 0687 | 0228 | 9770 |
| 53 | 53 | | 7222 | 6764 | 6307 | 5849 | 5391 | 4933 | 4475 | 4017 | 3559 | 3101 | 2643 | 2184 | 1726 | 1267 | 0809 | 0350 | 9891 |
| 46 | 54 | 289 | 7344 | 6886 | 6428 | 5971 | 5513 | 5055 | 4597 | 4139 | 3680 | 3222 | 2764 | 2305 | 1847 | 1388 | 0930 | 0471 | 0012 |
| 38 | 55 | 289 | 7466 | 7008 | 6550 | 6093 | 5635 | 5177 | 4719 | 4260 | 3802 | 3344 | 2885 | 2427 | 1968 | 1510 | 1051 | 0593 | 0133 |
| 30 | 56 | | 7588 | 7130 | 6672 | 6215 | 5757 | 5300 | 4842 | 4382 | 3924 | 3465 | 3007 | 2548 | 2090 | 1631 | 1172 | 0713 | 0254 |
| 23 | 57 | | 7710 | 7252 | 6794 | 6337 | 5879 | 5422 | 4964 | 4505 | 4047 | 3587 | 3128 | 2670 | 2211 | 1752 | 1294 | 0835 | 0375 |
| 15 | 58 | | 7832 | 7374 | 6916 | 6458 | 6000 | 5543 | 5085 | 4627 | 4167 | 3708 | 3250 | 2791 | 2332 | 1874 | 1415 | 0956 | 0497 |
| 8 | 59 | | 7954 | 7496 | 7038 | 6580 | 6122 | 5664 | 5205 | 4747 | 4288 | 3830 | 3371 | 2912 | 2454 | 1995 | 1536 | 1077 | 0618 |

Sums for finding the Corrected Distances.

| Parts of Second Argument | C. D. 154 | Sums | |
|---|---|---|---|
| C. D. addit | ′ | | |
| 0 | 0 | 589 | 8794 |
| 2 | 1 | | 8335 |
| 4 | 2 | | 7877 |
| 6 | 3 | | 7419 |
| 8 | 4 | | 6960 |
| 10 | 5 | 589 | 6502 |
| 13 | 6 | | 6044 |
| 15 | 7 | | 5585 |
| 17 | 8 | | 5127 |
| 19 | 9 | | 4669 |
| 21 | 10 | 590 | 4210 |
| 23 | 11 | | 3752 |
| 25 | 12 | | 3293 |
| 27 | 13 | | 2835 |
| 29 | 14 | | 2377 |
| 31 | 15 | 590 | 1918 |
| 33 | 16 | | 1460 |
| 36 | 17 | | 1001 |
| 38 | 18 | | 0543 |
| 40 | 19 | | 0085 |
| 42 | 20 | 590 | 1334 |
| 44 | 21 | | 1792 |
| 46 | 22 | | 2251 |
| 48 | 23 | | 2709 |
| 50 | 24 | | 3167 |
| 52 | 25 | 590 | 3626 |
| 54 | 26 | | 4084 |
| 56 | 27 | | 4542 |
| 59 | 28 | | 5001 |
| 61 | 29 | | 5459 |
| 63 | 30 | 590 | 5918 |
| 65 | 31 | | 6376 |
| 67 | 32 | | 6834 |
| 69 | 33 | | 7293 |
| 71 | 34 | | 7751 |
| 73 | 35 | 590 | 8210 |
| 75 | 36 | | 8668 |
| 77 | 37 | | 9126 |
| 79 | 38 | | 9585 |
| 82 | 39 | | 0043 |
| 84 | 40 | 590 | 0501 |
| 86 | 41 | | 0960 |
| 88 | 42 | | 1418 |
| 90 | 43 | | 1877 |
| 92 | 44 | | 2335 |
| 94 | 45 | 590 | 2793 |
| 96 | 46 | | 3252 |
| 98 | 47 | | 3710 |
| 100 | 48 | | 4169 |
| 102 | 49 | | 4627 |
| 105 | 50 | 590 | 5085 |
| 107 | 51 | | 5544 |
| 109 | 52 | | 6002 |
| 111 | 53 | | 6461 |
| 113 | 54 | | 6919 |
| 115 | 55 | 590 | 7377 |
| 117 | 56 | | 7836 |
| 119 | 57 | | 8294 |
| 121 | 58 | | 8753 |
| 123 | 59 | | 9211 |

Numbers II. for Corrected Sums of Altitudes.

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ----- } and Auxiliary Arguments.

| Parts for Sec. of Arch. | A. M. 155° | Numbers |
|---|---|---|
| 125 | 0 | 0101078 |
| 123 | 1 | 0951 |
| 121 | 2 | 0824 |
| 119 | 3 | 0697 |
| 117 | 4 | 0569 |
| 115 | 5 | 0442 |
| 113 | 6 | 0315 |
| 111 | 7 | 0188 |
| 109 | 8 | 0061 |
| 107 | 9 | 2290 0935 |
| 105 | 10 | 0809 0808 |
| 103 | 11 | 0681 |
| 101 | 12 | 0555 |
| 99 | 13 | 0428 |
| 97 | 14 | 0302 |
| 95 | 15 | 0175 |
| 93 | 16 | 0049 |
| 91 | 17 | 8923 |
| 89 | 18 | 8797 |
| 87 | 19 | 8671 |
| 85 | 20 | 2289 8545 |
| 83 | 21 | 8418 |
| 81 | 22 | 8293 |
| 79 | 23 | 8167 |
| 77 | 24 | 8041 |
| 75 | 25 | 2289 7916 |
| 73 | 26 | 7791 |
| 71 | 27 | 7665 |
| 69 | 28 | 7540 |
| 67 | 29 | 7415 |
| 65 | 30 | 2289 7290 |
| 63 | 31 | 7164 |
| 61 | 32 | 7039 |
| 59 | 33 | 6914 |
| 57 | 34 | 6789 |
| 55 | 35 | 2289 6663 |
| 53 | 36 | 6538 |
| 51 | 37 | 6413 |
| 49 | 38 | 6288 |
| 47 | 39 | 6162 |
| 45 | 40 | 2289 6037 |
| 43 | 41 | 5912 |
| 41 | 42 | 5787 |
| 39 | 43 | 5662 |
| 37 | 44 | 5536 |
| 35 | 45 | 2289 5411 |
| 33 | 46 | 5307 |
| 31 | 47 | 5173 |
| 29 | 48 | 5048 |
| 27 | 49 | 4923 |
| 25 | 50 | 2289 4797 |
| 23 | 51 | 4672 |
| 21 | 52 | 4547 |
| 19 | 53 | 4421 |
| 17 | 54 | 4296 |
| 15 | 55 | 2289 4171 |
| 13 | 56 | 4046 |
| 11 | 57 | 3921 |
| 9 | 58 | 3795 |
| 7 | 59 | 3670 |

| Parts for Seconds of Arch. | A. M. & A. D. 155° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 450 | 0 | 290 (289)585 | 5394 | 4938 | 4481 | 4024 | 3567 | 3110 | 2652 | 2195 | 1738 | 1280 | 0823 | 0365 | 9908 | 9450 | 8992 | 8534 |
| 452 | 1 | 5974 | 5517 | 5060 | 4603 | 4146 | 3689 | 3232 | 2775 | 2317 | 1860 | 1403 | 0945 | 0487 | 0030 | 9572 | 9114 | 8656 |
| 444 | 2 | 6097 | 5640 | 5183 | 4726 | 4269 | 3812 | 3354 | 2897 | 2440 | 1982 | 1525 | 1067 | 0610 | 0151 | 9694 | 9236 | 8777 |
| 437 | 3 | 6219 | 5762 | 5305 | 4848 | 4391 | 3934 | 3477 | 3019 | 2562 | 2104 | 1647 | 1189 | 0731 | 0273 | 9815 | 9357 | 8898 |
| 429 | 4 | 6342 | 5885 | 5427 | 4971 | 4514 | 4056 | 3599 | 3142 | 2684 | 2226 | 1769 | 1311 | 0853 | 0395 | 9937 | 9479 | 9020 |
| 421 | 5 | 290 (289)6464 | 6007 | 5550 | 5093 | 4636 | 4179 | 3721 | 3264 | 2806 | 2348 | 1891 | 1433 | 0975 | 0517 | 0059 | 9601 | 9142 |
| 414 | 6 | 6587 | 6130 | 5673 | 5216 | 4758 | 4301 | 3843 | 3386 | 2928 | 2470 | 2013 | 1555 | 1097 | 0639 | 0181 | 9723 | 9264 |
| 406 | 7 | 6709 | 6252 | 5795 | 5338 | 4880 | 4423 | 3965 | 3508 | 3050 | 2592 | 2134 | 1676 | 1218 | 0760 | 0302 | 9844 | 9385 |
| 398 | 8 | 6832 | 6374 | 5917 | 5460 | 5002 | 4545 | 4087 | 3629 | 3172 | 2714 | 2256 | 1798 | 1340 | 0882 | 0423 | 9965 | 9507 |
| 391 | 9 | 6954 | 6497 | 6039 | 5582 | 5124 | 4667 | 4209 | 3751 | 3293 | 2836 | 2378 | 1919 | 1461 | 1003 | 0545 | 0086 | 9628 |
| 383 | 10 | 290 (289)7076 | 6619 | 6161 | 5704 | 5246 | 4788 | 4331 | 3873 | 3415 | 2957 | 2499 | 2041 | 1583 | 1124 | 0666 | 0208 | 9750 |
| 375 | 11 | 7198 | 6741 | 6283 | 5826 | 5368 | 4910 | 4452 | 3995 | 3537 | 3079 | 2620 | 2162 | 1704 | 1246 | 0787 | 0329 | 9871 |
| 368 | 12 | 7320 | 6863 | 6405 | 5947 | 5490 | 5032 | 4574 | 4116 | 3658 | 3200 | 2742 | 2284 | 1825 | 1367 | 0908 | 0450 | 9992 |
| 360 | 13 | 290 7442 | 6985 | 6527 | 6069 | 5611 | 5154 | 4696 | 4238 | 3780 | 3321 | 2863 | 2405 | 1946 | 1488 | 1029 | 0571 | 0113 |
| 352 | 14 | 7564 | 7107 | 6649 | 6191 | 5733 | 5275 | 4817 | 4359 | 3901 | 3443 | 2984 | 2526 | 2068 | 1609 | 1151 | 0692 | 0234 |
| 345 | 15 | 290 7686 | 7228 | 6770 | 6312 | 5855 | 5397 | 4939 | 4480 | 4022 | 3564 | 3105 | 2647 | 2189 | 1730 | 1271 | 0813 | 0355 |
| 337 | 16 | 7807 | 7350 | 6892 | 6434 | 5976 | 5518 | 5060 | 4602 | 4143 | 3685 | 3227 | 2768 | 2310 | 1851 | 1392 | 0934 | 0476 |
| 329 | 17 | 7928 | 7471 | 7013 | 6555 | 6097 | 5639 | 5181 | 4723 | 4264 | 3806 | 3348 | 2889 | 2430 | 1972 | 1513 | 1054 | 0596 |
| 321 | 18 | 8050 | 7593 | 7135 | 6677 | 6219 | 5760 | 5302 | 4844 | 4385 | 3927 | 3469 | 3010 | 2551 | 2092 | 1634 | 1175 | 0717 |
| 314 | 19 | 8171 | 7714 | 7256 | 6798 | 6340 | 5882 | 5423 | 4965 | 4506 | 4048 | 3589 | 3131 | 2672 | 2213 | 1754 | 1295 | 0837 |
| 306 | 20 | 290 8293 | 7835 | 7377 | 6919 | 6461 | 6003 | 5544 | 5086 | 4627 | 4169 | 3710 | 3251 | 2792 | 2334 | 1875 | 1416 | 0958 |
| 299 | 21 | 8415 | 7957 | 7498 | 7040 | 6582 | 6124 | 5665 | 5207 | 4748 | 4290 | 3831 | 3372 | 2913 | 2454 | 1995 | 1537 | 1078 |
| 291 | 22 | 8537 | 8078 | 7619 | 7161 | 6703 | 6245 | 5786 | 5327 | 4869 | 4410 | 3951 | 3492 | 3033 | 2574 | 2115 | 1657 | 1198 |
| 283 | 23 | 8657 | 8199 | 7740 | 7282 | 6824 | 6365 | 5907 | 5448 | 4989 | 4531 | 4072 | 3613 | 3154 | 2695 | 2236 | 1777 | 1319 |
| 276 | 24 | 8778 | 8320 | 7861 | 7403 | 6945 | 6487 | 6028 | 5569 | 5110 | 4651 | 4192 | 3733 | 3274 | 2815 | 2356 | 1897 | 1439 |
| 268 | 25 | 290 8899 | 8441 | 7982 | 7524 | 7065 | 6607 | 6148 | 5689 | 5231 | 4772 | 4313 | 3854 | 3395 | 2935 | 2476 | 2017 | 1559 |
| 260 | 26 | 9021 | 8562 | 8103 | 7645 | 7186 | 6727 | 6269 | 5810 | 5351 | 4892 | 4433 | 3974 | 3515 | 3055 | 2596 | 2137 | 1679 |
| 253 | 27 | 9141 | 8682 | 8224 | 7765 | 7307 | 6848 | 6389 | 5930 | 5471 | 5012 | 4553 | 4094 | 3635 | 3175 | 2716 | 2257 | 1799 |
| 245 | 28 | 9262 | 8803 | 8345 | 7886 | 7427 | 6968 | 6510 | 6051 | 5592 | 5133 | 4673 | 4214 | 3755 | 3295 | 2836 | 2377 | 1917 |
| 237 | 29 | 9382 | 8924 | 8465 | 8006 | 7548 | 7089 | 6631 | 6171 | 5712 | 5253 | 4793 | 4334 | 3875 | 3415 | 2956 | 2496 | 2037 |
| 230 | 30 | 290 9503 | 9044 | 8585 | 8127 | 7668 | 7209 | 6750 | 6291 | 5832 | 5373 | 4913 | 4454 | 3995 | 3535 | 3076 | 2616 | 2157 |
| 222 | 31 | 9623 | 9165 | 8706 | 8247 | 7788 | 7329 | 6870 | 6411 | 5952 | 5493 | 5033 | 4574 | 4115 | 3655 | 3195 | 2736 | 2277 |
| 214 | 32 | 9744 | 9285 | 8826 | 8367 | 7909 | 7450 | 6991 | 6531 | 6072 | 5613 | 5153 | 4694 | 4234 | 3774 | 3315 | 2855 | 2396 |
| 207 | 33 | 9864 | 9405 | 8947 | 8488 | 8029 | 7570 | 7111 | 6652 | 6192 | 5733 | 5274 | 4814 | 4354 | 3894 | 3434 | 2975 | 2515 |
| 199 | 34 | 9985 | 9526 | 9067 | 8608 | 8149 | 7690 | 7231 | 6771 | 6312 | 5853 | 5393 | 4933 | 4475 | 4014 | 3554 | 3094 | 2634 |
| 191 | 35 | 291 (290)0105 | 9647 | 9187 | 8728 | 8269 | 7810 | 7351 | 6891 | 6431 | 5972 | 5513 | 5053 | 4593 | 4133 | 3673 | 3213 | 2753 |
| 184 | 36 | 0225 | 9767 | 9308 | 8848 | 8389 | 7930 | 7471 | 7011 | 6551 | 6092 | 5632 | 5174 | 4712 | 4253 | 3793 | 3333 | 2873 |
| 176 | 37 | 0345 | 9887 | 9428 | 8969 | 8509 | 8050 | 7590 | 7131 | 6671 | 6211 | 5751 | 5292 | 4832 | 4372 | 3912 | 3452 | 2992 |
| 168 | 38 | 0465 | 0007 | 9548 | 9089 | 8629 | 8170 | 7710 | 7250 | 6791 | 6331 | 5871 | 5411 | 4951 | 4491 | 4031 | 3571 | 3111 |
| 161 | 39 | 0585 | 0128 | 9668 | 9209 | 8749 | 8289 | 7830 | 7370 | 6910 | 6452 | 5992 | 5532 | 5070 | 4611 | 4150 | 3690 | 3230 |
| 153 | 40 | 291 (290)0705 | 0248 | 9788 | 9329 | 8869 | 8409 | 7950 | 7490 | 7030 | 6570 | 6110 | 5649 | 5189 | 4729 | 4269 | 3809 | 3349 |
| 145 | 41 | 0824 | 0365 | 9906 | 9446 | 8987 | 8527 | 8068 | 7608 | 7148 | 6688 | 6228 | 5768 | 5308 | 4848 | 4388 | 3928 | 3468 |
| 138 | 42 | 0944 | 0485 | 0025 | 9566 | 9106 | 8647 | 8187 | 7727 | 7267 | 6807 | 6347 | 5887 | 5427 | 4967 | 4507 | 4046 | 3587 |
| 130 | 43 | 1064 | 0605 | 0145 | 9686 | 9226 | 8766 | 8307 | 7847 | 7387 | 6927 | 6466 | 6006 | 5546 | 5086 | 4625 | 4165 | 3705 |
| 123 | 44 | 1183 | 0724 | 0264 | 9805 | 9345 | 8885 | 8425 | 7965 | 7505 | 7045 | 6585 | 6125 | 5665 | 5205 | 4744 | 4284 | 3823 |
| 115 | 45 | 291 (290)1303 | 0843 | 0383 | 9924 | 9464 | 9004 | 8544 | 8084 | 7624 | 7164 | 6704 | 6244 | 5784 | 5324 | 4863 | 4402 | 3942 |
| 107 | 46 | 1422 | 0962 | 0502 | 0043 | 9583 | 9123 | 8663 | 8203 | 7743 | 7283 | 6823 | 6363 | 5902 | 5442 | 4981 | 4521 | 4060 |
| 100 | 47 | 1541 | 1081 | 0621 | 0162 | 9702 | 9242 | 8782 | 8322 | 7862 | 7402 | 6942 | 6481 | 6021 | 5560 | 5100 | 4639 | 4178 |
| 92 | 48 | 1661 | 1201 | 0741 | 0281 | 9821 | 9361 | 8901 | 8441 | 7981 | 7521 | 7060 | 6600 | 6139 | 5679 | 5218 | 4757 | 4297 |
| 84 | 49 | 1780 | 1320 | 0860 | 0401 | 9941 | 9481 | 9021 | 8560 | 8100 | 7640 | 7179 | 6718 | 6258 | 5797 | 5337 | 4876 | 4415 |
| 77 | 50 | 291 (290)1899 | 1439 | 0979 | 0520 | 0060 | 9600 | 9140 | 8680 | 8220 | 7760 | 7300 | 6839 | 6378 | 5918 | 5457 | 4996 | 4535 |
| 69 | 51 | 2018 | 1558 | 1098 | 0639 | 0180 | 9720 | 9260 | 8800 | 8340 | 7880 | 7420 | 6960 | 6499 | 6038 | 5577 | 5116 | 4655 |
| 61 | 52 | 2137 | 1677 | 1217 | 0758 | 0299 | 9840 | 9380 | 8920 | 8460 | 8000 | 7539 | 7078 | 6618 | 6157 | 5696 | 5235 | 4774 |
| 54 | 53 | 2256 | 1796 | 1336 | 0877 | 0419 | 9959 | 9499 | 9039 | 8579 | 8119 | 7659 | 7198 | 6737 | 6276 | 5815 | 5354 | 4893 |
| 46 | 54 | 2375 | 1914 | 1455 | 0996 | 0538 | 0079 | 9619 | 9159 | 8699 | 8239 | 7778 | 7317 | 6857 | 6396 | 5935 | 5474 | 5013 |
| 38 | 55 | 291 (290)2494 | 2033 | 1574 | 1115 | 0657 | 0198 | 9738 | 9278 | 8818 | 8358 | 7898 | 7437 | 6976 | 6516 | 6055 | 5594 | 5133 |
| 31 | 56 | 2613 | 2152 | 1693 | 1234 | 0776 | 0317 | 9858 | 9398 | 8938 | 8478 | 8017 | 7557 | 7096 | 6635 | 6174 | 5713 | 5252 |
| 23 | 57 | 2732 | 2271 | 1812 | 1353 | 0895 | 0436 | 9977 | 9517 | 9057 | 8597 | 8137 | 7676 | 7215 | 6755 | 6294 | 5833 | 5372 |
| 15 | 58 | 2851 | 2390 | 1931 | 1472 | 1014 | 0555 | 0096 | 9637 | 9177 | 8717 | 8256 | 7796 | 7335 | 6874 | 6413 | 5952 | 5491 |
| 8 | 59 | 2970 | 2509 | 2050 | 1591 | 1133 | 0674 | 0215 | 9756 | 9296 | 8836 | 8376 | 7915 | 7454 | 6994 | 6533 | 6072 | 5611 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances------ }

Sums for finding the Corrected Distances.

| Parts for Seconds of Auxil. Argum. additive | S. A. A. & A. D. 155° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N | N. |
| 460 | 0 | 289 | 8076 | 7618 | 7166 | 6702 | 6244 | 5785 | 5327 | 4868 | 4410 | 3951 | 3492 | 3034 | 2575 | 2116 | 1657 | 1198 | 0738 |
| 453 | 1 | | 8198 | 7740 | 7282 | 6823 | 6365 | 5907 | 5448 | 4990 | 4531 | 4072 | 3613 | 3155 | 2696 | 2237 | 1778 | 1318 | 0859 |
| 445 | 2 | | 8320 | 7861 | 7403 | 6945 | 6487 | 6028 | 5569 | 5111 | 4652 | 4193 | 3735 | 3276 | 2817 | 2358 | 1898 | 1439 | 0980 |
| 437 | 3 | | 8441 | 7983 | 7525 | 7066 | 6608 | 6149 | 5691 | 5232 | 4773 | 4314 | 3856 | 3397 | 2937 | 2478 | 2019 | 1560 | 1101 |
| 430 | 4 | | 8563 | 8105 | 7646 | 7188 | 6729 | 6271 | 5812 | 5353 | 4894 | 4435 | 3976 | 3517 | 3058 | 2599 | 2140 | 1681 | 1221 |
| 422 | 5 | 289 | 8084 | 8226 | 7768 | 7309 | 6850 | 6392 | 5933 | 5474 | 5015 | 4556 | 4097 | 3638 | 3179 | 2720 | 2260 | 1801 | 1342 |
| 414 | 6 | | 8806 | 8347 | 7889 | 7430 | 6972 | 6513 | 6054 | 5595 | 5136 | 4677 | 4218 | 3759 | 3300 | 2841 | 2381 | 1922 | 1462 |
| 407 | 7 | | 8927 | 8468 | 8011 | 7551 | 7093 | 6634 | 6175 | 5716 | 5257 | 4798 | 4339 | 3880 | 3420 | 2961 | 2502 | 2043 | 1583 |
| 399 | 8 | | 9048 | 8590 | 8131 | 7672 | 7214 | 6755 | 6296 | 5837 | 5378 | 4919 | 4460 | 4000 | 3541 | 3081 | 2622 | 2162 | 1703 |
| 391 | 9 | | 9169 | 8711 | 8253 | 7793 | 7335 | 6876 | 6417 | 5958 | 5499 | 5040 | 4581 | 4121 | 3662 | 3202 | 2743 | 2283 | 1823 |
| 384 | 10 | 289 | 9290 | 8832 | 8373 | 7914 | 7455 | 6997 | 6537 | 6078 | 5619 | 5160 | 4701 | 4241 | 3782 | 3322 | 2863 | 2404 | 1944 |
| 377 | 11 | | 9411 | 8953 | 8494 | 8035 | 7577 | 7117 | 6658 | 6199 | 5740 | 5281 | 4822 | 4362 | 3903 | 3443 | 2984 | 2524 | 2065 |
| 368 | 12 | | 9532 | 9074 | 8615 | 8156 | 7697 | 7238 | 6779 | 6320 | 5861 | 5402 | 4943 | 4483 | 4024 | 3564 | 3105 | 2645 | 2186 |
| 361 | 13 | | 9653 | 9194 | 8736 | 8277 | 7818 | 7358 | 6899 | 6440 | 5981 | 5522 | 5063 | 4604 | 4144 | 3685 | 3225 | 2766 | 2306 |
| 353 | 14 | | 9774 | 9315 | 8856 | 8397 | 7938 | 7479 | 7020 | 6561 | 6101 | 5642 | 5183 | 4724 | 4265 | 3805 | 3346 | 2886 | 2427 |
| 345 | 15 | 289 | 9895 | 9437 | 8977 | 8517 | 8059 | 7599 | 7140 | 6681 | 6221 | 5762 | 5303 | 4843 | 4385 | 3926 | 3466 | 3006 | 2547 |
| 338 | 16 | 290 (289) | 0016 | 9557 | 9098 | 8638 | 8179 | 7720 | 7261 | 6801 | 6341 | 5882 | 5422 | 4963 | 4504 | 4045 | 3585 | 3126 | 2667 |
| 330 | 17 | | 0138 | 9677 | 9218 | 8759 | 8300 | 7840 | 7381 | 6921 | 6461 | 6001 | 5542 | 5083 | 4624 | 4164 | 3705 | 3245 | 2787 |
| 322 | 18 | | 0257 | 9797 | 9338 | 8879 | 8420 | 7960 | 7501 | 7041 | 6581 | 6121 | 5662 | 5202 | 4743 | 4284 | 3825 | 3365 | 2907 |
| 315 | 19 | | 0377 | 9918 | 9459 | 9000 | 8541 | 8081 | 7621 | 7161 | 6701 | 6241 | 5781 | 5321 | 4861 | 4401 | 3941 | 3481 | 3022 |
| 307 | 20 | 290 (289) | 0497 | 0038 | 9579 | 9119 | 8660 | 8200 | 7741 | 7281 | 6821 | 6361 | 5901 | 5441 | 4981 | 4521 | 4062 | 3602 | 3142 |
| 299 | 21 | | 0618 | 0158 | 9699 | 9239 | 8780 | 8320 | 7861 | 7401 | 6941 | 6481 | 6021 | 5561 | 5101 | 4640 | 4180 | 3720 | 3260 |
| 292 | 22 | | 0738 | 0278 | 9819 | 9360 | 8900 | 8441 | 7981 | 7520 | 7060 | 6600 | 6140 | 5680 | 5220 | 4760 | 4300 | 3838 | 3378 |
| 284 | 23 | | 0858 | 0398 | 9939 | 9479 | 9020 | 8560 | 8100 | 7640 | 7180 | 6720 | 6260 | 5800 | 5340 | 4879 | 4419 | 3958 | 3497 |
| 276 | 24 | | 0978 | 0518 | 0059 | 9599 | 9139 | 8679 | 8220 | 7760 | 7300 | 6839 | 6379 | 5919 | 5459 | 4998 | 4538 | 4077 | 3616 |
| 268 | 25 | 290 (289) | 1098 | 0638 | 0179 | 9719 | 9259 | 8799 | 8339 | 7879 | 7419 | 6958 | 6498 | 6038 | 5578 | 5117 | 4657 | 4196 | 3735 |
| 261 | 26 | | 1218 | 0758 | 0298 | 9838 | 9379 | 8919 | 8459 | 7999 | 7538 | 7078 | 6618 | 6157 | 5697 | 5236 | 4776 | 4315 | 3854 |
| 253 | 27 | | 1338 | 0878 | 0418 | 9958 | 9498 | 9038 | 8578 | 8118 | 7658 | 7197 | 6737 | 6277 | 5816 | 5355 | 4895 | 4434 | 3973 |
| 245 | 28 | | 1457 | 0997 | 0538 | 0078 | 9618 | 9158 | 8697 | 8237 | 7777 | 7317 | 6856 | 6396 | 5935 | 5474 | 5014 | 4553 | 4092 |
| 238 | 29 | | 1577 | 1117 | 0657 | 0197 | 9737 | 9277 | 8817 | 8357 | 7896 | 7436 | 6975 | 6514 | 6054 | 5593 | 5132 | 4672 | 4211 |
| 230 | 30 | 290 (289) | 1696 | 1237 | 0777 | 0317 | 9857 | 9397 | 8936 | 8476 | 8015 | 7555 | 7094 | 6633 | 6173 | 5712 | 5251 | 4790 | 4330 |
| 223 | 31 | | 1816 | 1356 | 0896 | 0436 | 9977 | 9515 | 9055 | 8594 | 8134 | 7674 | 7213 | 6753 | 6292 | 5831 | 5370 | 4909 | 4448 |
| 215 | 32 | | 1935 | 1475 | 1015 | 0555 | 0095 | 9634 | 9174 | 8714 | 8253 | 7793 | 7332 | 6871 | 6411 | 5950 | 5489 | 5028 | 4567 |
| 207 | 33 | | 2055 | 1595 | 1135 | 0674 | 0214 | 9753 | 9293 | 8833 | 8372 | 7911 | 7451 | 6990 | 6529 | 6068 | 5607 | 5146 | 4685 |
| 200 | 34 | | 2174 | 1714 | 1254 | 0793 | 0333 | 9872 | 9412 | 8951 | 8491 | 8030 | 7569 | 7108 | 6647 | 6186 | 5725 | 5264 | 4803 |
| 192 | 35 | 290 (289) | 2293 | 1833 | 1373 | 0912 | 0452 | 9991 | 9531 | 9070 | 8610 | 8149 | 7688 | 7227 | 6767 | 6305 | 5844 | 5383 | 4922 |
| 184 | 36 | | 2412 | 1952 | 1492 | 1031 | 0571 | 0110 | 9650 | 9189 | 8728 | 8267 | 7807 | 7345 | 6884 | 6423 | 5962 | 5501 | 5040 |
| 176 | 37 | | 2531 | 2071 | 1611 | 1150 | 0690 | 0229 | 9768 | 9308 | 8847 | 8386 | 7925 | 7464 | 7003 | 6541 | 6080 | 5619 | 5157 |
| 169 | 38 | | 2650 | 2190 | 1729 | 1268 | 0808 | 0347 | 9887 | 9426 | 8965 | 8504 | 8043 | 7582 | 7121 | 6660 | 6199 | 5737 | 5276 |
| 161 | 39 | | 2769 | 2308 | 1848 | 1387 | 0927 | 0466 | 0005 | 9544 | 9084 | 8623 | 8161 | 7700 | 7239 | 6778 | 6317 | 5856 | 5394 |
| 153 | 40 | 290 (289) | 2888 | 2427 | 1967 | 1506 | 1046 | 0585 | 0124 | 9663 | 9202 | 8741 | 8280 | 7818 | 7357 | 6896 | 6435 | 5974 | 5511 |
| 146 | 41 | | 3007 | 2546 | 2086 | 1625 | 1164 | 0703 | 0242 | 9781 | 9320 | 8859 | 8398 | 7936 | 7475 | 7014 | 6553 | 6091 | 5630 |
| 138 | 42 | | 3125 | 2665 | 2204 | 1743 | 1282 | 0821 | 0361 | 9899 | 9438 | 8977 | 8516 | 8054 | 7593 | 7132 | 6671 | 6209 | 5747 |
| 130 | 43 | | 3244 | 2783 | 2322 | 1862 | 1401 | 0940 | 0479 | 0018 | 9556 | 9095 | 8634 | 8172 | 7711 | 7250 | 6789 | 6327 | 5866 |
| 123 | 44 | | 3362 | 2902 | 2441 | 1980 | 1519 | 1058 | 0597 | 0136 | 9674 | 9213 | 8752 | 8291 | 7830 | 7368 | 6907 | 6446 | 5984 |
| 115 | 45 | 290 (289) | 3481 | 3020 | 2559 | 2098 | 1637 | 1177 | 0715 | 0254 | 9792 | 9331 | 8870 | 8409 | 7947 | 7486 | 7025 | 6563 | 6102 |
| 107 | 46 | | 3599 | 3138 | 2677 | 2216 | 1755 | 1294 | 0833 | 0372 | 9910 | 9449 | 8987 | 8526 | 8065 | 7604 | 7142 | 6681 | 6220 |
| 100 | 47 | | 3717 | 3257 | 2796 | 2335 | 1873 | 1412 | 0951 | 0490 | 0028 | 9567 | 9105 | 8644 | 8183 | 7721 | 7260 | 6799 | 6337 |
| 92 | 48 | | 3836 | 3375 | 2914 | 2453 | 1991 | 1530 | 1069 | 0607 | 0146 | 9684 | 9223 | 8761 | 8299 | 7837 | 7376 | 6915 | 6451 |
| 84 | 49 | | 3954 | 3493 | 3032 | 2570 | 2109 | 1648 | 1187 | 0725 | 0264 | 9802 | 9340 | 8878 | 8417 | 7955 | 7494 | 7032 | 6570 |
| 77 | 50 | 290 (289) | 4072 | 3611 | 3150 | 2688 | 2227 | 1766 | 1304 | 0843 | 0381 | 9919 | 9457 | 8996 | 8534 | 8072 | 7611 | 7149 | 6688 |
| 69 | 51 | | 4190 | 3729 | 3267 | 2806 | 2345 | 1883 | 1422 | 0960 | 0498 | 0036 | 9575 | 9113 | 8651 | 8189 | 7727 | 7266 | 6804 |
| 61 | 52 | | 4308 | 3847 | 3385 | 2924 | 2462 | 2000 | 1538 | 1076 | 0615 | 0153 | 9691 | 9230 | 8768 | 8306 | 7844 | 7382 | 6920 |
| 54 | 53 | | 4426 | 3964 | 3503 | 3041 | 2580 | 2118 | 1657 | 1195 | 0733 | 0271 | 9810 | 9347 | 8885 | 8423 | 7961 | 7499 | 7037 |
| 46 | 54 | | 4544 | 4082 | 3621 | 3159 | 2697 | 2235 | 1774 | 1312 | 0850 | 0388 | 0926 | 0464 | 9002 | 8540 | 8078 | 7615 | 7153 |
| 38 | 55 | 290 (289) | 4661 | 4200 | 3738 | 3277 | 2815 | 2353 | 1891 | 1429 | 0968 | 0506 | 0044 | 9581 | 9119 | 8657 | 8195 | 7732 | 7270 |
| 31 | 56 | | 4779 | 4317 | 3856 | 3394 | 2932 | 2471 | 2009 | 1547 | 1085 | 0623 | 0161 | 9699 | 9237 | 8774 | 8311 | 7849 | 7387 |
| 23 | 57 | | 4896 | 4435 | 3973 | 3511 | 3049 | 2587 | 2126 | 1664 | 1202 | 0740 | 0277 | 9815 | 9353 | 8891 | 8428 | 7966 | 7503 |
| 15 | 58 | | 5013 | 4551 | 4090 | 3628 | 3167 | 2705 | 2243 | 1781 | 1319 | 0856 | 0394 | 9932 | 9469 | 9007 | 8544 | 8081 | 7619 |
| 8 | 59 | | 5131 | 4670 | 4208 | 3746 | 3284 | 2822 | 2361 | 1898 | 1436 | 0973 | 0511 | 0049 | 9587 | 9124 | 8662 | 8199 | 7735 |

| Parts for 1 Sec. of C. D. additive | C. D. 155° | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 590 6309 |
| 2 | 1 | 6431 |
| 4 | 2 | 6554 |
| 6 | 3 | 6676 |
| 8 | 4 | 6797 |
| 10 | 5 | 590 6919 |
| 12 | 6 | 7041 |
| 14 | 7 | 7162 |
| 16 | 8 | 7284 |
| 18 | 9 | 7411 |
| 20 | 10 | 7528 |
| 22 | 11 | 7650 |
| 24 | 12 | 7771 |
| 26 | 13 | 7893 |
| 28 | 14 | 8014 |
| 30 | 15 | 590 6135 |
| 32 | 16 | 6256 |
| 34 | 17 | 6377 |
| 36 | 18 | 6498 |
| 38 | 19 | 6619 |
| 40 | 20 | 590 6751 |
| 42 | 21 | 6872 |
| 44 | 22 | 6994 |
| 46 | 23 | 7115 |
| 48 | 24 | 7236 |
| 50 | 25 | 590 7357 |
| 52 | 26 | 7478 |
| 54 | 27 | 7599 |
| 56 | 28 | 7720 |
| 58 | 29 | 7841 |
| 60 | 30 | 590 7961 |
| 62 | 31 | 591 0082 |
| 64 | 32 | 0204 |
| 66 | 33 | 0325 |
| 68 | 34 | 0445 |
| 70 | 35 | 591 0566 |
| 72 | 36 | 0687 |
| 74 | 37 | 0808 |
| 76 | 38 | 0929 |
| 78 | 39 | 1049 |
| 80 | 40 | 591 1170 |
| 82 | 41 | 1291 |
| 84 | 42 | 1412 |
| 86 | 43 | 1533 |
| 88 | 44 | 1653 |
| 90 | 45 | 591 1774 |
| 92 | 46 | 1895 |
| 94 | 47 | 2016 |
| 96 | 48 | 2140 |
| 98 | 49 | 2259 |
| 100 | 50 | 591 2380 |
| 102 | 51 | 2477 |
| 104 | 52 | 2601 |
| 106 | 53 | 2718 |
| 108 | 54 | 2834 |
| 110 | 55 | 591 2951 |
| 112 | 56 | 3072 |
| 114 | 57 | 3188 |
| 116 | 58 | 3305 |
| 118 | 59 | 3422 |

Numbers I. for Sums of Apparent Altitudes and Numbers III. for Apparent Distances ------ } and Auxiliary Arguments.

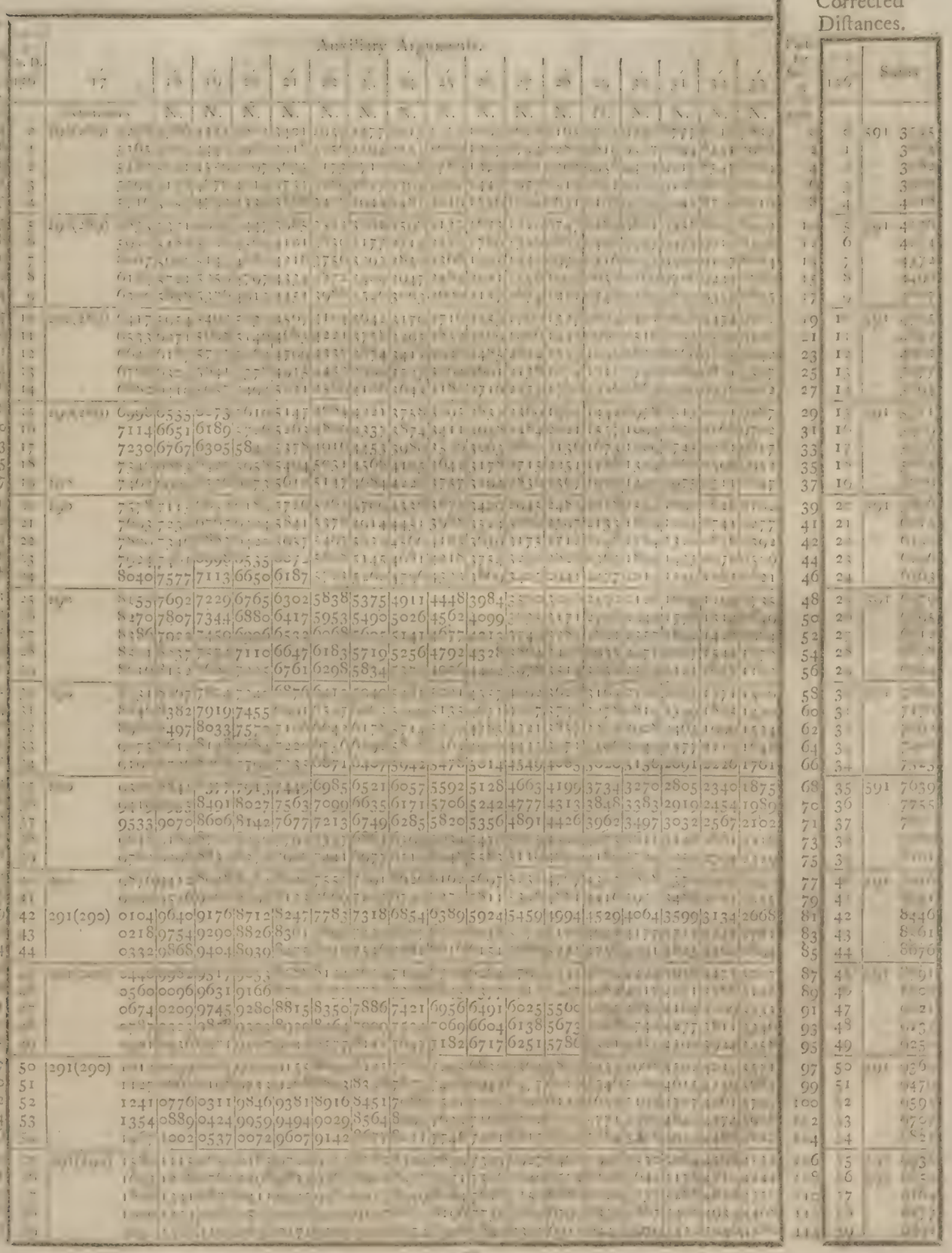
Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of Co. Alt. | C. S. A. 156° | Numbers |
|---|---|---|
| 120 | 0 | 3560 |
| 118 | 1 | 3440 |
| 116 | 2 | 3324 |
| 114 | 3 | 3201 |
| 112 | 4 | 3078 |
| 110 | 5 | 2956 |
| 108 | 6 | 2834 |
| 106 | 7 | 2711 |
| 104 | 8 | 2589 |
| 102 | 9 | 2467 |
| 100 | 10 | 2345 |
| 98 | 11 | 2223 |
| 96 | 12 | 2101 |
| 94 | 13 | 1979 |
| 92 | 14 | 1857 |
| 90 | 15 | 1735 |
| 88 | 16 | 1613 |
| 86 | 17 | 1492 |
| 84 | 18 | 1370 |
| 82 | 19 | 1249 |
| 80 | 20 | 1128 |
| 78 | 21 | 1006 |
| 76 | 22 | 0885 |
| 74 | 23 | 0764 |
| 72 | 24 | 0643 |
| 70 | 25 | 0522 |
| 68 | 26 | 0401 |
| 66 | 27 | 0280 |
| 64 | 28 | 0159 |
| 62 | 29 | 0039 |
| 60 | 30 | 9918 |
| 58 | 31 | 9798 |
| 56 | 32 | 9677 |
| 54 | 33 | 9557 |
| 52 | 34 | 9437 |
| 50 | 35 | 9316 |
| 48 | 36 | 9196 |
| 46 | 37 | 9076 |
| 44 | 38 | 8956 |
| 42 | 39 | 8837 |
| 40 | 40 | 8717 |
| 38 | 41 | 8597 |
| 36 | 42 | 8477 |
| 34 | 43 | 8357 |
| 32 | 44 | 8238 |
| 30 | 45 | 8119 |
| 28 | 46 | 7999 |
| 26 | 47 | 7880 |
| 24 | 48 | 7761 |
| 22 | 49 | 7642 |
| 20 | 50 | 7523 |
| 18 | 51 | 7404 |
| 16 | 52 | 7285 |
| 14 | 53 | 7166 |
| 12 | 54 | 7047 |
| 10 | 55 | 6928 |
| 8 | 56 | 6810 |
| 6 | 57 | 6691 |
| 4 | 58 | 6573 |
| 2 | 59 | 6455 |

| Parts for Seconds of Auxil. Arithm. | S. A. A. & A. D. 156° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 462 | 0 | 291(292) | 3085 | 2625 | 2164 | 1704 | 1243 | 0782 | 0322 | 9861 | 9400 | 8939 | 8478 | 8017 | 7555 | 7094 | 6633 | 6171 |
| 455 | 1 | | 3248 | 2743 | 2282 | 1822 | 1361 | 0900 | 0440 | 9979 | 9518 | 9057 | 8595 | 8134 | 7673 | 7212 | 6750 | 6289 |
| 447 | 2 | | 3322 | 2861 | 2400 | 1940 | 1479 | 1018 | 0557 | 0096 | 9635 | 9174 | 8713 | 8252 | 7790 | 7329 | 6867 | 6406 |
| 439 | 3 | | 3440 | 2979 | 2518 | 2058 | 1597 | 1136 | 0675 | 0214 | 9753 | 9292 | 8831 | 8369 | 7908 | 7446 | 6985 | 6523 |
| 432 | 4 | | 3558 | 3097 | 2636 | 2176 | 1715 | 1254 | 0793 | 0332 | 9870 | 9409 | 8948 | 8486 | 8025 | 7563 | 7102 | 6640 |
| 424 | 5 | 291(290) | 3676 | 3215 | 2754 | 2293 | 1832 | 1371 | 0910 | 0449 | 9988 | 9527 | 9065 | 8604 | 8142 | 7681 | 7219 | 6757 |
| 416 | 6 | | 3793 | 3332 | 2872 | 2411 | 1950 | 1489 | 1028 | 0567 | 0105 | 9644 | 9182 | 8721 | 8259 | 7798 | 7336 | 6874 |
| 409 | 7 | | 3911 | 3450 | 2989 | 2528 | 2067 | 1606 | 1145 | 0684 | 0223 | 9761 | 9300 | 8838 | 8376 | 7915 | 7453 | 6991 |
| 401 | 8 | | 4029 | 3568 | 3107 | 2646 | 2185 | 1724 | 1262 | 0801 | 0340 | 9878 | 9417 | 8955 | 8493 | 8031 | 7570 | 7108 |
| 393 | 9 | | 4146 | 3685 | 3224 | 2763 | 2302 | 1841 | 1380 | 0918 | 0457 | 9995 | 9534 | 9072 | 8610 | 8148 | 7686 | 7224 |
| 385 | 10 | 291(290) | 4264 | 3803 | 3342 | 2881 | 2420 | 1958 | 1497 | 1035 | 0574 | 0112 | 9651 | 9189 | 8727 | 8265 | 7803 | 7341 |
| 378 | 11 | | 4381 | 3920 | 3459 | 2998 | 2537 | 2075 | 1614 | 1152 | 0691 | 0229 | 9767 | 9306 | 8844 | 8382 | 7920 | 7458 |
| 370 | 12 | | 4499 | 4038 | 3576 | 3115 | 2654 | 2192 | 1731 | 1269 | 0808 | 0346 | 9884 | 9422 | 8960 | 8498 | 8036 | 7574 |
| 362 | 13 | | 4616 | 4155 | 3694 | 3232 | 2771 | 2309 | 1848 | 1386 | 0925 | 0463 | 0001 | 9539 | 9077 | 8615 | 8153 | 7691 |
| 355 | 14 | | 4733 | 4272 | 3811 | 3349 | 2888 | 2426 | 1965 | 1503 | 1041 | 0579 | 0117 | 9655 | 9193 | 8731 | 8269 | 7807 |
| 347 | 15 | 291(290) | 4850 | 4389 | 3928 | 3466 | 3005 | 2543 | 2081 | 1620 | 1158 | 0696 | 0234 | 9772 | 9310 | 8848 | 8385 | 7923 |
| 339 | 16 | | 4967 | 4506 | 4045 | 3583 | 3122 | 2660 | 2198 | 1736 | 1274 | 0813 | 0350 | 9888 | 9426 | 8964 | 8502 | 8039 |
| 331 | 17 | | 5084 | 4623 | 4161 | 3700 | 3238 | 2777 | 2315 | 1853 | 1391 | 0929 | 0467 | 0005 | 9543 | 9081 | 8618 | 8155 |
| 324 | 18 | | 5201 | 4740 | 4278 | 3817 | 3355 | 2893 | 2431 | 1969 | 1507 | 1045 | 0583 | 0121 | 9659 | 9196 | 8734 | 8271 |
| 316 | 19 | | 5318 | 4857 | 4395 | 3933 | 3472 | 3010 | 2548 | 2086 | 1624 | 1162 | 0700 | 0237 | 9775 | 9312 | 8850 | 8387 |
| 308 | 20 | 291(290) | 5435 | 4973 | 4512 | 4050 | 3588 | 3126 | 2664 | 2202 | 1740 | 1278 | 0816 | 0353 | 9891 | 9428 | 8966 | 8503 |
| 301 | 21 | | 5552 | 5090 | 4628 | 4166 | 3704 | 3243 | 2781 | 2318 | 1856 | 1394 | 0932 | 0469 | 0007 | 9544 | 9082 | 8619 |
| 293 | 22 | | 5668 | 5206 | 4745 | 4283 | 3821 | 3359 | 2897 | 2435 | 1972 | 1510 | 1048 | 0585 | 0123 | 9660 | 9197 | 8735 |
| 285 | 23 | | 5785 | 5323 | 4861 | 4399 | 3937 | 3475 | 3013 | 2551 | 2088 | 1626 | 1164 | 0701 | 0239 | 9776 | 9313 | 8850 |
| 278 | 24 | | 5901 | 5439 | 4977 | 4515 | 4053 | 3591 | 3129 | 2667 | 2204 | 1742 | 1280 | 0817 | 0354 | 9892 | 9429 | 8966 |
| 270 | 25 | 291(290) | 6017 | 5556 | 5094 | 4632 | 4170 | 3707 | 3245 | 2783 | 2320 | 1858 | 1396 | 0933 | 0470 | 0007 | 9544 | 9081 |
| 262 | 26 | | 6134 | 5672 | 5210 | 4748 | 4286 | 3823 | 3361 | 2899 | 2436 | 1974 | 1511 | 1048 | 0585 | 0123 | 9660 | 9197 |
| 254 | 27 | | 6250 | 5788 | 5326 | 4864 | 4402 | 3939 | 3477 | 3014 | 2552 | 2089 | 1627 | 1164 | 0701 | 0238 | 9775 | 9312 |
| 247 | 28 | | 6366 | 5904 | 5442 | 4980 | 4517 | 4055 | 3593 | 3130 | 2667 | 2205 | 1742 | 1279 | 0816 | 0353 | 9890 | 9427 |
| 239 | 29 | | 6482 | 6020 | 5558 | 5096 | 4633 | 4171 | 3708 | 3246 | 2783 | 2320 | 1858 | 1395 | 0932 | 0469 | 0006 | 9542 |
| 231 | 30 | 291(290) | 6598 | 6136 | 5674 | 5211 | 4749 | 4286 | 3824 | 3361 | 2898 | 2436 | 1973 | 1510 | 1047 | 0584 | 0121 | 9657 |
| 224 | 31 | | 6714 | 6252 | 5789 | 5327 | 4865 | 4402 | 3939 | 3477 | 3014 | 2551 | 2088 | 1625 | 1162 | 0699 | 0236 | 9772 |
| 216 | 32 | | 6830 | 6367 | 5905 | 5443 | 4981 | 4518 | 4055 | 3592 | 3129 | 2666 | 2204 | 1740 | 1277 | 0814 | 0351 | 9887 |
| 208 | 33 | | 6945 | 6483 | 6021 | 5558 | 5096 | 4633 | 4170 | 3708 | 3245 | 2782 | 2319 | 1855 | 1392 | 0929 | 0466 | 0002 |
| 201 | 34 | | 7061 | 6599 | 6136 | 5674 | 5211 | 4748 | 4286 | 3823 | 3360 | 2897 | 2434 | 1970 | 1507 | 1044 | 0581 | 0117 |
| 193 | 35 | 291(290) | 7177 | 6714 | 6252 | 5789 | 5326 | 4864 | 4401 | 3938 | 3475 | 3012 | 2549 | 2085 | 1622 | 1159 | 0695 | 0232 |
| 185 | 36 | | 7292 | 6830 | 6367 | 5904 | 5442 | 4979 | 4516 | 4053 | 3590 | 3127 | 2664 | 2200 | 1737 | 1274 | 0810 | 0347 |
| 177 | 37 | | 7408 | 6945 | 6483 | 6021 | 5557 | 5094 | 4631 | 4168 | 3705 | 3242 | 2779 | 2315 | 1852 | 1388 | 0925 | 0461 |
| 170 | 38 | 291 | 7523 | 7060 | 6598 | 6135 | 5672 | 5209 | 4746 | 4283 | 3820 | 3357 | 2893 | 2430 | 1966 | 1503 | 1039 | 0576 |
| 162 | 39 | | 7638 | 7175 | 6713 | 6250 | 5787 | 5324 | 4861 | 4398 | 3935 | 3472 | 3008 | 2544 | 2081 | 1617 | 1154 | 0690 |
| 154 | 40 | 291 | 7754 | 7291 | 6828 | 6365 | 5902 | 5439 | 4976 | 4513 | 4049 | 3586 | 3123 | 2659 | 2195 | 1732 | 1268 | 0804 |
| 146 | 41 | | 7869 | 7406 | 6943 | 6480 | 6017 | 5554 | 5091 | 4627 | 4164 | 3701 | 3237 | 2774 | 2310 | 1846 | 1382 | 0918 |
| 139 | 42 | | 7984 | 7521 | 7058 | 6595 | 6132 | 5668 | 5205 | 4742 | 4279 | 3815 | 3352 | 2888 | 2424 | 1960 | 1497 | 1033 |
| 131 | 43 | | 8099 | 7636 | 7173 | 6710 | 6247 | 5783 | 5320 | 4857 | 4393 | 3930 | 3466 | 3002 | 2538 | 2075 | 1611 | 1147 |
| 123 | 44 | | 8213 | 7751 | 7289 | 6824 | 6361 | 5898 | 5434 | 4971 | 4507 | 4044 | 3580 | 3116 | 2653 | 2189 | 1725 | 1261 |
| 116 | 45 | 291 | 8328 | 7865 | 7402 | 6939 | 6476 | 6012 | 5549 | 5085 | 4622 | 4158 | 3694 | 3231 | 2767 | 2303 | 1839 | 1375 |
| 108 | 46 | | 8443 | 7980 | 7517 | 7053 | 6590 | 6127 | 5663 | 5200 | 4736 | 4272 | 3809 | 3345 | 2881 | 2417 | 1953 | 1489 |
| 100 | 47 | | 8558 | 8095 | 7631 | 7168 | 6705 | 6241 | 5778 | 5314 | 4850 | 4387 | 3923 | 3459 | 2995 | 2531 | 2067 | 1603 |
| 93 | 48 | | 8672 | 8209 | 7746 | 7282 | 6818 | 6355 | 5891 | 5428 | 4964 | 4501 | 4037 | 3573 | 3109 | 2645 | 2180 | 1716 |
| 85 | 49 | | 8787 | 8324 | 7860 | 7397 | 6933 | 6470 | 6006 | 5542 | 5078 | 4615 | 4151 | 3687 | 3223 | 2758 | 2294 | 1830 |
| 77 | 50 | 291 | 8901 | 8438 | 7974 | 7511 | 7047 | 6584 | 6120 | 5656 | 5192 | 4728 | 4264 | 3800 | 3336 | 2872 | 2408 | 1943 |
| 69 | 51 | | 9015 | 8552 | 8088 | 7625 | 7161 | 6698 | 6234 | 5770 | 5306 | 4842 | 4378 | 3914 | 3450 | 2986 | 2521 | 2057 |
| 62 | 52 | | 9130 | 8666 | 8203 | 7739 | 7276 | 6812 | 6348 | 5884 | 5420 | 4956 | 4492 | 4028 | 3563 | 3099 | 2635 | 2171 |
| 54 | 53 | | 9244 | 8781 | 8317 | 7853 | 7389 | 6926 | 6462 | 5998 | 5534 | 5070 | 4606 | 4141 | 3677 | 3213 | 2748 | 2284 |
| 47 | 54 | | 9358 | 8895 | 8431 | 7967 | 7503 | 7040 | 6576 | 6112 | 5648 | 5183 | 4719 | 4255 | 3791 | 3326 | 2861 | 2397 |
| 39 | 55 | 291 | 9472 | 9009 | 8545 | 8081 | 7617 | 7153 | 6689 | 6225 | 5761 | 5297 | 4833 | 4368 | 3904 | 3440 | 2974 | 2510 |
| 31 | 56 | | 9586 | 9124 | 8659 | 8195 | 7731 | 7267 | 6803 | 6339 | 5875 | 5411 | 4947 | 4482 | 4017 | 3553 | 3088 | 2624 |
| 23 | 57 | | 9700 | 9238 | 8773 | 8309 | 7844 | 7380 | 6916 | 6452 | 5988 | 5524 | 5060 | 4595 | 4130 | 3665 | 3201 | 2737 |
| 15 | 58 | | 9814 | 9352 | 8887 | 8422 | 7958 | 7494 | 7030 | 6566 | 6101 | 5637 | 5172 | 4708 | 4243 | 3778 | 3314 | 2849 |
| 8 | 59 | | 9927 | 9465 | 9001 | 8536 | 8072 | 7608 | 7143 | 6679 | 6215 | 5750 | 5286 | 4821 | 4357 | 3892 | 3427 | 2963 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Number III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distances.



Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of Auxi. Arg. | A.S. & A.D. 157° | Numbers |
|---|---|---|
| 116 | 0 | 008 6336 |
| 114 | 1 | 6218 |
| 112 | 2 | 6100 |
| 110 | 3 | 5982 |
| 108 | 4 | 5864 |
| 106 | 5 | 008 5746 |
| 104 | 6 | 5628 |
| 102 | 7 | 5510 |
| 100 | 8 | 5393 |
| 99 | 9 | 5275 |
| 97 | 10 | 008 5158 |
| 95 | 11 | 5040 |
| 93 | 12 | 4923 |
| 91 | 13 | 4806 |
| 89 | 14 | 4689 |
| 87 | 15 | 008 4571 |
| 85 | 16 | 4454 |
| 83 | 17 | 4337 |
| 81 | 18 | 4221 |
| 79 | 19 | 4104 |
| 77 | 20 | 008 3987 |
| 75 | 21 | 3870 |
| 73 | 22 | 3754 |
| 71 | 23 | 3637 |
| 70 | 24 | 3521 |
| 68 | 25 | 008 3405 |
| 66 | 26 | 3288 |
| 64 | 27 | 3172 |
| 62 | 28 | 3056 |
| 60 | 29 | 2940 |
| 58 | 30 | 008 2824 |
| 56 | 31 | 2708 |
| 54 | 32 | 2592 |
| 52 | 33 | 2477 |
| 50 | 34 | 2361 |
| 48 | 35 | 008 2245 |
| 46 | 36 | 2130 |
| 44 | 37 | 2014 |
| 42 | 38 | 1899 |
| 41 | 39 | 1784 |
| 39 | 40 | 008 1669 |
| 37 | 41 | 1554 |
| 35 | 42 | 1439 |
| 33 | 43 | 1324 |
| 31 | 44 | 1209 |
| 29 | 45 | 008 1094 |
| 27 | 46 | 0979 |
| 25 | 47 | 0865 |
| 23 | 48 | 0750 |
| 21 | 49 | 0636 |
| 19 | 50 | 008 0521 |
| 17 | 51 | 0407 |
| 15 | 52 | 0293 |
| 13 | 53 | 0179 |
| 12 | 54 | 0064 |
| 10 | 55 | 007 9950 |
| 8 | 56 | 9836 |
| 6 | 57 | 9722 |
| 4 | 58 | 9608 |
| 2 | 59 | 9495 |

| Parts for Seconds of Auxi. Arg. | A.S. & A.D. 157° | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ó | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 466 | ó | 292 (291) | 0041 | 9577 | 9113 | 8649 | 8185 | 7721 | 7257 | 6792 | 6328 | 5864 | 5399 | 4934 | 4469 | 4004 | 3539 | 3074 |
| 458 | 1 | | 0135 | 9670 | 9227 | 8763 | 8299 | 7834 | 7370 | 6905 | 6441 | 5976 | 5512 | 5047 | 4582 | 4117 | 3652 | 3187 |
| 451 | 2 | | 0229 | 9764 | 9300 | 8836 | 8372 | 7948 | 7483 | 7019 | 6554 | 6089 | 5624 | 5160 | 4695 | 4230 | 3765 | 3300 |
| 443 | 3 | | 0323 | 9858 | 9394 | 8930 | 8466 | 8002 | 7538 | 7073 | 6609 | 6144 | 5680 | 5215 | 4750 | 4286 | 3821 | 3356 |
| 435 | 4 | | 0417 | 9952 | 9488 | 9024 | 8560 | 8096 | 7632 | 7168 | 6703 | 6239 | 5774 | 5310 | 4845 | 4380 | 3915 | 3451 |
| 427 | 5 | 292 (291) | 0511 | 0047 | 9582 | 9118 | 8654 | 8190 | 7726 | 7262 | 6798 | 6333 | 5869 | 5404 | 4940 | 4475 | 4010 | 3546 |
| 419 | 6 | | 0605 | 0141 | 9677 | 9213 | 8749 | 8285 | 7821 | 7357 | 6892 | 6428 | 5964 | 5499 | 5035 | 4570 | 4105 | 3641 |
| 412 | 7 | | 0699 | 0235 | 9771 | 9307 | 8843 | 8379 | 7915 | 7451 | 6987 | 6523 | 6058 | 5594 | 5130 | 4665 | 4200 | 3736 |
| 404 | 8 | | 0793 | 0329 | 9865 | 9401 | 8937 | 8473 | 8009 | 7545 | 7081 | 6617 | 6153 | 5688 | 5224 | 4760 | 4295 | 3831 |
| 396 | 9 | | 0887 | 0423 | 9959 | 9495 | 9031 | 8567 | 8103 | 7639 | 7175 | 6711 | 6247 | 5783 | 5318 | 4854 | 4390 | 3926 |
| 388 | 10 | 292 (291) | 0981 | 0517 | 0053 | 9589 | 9125 | 8661 | 8197 | 7733 | 7269 | 6805 | 6341 | 5877 | 5413 | 4949 | 4485 | 4021 |
| 381 | 11 | | 1075 | 0611 | 0147 | 9683 | 9219 | 8755 | 8291 | 7827 | 7363 | 6899 | 6435 | 5971 | 5507 | 5043 | 4579 | 4115 |
| 373 | 12 | | 1169 | 0705 | 0241 | 9777 | 9313 | 8849 | 8385 | 7921 | 7457 | 6993 | 6529 | 6065 | 5601 | 5137 | 4673 | 4209 |
| 365 | 13 | | 1263 | 0799 | 0335 | 9871 | 9407 | 8943 | 8479 | 8015 | 7551 | 7087 | 6623 | 6159 | 5695 | 5231 | 4767 | 4303 |
| 357 | 14 | | 1357 | 0893 | 0429 | 9965 | 9501 | 9037 | 8573 | 8109 | 7645 | 7181 | 6717 | 6253 | 5789 | 5325 | 4861 | 4397 |
| 350 | 15 | 292 (291) | 1451 | 0987 | 0523 | 0059 | 9595 | 9131 | 8667 | 8203 | 7739 | 7275 | 6811 | 6347 | 5883 | 5419 | 4955 | 4491 |
| 342 | 16 | | 1545 | 1081 | 0617 | 0153 | 9689 | 9225 | 8761 | 8297 | 7833 | 7369 | 6905 | 6441 | 5977 | 5513 | 5049 | 4585 |
| 334 | 17 | | 1639 | 1175 | 0711 | 0247 | 9783 | 9319 | 8855 | 8391 | 7927 | 7463 | 6999 | 6535 | 6071 | 5607 | 5143 | 4679 |
| 326 | 18 | | 1733 | 1269 | 0805 | 0341 | 9877 | 9413 | 8949 | 8485 | 8021 | 7557 | 7093 | 6629 | 6165 | 5701 | 5237 | 4773 |
| 318 | 19 | | 1827 | 1363 | 0899 | 0435 | 9971 | 9507 | 9043 | 8579 | 8115 | 7651 | 7187 | 6723 | 6259 | 5795 | 5331 | 4867 |
| 311 | 20 | 292 (291) | 1921 | 1457 | 0993 | 0529 | 0065 | 9601 | 9137 | 8673 | 8209 | 7745 | 7281 | 6817 | 6353 | 5889 | 5425 | 4961 |
| 303 | 21 | | 2015 | 1551 | 1087 | 0623 | 0159 | 9695 | 9231 | 8767 | 8303 | 7839 | 7375 | 6911 | 6447 | 5983 | 5519 | 5055 |
| 295 | 22 | | 2109 | 1645 | 1181 | 0717 | 0253 | 9789 | 9325 | 8861 | 8397 | 7933 | 7469 | 7005 | 6541 | 6077 | 5613 | 5149 |
| 287 | 23 | | 2203 | 1739 | 1275 | 0811 | 0347 | 9883 | 9419 | 8955 | 8491 | 8027 | 7563 | 7099 | 6635 | 6171 | 5707 | 5243 |
| 280 | 24 | | 2297 | 1833 | 1369 | 0905 | 0441 | 9977 | 9513 | 9049 | 8585 | 8121 | 7657 | 7193 | 6729 | 6265 | 5801 | 5337 |
| 272 | 25 | 292 (291) | 2391 | 1927 | 1463 | 0999 | 0535 | 0071 | 9607 | 9143 | 8679 | 8215 | 7751 | 7287 | 6823 | 6359 | 5895 | 5431 |
| 264 | 26 | | 2485 | 2021 | 1557 | 1093 | 0629 | 0165 | 9701 | 9237 | 8773 | 8309 | 7845 | 7381 | 6917 | 6453 | 5989 | 5525 |
| 256 | 27 | | 2579 | 2115 | 1651 | 1187 | 0723 | 0259 | 9795 | 9331 | 8867 | 8403 | 7939 | 7475 | 7011 | 6547 | 6083 | 5619 |
| 249 | 28 | | 2673 | 2209 | 1745 | 1281 | 0817 | 0353 | 9889 | 9425 | 8961 | 8497 | 8033 | 7569 | 7105 | 6641 | 6177 | 5713 |
| 241 | 29 | | 2767 | 2303 | 1839 | 1375 | 0911 | 0447 | 9983 | 9519 | 9055 | 8591 | 8127 | 7663 | 7199 | 6735 | 6271 | 5807 |
| 233 | 30 | 292 (291) | 2861 | 2397 | 1933 | 1469 | 1005 | 0541 | 0077 | 9613 | 9149 | 8685 | 8221 | 7757 | 7293 | 6829 | 6365 | 5901 |
| 225 | 31 | | 2955 | 2491 | 2027 | 1563 | 1099 | 0635 | 0171 | 9707 | 9243 | 8779 | 8315 | 7851 | 7387 | 6923 | 6459 | 5995 |
| 218 | 32 | | 3049 | 2585 | 2121 | 1657 | 1193 | 0729 | 0265 | 9801 | 9337 | 8873 | 8409 | 7945 | 7481 | 7017 | 6553 | 6089 |
| 210 | 33 | | 3143 | 2679 | 2215 | 1751 | 1287 | 0823 | 0359 | 9895 | 9431 | 8967 | 8503 | 8039 | 7575 | 7111 | 6647 | 6183 |
| 202 | 34 | | 3237 | 2773 | 2309 | 1845 | 1381 | 0917 | 0453 | 9989 | 9525 | 9061 | 8597 | 8133 | 7669 | 7205 | 6741 | 6277 |
| 194 | 35 | 292 (291) | 3331 | 2867 | 2403 | 1939 | 1475 | 1011 | 0547 | 0083 | 9619 | 9155 | 8691 | 8227 | 7763 | 7299 | 6835 | 6371 |
| 187 | 36 | | 3425 | 2961 | 2497 | 2033 | 1569 | 1105 | 0641 | 0177 | 9713 | 9249 | 8785 | 8321 | 7857 | 7393 | 6929 | 6465 |
| 179 | 37 | | 3519 | 3055 | 2591 | 2127 | 1663 | 1199 | 0735 | 0271 | 9807 | 9343 | 8879 | 8415 | 7951 | 7487 | 7023 | 6559 |
| 171 | 38 | | 3613 | 3149 | 2685 | 2221 | 1757 | 1293 | 0829 | 0365 | 9901 | 9437 | 8973 | 8509 | 8045 | 7581 | 7117 | 6653 |
| 163 | 39 | | 3707 | 3243 | 2779 | 2315 | 1851 | 1387 | 0923 | 0459 | 9995 | 9531 | 9067 | 8603 | 8139 | 7675 | 7211 | 6747 |
| 155 | 40 | 292 (291) | 3801 | 3337 | 2873 | 2409 | 1945 | 1481 | 1017 | 0553 | 0089 | 9625 | 9161 | 8697 | 8233 | 7769 | 7305 | 6841 |
| 147 | 41 | | 3895 | 3431 | 2967 | 2503 | 2039 | 1575 | 1111 | 0647 | 0183 | 9719 | 9255 | 8791 | 8327 | 7863 | 7399 | 6935 |
| 140 | 42 | | 3989 | 3525 | 3061 | 2597 | 2133 | 1669 | 1205 | 0741 | 0277 | 9813 | 9349 | 8885 | 8421 | 7957 | 7493 | 7029 |
| 132 | 43 | | 4083 | 3619 | 3155 | 2691 | 2227 | 1763 | 1299 | 0835 | 0371 | 9907 | 9443 | 8979 | 8515 | 8051 | 7587 | 7123 |
| 124 | 44 | | 4177 | 3713 | 3249 | 2785 | 2321 | 1857 | 1393 | 0929 | 0465 | 0001 | 9537 | 9073 | 8609 | 8145 | 7681 | 7217 |
| 117 | 45 | 292 (291) | 4271 | 3807 | 3343 | 2879 | 2415 | 1951 | 1487 | 1023 | 0559 | 0095 | 9631 | 9167 | 8703 | 8239 | 7775 | 7311 |
| 109 | 46 | | 4365 | 3901 | 3437 | 2973 | 2509 | 2045 | 1581 | 1117 | 0653 | 0189 | 9725 | 9261 | 8797 | 8333 | 7869 | 7405 |
| 101 | 47 | | 4459 | 3995 | 3531 | 3067 | 2603 | 2139 | 1675 | 1211 | 0747 | 0283 | 9819 | 9355 | 8891 | 8427 | 7963 | 7499 |
| 93 | 48 | | 4553 | 4089 | 3625 | 3161 | 2697 | 2233 | 1769 | 1305 | 0841 | 0377 | 9913 | 9449 | 8985 | 8521 | 8057 | 7593 |
| 86 | 49 | | 4647 | 4183 | 3719 | 3255 | 2791 | 2327 | 1863 | 1399 | 0935 | 0471 | 0007 | 9543 | 9079 | 8615 | 8151 | 7687 |
| 78 | 50 | 292(291) | 5624 | 5157 | 4690 | 4223 | 3756 | 3289 | 2822 | 2355 | 1888 | 1421 | 0954 | 0487 | 0020 | 9553 | 9086 | 8619 |
| 70 | 51 | | 5734 | 5267 | 4800 | 4333 | 3866 | 3399 | 2932 | 2464 | 1997 | 1530 | 1062 | 0595 | 0127 | 9659 | 9191 | 8724 |
| 62 | 52 | | 5843 | 5376 | 4909 | 4442 | 3975 | 3508 | 3041 | 2574 | 2106 | 1639 | 1172 | 0705 | 0238 | 9768 | 9300 | 8832 |
| 54 | 53 | | 5953 | 5486 | 5019 | 4552 | 4085 | 3618 | 3151 | 2683 | 2216 | 1749 | 1282 | 0815 | 0348 | 9878 | 9410 | 8943 |
| 47 | 54 | | 6063 | 5596 | 5129 | 4662 | 4195 | 3728 | 3261 | 2793 | 2326 | 1859 | 1392 | 0925 | 0458 | 9988 | 9520 | 9053 |
| 39 | 55 | 292(291) | 6171 | 5704 | 5237 | 4770 | 4303 | 3836 | 3369 | 2901 | 2434 | 1967 | 1500 | 1033 | 0566 | 0096 | 9629 | 9161 |
| 31 | 56 | | 6281 | 5814 | 5347 | 4880 | 4413 | 3946 | 3479 | 3011 | 2544 | 2077 | 1610 | 1143 | 0676 | 0206 | 9739 | 9271 |
| 23 | 57 | | 6390 | 5923 | 5455 | 4988 | 4521 | 4053 | 3586 | 3118 | 2651 | 2185 | 1715 | 1247 | 0779 | 0311 | 9843 | 9375 |
| 16 | 58 | | 6499 | 6032 | 5564 | 5097 | 4630 | 4162 | 3695 | 3227 | 2759 | 2292 | 1824 | 1356 | 0888 | 0420 | 9951 | 9483 |
| 8 | 59 | | 6608 | 6141 | 5673 | 5206 | 4738 | 4271 | 3804 | 3336 | 2868 | 2400 | 1933 | 1465 | 0996 | 0528 | 0060 | 9591 |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Auxiliary Arguments.

| Parts for Seconds of A.A. & A.D. | 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ″ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 0 | 291(290) | 2144 | 1679 | 1214 | 0748 | 0283 | 9817 | 9352 | 8886 | 8420 | 7955 | 7489 | 7023 | 6557 | 6090 | 5624 | 5158 | 4692 |
| 1 | | 2257 | 1792 | 1326 | 0861 | 0395 | 0930 | 9464 | 8998 | 8533 | 8067 | 7601 | 7135 | 6668 | 6202 | 5736 | 5270 | 4803 |
| 2 | | 2369 | 1904 | 1439 | 0973 | 0508 | 0042 | 9577 | 9111 | 8645 | 8179 | 7713 | 7246 | 6780 | 6314 | 5848 | 5381 | 4915 |
| 3 | | 2482 | 2016 | 1551 | 1085 | 0620 | 0154 | 9688 | 9222 | 8757 | 8291 | 7824 | 7358 | 6892 | 6426 | 5959 | 5493 | 5026 |
| 4 | | 2594 | 2129 | 1663 | 1198 | 0732 | 0267 | 9801 | 9334 | 8868 | 8402 | 7936 | 7470 | 7004 | 6537 | 6071 | 5604 | 5138 |
| 5 | 291(290) | 2706 | 2241 | 1775 | 1310 | 0844 | 0378 | 9912 | 9446 | 8980 | 8514 | 8048 | 7582 | 7115 | 6649 | 6182 | 5716 | 5249 |
| 6 | | 2817 | 2353 | 1887 | 1422 | 0956 | 0490 | 0025 | 9559 | 9093 | 8626 | 8160 | 7693 | 7227 | 6760 | 6294 | 5827 | 5360 |
| 7 | | 2931 | 2465 | 1999 | 1534 | 1068 | 0602 | 0137 | 9670 | 9204 | 8737 | 8271 | 7805 | 7338 | 6872 | 6405 | 5938 | 5472 |
| 8 | | 3043 | 2577 | 2111 | 1646 | 1180 | 0714 | 0248 | 9781 | 9315 | 8849 | 8383 | 7916 | 7450 | 6983 | 6516 | 6050 | 5583 |
| 9 | | 3155 | 2689 | 2223 | 1757 | 1291 | 0825 | 0359 | 0893 | 0427 | 8960 | 8494 | 8027 | 7561 | 7094 | 6628 | 6161 | 5694 |
| 10 | 291(290) | 3267 | 2801 | 2335 | 1869 | 1403 | 0937 | 0471 | 0005 | 0539 | 0072 | 9605 | 9139 | 8672 | 8206 | 7739 | 7272 | 6805 |
| 11 | | 3379 | 2913 | 2447 | 1981 | 1515 | 1049 | 0583 | 0117 | 0651 | 0183 | 9717 | 9251 | 8785 | 8318 | 7852 | 7385 | 6916 |
| 12 | | 3490 | 3024 | 2558 | 2092 | 1626 | 1160 | 0694 | 0227 | 0761 | 0294 | 9828 | 9361 | 8895 | 8429 | 7962 | 7494 | 7027 |
| 13 | | 3602 | 3136 | 2670 | 2204 | 1738 | 1271 | 0805 | 0339 | 0872 | 0406 | 9939 | 9473 | 9006 | 8540 | 8073 | 7606 | 7137 |
| 14 | | 3713 | 3247 | 2781 | 2315 | 1849 | 1383 | 0916 | 0450 | 0983 | 0517 | 0050 | 9583 | 9116 | 8650 | 8183 | 7716 | 7248 |
| 15 | 291(290) | 3825 | 3359 | 2893 | 2426 | 1960 | 1494 | 1027 | 0561 | 0094 | 0628 | 0161 | 9694 | 9227 | 8761 | 8294 | 7826 | 7359 |
| 16 | | 3936 | 3470 | 3004 | 2538 | 2071 | 1605 | 1138 | 0672 | 0205 | 9738 | 9272 | 8805 | 8338 | 7871 | 7404 | 6938 | 6469 |
| 17 | | 4048 | 3582 | 3115 | 2649 | 2182 | 1716 | 1249 | 0783 | 0316 | 9849 | 9383 | 8916 | 8448 | 7981 | 7514 | 7047 | 6579 |
| 18 | | 4159 | 3693 | 3227 | 2760 | 2293 | 1827 | 1360 | 0894 | 0427 | 9960 | 9493 | 9026 | 8559 | 8092 | 7625 | 7157 | 6690 |
| 19 | | 4270 | 3804 | 3338 | 2871 | 2404 | 1938 | 1471 | 1004 | 0538 | 0071 | 9604 | 9137 | 8670 | 8203 | 7736 | 7268 | 6800 |
| 20 | 291(290) | 4381 | 3915 | 3449 | 2982 | 2515 | 2049 | 1582 | 1115 | 0648 | 0181 | 9714 | 9247 | 8780 | 8313 | 7845 | 7378 | 6910 |
| 21 | | 4492 | 4026 | 3560 | 3093 | 2626 | 2160 | 1693 | 1226 | 0759 | 0292 | 9825 | 9358 | 8891 | 8423 | 7956 | 7488 | 7021 |
| 22 | | 4603 | 4137 | 3670 | 3204 | 2737 | 2270 | 1803 | 1336 | 0869 | 0402 | 9935 | 9468 | 9001 | 8533 | 8066 | 7599 | 7131 |
| 23 | | 4714 | 4248 | 3781 | 3314 | 2848 | 2381 | 1914 | 1447 | 0980 | 0513 | 0045 | 9578 | 9111 | 8643 | 8176 | 7709 | 7241 |
| 24 | | 4825 | 4358 | 3892 | 3425 | 2958 | 2491 | 2024 | 1557 | 1090 | 0623 | 0156 | 9688 | 9221 | 8753 | 8286 | 7818 | 7350 |
| 25 | 291(290) | 4936 | 4469 | 4002 | 3536 | 3069 | 2602 | 2135 | 1668 | 1201 | 0733 | 0266 | 9799 | 9331 | 8863 | 8396 | 7928 | 7460 |
| 26 | | 5046 | 4580 | 4113 | 3647 | 3179 | 2712 | 2245 | 1778 | 1311 | 0843 | 0376 | 9909 | 9441 | 8973 | 8506 | 8038 | 7570 |
| 27 | | 5157 | 4690 | 4223 | 3757 | 3290 | 2822 | 2355 | 1888 | 1421 | 0953 | 0486 | 0019 | 9551 | 9083 | 8615 | 8147 | 7680 |
| 28 | | 5268 | 4801 | 4334 | 3867 | 3400 | 2933 | 2466 | 1998 | 1531 | 1063 | 0596 | 0128 | 9661 | 9193 | 8725 | 8257 | 7789 |
| 29 | | 5378 | 4911 | 4444 | 3977 | 3511 | 3043 | 2577 | 2108 | 1641 | 1173 | 0706 | 0238 | 9771 | 9303 | 8835 | 8367 | 7899 |
| 30 | 291(290) | 5489 | 5021 | 4555 | 4087 | 3622 | 3153 | 2686 | 2218 | 1751 | 1283 | 0816 | 0348 | 9881 | 9413 | 8945 | 8477 | 8009 |
| 31 | | 5599 | 5132 | 4665 | 4197 | 3730 | 3263 | 2796 | 2328 | 1861 | 1393 | 0926 | 0458 | 9991 | 9523 | 9055 | 8587 | 8118 |
| 32 | | 5709 | 5242 | 4775 | 4307 | 3840 | 3373 | 2905 | 2438 | 1971 | 1503 | 1036 | 0568 | 0101 | 9633 | 9165 | 8697 | 8228 |
| 33 | | 5819 | 5352 | 4885 | 4417 | 3950 | 3483 | 3015 | 2548 | 2081 | 1613 | 1146 | 0677 | 0211 | 9743 | 9275 | 8807 | 8338 |
| 34 | | 5929 | 5462 | 4995 | 4527 | 4060 | 3592 | 3125 | 2657 | 2190 | 1722 | 1254 | 0787 | 0321 | 9853 | 9385 | 8917 | 8448 |
| 35 | 291(290) | 6038 | 5572 | 5104 | 4637 | 4170 | 3702 | 3234 | 2767 | 2300 | 1831 | 1363 | 0896 | 0429 | 9961 | 9494 | 9026 | 8558 |
| 36 | | 6146 | 5681 | 5214 | 4747 | 4279 | 3812 | 3344 | 2876 | 2409 | 1941 | 1473 | 1006 | 0537 | 0070 | 9603 | 9135 | 8667 |
| 37 | | 6256 | 5791 | 5324 | 4856 | 4389 | 3921 | 3453 | 2986 | 2518 | 2051 | 1583 | 1115 | 0648 | 0180 | 9713 | 9245 | 8777 |
| 38 | | 6365 | 5900 | 5433 | 4965 | 4498 | 4031 | 3563 | 3095 | 2627 | 2159 | 1691 | 1223 | 0756 | 0288 | 9821 | 9353 | 8885 |
| 39 | | 6474 | 6009 | 5543 | 5075 | 4607 | 4139 | 3671 | 3203 | 2736 | 2268 | 1800 | 1332 | 0865 | 0397 | 9930 | 9462 | 8994 |
| 40 | 291(290) | 6583 | 6118 | 5652 | 5185 | 4717 | 4249 | 3781 | 3313 | 2845 | 2377 | 1909 | 1441 | 0973 | 0504 | 0036 | 9568 | 9100 |
| 41 | | 6692 | 6227 | 5761 | 5294 | 4826 | 4358 | 3890 | 3422 | 2954 | 2486 | 2018 | 1550 | 1081 | 0613 | 0144 | 9676 | 9207 |
| 42 | | 6801 | 6336 | 5870 | 5403 | 4935 | 4467 | 3999 | 3531 | 3063 | 2595 | 2127 | 1659 | 1190 | 0722 | 0253 | 9785 | 9316 |
| 43 | | 6910 | 6445 | 5979 | 5512 | 5044 | 4576 | 4108 | 3640 | 3172 | 2704 | 2236 | 1767 | 1299 | 0830 | 0361 | 9893 | 9424 |
| 44 | | 7019 | 6554 | 6088 | 5621 | 5153 | 4685 | 4217 | 3749 | 3281 | 2813 | 2345 | 1876 | 1408 | 0939 | 0470 | 0001 | 9532 |
| 45 | 291(290) | 7128 | 6663 | 6197 | 5730 | 5262 | 4794 | 4326 | 3858 | 3390 | 2922 | 2453 | 1985 | 1517 | 1048 | 0579 | 0110 | 9641 |
| 46 | | 7237 | 6772 | 6306 | 5839 | 5371 | 4903 | 4435 | 3967 | 3499 | 3030 | 2562 | 2094 | 1625 | 1157 | 0688 | 0219 | 9750 |
| 47 | | 7345 | 6881 | 6415 | 5948 | 5480 | 5012 | 4544 | 4076 | 3608 | 3139 | 2671 | 2203 | 1734 | 1266 | 0797 | 0328 | 9859 |
| 48 | | 7454 | 6990 | 6524 | 6057 | 5589 | 5121 | 4653 | 4185 | 3717 | 3248 | 2780 | 2312 | 1843 | 1375 | 0906 | 0437 | 9968 |
| 49 | 291 | 7563 | 7099 | 6633 | 6166 | 5698 | 5230 | 4762 | 4294 | 3826 | 3357 | 2889 | 2421 | 1952 | 1484 | 1015 | 0546 | 0077 |
| 50 | 291 | 7672 | 7208 | 6742 | 6275 | 5807 | 5339 | 4871 | 4403 | 3935 | 3466 | 2998 | 2530 | 2061 | 1593 | 1124 | 0655 | 0186 |
| 51 | | 7781 | 7317 | 6851 | 6384 | 5916 | 5448 | 4980 | 4512 | 4044 | 3575 | 3107 | 2639 | 2170 | 1702 | 1233 | 0764 | 0295 |
| 52 | | 7890 | 7426 | 6960 | 6493 | 6025 | 5557 | 5089 | 4621 | 4153 | 3684 | 3216 | 2748 | 2279 | 1811 | 1342 | 0873 | 0404 |
| 53 | | 7999 | 7535 | 7069 | 6602 | 6134 | 5666 | 5198 | 4730 | 4262 | 3793 | 3325 | 2857 | 2388 | 1920 | 1451 | 0982 | 0513 |
| 54 | | 8113 | 7643 | 7174 | 6707 | 6239 | 5771 | 5303 | 4835 | 4367 | 3898 | 3430 | 2962 | 2493 | 2025 | 1556 | 1087 | 0618 |
| 55 | 291 | 8222 | 7753 | 7285 | 6817 | 6349 | 5881 | 5413 | 4945 | 4477 | 4008 | 3540 | 3072 | 2603 | 2135 | 1666 | 1197 | 0728 |
| 56 | | 8331 | 7862 | 7394 | 6926 | 6458 | 5990 | 5522 | 5054 | 4586 | 4117 | 3649 | 3181 | 2712 | 2244 | 1775 | 1306 | 0837 |
| 57 | | 8440 | 7971 | 7503 | 7035 | 6567 | 6099 | 5631 | 5163 | 4695 | 4226 | 3758 | 3290 | 2821 | 2353 | 1884 | 1415 | 0946 |
| 58 | | 8549 | 8078 | 7609 | 7141 | 6672 | 6203 | 5734 | 5265 | 4797 | 4327 | 3858 | 3390 | 2930 | 2462 | 1993 | 1524 | 1055 |
| 59 | | 8658 | 8186 | 7717 | 7248 | 6780 | 6312 | 5844 | 5374 | 4906 | 4437 | 3967 | 3499 | 3039 | 2571 | 2102 | 1633 | 1164 |
| 60 | | 8767 | 8295 | 7826 | 7357 | 6889 | 6421 | 5953 | 5483 | 5015 | 4546 | 4076 | 3608 | 3148 | 2680 | 2211 | 1742 | 1273 |

Sums for finding the Corrected Distances.

| Parts for Sec. | C. D. 157° | Sums |
|---|---|---|
| ″ | ′ | |
| 0 | 0 | 592 |
| 1 | 1 | 591 |
| 2 | 2 | 590 |
| 3 | 3 | 589 |
| 4 | 4 | 588 |
| 5 | 5 | 587 |
| 6 | 6 | 586 |
| 7 | 7 | 585 |
| 8 | 8 | 584 |
| 9 | 9 | 583 |
| 10 | 10 | 582 |
| 11 | 11 | 581 |
| 12 | 12 | 580 |
| 13 | 13 | 579 |
| 14 | 14 | 578 |
| 15 | 15 | 577 |
| 16 | 16 | 576 |
| 17 | 17 | 575 |
| 18 | 18 | 574 |
| 19 | 19 | 573 |
| 20 | 20 | 572 |
| 21 | 21 | 571 |
| 22 | 22 | 570 |
| 23 | 23 | 569 |
| 24 | 24 | 568 |
| 25 | 25 | 567 |
| 26 | 26 | 566 |
| 27 | 27 | 565 |
| 28 | 28 | 564 |
| 29 | 29 | 563 |
| 30 | 30 | 562 |
| 31 | 31 | 561 |
| 32 | 32 | 560 |
| 33 | 33 | 559 |
| 34 | 34 | 558 |
| 35 | 35 | 557 |
| 36 | 36 | 556 |
| 37 | 37 | 555 |
| 38 | 38 | 554 |
| 39 | 39 | 553 |
| 40 | 40 | 552 |
| 41 | 41 | 551 |
| 42 | 42 | 550 |
| 43 | 43 | 549 |
| 44 | 44 | 548 |
| 45 | 45 | 547 |
| 46 | 46 | 546 |
| 47 | 47 | 545 |
| 48 | 48 | 544 |
| 49 | 49 | 543 |
| 50 | 50 | 542 |
| 51 | 51 | 541 |
| 52 | 52 | 540 |
| 53 | 53 | 539 |
| 54 | 54 | 538 |
| 55 | 55 | 537 |
| 56 | 56 | 536 |
| 57 | 57 | 535 |
| 58 | 58 | 534 |
| 59 | 59 | 533 |
| 60 | 60 | 532 |

Numbers I. for Sums of Apparent Altitudes
and Numbers III. for Apparent Distances - - - - -
} and Auxiliary Arguments.

Numbers II. for Corrected Sums of

| | | | | | Auxiliary Arguments. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | ′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
| | | | | | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| | | | | | 292(291) | 7215 | 6240 | 5282 | 5315 | 4842 | 4389 | 3912 | 3444 | 2976 | 2508 | 2041 | 1573 | 1104 | 0636 | 0168 | 9700 |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 6934 | 6467 | 6000 | 5532 | 5064 | 4597 | 4129 | 3661 | 3193 | 2725 | 2257 | 1789 | 1321 | 0852 | 0 | |
| | | | | | | 7043 | 6576 | 6108 | 5641 | 5173 | 4705 | 4237 | 3769 | 3301 | 2833 | 2365 | 1897 | 1429 | 0960 | 0492 | 0024 |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 292(291) | 7260 | 6793 | 6325 | 5858 | 5390 | 4922 | 4454 | 3986 | 3518 | 3050 | 2581 | 2113 | 1645 | 1176 | 0708 | 0239 |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 293 | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | 293 | 7802 | 7334 | 6866 | 6398 | 5930 | 5462 | 4994 | 4526 | 4057 | 3589 | 3120 | 2652 | 2183 | 1714 | 1245 | 0777 |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 8126 | 7658 | 7190 | 6722 | 6254 | 5785 | 5317 | 4848 | 4380 | 3911 | 3443 | 2974 | 2505 | 2036 | 1567 | 1098 |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 8449 | 7981 | 7513 | 7045 | 6576 | 6108 | 5639 | 5171 | 4702 | 4233 | 3764 | 3295 | 2826 | 2357 | 1888 | 1419 |
| | | | | | | 8557 | 8089 | 7621 | 7152 | 6684 | 6215 | 5747 | 5278 | 4809 | 4340 | 3871 | 3402 | 2933 | 2464 | 1995 | 1526 |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 8772 | 8304 | 7835 | 7367 | 6898 | 6430 | 5961 | 5492 | 5023 | 4554 | 4085 | 3616 | 3147 | 2678 | 2209 | 1739 |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 9094 | 8625 | 8157 | 7688 | 7219 | 6751 | 6282 | 5813 | 5344 | 4876 | 4407 | 3938 | 3469 | 2999 | 2530 | 2061 |
| | | | | | | 9201 | 8732 | 8264 | 7795 | 7326 | 6858 | 6389 | 5920 | 5451 | 4981 | 4512 | 4043 | 3574 | 3104 | 2635 | 2166 |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

| Parts of Sum or Diff. Argum. additive | A. M. A. D. 1858 | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N |
| 471 | 0 | 291 | 9763 | 9294 | 8825 | 8357 | 7888 | 7419 | 6950 | 6481 | 6012 | 5542 | 5073 | 4604 | 4135 | 3666 | 3197 | 2728 |
| 465 | 1 | | 9702 | 9233 | 8764 | 8296 | 7827 | 7358 | 6889 | 6420 | 5951 | 5481 | 5012 | 4543 | 4074 | 3605 | 3136 | 2667 |
| 459 | 2 | | 9641 | 9172 | 8703 | 8235 | 7766 | 7297 | 6828 | 6359 | 5890 | 5420 | 4951 | 4482 | 4013 | 3544 | 3075 | 2606 |
| 453 | 3 | | 9580 | 9111 | 8642 | 8174 | 7705 | 7236 | 6767 | 6298 | 5829 | 5359 | 4890 | 4421 | 3952 | 3483 | 3014 | 2545 |
| 447 | 4 | | 9519 | 9050 | 8581 | 8113 | 7644 | 7175 | 6706 | 6237 | 5768 | 5298 | 4829 | 4360 | 3891 | 3422 | 2953 | 2484 |
| 441 | 5 | 291 | 9458 | 8989 | 8520 | 8052 | 7583 | 7114 | 6645 | 6176 | 5707 | 5237 | 4768 | 4299 | 3830 | 3361 | 2892 | 2423 |
| 435 | 6 | | 9397 | 8928 | 8459 | 7991 | 7522 | 7053 | 6584 | 6115 | 5646 | 5176 | 4707 | 4238 | 3769 | 3300 | 2831 | 2362 |
| 429 | 7 | | 9517 | 9048 | 8579 | 8109 | 7640 | 7171 | 6701 | 6232 | 5763 | 5293 | 4823 | 4354 | 3884 | 3414 | 2944 | 2474 | 2004 |
| 423 | 8 | | 9624 | 9155 | 8686 | 8217 | 7747 | 7278 | 6809 | 6339 | 5870 | 5400 | 4931 | 4460 | 3990 | 3520 | 3050 | 2580 | 2110 |
| 417 | 9 | | 9731 | 9262 | 8793 | 8324 | 7855 | 7386 | 6916 | 6447 | 5978 | 5508 | 5039 | 4570 | 4100 | 3631 | 3161 | 2691 | 2221 |
| 411 | 10 | 291 | 9838 | 9369 | 8900 | 8431 | 7962 | 7493 | 7023 | 6554 | 6085 | 5615 | 5146 | 4677 | 4207 | 3738 | 3268 | 2798 | 2328 |
| 405 | 11 | | 9944 | 9475 | 9006 | 8537 | 8068 | 7599 | 7129 | 6660 | 6191 | 5721 | 5252 | 4783 | 4313 | 3844 | 3374 | 2904 | 2434 |
| 399 | 12 | 292(291) | 0053 | 9584 | 9115 | 8646 | 8177 | 7708 | 7238 | 6769 | 6300 | 5830 | 5361 | 4892 | 4422 | 3953 | 3483 | 3013 | 2543 |
| 393 | 13 | | 0160 | 9691 | 9222 | 8753 | 8284 | 7815 | 7345 | 6876 | 6407 | 5937 | 5468 | 4999 | 4529 | 4060 | 3590 | 3120 | 2650 |
| 387 | 14 | | 0267 | 9797 | 9328 | 8859 | 8390 | 7921 | 7451 | 6982 | 6513 | 6043 | 5574 | 5105 | 4635 | 4166 | 3696 | 3226 | 2756 |
| 381 | 15 | 292(291) | 0374 | 9904 | 9435 | 8966 | 8497 | 8027 | 7558 | 7089 | 6619 | 6150 | 5681 | 5211 | 4742 | 4272 | 3803 | 3333 | 2863 |
| 375 | 16 | | 0480 | 0011 | 9541 | 9072 | 8603 | 8133 | 7664 | 7195 | 6725 | 6256 | 5786 | 5317 | 4847 | 4378 | 3908 | 3438 | 2968 |
| 369 | 17 | | 0587 | 0117 | 9648 | 9179 | 8709 | 8240 | 7770 | 7301 | 6832 | 6362 | 5893 | 5423 | 4954 | 4484 | 4015 | 3545 | 3075 |
| 363 | 18 | | 0694 | 0224 | 9754 | 9285 | 8815 | 8345 | 7876 | 7406 | 6937 | 6467 | 5998 | 5528 | 5059 | 4589 | 4120 | 3650 | 3180 |
| 357 | 19 | | 0800 | 0331 | 9861 | 9391 | 8921 | 8452 | 7982 | 7513 | 7043 | 6574 | 6104 | 5634 | 5165 | 4695 | 4225 | 3756 | 3286 |
| 351 | 20 | 292(291) | 0907 | 0437 | 9967 | 9497 | 9027 | 8558 | 8088 | 7618 | 7149 | 6679 | 6209 | 5740 | 5270 | 4800 | 4331 | 3861 | 3391 |
| 345 | 21 | | 1013 | 0543 | 0074 | 9603 | 9133 | 8663 | 8194 | 7724 | 7254 | 6785 | 6315 | 5845 | 5376 | 4906 | 4436 | 3966 | 3496 |
| 339 | 22 | | 1119 | 0649 | 0180 | 9709 | 9239 | 8769 | 8299 | 7829 | 7360 | 6890 | 6420 | 5950 | 5480 | 5011 | 4541 | 4071 | 3601 |
| 333 | 23 | | 1225 | 0755 | 0286 | 9815 | 9345 | 8875 | 8405 | 7935 | 7465 | 6995 | 6525 | 6055 | 5585 | 5115 | 4645 | 4175 | 3705 |
| 327 | 24 | | 1332 | 0862 | 0392 | 9921 | 9451 | 8981 | 8511 | 8041 | 7570 | 7100 | 6630 | 6160 | 5690 | 5220 | 4750 | 4280 | 3810 |
| 321 | 25 | 292(291) | 1438 | 0968 | 0498 | 0027 | 9557 | 9087 | 8617 | 8147 | 7676 | 7206 | 6736 | 6266 | 5796 | 5326 | 4856 | 4386 | 3916 |
| 315 | 26 | | 1544 | 1074 | 0604 | 0133 | 9663 | 9193 | 8723 | 8253 | 7782 | 7312 | 6842 | 6372 | 5902 | 5432 | 4962 | 4492 | 4022 |
| 309 | 27 | | 1650 | 1180 | 0710 | 0239 | 9769 | 9299 | 8829 | 8359 | 7888 | 7418 | 6948 | 6478 | 6008 | 5538 | 5068 | 4598 | 4128 |
| 303 | 28 | | 1756 | 1286 | 0816 | 0345 | 9875 | 9405 | 8935 | 8465 | 7994 | 7524 | 7054 | 6584 | 6114 | 5644 | 5174 | 4704 | 4234 |
| 297 | 29 | | 1862 | 1392 | 0922 | 0451 | 9981 | 9511 | 9041 | 8571 | 8100 | 7630 | 7160 | 6690 | 6220 | 5750 | 5280 | 4810 | 4340 |
| 291 | 30 | 292(291) | 1967 | 1497 | 1026 | 0556 | 0086 | 9615 | 9144 | 8674 | 8203 | 7733 | 7263 | 6793 | 6323 | 5853 | 5383 | 4913 | 4443 |
| 285 | 31 | | 2073 | 1602 | 1132 | 0662 | 0191 | 9720 | 9250 | 8779 | 8308 | 7837 | 7366 | 6895 | 6424 | 5953 | 5482 | 5010 | 4539 |
| 279 | 32 | | 2178 | 1708 | 1237 | 0767 | 0296 | 9826 | 9355 | 8884 | 8413 | 7942 | 7471 | 7000 | 6529 | 6058 | 5586 | 5115 | 4643 |
| 273 | 33 | | 2284 | 1813 | 1343 | 0872 | 0401 | 9931 | 9460 | 8989 | 8518 | 8047 | 7576 | 7105 | 6634 | 6162 | 5691 | 5220 | 4748 |
| 267 | 34 | | 2389 | 1918 | 1448 | 0977 | 0506 | 0036 | 9565 | 9094 | 8623 | 8152 | 7681 | 7210 | 6739 | 6268 | 5797 | 5325 | 4853 |
| 261 | 35 | 292(291) | 2494 | 2024 | 1553 | 1082 | 0612 | 0141 | 9670 | 9199 | 8728 | 8257 | 7786 | 7314 | 6843 | 6372 | 5901 | 5429 | 4958 |
| 255 | 36 | | 2598 | 2129 | 1658 | 1187 | 0717 | 0246 | 9775 | 9304 | 8833 | 8362 | 7890 | 7419 | 6948 | 6476 | 6005 | 5533 | 5062 |
| 249 | 37 | | 2704 | 2234 | 1763 | 1292 | 0822 | 0351 | 9880 | 9409 | 8938 | 8466 | 7995 | 7524 | 7052 | 6581 | 6109 | 5638 | 5166 |
| 243 | 38 | | 2810 | 2339 | 1868 | 1397 | 0927 | 0456 | 9984 | 9513 | 9042 | 8571 | 8100 | 7628 | 7157 | 6685 | 6213 | 5742 | 5270 |
| 237 | 39 | | 2915 | 2444 | 1973 | 1502 | 1032 | 0561 | 0089 | 9618 | 9147 | 8675 | 8204 | 7733 | 7261 | 6789 | 6318 | 5846 | 5374 |
| 231 | 40 | 292(291) | 3020 | 2549 | 2078 | 1607 | 1137 | 0666 | 0195 | 9724 | 9252 | 8781 | 8309 | 7838 | 7366 | 6894 | 6423 | 5951 | 5479 |
| 225 | 41 | | 3124 | 2654 | 2183 | 1712 | 1241 | 0769 | 0298 | 9827 | 9356 | 8884 | 8413 | 7941 | 7469 | 6997 | 6526 | 6054 | 5582 |
| 219 | 42 | | 3229 | 2759 | 2287 | 1816 | 1345 | 0874 | 0403 | 9931 | 9460 | 8988 | 8517 | 8045 | 7573 | 7101 | 6630 | 6158 | 5686 |
| 213 | 43 | | 3334 | 2863 | 2392 | 1921 | 1450 | 0978 | 0507 | 0036 | 9564 | 9093 | 8621 | 8149 | 7677 | 7205 | 6734 | 6262 | 5790 |
| 207 | 44 | | 3438 | 2968 | 2497 | 2026 | 1555 | 1083 | 0612 | 0141 | 9669 | 9197 | 8726 | 8254 | 7782 | 7310 | 6838 | 6366 | 5894 |
| 201 | 45 | 292(291) | 3543 | 3072 | 2601 | 2129 | 1658 | 1187 | 0715 | 0244 | 9772 | 9301 | 8829 | 8357 | 7885 | 7413 | 6941 | 6469 | 5997 |
| 195 | 46 | | 3647 | 3176 | 2705 | 2234 | 1763 | 1291 | 0820 | 0349 | 9877 | 9405 | 8933 | 8461 | 7989 | 7517 | 7045 | 6573 | 6101 |
| 189 | 47 | | 3752 | 3280 | 2809 | 2338 | 1866 | 1395 | 0923 | 0452 | 9980 | 9509 | 9037 | 8565 | 8093 | 7621 | 7149 | 6676 | 6204 |
| 183 | 48 | | 3856 | 3385 | 2913 | 2442 | 1970 | 1499 | 1027 | 0556 | 0084 | 9612 | 9141 | 8668 | 8196 | 7724 | 7252 | 6780 | 6307 |
| 177 | 49 | | 3960 | 3489 | 3017 | 2546 | 2074 | 1603 | 1131 | 0660 | 0188 | 9716 | 9244 | 8772 | 8300 | 7828 | 7356 | 6883 | 6411 |
| 171 | 50 | 292(291) | 4064 | 3593 | 3121 | 2650 | 2178 | 1707 | 1235 | 0764 | 0292 | 9820 | 9348 | 8876 | 8404 | 7932 | 7460 | 6988 | 6515 |
| 165 | 51 | | 4167 | 3697 | 3225 | 2753 | 2282 | 1810 | 1338 | 0867 | 0395 | 9923 | 9451 | 8979 | 8507 | 8035 | 7563 | 7091 | 6618 |
| 159 | 52 | | 4271 | 3800 | 3329 | 2857 | 2385 | 1914 | 1442 | 0970 | 0498 | 0026 | 9554 | 9082 | 8610 | 8138 | 7666 | 7194 | 6722 |
| 153 | 53 | | 4374 | 3904 | 3433 | 2961 | 2489 | 2017 | 1545 | 1073 | 0601 | 0129 | 9657 | 9185 | 8713 | 8241 | 7769 | 7297 | 6825 |
| 147 | 54 | | 4477 | 4007 | 3536 | 3065 | 2593 | 2121 | 1649 | 1177 | 0705 | 0233 | 9761 | 9289 | 8817 | 8345 | 7873 | 7401 | 6929 |
| 141 | 55 | 292(291) | 4580 | 4110 | 3640 | 3169 | 2697 | 2225 | 1753 | 1281 | 0809 | 0337 | 9865 | 9393 | 8921 | 8449 | 7977 | 7505 | 7033 |
| 135 | 56 | | 4683 | 4213 | 3743 | 3272 | 2800 | 2328 | 1856 | 1384 | 0912 | 0440 | 9968 | 9496 | 9024 | 8552 | 8080 | 7608 | 7136 |
| 129 | 57 | | 4786 | 4316 | 3846 | 3375 | 2903 | 2431 | 1959 | 1487 | 1015 | 0543 | 0071 | 9599 | 9127 | 8655 | 8183 | 7711 | 7239 |
| 123 | 58 | | 4889 | 4419 | 3949 | 3477 | 3006 | 2534 | 2062 | 1590 | 1118 | 0646 | 0174 | 9702 | 9230 | 8758 | 8286 | 7814 | 7342 |
| 117 | 59 | | 4992 | 4522 | 4052 | 3582 | 3110 | 2638 | 2166 | 1694 | 1221 | 0749 | 0277 | 9804 | 9331 | 8859 | 8386 | 7913 | 7440 |

| Parts of Sum or Diff. Argum. additive | Sums for finding the Corrected Distances. 34′ | Sums |
|---|---|---|
| | ′ | |
| 0 | 0 | 7584 |
| 6 | 1 | 7203 |
| 12 | 2 | 7421 |
| 18 | 3 | 7640 |
| 24 | 4 | 7859 |
| 30 | 5 | 8078 |
| 36 | 6 | 8297 |
| 42 | 7 | 7945 |
| 48 | 8 | 8053 |
| 54 | 9 | 8161 |
| 60 | 10 | 8270 |
| 66 | 11 | 8379 |
| 72 | 12 | 8488 |
| 78 | 13 | 8597 |
| 84 | 14 | 8706 |
| 90 | 15 | 8815 |
| 96 | 16 | 8924 |
| 102 | 17 | 9033 |
| 108 | 18 | 9142 |
| 114 | 19 | 9251 |
| 120 | 20 | 9360 |
| 126 | 21 | 9469 |
| 132 | 22 | 9578 |
| 138 | 23 | 9687 |
| 144 | 24 | 9796 |
| 150 | 25 | 9905 |
| 156 | 26 | 0014 |
| 162 | 27 | 0123 |
| 168 | 28 | 0232 |
| 174 | 29 | 0341 |
| 180 | 30 | 0450 |
| 186 | 31 | 0559 |
| 192 | 32 | 0668 |
| 198 | 33 | 0777 |
| 204 | 34 | 0886 |
| 210 | 35 | 0995 |
| 216 | 36 | 1104 |
| 222 | 37 | 1213 |
| 228 | 38 | 1322 |
| 234 | 39 | 1431 |
| 240 | 40 | 1540 |
| 246 | 41 | 1649 |
| 252 | 42 | 1758 |
| 258 | 43 | 1867 |
| 264 | 44 | 1976 |
| 270 | 45 | 2085 |
| 276 | 46 | 2194 |
| 282 | 47 | 2303 |
| 288 | 48 | 2412 |
| 294 | 49 | 2521 |
| 300 | 50 | 2630 |
| 306 | 51 | 2739 |
| 312 | 52 | 2848 |
| 318 | 53 | 2957 |
| 324 | 54 | 3066 |
| 330 | 55 | 3175 |
| 336 | 56 | 3284 |
| 342 | 57 | 3393 |
| 348 | 58 | 3502 |
| 354 | 59 | 3611 |

Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Numbers II. for Corrected Sums of Altitudes.

| Parts for Sec. of Corr. additive | S. A. 159° | Numbers |
|---|---|---|
| 1 | 0 | 0000 |
| 1 | 1 | 0000 |
| 1 | 2 | 0000 |
| 1 | 3 | 0000 |
| 0 | 4 | 0000 |
| 0 | 5 | 0000 |
| 0 | 6 | 0000 |
| 0 | 7 | 0000 |
| 0 | 8 | 0000 |
| 0 | 9 | 0000 |
| 0 | 10 | 0000 |
| 0 | 11 | 0000 |
| 0 | 12 | 0000 |
| 0 | 13 | 0000 |
| 0 | 14 | 0000 |
| 0 | 15 | 0000 |
| 0 | 16 | 0000 |
| 0 | 17 | 0000 |
| 0 | 18 | 0000 |
| 0 | 19 | 0000 |
| 0 | 20 | 0000 |
| 0 | 21 | 0000 |
| 0 | 22 | 0000 |
| 0 | 23 | 0000 |
| 0 | 24 | 0000 |
| 0 | 25 | 0000 |
| 0 | 26 | 0006 9903 |
| 0 | 27 | 0000 |
| 0 | 28 | 0000 |
| 0 | 29 | 0000 |
| 0 | 30 | 0000 |
| 0 | 31 | 0000 |
| 0 | 32 | 0000 |
| 0 | 33 | 0000 |
| 0 | 34 | 0000 |
| 0 | 35 | 0000 |
| 0 | 36 | 0000 |
| 0 | 37 | 0000 |
| 0 | 38 | 0000 |
| 0 | 39 | 0000 |
| 0 | 40 | 0000 |
| 0 | 41 | 0000 |
| 0 | 42 | 0000 |
| 0 | 43 | 0000 |
| 0 | 44 | 0000 |
| 2 | 45 | 0007 |
| 25 | 46 | 7781 |
| 0 | 47 | 0000 |
| 21 | 48 | 7571 |
| 0 | 49 | 0000 |
| 0 | 50 | 0006 7361 |
| 0 | 51 | 0000 |
| 1 | 52 | 7151 |
| 1 | 53 | 7046 |
| 1 | 54 | 0000 |
| 0 | 55 | 0000 |
| 0 | 56 | 0006 6837 |
| 0 | 57 | 0000 |
| 0 | 58 | 0000 |
| 0 | 59 | 0000 |

| Parts Seconds of Auxil. Argum. additive | & A. D. 159° | Auxiliary Arguments. 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ | 16′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 47 | 0 | 3111 | | | | | | | | | | | | | | | | |
| 47 | 1 | 3228 | | | | | | | | | | | | | | | | |
| 47 | 2 | 3346 | | | | | | | | | | | | | | | | |
| 44 | 3 | 3463 | | | | | | | | | | | | | | | | |
| 44 | 4 | 3580 | | | | | | | | | | | | | | | | |
| 43 | 5 | 3697 | | | | | | | | | | | | | | | | |
| 43 | 6 | 3814 | | | | | | | | | | | | | | | | |
| 43 | 7 | 3931 | | | | | | | | | | | | | | | | |
| 43 | 8 | 4048 | | | | | | | | | | | | | | | | |
| 43 | 9 | 4165 | | | | | | | | | | | | | | | | |
| 42 | 10 | 4282 | | | | | | | | | | | | | | | | |
| 42 | 11 | 4399 | | | | | | | | | | | | | | | | |
| 42 | 12 | 4516 | | | | | | | | | | | | | | | | |
| 42 | 13 | 4633 | | | | | | | | | | | | | | | | |
| 42 | 14 | 4750 | | | | | | | | | | | | | | | | |
| 42 | 15 | 4867 | | | | | | | | | | | | | | | | |
| 42 | 16 | 4984 | | | | | | | | | | | | | | | | |
| 42 | 17 | 5101 | | | | | | | | | | | | | | | | |
| 42 | 18 | 5218 | | | | | | | | | | | | | | | | |
| 42 | 19 | 5335 | | | | | | | | | | | | | | | | |
| 42 | 20 | 5452 | | | | | | | | | | | | | | | | |
| 42 | 21 | 5569 | | | | | | | | | | | | | | | | |
| 42 | 22 | 5686 | | | | | | | | | | | | | | | | |
| 42 | 23 | 5803 | | | | | | | | | | | | | | | | |
| 42 | 24 | 5920 | | | | | | | | | | | | | | | | |
| 42 | 25 | 6037 | | | | | | | | | | | | | | | | |
| 42 | 26 | 6154 | | | | | | | | | | | | | | | | |
| 42 | 27 | 6271 | | | | | | | | | | | | | | | | |
| 42 | 28 | 6388 | | | | | | | | | | | | | | | | |
| 42 | 29 | 6505 | | | | | | | | | | | | | | | | |
| 42 | 30 | 6622 | | | | | | | | | | | | | | | | |
| 42 | 31 | 6739 | | | | | | | | | | | | | | | | |
| 42 | 32 | 6856 | | | | | | | | | | | | | | | | |
| 42 | 33 | 6973 | | | | | | | | | | | | | | | | |
| 42 | 34 | 7090 | | | | | | | | | | | | | | | | |
| 42 | 35 | 7207 | | | | | | | | | | | | | | | | |
| 42 | 36 | 7324 | | | | | | | | | | | | | | | | |
| 42 | 37 | 7441 | | | | | | | | | | | | | | | | |
| 42 | 38 | 7558 | | | | | | | | | | | | | | | | |
| 42 | 39 | 7675 | | | | | | | | | | | | | | | | |
| 42 | 40 | 7792 | | | | | | | | | | | | | | | | |
| 42 | 41 | 7909 | | | | | | | | | | | | | | | | |
| 42 | 42 | 8026 | | | | | | | | | | | | | | | | |
| 42 | 43 | 8143 | | | | | | | | | | | | | | | | |
| 42 | 44 | 8260 | | | | | | | | | | | | | | | | |
| 42 | 45 | 8377 | | | | | | | | | | | | | | | | |
| 42 | 46 | 8494 | | | | | | | | | | | | | | | | |
| 42 | 47 | 8611 | | | | | | | | | | | | | | | | |
| 42 | 48 | 8728 | | | | | | | | | | | | | | | | |
| 42 | 49 | 8845 | | | | | | | | | | | | | | | | |
| 42 | 50 | 8962 | | | | | | | | | | | | | | | | |
| 42 | 51 | 9079 | | | | | | | | | | | | | | | | |
| 42 | 52 | 9196 | | | | | | | | | | | | | | | | |
| 42 | 53 | 9313 | | | | | | | | | | | | | | | | |
| 42 | 54 | 9430 | | | | | | | | | | | | | | | | |
| 42 | 55 | 9547 | | | | | | | | | | | | | | | | |
| 42 | 56 | 9664 | | | | | | | | | | | | | | | | |
| 42 | 57 | 9781 | | | | | | | | | | | | | | | | |
| 42 | 58 | 9898 | | | | | | | | | | | | | | | | |
| 42 | 59 | 0015 | | | | | | | | | | | | | | | | |
| 42 | 60 | 0132 | | | | | | | | | | | | | | | | |
| 42 | 61 | 0249 | | | | | | | | | | | | | | | | |
| 42 | 62 | 0366 | | | | | | | | | | | | | | | | |
| 42 | 63 | 0483 | | | | | | | | | | | | | | | | |
| 42 | 64 | 0600 | | | | | | | | | | | | | | | | |
| 42 | 65 | 0717 | | | | | | | | | | | | | | | | |
| 42 | 66 | 0834 | | | | | | | | | | | | | | | | |
| 42 | 67 | 0951 | | | | | | | | | | | | | | | | |
| 42 | 68 | 1068 | | | | | | | | | | | | | | | | |
| 42 | 69 | 1185 | | | | | | | | | | | | | | | | |
| 42 | 70 | 1302 | | | | | | | | | | | | | | | | |
| 42 | 71 | 1419 | | | | | | | | | | | | | | | | |
| 42 | 72 | 1536 | | | | | | | | | | | | | | | | |
| 42 | 73 | 1653 | | | | | | | | | | | | | | | | |
| 42 | 74 | 1770 | | | | | | | | | | | | | | | | |
| 42 | 75 | 1887 | | | | | | | | | | | | | | | | |
| 42 | 76 | 2004 | | | | | | | | | | | | | | | | |
| 42 | 77 | 2121 | | | | | | | | | | | | | | | | |
| 42 | 78 | 2238 | | | | | | | | | | | | | | | | |
| 42 | 79 | 2355 | | | | | | | | | | | | | | | | |
| 42 | 80 | 2472 | | | | | | | | | | | | | | | | |
| 42 | 81 | 2589 | | | | | | | | | | | | | | | | |
| 42 | 82 | 2706 | | | | | | | | | | | | | | | | |
| 42 | 83 | 2823 | | | | | | | | | | | | | | | | |
| 42 | 84 | 2940 | | | | | | | | | | | | | | | | |
| 42 | 85 | 3057 | | | | | | | | | | | | | | | | |
| 42 | 86 | 3174 | | | | | | | | | | | | | | | | |
| 42 | 87 | 3291 | | | | | | | | | | | | | | | | |
| 42 | 88 | 3408 | | | | | | | | | | | | | | | | |
| 42 | 89 | 3525 | | | | | | | | | | | | | | | | |
| 42 | 90 | 3642 | | | | | | | | | | | | | | | | |
| 42 | 91 | 3759 | | | | | | | | | | | | | | | | |
| 42 | 92 | 3876 | | | | | | | | | | | | | | | | |
| 42 | 93 | 3993 | | | | | | | | | | | | | | | | |
| 42 | 94 | 4110 | | | | | | | | | | | | | | | | |
| 42 | 95 | 4227 | | | | | | | | | | | | | | | | |
| 42 | 96 | 4344 | | | | | | | | | | | | | | | | |
| 42 | 97 | 4461 | | | | | | | | | | | | | | | | |
| 42 | 98 | 4578 | | | | | | | | | | | | | | | | |
| 42 | 99 | 4695 | | | | | | | | | | | | | | | | |
| 42 | 100 | 4812 | | | | | | | | | | | | | | | | |
| 42 | 101 | 4929 | | | | | | | | | | | | | | | | |
| 42 | 102 | 5046 | | | | | | | | | | | | | | | | |
| 42 | 103 | 5163 | | | | | | | | | | | | | | | | |
| 42 | 104 | 5280 | | | | | | | | | | | | | | | | |
| 42 | 105 | 5397 | | | | | | | | | | | | | | | | |
| 42 | 106 | 5514 | | | | | | | | | | | | | | | | |
| 42 | 107 | 5631 | | | | | | | | | | | | | | | | |
| 42 | 108 | 5748 | | | | | | | | | | | | | | | | |
| 42 | 109 | 5865 | | | | | | | | | | | | | | | | |
| 42 | 110 | 5982 | | | | | | | | | | | | | | | | |
| 42 | 111 | 6099 | | | | | | | | | | | | | | | | |
| 42 | 112 | 6216 | | | | | | | | | | | | | | | | |
| 42 | 113 | 6333 | | | | | | | | | | | | | | | | |
| 42 | 114 | 6450 | | | | | | | | | | | | | | | | |
| 42 | 115 | 6567 | | | | | | | | | | | | | | | | |
| 42 | 116 | 6684 | | | | | | | | | | | | | | | | |
| 42 | 117 | 6801 | | | | | | | | | | | | | | | | |
| 42 | 118 | 6918 | | | | | | | | | | | | | | | | |
| 42 | 119 | 7035 | | | | | | | | | | | | | | | | |
| 42 | 120 | 7152 | | | | | | | | | | | | | | | | |
| 42 | 121 | 7269 | | | | | | | | | | | | | | | | |
| 42 | 122 | 7386 | | | | | | | | | | | | | | | | |
| 42 | 123 | 7503 | | | | | | | | | | | | | | | | |
| 42 | 124 | 7620 | | | | | | | | | | | | | | | | |
| 42 | 125 | 7737 | | | | | | | | | | | | | | | | |
| 42 | 126 | 7854 | | | | | | | | | | | | | | | | |
| 42 | 127 | 7971 | | | | | | | | | | | | | | | | |
| 42 | 128 | 8088 | | | | | | | | | | | | | | | | |
| 42 | 129 | 8205 | | | | | | | | | | | | | | | | |
| 42 | 130 | 8322 | | | | | | | | | | | | | | | | |
| 42 | 131 | 8439 | | | | | | | | | | | | | | | | |
| 42 | 132 | 8556 | | | | | | | | | | | | | | | | |
| 42 | 133 | 8673 | | | | | | | | | | | | | | | | |
| 42 | 134 | 8790 | | | | | | | | | | | | | | | | |
| 42 | 135 | 8907 | | | | | | | | | | | | | | | | |
| 42 | 136 | 9024 | | | | | | | | | | | | | | | | |
| 42 | 137 | 9141 | | | | | | | | | | | | | | | | |
| 42 | 138 | 9258 | | | | | | | | | | | | | | | | |
| 42 | 139 | 9375 | | | | | | | | | | | | | | | | |
| 42 | 140 | 9492 | | | | | | | | | | | | | | | | |
| 42 | 141 | 9609 | | | | | | | | | | | | | | | | |
| 42 | 142 | 9726 | | | | | | | | | | | | | | | | |
| 42 | 143 | 9843 | | | | | | | | | | | | | | | | |
| 42 | 144 | 9960 | | | | | | | | | | | | | | | | |
| 42 | 145 | 0077 | | | | | | | | | | | | | | | | |
| 42 | 146 | 0194 | | | | | | | | | | | | | | | | |
| 42 | 147 | 0311 | | | | | | | | | | | | | | | | |
| 42 | 148 | 0428 | | | | | | | | | | | | | | | | |
| 42 | 149 | 0545 | | | | | | | | | | | | | | | | |
| 42 | 150 | 0662 | | | | | | | | | | | | | | | | |
| 42 | 151 | 0779 | | | | | | | | | | | | | | | | |
| 42 | 152 | 0896 | | | | | | | | | | | | | | | | |
| 42 | 153 | 1013 | | | | | | | | | | | | | | | | |
| 42 | 154 | 1130 | | | | | | | | | | | | | | | | |
| 42 | 155 | 1247 | | | | | | | | | | | | | | | | |
| 42 | 156 | 1364 | | | | | | | | | | | | | | | | |
| 42 | 157 | 1481 | | | | | | | | | | | | | | | | |
| 42 | 158 | 1598 | | | | | | | | | | | | | | | | |
| 42 | 159 | 1715 | | | | | | | | | | | | | | | | |
| 42 | 160 | 1832 | | | | | | | | | | | | | | | | |
| 42 | 161 | 1949 | | | | | | | | | | | | | | | | |
| 42 | 162 | 2066 | | | | | | | | | | | | | | | | |
| 42 | 163 | 2183 | | | | | | | | | | | | | | | | |
| 42 | 164 | 2300 | | | | | | | | | | | | | | | | |
| 42 | 165 | 2417 | | | | | | | | | | | | | | | | |
| 42 | 166 | 2534 | | | | | | | | | | | | | | | | |
| 42 | 167 | 2651 | | | | | | | | | | | | | | | | |
| 42 | 168 | 2768 | | | | | | | | | | | | | | | | |
| 42 | 169 | 2885 | | | | | | | | | | | | | | | | |
| 42 | 170 | 3002 | | | | | | | | | | | | | | | | |
| 42 | 171 | 3119 | | | | | | | | | | | | | | | | |
| 42 | 172 | 3236 | | | | | | | | | | | | | | | | |
| 42 | 173 | 3353 | | | | | | | | | | | | | | | | |
| 42 | 174 | 3470 | | | | | | | | | | | | | | | | |
| 42 | 175 | 3587 | | | | | | | | | | | | | | | | |
| 42 | 176 | 3704 | | | | | | | | | | | | | | | | |
| 42 | 177 | 3821 | | | | | | | | | | | | | | | | |
| 42 | 178 | 3938 | | | | | | | | | | | | | | | | |
| 42 | 179 | 4055 | | | | | | | | | | | | | | | | |
| 42 | 180 | 4172 | | | | | | | | | | | | | | | | |
| 42 | 181 | 4289 | | | | | | | | | | | | | | | | |
| 42 | 182 | 4406 | | | | | | | | | | | | | | | | |
| 42 | 183 | 4523 | | | | | | | | | | | | | | | | |
| 42 | 184 | 4640 | | | | | | | | | | | | | | | | |
| 42 | 185 | 4757 | | | | | | | | | | | | | | | | |
| 42 | 186 | 4874 | | | | | | | | | | | | | | | | |
| 42 | 187 | 4991 | | | | | | | | | | | | | | | | |
| 42 | 188 | 5108 | | | | | | | | | | | | | | | | |
| 42 | 189 | 5225 | | | | | | | | | | | | | | | | |
| 42 | 190 | 5342 | | | | | | | | | | | | | | | | |
| 42 | 191 | 5459 | | | | | | | | | | | | | | | | |
| 42 | 192 | 5576 | | | | | | | | | | | | | | | | |
| 42 | 193 | 5693 | | | | | | | | | | | | | | | | |
| 42 | 194 | 5810 | | | | | | | | | | | | | | | | |
| 42 | 195 | 5927 | | | | | | | | | | | | | | | | |
| 42 | 196 | 6044 | | | | | | | | | | | | | | | | |
| 42 | 197 | 6161 | | | | | | | | | | | | | | | | |
| 42 | 198 | 6278 | | | | | | | | | | | | | | | | |
| 42 | 199 | 6395 | | | | | | | | | | | | | | | | |
| 42 | 200 | 6512 | | | | | | | | | | | | | | | | |
| 42 | 201 | 6629 | | | | | | | | | | | | | | | | |
| 42 | 202 | 6746 | | | | | | | | | | | | | | | | |
| 42 | 203 | 6863 | | | | | | | | | | | | | | | | |
| 42 | 204 | 6980 | | | | | | | | | | | | | | | | |
| 42 | 205 | 7097 | | | | | | | | | | | | | | | | |
| 42 | 206 | 7214 | | | | | | | | | | | | | | | | |
| 42 | 207 | 7331 | | | | | | | | | | | | | | | | |
| 42 | 208 | 7448 | | | | | | | | | | | | | | | | |
| 42 | 209 | 7565 | | | | | | | | | | | | | | | | |
| 42 | 210 | 7682 | | | | | | | | | | | | | | | | |
| 42 | 211 | 7799 | | | | | | | | | | | | | | | | |
| 42 | 212 | 7916 | | | | | | | | | | | | | | | | |
| 42 | 213 | 8033 | | | | | | | | | | | | | | | | |
| 42 | 214 | 8150 | | | | | | | | | | | | | | | | |
| 42 | 215 | 8267 | | | | | | | | | | | | | | | | |
| 42 | 216 | 8384 | | | | | | | | | | | | | | | | |
| 42 | 217 | 8501 | | | | | | | | | | | | | | | | |
| 42 | 218 | 8618 | | | | | | | | | | | | | | | | |
| 42 | 219 | 8735 | | | | | | | | | | | | | | | | |
| 42 | 220 | 8852 | | | | | | | | | | | | | | | | |
| 42 | 221 | 8969 | | | | | | | | | | | | | | | | |
| 42 | 222 | 9086 | | | | | | | | | | | | | | | | |
| 42 | 223 | 9203 | | | | | | | | | | | | | | | | |
| 42 | 224 | 9320 | | | | | | | | | | | | | | | | |
| 42 | 225 | 9437 | | | | | | | | | | | | | | | | |
| 42 | 226 | 9554 | | | | | | | | | | | | | | | | |
| 42 | 227 | 9671 | | | | | | | | | | | | | | | | |
| 42 | 228 | 9788 | | | | | | | | | | | | | | | | |
| 42 | 229 | 9905 | | | | | | | | | | | | | | | | |
| 42 | 230 | 0022 | | | | | | | | | | | | | | | | |
| 42 | 231 | 0139 | | | | | | | | | | | | | | | | |
| 42 | 232 | 0256 | | | | | | | | | | | | | | | | |
| 42 | 233 | 0373 | | | | | | | | | | | | | | | | |
| 42 | 234 | 0490 | | | | | | | | | | | | | | | | |
| 42 | 235 | 0607 | | | | | | | | | | | | | | | | |
| 42 | 236 | 0724 | | | | | | | | | | | | | | | | |
| 42 | 237 | 0841 | | | | | | | | | | | | | | | | |
| 42 | 238 | 0958 | | | | | | | | | | | | | | | | |
| 42 | 239 | 1075 | | | | | | | | | | | | | | | | |
| 42 | 240 | 1192 | | | | | | | | | | | | | | | | |
| 42 | 241 | 1309 | | | | | | | | | | | | | | | | |
| 42 | 242 | 1426 | | | | | | | | | | | | | | | | |
| 42 | 243 | 1543 | | | | | | | | | | | | | | | | |
| 42 | 244 | 1660 | | | | | | | | | | | | | | | | |
| 42 | 245 | 1777 | | | | | | | | | | | | | | | | |
| 42 | 246 | 1894 | | | | | | | | | | | | | | | | |
| 42 | 247 | 2011 | | | | | | | | | | | | | | | | |
| 42 | 248 | 2128 | | | | | | | | | | | | | | | | |
| 42 | 249 | 2245 | | | | | | | | | | | | | | | | |
| 42 | 250 | 2362 | | | | | | | | | | | | | | | | |
| 42 | 251 | 2479 | | | | | | | | | | | | | | | | |
| 42 | 252 | 2596 | | | | | | | | | | | | | | | | |
| 42 | 253 | 2713 | | | | | | | | | | | | | | | | |
| 42 | 254 | 2830 | | | | | | | | | | | | | | | | |
| 42 | 255 | 2947 | | | | | | | | | | | | | | | | |
| 42 | 256 | 3064 | | | | | | | | | | | | | | | | |
| 42 | 257 | 3181 | | | | | | | | | | | | | | | | |
| 42 | 258 | 3298 | | | | | | | | | | | | | | | | |
| 42 | 259 | 3415 | | | | | | | | | | | | | | | | |
| 42 | 260 | 3532 | | | | | | | | | | | | | | | | |
| 42 | 261 | 3649 | | | | | | | | | | | | | | | | |
| 42 | 262 | 3766 | | | | | | | | | | | | | | | | |
| 42 | 263 | 3883 | | | | | | | | | | | | | | | | |
| 42 | 264 | 4000 | | | | | | | | | | | | | | | | |
| 42 | 265 | 4117 | | | | | | | | | | | | | | | | |
| 42 | 266 | 4234 | | | | | | | | | | | | | | | | |
| 42 | 267 | 4351 | | | | | | | | | | | | | | | | |
| 42 | 268 | 4468 | | | | | | | | | | | | | | | | |
| 42 | 269 | 4585 | | | | | | | | | | | | | | | | |
| 42 | 270 | 4702 | | | | | | | | | | | | | | | | |
| 42 | 271 | 4819 | | | | | | | | | | | | | | | | |
| 42 | 272 | 4936 | | | | | | | | | | | | | | | | |
| 42 | 273 | 5053 | | | | | | | | | | | | | | | | |
| 42 | 274 | 5170 | | | | | | | | | | | | | | | | |
| 42 | 275 | 5287 | | | | | | | | | | | | | | | | |
| 42 | 276 | 5404 | | | | | | | | | | | | | | | | |
| 42 | 277 | 5521 | | | | | | | | | | | | | | | | |
| 42 | 278 | 5638 | | | | | | | | | | | | | | | | |
| 42 | 279 | 5755 | | | | | | | | | | | | | | | | |
| 42 | 280 | 5872 | | | | | | | | | | | | | | | | |
| 42 | 281 | 5989 | | | | | | | | | | | | | | | | |
| 42 | 282 | 6106 | | | | | | | | | | | | | | | | |
| 42 | 283 | 6223 | | | | | | | | | | | | | | | | |
| 42 | 284 | 6340 | | | | | | | | | | | | | | | | |
| 42 | 285 | 6457 | | | | | | | | | | | | | | | | |
| 42 | 286 | 6574 | | | | | | | | | | | | | | | | |
| 42 | 287 | 6691 | | | | | | | | | | | | | | | | |
| 42 | 288 | 6808 | | | | | | | | | | | | | | | | |
| 42 | 289 | 6925 | | | | | | | | | | | | | | | | |
| 42 | 290 | 7042 | | | | | | | | | | | | | | | | |
| 42 | 291 | 7159 | | | | | | | | | | | | | | | | |
| 42 | 292 | 7276 | | | | | | | | | | | | | | | | |
| 42 | 293 | 7393 | | | | | | | | | | | | | | | | |
| 42 | 294 | 7510 | | | | | | | | | | | | | | | | |
| 42 | 295 | 7627 | | | | | | | | | | | | | | | | |
| 42 | 296 | 7744 | | | | | | | | | | | | | | | | |
| 42 | 297 | 7861 | | | | | | | | | | | | | | | | |
| 42 | 298 | 7978 | | | | | | | | | | | | | | | | |
| 42 | 299 | 8095 | | | | | | | | | | | | | | | | |
| 42 | 300 | 8212 | | | | | | | | | | | | | | | | |
| 42 | 301 | 8329 | | | | | | | | | | | | | | | | |
| 42 | 302 | 8446 | | | | | | | | | | | | | | | | |
| 42 | 303 | 8563 | | | | | | | | | | | | | | | | |
| 42 | 304 | 8680 | | | | | | | | | | | | | | | | |
| 42 | 305 | 8797 | | | | | | | | | | | | | | | | |
| 42 | 306 | 8914 | | | | | | | | | | | | | | | | |
| 42 | 307 | 9031 | | | | | | | | | | | | | | | | |
| 42 | 308 | 9148 | | | | | | | | | | | | | | | | |
| 42 | 309 | 9265 | | | | | | | | | | | | | | | | |
| 42 | 310 | 9382 | | | | | | | | | | | | | | | | |
| 42 | 311 | 9499 | | | | | | | | | | | | | | | | |
| 42 | 312 | 9616 | | | | | | | | | | | | | | | | |
| 42 | 313 | 9733 | | | | | | | | | | | | | | | | |
| 42 | 314 | 9850 | | | | | | | | | | | | | | | | |
| 42 | 315 | 9967 | | | | | | | | | | | | | | | | |
| 42 | 316 | 0084 | | | | | | | | | | | | | | | | |
| 42 | 317 | 0201 | | | | | | | | | | | | | | | | |
| 42 | 318 | 0318 | | | | | | | | | | | | | | | | |
| 42 | 319 | 0435 | | | | | | | | | | | | | | | | |
| 42 | 320 | 0552 | | | | | | | | | | | | | | | | |
| 42 | 321 | 0669 | | | | | | | | | | | | | | | | |
| 42 | 322 | 0786 | | | | | | | | | | | | | | | | |
| 42 | 323 | 0903 | | | | | | | | | | | | | | | | |
| 42 | 324 | 1020 | | | | | | | | | | | | | | | | |
| 42 | 325 | 1137 | | | | | | | | | | | | | | | | |
| 42 | 326 | 1254 | | | | | | | | | | | | | | | | |
| 42 | 327 | 1371 | | | | | | | | | | | | | | | | |
| 42 | 328 | 1488 | | | | | | | | | | | | | | | | |
| 42 | 329 | 1605 | | | | | | | | | | | | | | | | |
| 42 | 330 | 1722 | | | | | | | | | | | | | | | | |
| 42 | 331 | 1839 | | | | | | | | | | | | | | | | |
| 42 | 332 | 1956 | | | | | | | | | | | | | | | | |
| 42 | 333 | 2073 | | | | | | | | | | | | | | | | |
| 42 | 334 | 2190 | | | | | | | | | | | | | | | | |
| 42 | 335 | 2307 | | | | | | | | | | | | | | | | |
| 42 | 336 | 2424 | | | | | | | | | | | | | | | | |
| 42 | 337 | 2541 | | | | | | | | | | | | | | | | |
| 42 | 338 | 2658 | | | | | | | | | | | | | | | | |
| 42 | 339 | 2775 | | | | | | | | | | | | | | | | |
| 42 | 340 | 2892 | | | | | | | | | | | | | | | | |
| 42 | 341 | 3009 | | | | | | | | | | | | | | | | |
| 42 | 342 | 3126 | | | | | | | | | | | | | | | | |
| 42 | 343 | 3243 | | | | | | | | | | | | | | | | |
| 42 | 344 | 3360 | | | | | | | | | | | | | | | | |
| 42 | 345 | 3477 | | | | | | | | | | | | | | | | |
| 42 | 346 | 3594 | | | | | | | | | | | | | | | | |
| 42 | 347 | 3711 | | | | | | | | | | | | | | | | |
| 42 | 348 | 3828 | | | | | | | | | | | | | | | | |
| 42 | 349 | 3945 | | | | | | | | | | | | | | | | |
| 42 | 350 | 4062 | | | | | | | | | | | | | | | | |
| 42 | 351 | 4179 | | | | | | | | | | | | | | | | |
| 42 | 352 | 4296 | | | | | | | | | | | | | | | | |
| 42 | 353 | 4413 | | | | | | | | | | | | | | | | |
| 42 | 354 | 4530 | | | | | | | | | | | | | | | | |
| 42 | 355 | 4647 | | | | | | | | | | | | | | | | |
| 42 | 356 | 4764 | | | | | | | | | | | | | | | | |
| 42 | 357 | 4881 | | | | | | | | | | | | | | | | |
| 42 | 358 | 4998 | | | | | | | | | | | | | | | | |
| 42 | 359 | 5115 | | | | | | | | | | | | | | | | |
| 42 | 360 | 5232 | | | | | | | | | | | | | | | | |
| 42 | 361 | 5349 | | | | | | | | | | | | | | | | |
| 42 | 362 | 5466 | | | | | | | | | | | | | | | | |
| 42 | 363 | 5583 | | | | | | | | | | | | | | | | |
| 42 | 364 | 5700 | | | | | | | | | | | | | | | | |
| 42 | 365 | 5817 | | | | | | | | | | | | | | | | |
| 42 | 366 | 5934 | | | | | | | | | | | | | | | | |
| 42 | 367 | 6051 | | | | | | | | | | | | | | | | |
| 42 | 368 | 6168 | | | | | | | | | | | | | | | | |
| 42 | 369 | 6285 | | | | | | | | | | | | | | | | |
| 42 | 370 | 6402 | | | | | | | | | | | | | | | | |
| 42 | 371 | 6519 | | | | | | | | | | | | | | | | |
| 42 | 372 | 6636 | | | | | | | | | | | | | | | | |
| 42 | 373 | 6753 | | | | | | | | | | | | | | | | |
| 42 | 374 | 6870 | | | | | | | | | | | | | | | | |
| 42 | 375 | 6987 | | | | | | | | | | | | | | | | |
| 42 | 376 | 7104 | | | | | | | | | | | | | | | | |
| 42 | 377 | 7221 | | | | | | | | | | | | | | | | |
| 42 | 378 | 7338 | | | | | | | | | | | | | | | | |
| 42 | 379 | 7455 | | | | | | | | | | | | | | | | |
| 42 | 380 | 7572 | | | | | | | | | | | | | | | | |
| 42 | 381 | 7689 | | | | | | | | | | | | | | | | |
| 42 | 382 | 7806 | | | | | | | | | | | | | | | | |
| 42 | 383 | 7923 | | | | | | | | | | | | | | | | |
| 42 | 384 | 8040 | | | | | | | | | | | | | | | | |
| 42 | 385 | 8157 | | | | | | | | | | | | | | | | |
| 42 | 386 | 8274 | | | | | | | | | | | | | | | | |
| 42 | 387 | 8391 | | | | | | | | | | | | | | | | |
| 42 | 388 | 8508 | | | | | | | | | | | | | | | | |
| 42 | 389 | 8625 | | | | | | | | | | | | | | | | |
| 42 | 390 | 8742 | | | | | | | | | | | | | | | | |
| 42 | 391 | 8859 | | | | | | | | | | | | | | | | |
| 42 | 392 | 8976 | | | | | | | | | | | | | | | | |
| 42 | 393 | 9093 | | | | | | | | | | | | | | | | |
| 42 | 394 | 9210 | | | | | | | | | | | | | | | | |
| 42 | 395 | 9327 | | | | | | | | | | | | | | | | |
| 42 | 396 | 9444 | | | | | | | | | | | | | | | | |
| 42 | 397 | 9561 | | | | | | | | | | | | | | | | |
| 42 | 398 | 9678 | | | | | | | | | | | | | | | | |
| 42 | 399 | 9795 | | | | | | | | | | | | | | | | |
| 42 | 400 | 9912 | | | | | | | | | | | | | | | | |
| 42 | 401 | 0029 | | | | | | | | | | | | | | | | |
| 42 | 402 | 0146 | | | | | | | | | | | | | | | | |
| 42 | 403 | 0263 | | | | | | | | | | | | | | | | |
| 42 | 404 | 0380 | | | | | | | | | | | | | | | | |
| 42 | 405 | 0497 | | | | | | | | | | | | | | | | |
| 42 | 406 | 0614 | | | | | | | | | | | | | | | | |
| 42 | 407 | 0731 | | | | | | | | | | | | | | | | |
| 42 | 408 | 0848 | | | | | | | | | | | | | | | | |
| 42 | 409 | 0965 | | | | | | | | | | | | | | | | |
| 42 | 410 | 1082 | | | | | | | | | | | | | | | | |
| 42 | 411 | 1199 | | | | | | | | | | | | | | | | |
| 42 | 412 | 1316 | | | | | | | | | | | | | | | | |
| 42 | 413 | 1433 | | | | | | | | | | | | | | | | |
| 42 | 414 | 1550 | | | | | | | | | | | | | | | | |
| 42 | 415 | 1667 | | | | | | | | | | | | | | | | |
| 42 | 416 | 1784 | | | | | | | | | | | | | | | | |
| 42 | 417 | 1901 | | | | | | | | | | | | | | | | |
| 42 | 418 | 2018 | | | | | | | | | | | | | | | | |
| 42 | 419 | 2135 | | | | | | | | | | | | | | | | |
| 42 | 420 | 2252 | | | | | | | | | | | | | | | | |
| 42 | 421 | 2369 | | | | | | | | | | | | | | | | |
| 42 | 422 | 2486 | | | | | | | | | | | | | | | | |
| 42 | 423 | 2603 | | | | | | | | | | | | | | | | |
| 42 | 424 | 2720 | | | | | | | | | | | | | | | | |
| 42 | 425 | 2837 | | | | | | | | | | | | | | | | |
| 42 | 426 | 2954 | | | | | | | | | | | | | | | | |
| 42 | 427 | 3071 | | | | | | | | | | | | | | | | |
| 42 | 428 | 3188 | | | | | | | | | | | | | | | | |
| 42 | 429 | 3305 | | | | | | | | | | | | | | | | |
| 42 | 430 | 3422 | | | | | | | | | | | | | | | | |
| 42 | 431 | 3539 | | | | | | | | | | | | | | | | |
| 42 | 432 | 3656 | | | | | | | | | | | | | | | | |
| 42 | 433 | 3773 | | | | | | | | | | | | | | | | |
| 42 | 434 | 3890 | | | | | | | | | | | | | | | | |
| 42 | 435 | 4007 | | | | | | | | | | | | | | | | |
| 42 | 436 | 4124 | | | | | | | | | | | | | | | | |
| 42 | 437 | 4241 | | | | | | | | | | | | | | | | |
| 42 | 438 | 4358 | | | | | | | | | | | | | | | | |
| 42 | 439 | 4475 | | | | | | | | | | | | | | | | |
| 42 | 440 | 4592 | | | | | | | | | | | | | | | | |
| 42 | 441 | 4709 | | | | | | | | | | | | | | | | |
| 42 | 442 | 4826 | | | | | | | | | | | | | | | | |
| 42 | 443 | 4943 | | | | | | | | | | | | | | | | |
| 42 | 444 | 5060 | | | | | | | | | | | | | | | | |
| 42 | 445 | 5177 | | | | | | | | | | | | | | | | |
| 42 | 446 | 5294 | | | | | | | | | | | | | | | | |
| 42 | 447 | 5411 | | | | | | | | | | | | | | | | |
| 42 | 448 | 5528 | | | | | | | | | | | | | | | | |
| 42 | 449 | 5645 | | | | | | | | | | | | | | | | |
| 42 | 450 | 5762 | | | | | | | | | | | | | | | | |
| 42 | 451 | 5879 | | | | | | | | | | | | | | | | |
| 42 | 452 | 5996 | | | | | | | | | | | | | | | | |
| 42 | 453 | 6113 | | | | | | | | | | | | | | | | |
| 42 | 454 | 6230 | | | | | | | | | | | | | | | | |
| 42 | 455 | 6347 | | | | | | | | | | | | | | | | |
| 42 | 456 | 6464 | | | | | | | | | | | | | | | | |
| 42 | 457 | 6581 | | | | | | | | | | | | | | | | |
| 42 | 458 | 6698 | | | | | | | | | | | | | | | | |
| 42 | 459 | 6815 | | | | | | | | | | | | | | | | |
| 42 | 460 | 6932 | | | | | | | | | | | | | | | | |
| 42 | 461 | 7049 | | | | | | | | | | | | | | | | |
| 42 | 462 | 7166 | | | | | | | | | | | | | | | | |
| 42 | 463 | 7283 | | | | | | | | | | | | | | | | |
| 42 | 464 | 7400 | | | | | | | | | | | | | | | | |
| 42 | 465 | 7517 | | | | | | | | | | | | | | | | |
| 42 | 466 | 7634 | | | | | | | | | | | | | | | | |
| 42 | 467 | 7751 | | | | | | | | | | | | | | | | |
| 42 | 468 | 7868 | | | | | | | | | | | | | | | | |
| 42 | 469 | 7985 | | | | | | | | | | | | | | | | |
| 42 | 470 | 8102 | | | | | | | | | | | | | | | | |
| 42 | 471 | 8219 | | | | | | | | | | | | | | | | |
| 42 | 472 | 8336 | | | | | | | | | | | | | | | | |
| 42 | 473 | 8453 | | | | | | | | | | | | | | | | |
| 42 | 474 

C. T. XI. Numbers I. for Sums of Apparent Altitudes } and Auxiliary Arguments.
and Numbers III. for Apparent Distances - - - - - }

Sums for finding the Corrected Distance.

| Nos. for Seconds of Auxil. Argum. or Arc | A. A & A. D. 159° | Auxiliary Arguments. 17′ | 18′ | 19′ | 20′ | 21′ | 22′ | 23′ | 24′ | 25′ | 26′ | 27′ | 28′ | 29′ | 30′ | 31′ | 32′ | 33′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | Numbers | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. | N. |
| 450 | 3 | | 5411 | 4939 | 4467 | 3994 | 3522 | 3050 | 2578 | 2105 | 1633 | 1160 | 0687 | 0215 | 9742 | 9269 | 8796 | 8323 | 7850 |
| 435 | 5 | 292(291) | 5617 | 5145 | 4672 | 4200 | 3728 | 3255 | 2783 | 2310 | 1838 | 1365 | 0892 | 0419 | 9946 | 9473 | 9000 | 8527 | 8054 |
| 427 | 6 | | 5719 | 5247 | 4775 | 4303 | 3830 | 3358 | 2885 | 2413 | 1940 | 1467 | 0995 | 0521 | 0049 | 9576 | 9102 | 8629 | 8156 |
| 419 | 7 | | 5822 | 5350 | 4878 | 4405 | 3933 | 3461 | 2988 | 2515 | 2043 | 1570 | 1097 | 0623 | 0151 | 9678 | 9204 | 8731 | 8258 |
| 411 | 8 | | 5925 | 5453 | 4980 | 4508 | 4036 | 3563 | 3090 | 2618 | 2145 | 1672 | 1199 | 0726 | 0253 | 9780 | 9306 | 8833 | 8360 |
| 403 | 9 | | 6028 | 5555 | 5083 | 4610 | 4138 | 3665 | 3193 | 2720 | 2247 | 1774 | 1301 | 0828 | 0355 | 9882 | 9408 | 8935 | 8461 |
| 395 | 10 | 292(291) | 6130 | 5658 | 5185 | 4713 | 4240 | 3768 | 3295 | 2822 | 2349 | | | | | | | | |
| 387 | 11 | | 6233 | 5760 | 5288 | 4815 | 4343 | 3870 | 3397 | 2924 | 2451 | 1978 | 1505 | 1032 | 0559 | 0085 | | | |
| 379 | 12 | | 6335 | 5863 | 5390 | 4917 | 4445 | 3972 | 3499 | 3026 | 2553 | 2080 | 1607 | 1134 | 0660 | 0187 | 9714 | 9240 | 8766 |
| | | | | | | | | | | | | | | | | | | | |
| 363 | 14 | | 6540 | 6067 | 5594 | 5122 | 4649 | 4176 | 3703 | 3230 | 2757 | 2284 | 1811 | 1337 | 0864 | 0390 | 9917 | 9443 | 8969 |
| | | | | | | | | | | | | | | | | | | | |
| 348 | 16 | | 6744 | 6271 | 5798 | 5326 | 4853 | 4380 | 3907 | 3434 | 2960 | | | | | | | | |
| 340 | 17 | | 6846 | 6373 | 5900 | 5427 | 4955 | 4481 | 4008 | 3535 | 3062 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | 19 | | 7050 | | | | | | | | | | | | | | | | |
| 316 | 20 | 292(291) | 7151 | 6679 | 6206 | 5733 | 5259 | 4786 | 4313 | 3840 | 3366 | | | | | | | | |
| 308 | 21 | | 7253 | 6780 | 6307 | 5834 | 5361 | 4888 | 4414 | 3941 | 3468 | | | | | | | | |
| 300 | 22 | | 7355 | 6882 | 6409 | 5936 | 5462 | 4989 | 4516 | 4042 | 3569 | | | | | | | | |
| 292 | 23 | | 7456 | 6983 | 6510 | 6037 | 5564 | 5090 | 4617 | 4143 | 3670 | | | | | | | | |
| 284 | 24 | | 7558 | 7085 | 6611 | 6138 | 5665 | 5192 | 4718 | 4244 | 3771 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 261 | 27 | | 7862 | 7388 | 6915 | 6442 | 5968 | 5495 | 5021 | 4547 | 4074 | 3600 | 3126 | 2652 | 2178 | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 237 | 30 | 292 | 8165 | 7691 | 7218 | 6744 | 6271 | 5797 | 5323 | 4849 | 4375 | 3901 | 3427 | | | | | | |
| 229 | 31 | | 8266 | 7792 | 7319 | 6845 | 6371 | 5898 | 5424 | 4950 | 4476 | 4002 | 3528 | | | | | | |
| 221 | 32 | | 8367 | 7893 | 7419 | 6946 | 6472 | 5998 | 5524 | 5050 | 4576 | | | | | | | | |
| 213 | 33 | | 8467 | 7994 | 7520 | 7046 | 6573 | 6099 | 5625 | 5151 | 4677 | | | | | | | | |
| 205 | 34 | | 8568 | 8094 | 7621 | 7147 | 6673 | 6199 | 5725 | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 190 | 36 | | 8769 | 8295 | 7822 | 7348 | 6874 | 6400 | | | | | | | | | | | |
| 182 | 37 | | 8869 | 8396 | 7922 | 7448 | 6974 | 65 | | | | | | | | | | | |
| 174 | 38 | | 8970 | 8496 | 8022 | 7548 | | | | | | | | | | | | | |
| 166 | 39 | | 9070 | 8596 | 8122 | 7648 | 7174 | 6700 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 150 | 41 | 292 | 9270 | 8796 | 8322 | 7848 | 7374 | 6900 | 6425 | 5951 | 5477 | 5062 | 4527 | 4053 | 3578 | 3103 | 26 | | |
| 142 | 42 | | 9370 | 8896 | 8422 | 7948 | 7474 | 7000 | 6525 | 6051 | 5576 | 5102 | 4627 | 4152 | 3677 | 3202 | 27 | | |
| 134 | 43 | | 9470 | 899 | 8522 | 8048 | 7574 | 7099 | 6625 | 6150 | 5676 | 5201 | 4726 | 4252 | 3777 | 3302 | 282 | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 110 | 47 | | 9869 | 9395 | 8921 | | | | | | | | | | | | | | |
| 102 | 48 | | 9969 | 9494 | 9020 | | | | | | | | | | | | | | |
| 87 | 50 | 293(292) | 0069 | 9594 | 9120 | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 74 | 51 | | 0267 | 9793 | 9318 | 8844 | 8369 | 7894 | 7419 | 6944 | 6469 | 5994 | 5519 | 5044 | 4569 | 4093 | | | |
| | | | | | | | | | | | 43 | 6568 | 6093 | 5618 | 5143 | 4667 | 4192 | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |

## T. XII.

### Corrections of the Moon's Horizontal Parallax, on Account of the Spheroidal Figure of the Earth.

| Latitude. | Horizontal Parallax. 54′ | 55′ | 56′ | 57′ | 58′ | 59′ | 60′ | 61′ |
|---|---|---|---|---|---|---|---|---|
| ° | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 16 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 18 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 20 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 22 | 1 | 1 | 1 | 1 | 2 | 2 | 2 | 2 |
| 24 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 26 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 28 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 30 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 32 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| 34 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 4 |
| 36 | 3 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 38 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| 40 | 4 | 4 | 4 | 4 | 4 | 5 | 5 | 5 |
| 42 | 4 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 44 | 5 | 5 | 5 | 5 | 5 | 5 | 5 | 5 |
| 46 | 5 | 5 | 5 | 5 | 6 | 6 | 6 | 6 |
| 48 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 50 | 6 | 6 | 6 | 6 | 6 | 6 | 7 | 7 |
| 52 | 6 | 6 | 6 | 7 | 7 | 7 | 7 | 7 |
| 54 | 7 | 7 | 7 | 7 | 7 | 7 | 7 | 7 |
| 56 | 7 | 7 | 7 | 7 | 7 | 8 | 8 | 8 |
| 58 | 7 | 7 | 8 | 8 | 8 | 8 | 8 | 8 |
| 60 | 8 | 8 | 8 | 8 | 8 | 8 | 8 | 9 |
| 62 | 8 | 8 | 8 | 8 | 8 | 9 | 9 | 9 |
| 64 | 8 | 8 | 8 | 9 | 9 | 9 | 9 | 9 |
| 66 | 8 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| 68 | 9 | 9 | 9 | 9 | 9 | 9 | 10 | 10 |
| 70 | 9 | 9 | 9 | 9 | 10 | 10 | 10 | 10 |
| 72 | 9 | 9 | 9 | 10 | 10 | 10 | 10 | 10 |
| 74 | 9 | 9 | 10 | 10 | 10 | 10 | 10 | 11 |
| 76 | 9 | 10 | 10 | 10 | 10 | 10 | 11 | 11 |
| 78 | 10 | 10 | 10 | 10 | 10 | 11 | 11 | 11 |
| 80 | 10 | 10 | 10 | 10 | 11 | 11 | 11 | 11 |
| 82 | 10 | 10 | 10 | 10 | 11 | 11 | 11 | 11 |
| 84 | 10 | 10 | 10 | 11 | 11 | 11 | 11 | 11 |
| 86 | 10 | 10 | 10 | 11 | 11 | 11 | 11 | 11 |
| 88 | 10 | 10 | 10 | 11 | 11 | 11 | 11 | 11 |
| 90 | 10 | 10 | 10 | 11 | 11 | 11 | 11 | 11 |

## T. XIII.

### Corrections, to be added to the Lunar Distances, on Account of the Spheroidal Figure of the Earth.

| Latitude. | Moon's Declination. 0° | 10° | 20° | 30° |
|---|---|---|---|---|
| ° | ″ | ″ | ″ | ″ |
| 2 | 1 | 1 | 1 | 1 |
| 4 | 1 | 1 | 1 | 1 |
| 6 | 2 | 2 | 2 | 2 |
| 8 | 3 | 3 | 3 | 3 |
| 10 | 4 | 4 | 3 | 3 |
| 12 | 4 | 4 | 4 | 4 |
| 14 | 5 | 5 | 5 | 5 |
| 16 | 6 | 6 | 6 | 5 |
| 18 | 7 | 6 | 6 | 6 |
| 20 | 7 | 7 | 7 | 6 |
| 22 | 8 | 8 | 8 | 7 |
| 24 | 9 | 9 | 8 | 8 |
| 26 | 9 | 9 | 9 | 8 |
| 28 | 10 | 10 | 9 | 9 |
| 30 | 11 | 10 | 10 | 9 |
| 32 | 11 | 11 | 11 | 10 |
| 34 | 12 | 12 | 11 | 10 |
| 36 | 13 | 12 | 12 | 11 |
| 38 | 13 | 13 | 12 | 11 |
| 40 | 14 | 13 | 13 | 12 |
| 42 | 14 | 14 | 13 | 12 |
| 44 | 15 | 15 | 14 | 13 |
| 46 | 15 | 15 | 14 | 13 |
| 48 | 16 | 16 | 15 | 14 |
| 50 | 16 | 16 | 15 | 14 |
| 52 | 17 | 17 | 16 | 15 |
| 54 | 17 | 17 | 16 | 15 |
| 56 | 18 | 17 | 17 | 15 |
| 58 | 18 | 18 | 17 | 16 |
| 60 | 18 | 18 | 17 | 16 |
| 62 | 19 | 19 | 18 | 16 |
| 64 | 19 | 19 | 18 | 17 |
| 66 | 19 | 19 | 18 | 17 |
| 68 | 20 | 19 | 19 | 17 |
| 70 | 20 | 20 | 19 | 17 |

## T. XIV.

### Logarithms, to compute the Corrections to be subtracted from the Lunar Distances, on Account of the Spheroidal Figure of the Earth.

| Latitude. | Logarithm | Latitude. | Logarithm |
|---|---|---|---|
| ° | | ′ | |
| 2 | 0, 1724 | 37 | 1, 4[illegible] |
| 3 | 0, 3484 | 38 | 1, 4[illegible] |
| 4 | 0, 4732 | 39 | 1, 4[illegible] |
| 5 | 0, 5700 | 40 | 1, 4[illegible] |
| 6 | 0, 6488 | 41 | 1, 4[illegible] |
| 7 | 0, 7155 | 42 | 1, 4551 |
| 8 | 0, 7731 | 43 | 1, 4634 |
| 9 | 0, 8239 | 44 | 1, 4713 |
| 10 | 0, 8692 | 45 | 1, 4791 |
| 11 | 0, 9102 | 46 | 1, 4865 |
| 12 | 0, 9475 | 47 | 1, 4937 |
| 13 | 0, 9817 | 48 | 1, 5006 |
| 14 | 1, 0133 | 49 | 1, 5074 |
| 15 | 1, 0426 | 50 | 1, 5138 |
| 16 | 1, 0699 | 51 | 1, 5201 |
| 17 | 1, 0755 | 52 | 1, 5261 |
| 18 | 1, 1196 | 53 | 1, 5316 |
| 19 | 1, 1422 | 54 | 1, 5375 |
| 20 | 1, 1636 | 55 | 1, 5429 |
| 21 | 1, 1839 | 56 | 1, 5481 |
| 22 | 1, 2032 | 57 | 1, 5532 |
| 23 | 1, 2215 | 58 | 1, 5582 |
| 24 | 1, 2389 | 59 | 1, 5630 |
| 25 | 1, 2555 | 60 | 1, 5671 |
| 26 | 1, 2714 | 61 | 1, 5714 |
| 27 | 1, 2866 | 62 | 1, 5755 |
| 28 | 1, 3012 | 63 | 1, 5795 |
| 29 | 1, 3151 | 64 | 1, 5832 |
| 30 | 1, 3285 | 65 | 1, 5869 |
| 31 | 1, 3414 | 66 | 1, 5903 |
| 32 | 1, 3538 | 67 | 1, 5936 |
| 33 | 1, 3657 | 68 | 1, 5967 |
| 34 | 1, 3771 | 69 | 1, 5997 |
| 35 | 1, 3882 | 70 | 1, 6026 |
| 36 | 1, 3988 | 71 | 1, 6053 |

# LOGARITHMIC TABLES,

AND

TABLES TO CONVERT PARTS OF THE CIRCLE INTO TIME,

AND VICE-VERSA.

o Degrees, or o Hours.

| ′ | ″ 0 | ″ 1 | ″ 2 | ″ 3 | ″ 4 | ″ 5 | ″ 6 | ″ 7 | ″ 8 | ″ 9 | ″ 10 | ″ 11 | ″ 12 | ″ 13 | ″ 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | 165321 | 155631 | 147711 | 141417 | 135211 | 129703 | 125517 | 121388 | 117609 | 114133 | 110914 |
| 1 | 142234 | | | | | | | | | | 125455 | 121322 | 117549 | 114077 | 110863 |
| 2 | | | 194706 | 177335 | 164961 | 155342 | 147472 | 140811 | 135021 | | 125393 | 121257 | 117480 | 114022 | 110811 |
| 3 | | | 194352 | 177097 | 164782 | 155198 | 147352 | 140708 | 135021 | | 125311 | 121191 | 117429 | 113966 | 110760 |
| 4 | | | 194000 | 176861 | 164603 | 155055 | 147232 | 140606 | 134923 | | 125210 | 121100 | 117340 | 113885 | 110680 |
| 5 | | | | 176625 | 164426 | 154912 | 147113 | 140503 | 134705 | 129703 | 125167 | 121060 | 117309 | 113855 | |
| 6 | | | | 176391 | 164249 | 154770 | 146994 | 140401 | 134679 | 129623 | 125095 | 120995 | 117249 | 113800 | |
| 7 | | | 192962 | 176158 | 164073 | 154629 | 146876 | 140300 | 134589 | 129544 | 125024 | 120933 | 117189 | 113745 | |
| 8 | | | 192621 | 175927 | 163897 | 154487 | 146758 | 140198 | 134500 | 129464 | 124953 | 120865 | 117120 | 113690 | |
| 9 | | | 192283 | 175696 | 163722 | 154347 | 146640 | 140097 | 134411 | 129385 | 124881 | 120800 | 117070 | 113635 | |
| 10 | | 218033 | 191948 | 175467 | 163548 | 154206 | 146522 | 139996 | 134323 | 129306 | 124809 | 120735 | 117010 | 113580 | |
| 11 | | 218217 | 191615 | 175239 | 163375 | 154066 | 146405 | 139895 | 134234 | 129227 | 124738 | 120671 | 116951 | 113525 | |
| 12 | | | | | | | | | | | | | | | |
| 13 | | 217010 | 190957 | 174787 | 163030 | 153788 | 146171 | 139694 | 134058 | 129070 | 124596 | 120541 | 116832 | 113415 | 110247 |
| 14 | | 216419 | 190632 | 174562 | 162859 | 153649 | 146055 | 139593 | 133970 | 128991 | 124526 | 120476 | 116773 | 113360 | 110197 |
| 15 | | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | |
| 20 | | | 188730 | 173239 | 161845 | 152827 | 145364 | 138997 | 133445 | 128524 | 124103 | 120091 | 116419 | 113033 | 109893 |
| 21 | | | 188420 | 173023 | 161678 | 152690 | 145250 | 138899 | 133359 | 128446 | 124033 | 120028 | 116361 | 112979 | 109842 |
| 22 | | | 188114 | 172807 | 161512 | 152557 | 145136 | 138800 | 133272 | 128369 | 123963 | 119964 | 116302 | 112925 | 109792 |
| 23 | | | 187809 | 172593 | 161347 | 152422 | 145022 | 138702 | 133186 | 128292 | 123894 | 119900 | 116243 | 112871 | 109741 |
| 24 | | | | | | | | | | | | | | | |
| 25 | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | | | | | | | |
| 27 | | | | | | 151884 | 144571 | 138312 | 132842 | 127984 | 123616 | 119647 | 116010 | 112655 | |
| 28 | | | | | | 151753 | 144450 | 138215 | 132756 | 127908 | 123546 | 119584 | 115953 | 112601 | |
| 29 | | | | | | | | | | | | | | | |
| 30 | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | |
| 35 | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | |
| 37 | | | | | | | | | | | | | | | |
| 38 | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | |
| 40 | | | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | |
| 50 | | 199203 | 180297 | 167170 | 157103 | 148936 | 142064 | 136133 | 130915 | 126257 | 122051 | 118217 | 114693 | 111435 | 108403 |
| 51 | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | |
| 55 | | | | | | | | | | | | | | | |
| 56 | | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | |

° Degrees, or ° Hours.

| ′ 15 | ′ 16 | ′ 17 | ′ 18 | ′ 19 | ′ 20 | ′ 21 | ′ 22 | ′ 23 | ′ 24 | ′ 25 | ′ 26 | ′ 27 | ′ 28 | ′ 29 | ′ 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 105115 | 102482 | 100000 | 97652 | 95424 | 93305 | 91[illegible] | | | | | | | | |
| | 105070 | 102440 | 99960 | 97614 | 95388 | 93271 | 91252 | | | | | | | | |
| | 105025 | 102397 | 99920 | 97576 | 95352 | 93236 | 91219 | 89292 | | | | | | | |
| | | 102355 | 99880 | 97538 | 95316 | 93202 | 91186 | 89260 | | | | | | | |
| | | 102312 | 99839 | 97500 | 95280 | 93168 | 91154 | 89229 | | | | | | | |
| | | 102270 | 99799 | 97462 | 95244 | 93133 | 91121 | 89197 | | | | | | | |
| | | 102228 | 99759 | 97424 | 95208 | 93099 | 91088 | 89166 | | | | | | | |
| | | 102185 | 99719 | 97386 | 95172 | 93065 | 91055 | 89135 | | | | | | | |
| | | 102143 | 99679 | 97348 | 95136 | 93030 | 91023 | 89103 | | | | | | | |
| | | 102101 | 99640 | 97310 | 95100 | 92996 | 90990 | 89072 | | | | | | | |
| 10 | 107438 | 104665 | 102059 | 99600 | 97273 | 95064 | 92962 | 90957 | 89041 | | | | | | | |
| 11 | 107391 | 104620 | 102017 | 99560 | 97235 | 95028 | 92928 | 90925 | 89010 | | | | | | | |
| 12 | 107343 | 104576 | 101974 | 99520 | 97197 | 94992 | 92894 | 90892 | 88978 | | | | | | | |
| 13 | 107295 | 104531 | 101932 | 99480 | 97159 | 94956 | 92860 | 90859 | 88947 | 87116 | | | | | | |
| 14 | 107248 | 104486 | 101890 | 99441 | 97122 | 94921 | 92825 | 90827 | 88916 | 87086 | | | | | | |
| 15 | 107200 | 104442 | 101848 | 99401 | 97084 | 94885 | 92791 | 90794 | 88885 | 87055 | 85301 | 83614 | | | | |
| 16 | 107153 | 104397 | 101805 | 99361 | 97047 | 94849 | 92757 | 90762 | 88854 | 87026 | 85272 | 83587 | | | | |
| 17 | 107105 | 104353 | 101764 | 99322 | 97009 | 94813 | 92723 | 90729 | 88823 | 86996 | 85244 | 83559 | | | | |
| | | | | 99282 | 96972 | 94778 | 92689 | 90697 | 88792 | 86967 | 85215 | 83532 | 81911 | | | |
| | | | | 99243 | 96934 | 94742 | 92655 | 90664 | 88761 | 86937 | 85187 | 83504 | 81884 | 80323 | 78816 | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 22 | 106869 | 104131 | 101556 | 99124 | 96822 | 94635 | 92554 | 90567 | 88668 | 86848 | 85101 | 83422 | 81801 | | | |
| 23 | 106822 | 104087 | 101514 | 99085 | 96784 | 94600 | 92520 | 90535 | 88637 | 86818 | 85072 | 83394 | 81773 | | | |
| 24 | 106775 | 104043 | 101472 | 99045 | 96747 | 94564 | 92486 | 90504 | 88607 | 86788 | 85044 | 83367 | 81746 | | | |
| 25 | 106728 | 103999 | 101431 | 99006 | 96710 | 94529 | 92452 | 90473 | 88575 | 86759 | 85015 | 83339 | 81719 | | | |
| 26 | 106681 | 103955 | 101389 | 98967 | 96673 | 94493 | 92418 | 90442 | 88544 | 86730 | 84987 | 83312 | 81692 | | | |
| 27 | 106634 | 103911 | 101348 | 98928 | 96635 | 94458 | 92385 | 90411 | 88513 | 86701 | 84958 | 83285 | 81665 | | | |
| | | 102867 | 101206 | 98888 | 96598 | 94423 | 92351 | 90379 | 88482 | 86672 | 84930 | 83258 | 81638 | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 33 | 106354 | 103647 | 101100 | 98693 | 96413 | 94246 | 92183 | 90215 | 88328 | 86522 | 84788 | 83121 | 81515 | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 36 | 106215 | 103516 | 100976 | 98576 | 96302 | 94141 | 92082 | 90116 | 88236 | 86434 | 84703 | 83039 | 81436 | 79891 | 78398 | |
| | | | | | | | | | | | | | | | | |
| | | 103428 | 100894 | 98490 | 96220 | 94060 | 92015 | 90054 | 88173 | 86373 | 84647 | 82979 | 81373 | 79824 | 78328 | |
| | | | 100853 | 98459 | 96191 | 94035 | 91981 | 90020 | 88144 | 86346 | 84619 | 82958 | 81358 | 79815 | 78325 | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 43 | 105891 | 103212 | 100689 | 98304 | 96044 | 93895 | 91848 | 89893 | 88022 | 86228 | 84506 | 82849 | 81253 | 79714 | 78227 | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| 48 | 105662 | 102996 | 100485 | 98111 | 95861 | 93721 | 91682 | 89734 | 87870 | 86082 | 84365 | 82714 | 81123 | 79588 | | |
| | | | | | | | | | | | | | | | | |
| 0 | 105570 | 102910 | 100404 | 98035 | 95788 | 93651 | 91615 | 89670 | 87809 | 86024 | 84309 | 82660 | 81071 | 79538 | | |
| 1 | 105524 | 102867 | 100363 | 97996 | 95751 | 93617 | 91582 | 89639 | 87778 | 85995 | 84281 | 82633 | 81045 | 79513 | 78033 | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | 102739 | 100242 | 97881 | 95642 | 93513 | 91483 | 89544 | 87687 | 85907 | 84197 | 82552 | 80967 | 79437 | 77960 | |
| | | | | | | | | | | | | | | | | |
| 56 | 105297 | 102653 | 100161 | 97805 | 95569 | 93443 | 91417 | 89481 | 87627 | 85849 | 84141 | 82498 | 80915 | 79387 | 77912 | |
| | | | | | | | | | | | | | | | | |
| 58 | 105206 | 102568 | 100080 | 97728 | 95497 | 93374 | 91351 | 89417 | 87566 | 85791 | 84086 | 82445 | 80863 | 79337 | 77863 | |
| | | | 100040 | 97690 | 95460 | 93340 | 91318 | 89386 | 87536 | 85762 | 84058 | 82418 | 80837 | | | |

| ′ | ″ | o Degrees, or o Hours. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ′ | ″ | ‴ | ⁗ | ⁗′ | ⁗″ | ⁗‴ | ⁗⁗ | ⁗⁗′ | ⁗⁗″ | ⁗⁗‴ | ⁗⁗⁗ | ⁗⁗⁗′ | ⁗⁗⁗″ | ⁗⁗⁗‴ |
| | | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 |
| 0 | | 77415 | 76301 | 75012 | 73570 | 72379 | 71120 | 69897 | 68707 | 67540 | 66421 | 65321 | 64240 | 63202 | 62181 | 61182 |
| 1 | | 77411 | 76301 | 74990 | 73554 | 72358 | 71100 | 69877 | 68688 | 67520 | 66402 | 65302 | 64221 | 63185 | 62164 | 61165 |
| 2 | | 77407 | 76344 | 74967 | 73538 | 72338 | 71079 | 69857 | 68668 | 67501 | 66384 | 65283 | 64202 | 63168 | 62147 | 61149 |
| 3 | | 77403 | 76321 | 74944 | 73521 | 72318 | 71058 | 69837 | 68648 | 67492 | 66365 | 65267 | 64182 | 63151 | 62130 | 61133 |
| 4 | | 77419 | 76298 | 74922 | 73505 | 72299 | 71038 | 69817 | 68629 | 67473 | 66347 | 65246 | 64158 | 63133 | 62113 | 61116 |
| 5 | | 77395 | 76274 | 74899 | 73516 | 72273 | 71017 | 69797 | 68609 | 67454 | 66328 | 65231 | 64141 | 63117 | 62096 | 61100 |
| 6 | | 77371 | 76251 | 74877 | 73544 | 72254 | 70997 | 69777 | 68590 | 67435 | 66311 | 65213 | 64123 | 63099 | 62080 | 61083 |
| 7 | | 77367 | 76228 | 74854 | 73513 | 72231 | 70976 | 69756 | 68570 | 67416 | 66291 | 65195 | 64105 | 63081 | 62063 | 61067 |
| 8 | | 77363 | 76205 | 74832 | 73511 | 72209 | 70955 | 69736 | 68551 | 67397 | 66273 | 65177 | 64088 | 63063 | 62046 | 61051 |
| 9 | | 77359 | 76181 | 74809 | 73479 | 72187 | 70935 | 69716 | 68531 | 67378 | 66254 | 65159 | 64070 | 63047 | 62029 | 61034 |
| 10 | | 77355 | 76158 | 74787 | 73457 | 72167 | 70914 | 69696 | 68512 | 67359 | 66236 | 65141 | 64073 | 63030 | 62012 | 61017 |
| 11 | | 77351 | 76135 | 74764 | 73435 | 72145 | 70894 | 69676 | 68492 | 67340 | 66217 | 65123 | 64055 | 63013 | 61996 | 61000 |
| 12 | | 77347 | 76112 | 74742 | 73413 | 72123 | 70873 | 69656 | 68473 | 67321 | 66199 | 65105 | 64038 | 62996 | 61979 | 60983 |
| 13 | | 77343 | 76089 | 74719 | 73392 | 72101 | 70852 | 69636 | 68454 | 67302 | 66180 | 65087 | 64021 | 62979 | 61962 | 60966 |
| 14 | | 77339 | 76065 | 74697 | 73370 | 72080 | 70832 | 69616 | 68434 | 67283 | 66162 | 65069 | 64002 | 62962 | 61945 | 60949 |
| 15 | | 77335 | 76158 | 74787 | 73457 | 72167 | 70914 | 69696 | 68512 | 67359 | 66236 | 65141 | 64073 | 63030 | 62012 | 61017 |
| 16 | | 77331 | 76135 | 74764 | 73435 | 72145 | 70894 | 69676 | 68492 | 67340 | 66217 | 65123 | 64055 | 63013 | 61996 | 60999 |
| 17 | | 77327 | 76112 | 74742 | 73413 | 72123 | 70873 | 69656 | 68473 | 67321 | 66199 | 65105 | 64038 | 62996 | 61979 | 60982 |
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| 19 | | 77319 | 76065 | 74697 | 73370 | 72080 | 70832 | 69616 | 68434 | 67283 | 66162 | 65069 | 64002 | 62962 | 61945 | 60949 |
| 20 | | 77455 | 76158 | 74674 | 73348 | 72059 | 70811 | 69596 | 68415 | 67264 | 66143 | 65051 | 63985 | 62945 | 61929 | 60933 |
| 21 | | 77431 | 76135 | 74652 | 73326 | 72037 | 70791 | 69576 | 68395 | 67245 | 66125 | 65033 | 63967 | 62927 | 61912 | 60916 |
| 22 | | 77407 | 75996 | 74629 | 73305 | 72016 | 70770 | 69557 | 68376 | 67226 | 66106 | 65015 | 63950 | 62910 | 61895 | 60899 |
| 23 | | 77383 | 75973 | 74607 | 73283 | 71995 | 70750 | 69537 | 68356 | 67207 | 66088 | 64997 | 63932 | 62893 | 61878 | 60882 |
| 24 | | 77359 | 75950 | 74585 | 73261 | 71973 | 70729 | 69517 | 68337 | 67188 | 66070 | 64979 | 63915 | 62876 | 61862 | 60865 |
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| 26 | | 77311 | 75904 | 74540 | 73218 | 71935 | 70688 | 69477 | 68298 | 67151 | 66033 | 64943 | 63880 | 62842 | 61828 | 60831 |
| 27 | | 77287 | 75881 | 74517 | 73196 | 71914 | 70668 | 69457 | 68279 | 67132 | 66014 | 64925 | 63862 | 62825 | 61811 | 60815 |
| 28 | | 77264 | 75858 | 74495 | 73174 | 71893 | 70647 | 69437 | 68259 | 67113 | 65996 | 64907 | 63845 | 62808 | 61795 | 60798 |
| 29 | | 77240 | 75835 | 74473 | 73152 | 71871 | 70627 | 69417 | 68240 | 67094 | 65978 | 64889 | 63827 | 62791 | 61778 | 60782 |
| 30 | | 77216 | 75811 | 74450 | 73131 | 71850 | 70606 | 69397 | 68221 | 67075 | 65960 | 64871 | 63811 | 62774 | 61762 | 60765 |
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| 32 | | 77169 | 75765 | 74406 | 73087 | 71808 | 70565 | 69357 | 68182 | 67038 | 65923 | 64835 | 63777 | 62739 | 61728 | 60732 |
| 33 | | 77145 | 75742 | 74383 | 73066 | 71787 | 70545 | 69337 | 68163 | 67019 | 65904 | 64818 | 63759 | 62722 | 61712 | 60715 |
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| 36 | | 77074 | 75673 | 74317 | 73001 | 71724 | 70484 | 69278 | 68105 | 66961 | 65849 | 64764 | 63708 | 62671 | 61662 | 60665 |
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| 38 | | 77026 | 75627 | 74272 | 72958 | 71682 | 70443 | 69238 | 68067 | 66925 | 65813 | 64728 | 63674 | 62637 | 61628 | 60632 |
| 39 | | 77002 | 75604 | 74250 | 72936 | 71661 | 70423 | 69218 | 68047 | 66906 | 65794 | 64711 | 63657 | 62620 | 61612 | 60615 |
| 40 | | 76979 | 75581 | 74228 | 72915 | 71641 | 70403 | 69198 | 68028 | 66887 | 65776 | 64693 | 63640 | 62603 | 61595 | 60598 |
| 41 | | 76955 | 75559 | 74205 | 72893 | 71620 | 70382 | 69178 | 68009 | 66868 | 65758 | 64675 | 63623 | 62586 | 61579 | 60582 |
| 42 | | 76931 | 75536 | 74183 | 72872 | 71599 | 70362 | 69158 | 67989 | 66850 | 65739 | 64657 | 63606 | 62569 | 61562 | 60565 |
| 43 | | 76908 | 75513 | 74161 | 72850 | 71578 | 70342 | 69140 | 67970 | 66831 | 65721 | 64639 | 63589 | 62552 | 61545 | 60549 |
| 44 | | 76884 | 75490 | 74139 | 72829 | 71557 | 70321 | 69120 | 67951 | 66813 | 65703 | 64621 | 63572 | 62535 | 61529 | 60532 |
| 45 | | 76861 | 75467 | 74117 | 72807 | 71536 | 70301 | 69100 | 67932 | 66794 | 65685 | 64603 | 63555 | 62518 | 61512 | 60516 |
| 46 | | 76837 | 75444 | 74095 | 72786 | 71515 | 70281 | 69080 | 67912 | 66775 | 65667 | 64586 | 63538 | 62501 | 61496 | 60499 |
| 47 | | 76813 | 75421 | 74072 | 72765 | 71494 | 70260 | 69061 | 67893 | 66756 | 65648 | 64568 | 63521 | 62485 | 61479 | 60483 |
| 48 | | 76790 | 75398 | 74050 | 72743 | 71473 | 70240 | 69041 | 67874 | 66737 | 65630 | 64550 | 63504 | 62468 | 61463 | 60466 |
| 49 | | 76766 | 75376 | 74028 | 72722 | 71453 | 70220 | 69021 | 67855 | 66719 | 65612 | 64533 | 63487 | 62451 | 61446 | 60450 |
| 50 | | 76743 | 75353 | 74006 | 72701 | 71432 | 70200 | 69002 | 67836 | 66700 | 65594 | 64515 | 63470 | 62434 | 61429 | 60433 |
| 51 | | 76719 | 75330 | 73984 | 72680 | 71411 | 70179 | 68982 | 67816 | 66681 | 65575 | 64497 | 63453 | 62417 | 61413 | 60417 |
| 52 | | 76696 | 75307 | 73962 | 72658 | 71390 | 70159 | 68962 | 67797 | 66662 | 65557 | 64479 | 63436 | 62400 | 61396 | 60400 |
| 53 | | 76672 | 75284 | 73940 | 72637 | 71369 | 70139 | 68942 | 67778 | 66644 | 65539 | 64461 | 63419 | 62383 | 61380 | 60384 |
| 54 | | 76649 | 75261 | 73918 | 72616 | 71349 | 70119 | 68923 | 67758 | 66625 | 65521 | 64443 | 63402 | 62366 | 61363 | 60367 |
| 55 | | 76625 | 75238 | 73896 | 72595 | 71328 | 70099 | 68903 | 67740 | 66607 | 65503 | 64426 | 63385 | 62349 | 61347 | 60350 |
| 56 | | 76602 | 75215 | 73874 | 72573 | 71307 | 70078 | 68884 | 67721 | 66588 | 65485 | 64408 | 63368 | 62332 | 61330 | 60334 |
| 57 | | 76578 | 75192 | 73852 | 72552 | 71286 | 70058 | 68864 | 67702 | 66570 | 65466 | 64390 | 63351 | 62315 | 61314 | 60317 |
| 58 | | 76555 | 75169 | 73830 | 72531 | 71265 | 70038 | 68844 | 67682 | 66551 | 65448 | 64373 | 63334 | 62298 | 61297 | 60301 |
| 59 | | 76531 | 75146 | 73808 | 72509 | 71245 | 70018 | 68825 | 67663 | 66532 | 65430 | 64355 | 63317 | 62282 | 61281 | 60284 |
| 60 | | 76508 | 75123 | 73786 | 72488 | 71224 | 69998 | 68805 | 67644 | 66514 | 65412 | 64337 | 63300 | 62265 | 61264 | 60268 |
| 61 | | 76484 | 75100 | 73764 | 72467 | 71203 | 69977 | 68785 | 67625 | 66495 | 65394 | 64320 | 63283 | 62248 | 61248 | 60251 |
| 62 | | 76461 | 75077 | 73742 | 72445 | 71183 | 69957 | 68766 | 67606 | 66477 | 65376 | 64302 | 63266 | 62231 | 61231 | 60234 |
| 63 | | 76437 | 75054 | 73720 | 72424 | 71162 | 69937 | 68746 | 67587 | 66458 | 65357 | 64284 | 63249 | 62214 | 61215 | 60218 |
| 64 | | 76414 | 75031 | 73698 | 72403 | 71141 | 69917 | 68727 | 67568 | 66439 | 65339 | 64267 | 63232 | 62197 | 61198 | 60202 |

° Degrees, or o Hours.

| ′ | 46′ | 47′ | 48′ | 49′ | 50′ | 51′ | 52′ | 53′ | 54′ | 55′ | 56′ | 57′ | 58′ | 59′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | 59281 | 58817 | 58361 | 57913 | 57472 | 57039 | 56613 | 56194 | 55782 | 55377 | 54979 | 54587 | 54202 |
| 1 | | | 58813 | 58357 | 57909 | 57468 | 57035 | 56609 | 56190 | 55778 | 55373 | 54975 | 54583 | 54198 |
| 2 | | | 58809 | 58353 | 57905 | 57464 | 57031 | 56605 | 56186 | 55774 | 55369 | 54971 | 54579 | 54194 |
| 3 | | | 58805 | 58349 | 57901 | 57460 | 57027 | 56601 | 56182 | 55770 | 55365 | 54967 | 54575 | 54190 |
| 4 | | | 58801 | 58345 | 57897 | 57456 | 57023 | 56597 | 56178 | 55766 | 55361 | 54963 | 54571 | 54186 |
| 5 | | | 58797 | 58341 | 57893 | 57452 | 57019 | 56593 | 56174 | 55762 | 55357 | 54959 | 54567 | 54182 |
| 6 | | | 58793 | 58337 | 57889 | 57448 | 57015 | 56589 | 56170 | 55758 | 55353 | 54955 | 54563 | 54178 |
| 7 | | | 58789 | 58333 | 57885 | 57444 | 57011 | 56585 | 56166 | 55754 | 55349 | 54951 | 54559 | 54174 |
| 8 | | | 58785 | 58329 | 57881 | 57440 | 57007 | 56581 | 56162 | 55750 | 55345 | 54947 | 54555 | 54170 |
| 9 | 60061 | 59110 | 58781 | 58325 | 57877 | 57436 | 57003 | 56577 | 56158 | 55746 | 55341 | 54943 | 54551 | 54166 |
| 10 | | | 58777 | 58321 | 57873 | 57432 | 56999 | 56573 | 56154 | 55742 | 55337 | 54939 | 54547 | 54162 |
| 11 | | | 58773 | 58317 | 57869 | 57428 | 56995 | 56569 | 56150 | 55738 | 55333 | 54935 | 54543 | 54158 |
| 12 | | | 58769 | 58313 | 57865 | 57424 | 56991 | 56565 | 56146 | 55734 | 55329 | 54931 | 54539 | 54154 |
| 13 | | | 58765 | 58309 | 57861 | 57420 | 56987 | 56561 | 56142 | 55730 | 55325 | 54927 | 54535 | 54150 |
| 14 | | | 58761 | 58305 | 57857 | 57416 | 56983 | 56557 | 56138 | 55726 | 55321 | 54923 | 54531 | 54146 |
| 15 | | | 58757 | 58301 | 57853 | 57412 | 56979 | 56553 | 56134 | 55722 | 55317 | 54919 | 54527 | 54142 |
| 16 | | | 58753 | 58297 | 57849 | 57408 | 56975 | 56549 | 56130 | 55718 | 55313 | 54915 | 54523 | 54138 |
| 17 | | | 58749 | 58293 | 57845 | 57404 | 56971 | 56545 | 56126 | 55714 | 55309 | 54911 | 54519 | 54134 |
| 18 | | | 58745 | 58289 | 57841 | 57400 | 56967 | 56541 | 56122 | 55710 | 55305 | 54907 | 54515 | 54130 |
| 19 | | | 58741 | 58285 | 57837 | 57396 | 56963 | 56537 | 56118 | 55706 | 55301 | 54903 | 54511 | 54126 |
| 20 | | | 58737 | 58281 | 57833 | 57392 | 56959 | 56533 | 56114 | 55702 | 55297 | 54899 | 54507 | 54122 |
| 21 | | | 58733 | 58277 | 57829 | 57388 | 56955 | 56529 | 56110 | 55698 | 55293 | 54895 | 54503 | 54118 |
| 22 | | | 58729 | 58273 | 57825 | 57384 | 56951 | 56525 | 56106 | 55694 | 55289 | 54891 | 54499 | 54114 |
| 23 | | | 58725 | 58269 | 57821 | 57380 | 56947 | 56521 | 56102 | 55690 | 55285 | 54887 | 54495 | 54110 |
| 24 | | | 58721 | 58265 | 57817 | 57376 | 56943 | 56517 | 56098 | 55686 | 55281 | 54883 | 54491 | 54106 |
| 25 | | | 58717 | 58261 | 57813 | 57372 | 56939 | 56513 | 56094 | 55682 | 55277 | 54879 | 54487 | 54102 |
| 26 | | | 58713 | 58257 | 57809 | 57368 | 56935 | 56509 | 56090 | 55678 | 55273 | 54875 | 54483 | 54098 |
| 27 | | | 58709 | 58253 | 57805 | 57364 | 56931 | 56505 | 56086 | 55674 | 55269 | 54871 | 54479 | 54094 |
| 28 | | | 58705 | 58249 | 57801 | 57360 | 56927 | 56501 | 56082 | 55670 | 55265 | 54867 | 54475 | 54090 |
| 29 | | | 58701 | 58245 | 57797 | 57356 | 56923 | 56497 | 56078 | 55666 | 55261 | 54863 | 54471 | 54086 |
| 30 | | | 58697 | 58241 | 57793 | 57352 | 56919 | 56493 | 56074 | 55662 | 55257 | 54859 | 54467 | 54082 |
| 31 | | | 58693 | 58237 | 57789 | 57348 | 56915 | 56489 | 56070 | 55658 | 55253 | 54855 | 54463 | 54078 |
| 32 | | | 58689 | 58233 | 57785 | 57344 | 56911 | 56485 | 56066 | 55654 | 55249 | 54851 | 54459 | 54074 |
| 33 | | | 58685 | 58229 | 57781 | 57340 | 56907 | 56481 | 56062 | 55650 | 55245 | 54847 | 54455 | 54070 |
| 34 | | | 58681 | 58225 | 57777 | 57336 | 56903 | 56477 | 56058 | 55646 | 55241 | 54843 | 54451 | 54066 |
| 35 | | | 58677 | 58221 | 57773 | 57332 | 56899 | 56473 | 56054 | 55642 | 55237 | 54839 | 54447 | 54062 |
| 36 | | | 58673 | 58217 | 57769 | 57328 | 56895 | 56469 | 56050 | 55638 | 55233 | 54835 | 54443 | 54058 |
| 37 | | | 58669 | 58213 | 57765 | 57324 | 56891 | 56465 | 56046 | 55634 | 55229 | 54831 | 54439 | 54054 |
| 38 | | | 58665 | 58209 | 57761 | 57320 | 56887 | 56461 | 56042 | 55630 | 55225 | 54827 | 54435 | 54050 |
| 39 | | | 58661 | 58205 | 57757 | 57316 | 56883 | 56457 | 56038 | 55626 | 55221 | 54823 | 54431 | 54046 |
| 40 | | | 58657 | 58201 | 57753 | 57312 | 56879 | 56453 | 56034 | 55622 | 55217 | 54819 | 54427 | 54042 |
| 41 | | | 58653 | 58197 | 57749 | 57308 | 56875 | 56449 | 56030 | 55618 | 55213 | 54815 | 54423 | 54038 |
| 42 | | | 58649 | 58193 | 57745 | 57304 | 56871 | 56445 | 56026 | 55614 | 55209 | 54811 | 54419 | 54034 |
| 43 | | | 58645 | 58189 | 57741 | 57300 | 56867 | 56441 | 56022 | 55610 | 55205 | 54807 | 54415 | 54030 |
| 44 | | | 58641 | 58185 | 57737 | 57296 | 56863 | 56437 | 56018 | 55606 | 55201 | 54803 | 54411 | 54026 |
| 45 | | | 58637 | 58181 | 57733 | 57292 | 56859 | 56433 | 56014 | 55602 | 55197 | 54799 | 54407 | 54022 |
| 46 | | | 58633 | 58177 | 57729 | 57288 | 56855 | 56429 | 56010 | 55598 | 55193 | 54795 | 54403 | 54018 |
| 47 | | | 58629 | 58173 | 57725 | 57284 | 56851 | 56425 | 56006 | 55594 | 55189 | 54791 | 54399 | 54014 |
| 48 | | | 58625 | 58169 | 57721 | 57280 | 56847 | 56421 | 56002 | 55590 | 55185 | 54787 | 54395 | 54010 |
| 49 | | | 58621 | 58165 | 57717 | 57276 | 56843 | 56417 | 55998 | 55586 | 55181 | 54783 | 54391 | 54006 |
| 50 | | | 58617 | 58161 | 57713 | 57272 | 56839 | 56413 | 55994 | 55582 | 55177 | 54779 | 54387 | 54002 |
| 51 | | | 58613 | 58157 | 57709 | 57268 | 56835 | 56409 | 55990 | 55578 | 55173 | 54775 | 54383 | 53998 |
| 52 | | | 58609 | 58153 | 57705 | 57264 | 56831 | 56405 | 55986 | 55574 | 55169 | 54771 | 54379 | 53994 |
| 53 | | | 58605 | 58149 | 57701 | 57260 | 56827 | 56401 | 55982 | 55570 | 55165 | 54767 | 54375 | 53990 |
| 54 | | | 58601 | 58145 | 57697 | 57256 | 56823 | 56397 | 55978 | 55566 | 55161 | 54763 | 54371 | 53986 |
| 55 | | | 58597 | 58141 | 57693 | 57252 | 56819 | 56393 | 55974 | 55562 | 55157 | 54759 | 54367 | 53982 |
| 56 | | | 58593 | 58137 | 57689 | 57248 | 56815 | 56389 | 55970 | 55558 | 55153 | 54755 | 54363 | 53978 |
| 57 | | | 58589 | 58133 | 57685 | 57244 | 56811 | 56385 | 55966 | 55554 | 55149 | 54751 | 54359 | 53974 |
| 58 | | | 58585 | 58129 | 57681 | 57240 | 56807 | 56381 | 55962 | 55550 | 55145 | 54747 | 54355 | 53970 |
| 59 | | | 58581 | 58125 | 57677 | 57236 | 56803 | 56377 | 55958 | 55546 | 55141 | 54743 | 54351 | 53966 |
| 60 | | | 58577 | 58121 | 57673 | 57232 | 56799 | 56373 | 55954 | 55542 | 55137 | 54739 | 54347 | 53962 |

| | 1 Degree, or 1 Hour. | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ″ 0 | ″ 1 | ″ 2 | ″ 3 | ″ 4 | ″ 5 | ″ 6 | ″ 7 | ″ 8 | ″ 9 | ″ 10 | ″ 11 | ″ 12 | ″ 13 | ″ 14 |
| 0 | 47714 | 47044 | 46388 | 45593 | 44926 | 44236 | 43573 | 42926 | 42276 | 41642 | 41017 | 40401 | 39794 | 39196 | 38606 |
| 1 | 47700 | 46982 | 46276 | 45582 | 44898 | 44225 | 43562 | 42909 | 42266 | 41632 | 41007 | 40391 | 39784 | 39185 | 38595 |
| 2 | 47690 | 46971 | 46265 | 45571 | 44887 | 44214 | 43551 | 42899 | 42255 | 41621 | 40997 | 40381 | 39774 | 39175 | 38585 |
| 3 | 47676 | 46959 | 46253 | 45559 | 44875 | 44203 | 43540 | 42887 | 42244 | 41611 | 40986 | 40371 | 39764 | 39165 | 38575 |
| 4 | 47664 | 46947 | 46241 | 45547 | 44864 | 44191 | 43529 | 42877 | 42234 | 41600 | 40976 | 40361 | 39754 | 39155 | 38565 |
| 5 | 47652 | 46935 | 46230 | 45536 | 44853 | 44180 | 43518 | 42866 | 42223 | 41590 | 40966 | 40350 | 39744 | 39145 | 38555 |
| 6 | 47640 | 46923 | 46218 | 45524 | 44841 | 44169 | 43507 | 42855 | 42213 | 41579 | 40955 | 40340 | 39734 | 39136 | 38546 |
| 7 | 47628 | 46911 | 46206 | 45513 | 44830 | 44158 | 43496 | 42844 | 42202 | 41569 | 40945 | 40330 | 39724 | 39126 | 38536 |
| 8 | 47616 | 46899 | 46195 | 45501 | 44819 | 44147 | 43485 | 42833 | 42191 | 41559 | 40935 | 40320 | 39714 | 39116 | 38527 |
| 9 | 47604 | 46887 | 46183 | 45490 | 44808 | 44136 | 43474 | 42823 | 42181 | 41548 | 40924 | 40310 | 39704 | 39106 | 38517 |
| 10 | 47592 | 46876 | 46171 | 45478 | 44796 | 44125 | 43463 | 42812 | 42170 | 41538 | 40914 | 40300 | 39694 | 39096 | 38508 |
| 11 | 47580 | 46864 | 46159 | 45466 | 44785 | 44114 | 43452 | 42801 | 42159 | 41527 | 40904 | 40289 | 39684 | 39086 | 38498 |
| 12 | 47568 | 46852 | 46148 | 45454 | 44774 | 44102 | 43441 | 42789 | 42148 | 41517 | 40894 | 40279 | 39674 | 39077 | 38488 |
| 13 | 47556 | 46840 | 46136 | 45443 | 44762 | 44091 | 43430 | 42778 | 42137 | 41506 | 40883 | 40269 | 39664 | 39066 | 38479 |
| 14 | 47544 | 46828 | 46125 | 45433 | 44751 | 44080 | 43420 | 42769 | 42128 | 41496 | 40873 | 40259 | 39653 | 39056 | 38469 |
| 15 | 47532 | 46817 | 46113 | 45421 | 44740 | 44069 | 43409 | 42758 | 42117 | 41485 | 40863 | 40249 | 39643 | 39046 | 38459 |
| 16 | 47520 | 46805 | 46102 | 45410 | 44729 | 44058 | 43398 | 42747 | 42106 | 41475 | 40852 | 40239 | 39633 | 39037 | 38450 |
| 17 | 47508 | 46793 | 46090 | 45398 | 44717 | 44047 | 43387 | 42737 | 42096 | 41464 | 40842 | 40228 | 39623 | 39027 | 38440 |
| 18 | 47496 | 46781 | 46078 | 45387 | 44706 | 44036 | 43376 | 42726 | 42085 | 41454 | 40832 | 40218 | 39613 | 39017 | 38430 |
| 19 | 47484 | 46770 | 46067 | 45375 | 44695 | 44025 | 43365 | 42715 | 42075 | 41443 | 40821 | 40208 | 39603 | 39007 | 38420 |
| 20 | 47472 | 46758 | 46055 | 45364 | 44684 | 44014 | 43354 | 42704 | 42064 | 41433 | 40811 | 40198 | 39593 | 38997 | 38411 |
| 21 | 47460 | 46746 | 46044 | 45353 | 44672 | 44003 | 43343 | 42693 | 42053 | 41423 | 40801 | 40188 | 39583 | 38987 | 38401 |
| 22 | 47448 | 46734 | 46032 | 45341 | 44661 | 43992 | 43332 | 42683 | 42043 | 41412 | 40791 | 40178 | 39573 | 38977 | 38391 |
| 23 | 47436 | 46722 | 46020 | 45330 | 44650 | 43981 | 43321 | 42672 | 42032 | 41402 | 40780 | 40168 | 39563 | 38968 | 38382 |
| 24 | 47424 | 46710 | 46009 | 45318 | 44639 | 43969 | 43310 | 42661 | 42022 | 41391 | 40770 | 40157 | 39553 | 38958 | 38372 |
| 25 | 47412 | 46699 | 45997 | 45307 | 44627 | 43958 | 43300 | 42651 | 42011 | 41381 | 40760 | 40147 | 39543 | 38948 | 38362 |
| 26 | 47400 | 46687 | 45986 | 45295 | 44616 | 43947 | 43289 | 42640 | 42000 | 41370 | 40749 | 40137 | 39533 | 38938 | 38351 |
| 27 | 47388 | 46675 | 45974 | 45284 | 44605 | 43936 | 43278 | 42629 | 41990 | 41360 | 40739 | 40127 | 39523 | 38928 | 38341 |
| 28 | 47376 | 46663 | 45962 | 45273 | 44594 | 43925 | 43267 | 42618 | 41979 | 41350 | 40729 | 40117 | 39513 | 38918 | 38331 |
| 29 | 47364 | 46651 | 45951 | 45261 | 44582 | 43914 | 43256 | 42608 | 41969 | 41339 | 40718 | 40107 | 39503 | 38908 | 38321 |
| 30 | 47352 | 46640 | 45939 | 45250 | 44571 | 43903 | 43245 | 42597 | 41958 | 41329 | 40708 | 40097 | 39493 | 38899 | 38312 |
| 31 | 47340 | 46628 | 45928 | 45238 | 44560 | 43892 | 43234 | 42586 | 41948 | 41318 | 40698 | 40087 | 39483 | 38889 | 38302 |
| 32 | 47328 | 46616 | 45916 | 45227 | 44549 | 43881 | 43223 | 42575 | 41937 | 41308 | 40688 | 40076 | 39473 | 38879 | 38292 |
| 33 | 47316 | 46604 | 45905 | 45216 | 44538 | 43870 | 43212 | 42565 | 41927 | 41298 | 40678 | 40066 | 39464 | 38869 | 38282 |
| 34 | 47304 | 46593 | 45893 | 45204 | 44526 | 43859 | 43202 | 42554 | 41916 | 41287 | 40667 | 40056 | 39454 | 38859 | 38273 |
| 35 | 47292 | 46581 | 45881 | 45193 | 44515 | 43848 | 43191 | 42543 | 41905 | 41277 | 40657 | 40047 | 39444 | 38849 | 38263 |
| 36 | 47280 | 46569 | 45870 | 45182 | 44504 | 43837 | 43180 | 42533 | 41895 | 41266 | 40647 | 40037 | 39434 | 38839 | 38253 |
| 37 | 47268 | 46557 | 45858 | 45170 | 44493 | 43826 | 43169 | 42522 | 41884 | 41256 | 40637 | 40026 | 39424 | 38830 | 38244 |
| 38 | 47256 | 46546 | 45847 | 45159 | 44482 | 43815 | 43158 | 42511 | 41874 | 41246 | 40626 | 40016 | 39414 | 38820 | 38234 |
| 39 | 47244 | 46534 | 45835 | 45147 | 44470 | 43804 | 43147 | 42500 | 41863 | 41235 | 40616 | 40006 | 39404 | 38810 | 38224 |
| 40 | 47232 | 46522 | 45824 | 45136 | 44459 | 43793 | 43136 | 42490 | 41853 | 41225 | 40606 | 39996 | 39394 | 38800 | 38215 |
| 41 | 47220 | 46510 | 45812 | 45125 | 44448 | 43782 | 43126 | 42479 | 41842 | 41214 | 40596 | 39985 | 39384 | 38790 | 38205 |
| 42 | 47208 | 46499 | 45800 | 45113 | 44437 | 43771 | 43115 | 42468 | 41832 | 41204 | 40585 | 39975 | 39374 | 38781 | 38195 |
| 43 | 47196 | 46487 | 45789 | 45102 | 44426 | 43760 | 43104 | 42458 | 41821 | 41194 | 40575 | 39965 | 39364 | 38771 | 38186 |
| 44 | 47185 | 46475 | 45777 | 45091 | 44414 | 43749 | 43093 | 42447 | 41811 | 41183 | 40565 | 39955 | 39354 | 38761 | 38176 |
| 45 | 47173 | 46464 | 45766 | 45079 | 44403 | 43738 | 43082 | 42436 | 41800 | 41173 | 40555 | 39945 | 39344 | 38751 | 38166 |
| 46 | 47161 | 46452 | 45754 | 45068 | 44392 | 43727 | 43071 | 42426 | 41789 | 41162 | 40544 | 39935 | 39334 | 38741 | 38156 |
| 47 | 47149 | 46440 | 45743 | 45057 | 44381 | 43716 | 43060 | 42415 | 41779 | 41151 | 40534 | 39925 | 39324 | 38731 | 38147 |
| 48 | 47137 | 46428 | 45731 | 45045 | 44370 | 43705 | 43050 | 42404 | 41768 | 41142 | 40524 | 39915 | 39314 | 38722 | 38137 |
| 49 | 47125 | 46417 | 45720 | 45034 | 44359 | 43694 | 43039 | 42394 | 41758 | 41131 | 40514 | 39906 | 39304 | 38712 | 38127 |
| 50 | 47113 | 46405 | 45708 | 45022 | 44347 | 43683 | 43028 | 42383 | 41747 | 41121 | 40503 | 39895 | 39294 | 38702 | 38118 |
| 51 | 47101 | 46393 | 45697 | 45011 | 44336 | 43672 | 43017 | 42372 | 41737 | 41111 | 40493 | 39885 | 39284 | 38692 | 38108 |
| 52 | 47089 | 46382 | 45685 | 45000 | 44325 | 43661 | 43006 | 42362 | 41727 | 41100 | 40483 | 39874 | 39274 | 38682 | 38098 |
| 53 | 47077 | 46370 | 45674 | 44988 | 44314 | 43650 | 42995 | 42351 | 41716 | 41090 | 40473 | 39864 | 39264 | 38673 | 38089 |
| 54 | 47066 | 46358 | 45662 | 44977 | 44303 | 43639 | 42985 | 42340 | 41705 | 41079 | 40463 | 39854 | 39254 | 38663 | 38079 |
| 55 | 47054 | 46346 | 45651 | 44966 | 44292 | 43628 | 42974 | 42330 | 41695 | 41068 | 40453 | 39844 | 39245 | 38653 | 38069 |
| 56 | 47042 | 46335 | 45639 | 44955 | 44280 | 43617 | 42963 | 42319 | 41684 | 41058 | 40442 | 39834 | 39235 | 38643 | 38060 |
| 57 | 47030 | 46323 | 45628 | 44943 | 44269 | 43606 | 42952 | 42308 | 41674 | 41047 | 40432 | 39824 | 39225 | 38633 | 38050 |
| 58 | 47018 | 46311 | 45616 | 44932 | 44258 | 43595 | 42941 | 42298 | 41663 | 41038 | 40422 | 39814 | 39215 | 38624 | 38040 |
| 59 | 47006 | 46300 | 45605 | 44921 | 44247 | 43584 | 42931 | 42287 | 41653 | 41027 | 40412 | 39804 | 39205 | 38614 | 38030 |

1 Degree, or 1 Hour.

| s | m 15 | m 16 | m 17 | m 18 | m 19 | m 20 | m 21 | m 22 | m 23 | m 24 | m 25 | m 26 | m 27 | m 28 | m 29 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 6 | 37963 | 37389 | 36822 | 36262 | 35710 | 35164 | 34625 | 34093 | 33567 | 33048 | 32534 | 32027 | 31525 | 31030 | 30539 |
| 7 | 37954 | 37379 | 36812 | 36253 | 35700 | 35155 | 34616 | 34084 | 33558 | 33039 | 32526 | 32019 | 31517 | 31021 | 30531 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 12 | 37905 | 37332 | 36766 | 36207 | 35655 | 35110 | 34572 | 34040 | 33515 | 32996 | 32483 | 31977 | 31476 | 30980 | 30491 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 18 | 37848 | 37275 | 36709 | 36151 | 35600 | 35056 | 34518 | 33987 | 33463 | 32944 | 32432 | 31926 | 31426 | 30931 | 30442 |
| | | | | | | | | | | | | | | | |
| | | 37256 | 36691 | 36133 | 35582 | 35038 | 34500 | 33970 | 33445 | 32927 | 32415 | 31909 | 31409 | 30915 | 30426 |
| | | | | | | | | | | | | | | | |
| | | 37237 | 36672 | 36114 | 35563 | 35020 | 34483 | 33952 | 33428 | 32910 | 32398 | 31893 | 31393 | 30898 | 30410 |
| | | 37227 | 36663 | 36105 | 35554 | 35011 | 34474 | 33943 | 33419 | 32902 | 32390 | 31884 | 31384 | 30890 | 30402 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 27 | 37761 | 37189 | 36625 | 36068 | 35518 | 34975 | 34438 | 33908 | 33385 | 32867 | 32356 | 31851 | 31351 | 30857 | 30369 |
| 28 | 37752 | 37180 | 36616 | 36059 | 35509 | 34966 | 34429 | 33899 | 33376 | 32859 | 32348 | 31842 | 31343 | 30849 | 30361 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 32 | 37713 | 37142 | 36578 | 36022 | 35472 | 34930 | 34394 | 33864 | 33341 | 32824 | 32314 | 31809 | 31310 | 30817 | 30329 |
| 33 | 37704 | 37133 | 36569 | 36013 | 35463 | 34921 | 34385 | 33856 | 33333 | 32816 | 32305 | 31801 | 31302 | 30808 | 30321 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | 35967 | 35416 | 34876 | 34340 | 33812 | 33289 | 32773 | 32263 | 31759 | 31260 | 30768 | 30280 |
| | | | | 35957 | 35409 | 34867 | 34332 | 33803 | 33281 | 32765 | 32255 | 31750 | 31252 | 30759 | 30272 |
| | | | 36504 | 35948 | 35400 | 34858 | 34323 | 33794 | 33272 | 32756 | 32246 | 31742 | 31244 | 30751 | 30264 |
| 41 | | | 36494 | 35939 | 35391 | 34849 | 34314 | 33785 | 33263 | 32747 | 32238 | 31734 | 31236 | 30743 | 30256 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 44 | 37599 | 37029 | 36467 | 35911 | 35363 | 34822 | 34287 | 33759 | 33237 | 32722 | 32212 | 31709 | 31211 | 30718 | 30232 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 51 | 37532 | 36965 | 36401 | 35847 | 35300 | 34759 | 34225 | 33698 | 33177 | 32662 | 32153 | 31650 | 31153 | 30662 | 30175 |
| | | | | | | | | | | | | | | | |
| 53 | 37513 | 36944 | 36383 | 35829 | 35282 | 34741 | 34208 | 33681 | 33160 | 32645 | 32136 | 31634 | 31137 | 30645 | 30159 |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| 57 | 37474 | 36906 | 36340 | 35792 | 35245 | 34706 | 34172 | 33646 | 33125 | 32611 | 32103 | 31600 | 31104 | 30613 | 30127 |
| | | | | | | | | | | | | | | | |
| 59 | 37455 | 36888 | 36327 | 35774 | 35227 | 34688 | 34155 | 33628 | 33108 | 32594 | 32086 | 31584 | 31087 | 30596 | 30111 |

1 Degree, or 1 Hour.

| ′ | 0′ | 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ | 13′ | 14′ | 15′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 1 | [illegible] | [illegible]3 | 29148 | [illegible] | [illegible] | [illegible]55 | 27[illegible] | [illegible] | 26405 | [illegible] | 25527 | 25005 | [illegible] | [illegible] | 2[illegible] | 2[illegible] |
| 2 | [illegible] | [illegible]5 | 29141 | [illegible] | [illegible] | [illegible]47 | 27[illegible] | [illegible] | 26397 | [illegible] | 25[illegible] | 25000 | 24666 | [illegible] | 2[illegible] | 2[illegible] |
| 3 | [illegible] | [illegible] | 29133 | 28665 | 28199 | [illegible]40 | 27[illegible] | [illegible] | 26390 | [illegible] | [illegible] | 25[illegible]1 | 24653 | [illegible] | 2[illegible] | 2[illegible] |
| 4 | [illegible] | 29599 | 29125 | 28656 | 28191 | [illegible]32 | 27[illegible] | [illegible] | 26382 | [illegible] | 25[illegible] | 25[illegible]4 | [illegible] | [illegible] | 2[illegible] | 2[illegible] |
| 5 | [illegible] | 29591 | 29117 | 28648 | 28184 | 7.24 | 27[illegible] | [illegible] | 26375 | [illegible] | [illegible] | 25[illegible]6 | 24639 | [illegible] | 2[illegible] | 2[illegible] |
| 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 27717 | [illegible] | [illegible] | 26368 | [illegible] | 25427 | [illegible] | [illegible] | [illegible] | [illegible] | 23[illegible] |
| 6 | [illegible] | 29575 | 29101 | 28632 | 28168 | 27709 | [illegible] | [illegible] | 26360 | [illegible] | [illegible] | [illegible] | 24625 | [illegible] | [illegible] | 23[illegible] |
| 7 | [illegible] | 29567 | 29093 | 28625 | 28161 | 27702 | [illegible] | [illegible] | 26353 | [illegible] | 25477 | [illegible] | 24618 | [illegible] | [illegible] | 23775 |
| 8 | [illegible] | 29560 | 29086 | 28617 | [illegible] | 27694 | [illegible] | [illegible] | 26346 | [illegible] | [illegible] | [illegible] | 24610 | [illegible] | [illegible] | 23768 |
| 9 | [illegible] | 29552 | 29078 | 28609 | [illegible] | 27686 | [illegible] | [illegible] | 26338 | [illegible] | [illegible] | [illegible] | 24603 | [illegible] | [illegible] | 23761 |
| 10 | [illegible] | 29544 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26331 | [illegible] | [illegible] | [illegible] | 24596 | [illegible] | [illegible] | 23754 |
| 11 | [illegible] | 29536 | 29062 | 28593 | [illegible] | [illegible] | [illegible] | [illegible] | 26323 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 23747 |
| 12 | [illegible] | 29529 | 29054 | 28586 | [illegible] | [illegible] | [illegible] | [illegible] | 26316 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 23740 |
| 13 | [illegible] | 29521 | 29046 | 28578 | [illegible] | [illegible] | [illegible] | [illegible] | 26309 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 23733 |
| 14 | [illegible] | 29513 | 29038 | 28570 | [illegible] | [illegible] | [illegible] | [illegible] | 26301 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 23726 |
| 15 | [illegible] | 29504 | 29031 | 28562 | [illegible] | [illegible] | 27187 | [illegible] | [illegible] | 25854 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 23720 |
| 16 | [illegible] | 29496 | 29023 | 28555 | [illegible] | [illegible] | 27180 | [illegible] | [illegible] | 25847 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 23713 |
| 17 | [illegible] | 29488 | 29015 | 28547 | [illegible] | [illegible] | 27172 | [illegible] | [illegible] | 25839 | [illegible] | [illegible] | 24974 | [illegible] | [illegible] | 23706 |
| 18 | 29958 | 29480 | 29007 | 28539 | [illegible] | [illegible] | 27165 | [illegible] | [illegible] | 25832 | [illegible] | [illegible] | 24966 | [illegible] | [illegible] | [illegible] |
| 19 | 29950 | 29472 | 28999 | 28531 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 25825 | [illegible] | [illegible] | 24959 | [illegible] | [illegible] | [illegible] |
| 20 | 29942 | 29464 | 28991 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26357 | [illegible] | [illegible] | [illegible] | 24952 | [illegible] | [illegible] | 23685 |
| 21 | 29934 | 29456 | 28984 | [illegible] | [illegible] | [illegible] | 26694 | [illegible] | [illegible] | [illegible] | 25376 | 24945 | [illegible] | [illegible] | [illegible] | 23678 |
| 22 | 29926 | 29448 | 28976 | 28508 | [illegible] | [illegible] | 26686 | [illegible] | [illegible] | [illegible] | 25368 | 24938 | [illegible] | [illegible] | [illegible] | 23671 |
| 23 | 29918 | 29441 | 28968 | 28500 | [illegible] | [illegible] | 26679 | [illegible] | [illegible] | 25796 | 25361 | 24931 | [illegible] | [illegible] | [illegible] | 23664 |
| 24 | 29910 | 29433 | 28960 | 28493 | 28030 | [illegible] | 26671 | [illegible] | [illegible] | 25788 | 25354 | 24923 | [illegible] | [illegible] | [illegible] | 23657 |
| 25 | 29902 | 29425 | 28952 | 28485 | 28022 | [illegible] | 27112 | 26664 | [illegible] | [illegible] | 25781 | 25347 | 24916 | 24490 | [illegible] | 23650 |
| 26 | 29894 | 29417 | 28944 | 28477 | 28015 | 27553 | 27105 | 26656 | [illegible] | [illegible] | 25774 | 25339 | 24909 | 24483 | [illegible] | 23643 |
| 27 | 29886 | 29409 | 28937 | 28469 | 28007 | [illegible] | 27097 | 26649 | 26206 | 25767 | 25332 | 24902 | 24476 | [illegible] | [illegible] | 23636 |
| 28 | 29878 | 29401 | 28929 | 28462 | 27999 | 27544 | 27090 | 26642 | 26198 | [illegible] | 25325 | 24895 | 24469 | [illegible] | [illegible] | 23629 |
| [illegible] | [illegible] | 29393 | 28921 | 28454 | 27992 | [illegible] | [illegible] | 26634 | 26191 | [illegible] | 25318 | 24888 | 24462 | [illegible] | [illegible] | 23623 |
| [illegible] | [illegible] | 29385 | 28913 | 28446 | 27984 | [illegible] | [illegible] | [illegible] | 26184 | 25745 | 25311 | 24881 | 24455 | [illegible] | [illegible] | [illegible] |
| 31 | [illegible] | 29377 | 28905 | 28438 | 27976 | [illegible] | [illegible] | [illegible] | 26176 | 25738 | 25303 | 24874 | 24448 | [illegible] | [illegible] | [illegible] |
| 32 | [illegible] | 29369 | 28897 | 28431 | 27969 | [illegible] | [illegible] | [illegible] | 26169 | 25730 | 25296 | 24866 | 24441 | [illegible] | [illegible] | [illegible] |
| 33 | [illegible] | 29361 | 28890 | 28423 | 27961 | [illegible] | [illegible] | [illegible] | 26162 | 25723 | 25288 | 24859 | 24434 | [illegible] | [illegible] | [illegible] |
| 34 | [illegible] | 29354 | 28882 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26154 | 25716 | 25281 | 24852 | 24427 | [illegible] | [illegible] | [illegible] |
| 35 | [illegible] | 29346 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26147 | 25709 | 25275 | [illegible] | 24420 | [illegible] | [illegible] | [illegible] |
| 36 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26140 | 25701 | 25267 | [illegible] | 24413 | [illegible] | [illegible] | [illegible] |
| 37 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26132 | 25694 | 25260 | [illegible] | 24405 | [illegible] | [illegible] | [illegible] |
| 38 | 29798 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26125 | 25687 | 25253 | [illegible] | 24398 | [illegible] | [illegible] | [illegible] |
| 39 | 29790 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26118 | 25680 | 25246 | [illegible] | 24391 | [illegible] | [illegible] | [illegible] |
| 40 | 29782 | 29306 | 28835 | 28369 | 27908 | [illegible] | [illegible] | 26553 | 26110 | 25672 | 25239 | [illegible] | 24384 | [illegible] | [illegible] | [illegible] |
| 41 | 29775 | 29298 | 28827 | 28361 | 27900 | 27444 | 26992 | 26545 | 26103 | 25665 | 25231 | [illegible] | 24377 | [illegible] | [illegible] | [illegible] |
| 42 | 29767 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26985 | 26538 | 26096 | 25658 | 25224 | [illegible] | 24370 | [illegible] | [illegible] | [illegible] |
| 43 | 29759 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26977 | 26530 | 26088 | 25650 | 25217 | [illegible] | 24363 | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26970 | 26523 | 26081 | 25643 | 25210 | [illegible] | 24356 | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26962 | 26516 | 26074 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26955 | 26508 | 26066 | [illegible] | [illegible] | [illegible] | 24342 | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26947 | 26501 | 26059 | [illegible] | [illegible] | [illegible] | 24335 | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26940 | 26493 | 26052 | [illegible] | [illegible] | [illegible] | 24328 | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26932 | 26486 | 26044 | [illegible] | [illegible] | [illegible] | 24321 | [illegible] | [illegible] | [illegible] |
| 50 | [illegible] | [illegible] | [illegible] | 8292 | [illegible] | 27337 | 26925 | 26479 | 26037 | [illegible] | [illegible] | [illegible] | 24314 | [illegible] | [illegible] | [illegible] |
| 51 | 29695 | [illegible] | [illegible] | 8284 | [illegible] | 27329 | 26917 | 26471 | 26030 | [illegible] | [illegible] | [illegible] | 24307 | [illegible] | [illegible] | [illegible] |
| 52 | 29687 | [illegible] | [illegible] | 8276 | [illegible] | 27321 | 26910 | 26464 | [illegible] | [illegible] | [illegible] | [illegible] | 24300 | [illegible] | [illegible] | [illegible] |
| 53 | 29679 | [illegible] | [illegible] | 8268 | [illegible] | 27313 | 26902 | 26456 | [illegible] | [illegible] | [illegible] | [illegible] | 24293 | [illegible] | [illegible] | [illegible] |
| 54 | 29671 | [illegible] | [illegible] | 8261 | [illegible] | 27305 | 26895 | 26449 | [illegible] | [illegible] | [illegible] | [illegible] | 24286 | [illegible] | [illegible] | [illegible] |
| 55 | 29663 | [illegible] | [illegible] | 8253 | [illegible] | 27298 | 26887 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24279 | [illegible] | [illegible] | [illegible] |
| 56 | 29655 | [illegible] | [illegible] | 8245 | [illegible] | 27290 | 26880 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24272 | [illegible] | [illegible] | [illegible] |
| 57 | 29647 | [illegible] | [illegible] | 8238 | [illegible] | 27282 | 26872 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24265 | [illegible] | [illegible] | [illegible] |
| 58 | 29639 | [illegible] | [illegible] | 8230 | [illegible] | 27274 | 26865 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24258 | [illegible] | [illegible] | [illegible] |
| 59 | 29631 | [illegible] | [illegible] | 8222 | [illegible] | 27267 | 26858 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24250 | [illegible] | [illegible] | [illegible] |

1 Degree, or 1 Hour.

| m 45 | m 46 | m 47 | m 48 | m 49 | m 50 | m 51 | m 52 | m 53 | m 54 | m 55 | m 56 | m 57 | m 58 | m 59 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 23408 | 22997 | 22589 | 22185 | 21785 | 21388 | 20995 | 20605 | 20219 | 19837 | 19457 | 19081 | 18710 | 18339 | 17973 |
| 23401 | 22990 | 22582 | 22178 | 21778 | 21381 | 20988 | 20599 | 20213 | 19830 | 19451 | 19075 | 18702 | 18333 | 17966 |
| 23395 | 22983 | 22575 | 22171 | 21771 | 21375 | 20982 | 20593 | 20207 | 19824 | 19445 | 19069 | 18696 | 18327 | 17960 |
| [illegible] | | | | | | | | | | | | | | |
| [illegible] | | | | | | | | | | | | | | |
| 23365 | 22956 | 22548 | 22145 | 21745 | 21350 | 20956 | 20567 | 20181 | 19796 | 19420 | 19044 | 18672 | 18302 | [illegible] |
| [illegible] | | | | | | | | | | | | | | |
| 23353 | 22942 | 22535 | 22131 | 21732 | 21335 | 20943 | 20554 | 20168 | 19786 | 19407 | 19032 | 18659 | 18290 | 17924 |
| [illegible] | | | | | | | 20547 | 20162 | 19780 | 19401 | 19025 | 18653 | 18284 | 17918 |
| [illegible] | | | | | | | | | | | | | | |
| [illegible] | | | | | | | | | | | | | | |
| [illegible] | | | | | | | | | | | | | | |
| [illegible] | | | | | | | | | | | | | | |
| [illegible] | | | | | | | | | | | | 18994 | 18622 | 18253 | 17887 |
| [illegible] | | | | | | | | | | | | | | |
| [illegible] | | | | | | | | | | | | | 18610 | 18241 | 17875 |
| [illegible] | | | | | | | | | | | | 18976 | 18604 | 18235 | 17869 |
| [illegible] | | | 22467 | 22064 | 21665 | 21270 | 20878 | 20489 | 20104 | 19723 | 19344 | 18969 | 18597 | 18229 | 17863 |
| [illegible] | | | | | | | | | | | | | | | |
| [illegible] | | | | | | | | | | | | | | | |
| [illegible] | | | 22440 | 22038 | 21639 | 21243 | 20852 | 20464 | 20079 | 19697 | 19319 | 18944 | 18573 | 18204 | 17839 |
| [illegible] | | | 22424 | 22021 | 21622 | 21227 | 20845 | 20457 | 20072 | 19691 | 19313 | 18936 | 18567 | 18198 | 17833 |
| [illegible] | | | | | | | | | | | | | | | |
| [illegible] | | | | | | | | | | | | | | | |
| [illegible] | | | | | | | | | | | | | 18020 | 18548 | 18180 | 17815 |
| [illegible] | | | | | | | | | | | | | 18913 | 18542 | 18174 | 17809 |
| [illegible] | | | | | | 21204 | 20813 | 20425 | 20040 | 19659 | 19282 | 18907 | 18536 | 18168 | 17803 |
| [illegible] | | | 22393 | 21991 | 21592 | 21198 | 20806 | 20418 | 20034 | 19653 | 19275 | 18901 | 18530 | 18162 | 17797 |
| [illegible] | | | 22386 | 21984 | 21586 | 21191 | 20800 | 20412 | 20028 | 19647 | 19269 | 18895 | 18523 | 18155 | 17790 |
| [illegible] | | | 22380 | 21978 | 21579 | 21184 | 20793 | 20406 | 20021 | 19640 | 19263 | 18888 | 18517 | 18149 | 17784 |
| [illegible] | | | 22373 | 21971 | 21573 | 21178 | 20787 | 20399 | 20015 | 19634 | [illegible] | | | | |
| [illegible] | | | 22366 | 21964 | 21566 | 21171 | 20780 | 20393 | 20009 | 19628 | 19250 | 18876 | 18505 | 18137 | 17772 |
| [illegible] | | | 22359 | 21958 | 21559 | 21165 | 20774 | 20386 | 20002 | 19621 | 19244 | 18870 | 18499 | 18131 | 17766 |
| [illegible] | | | 22353 | 21951 | 21553 | 21158 | 20767 | 20380 | 19996 | 19615 | 19238 | 18864 | 18493 | 18125 | 17760 |
| [illegible] | | | 22346 | 21944 | 21546 | 21152 | 20761 | 20373 | 19989 | 19609 | 19231 | 18857 | 18487 | 18119 | 17754 |
| [illegible] | | | 22339 | 21938 | 21540 | 21145 | 20754 | 20367 | 19983 | 19602 | 19225 | 18851 | 18480 | 18113 | 17748 |
| [illegible] | | | 22333 | 21931 | 21533 | 21139 | 20748 | 20361 | 19977 | 19596 | 19219 | 18845 | 18474 | 18107 | 17742 |
| [illegible] | | | 22326 | 21924 | 21526 | 21132 | 20741 | 20354 | 19970 | 19590 | 19213 | 18839 | 18468 | 18100 | 17736 |
| [illegible] | | | | 21918 | 21520 | 21126 | 20735 | 20348 | 19964 | [illegible] | | | | | |
| [illegible] | | | | | 21513 | 21119 | 20728 | 20341 | 19958 | 19577 | 19200 | 18826 | 18456 | 18088 | 17724 |
| [illegible] | | | | | | 21113 | 20722 | 20335 | 19951 | 19571 | 19194 | 18820 | 18450 | 18082 | 17718 |
| [illegible] | | | | | | | 20715 | 20328 | 19945 | 19565 | 19188 | 18814 | 18443 | 18076 | 17712 |
| [illegible] | | | | | | | 20709 | 20322 | 19938 | 19558 | 19181 | 18808 | 18437 | 18070 | 17706 |
| [illegible] | | | | | | | | | 19932 | 19552 | 19175 | 18802 | 18431 | 18064 | 17700 |
| [illegible] | | | | | | | | | 19926 | 19546 | 19169 | 18795 | 18425 | 18058 | 17694 |
| [illegible] | | | | | | | | | 19919 | 19539 | 19163 | 18789 | 18419 | 18052 | 17688 |
| [illegible] | | | | | | | | | 19913 | 19533 | 19156 | 18783 | 18413 | 18046 | 17682 |
| [illegible] | | | | | | | | | | | 19150 | [illegible] | | | |
| [illegible] | | | | | | | | | | | 19144 | [illegible] | | | |
| [illegible] | | | | | | | | | | | [illegible] | | | | |
| [illegible] | | | | | | | | | | | [illegible] | | | | |
| [illegible] | | | | | | | | | | | [illegible] | | | | |
| [illegible] | | | | | | | | | | | [illegible] | | | | |
| [illegible] | | | | | | | | | | | [illegible] | | | | |
| 23024 | 22616 | 22212 | 21811 | 21414 | 21021 | 20631 | 20245 | 19862 | 19483 | [illegible] | | | | |
| 23017 | 22609 | 22205 | 21805 | 21408 | 21015 | 20625 | 20239 | 19856 | 19476 | [illegible] | | | | |
| 23010 | 22602 | 22198 | 21798 | 21401 | 21008 | 20618 | 20232 | 19849 | 19470 | 19094 | 18721 | 18351 | 17985 | 17621 |
| 23003 | 22596 | 22192 | 21791 | 21395 | 21001 | 20612 | 20226 | 19843 | 19464 | 19088 | 18715 | 18345 | 17976 | 17615 |

2 Degrees, or 2 Hours.

| ′ | ″ 0 | ″ 1 | ″ 2 | ″ 3 | ″ 4 | ″ 5 | ″ 6 | ″ 7 | ″ 8 | ″ 9 | ″ 10 | ″ 11 | ″ 12 | ″ 13 | ″ 14 | ″ 15 | ″ 16 | ″ 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 17609 | 17249 | 16891 | 16537 | [illegible] | [illegible] | [illegible] | 15147 | [illegible] | 14468 | 14133 | 13800 | 13470 | 13142 | [illegible] | 12464 | 12133 | 11855 |
| | [illegible] | [illegible] | [illegible] | [illegible] | 16179 | [illegible] | [illegible] | 15141 | 14801 | 14463 | 14127 | 13795 | 13464 | 13137 | [illegible] | [illegible] | [illegible] | 11850 |
| | 17597 | 17237 | 16879 | 16525 | 16173 | 15825 | [illegible] | 15135 | 14795 | 14457 | 14122 | 13789 | 13459 | 13131 | 12806 | 12483 | 12163 | 11845 |
| | 17591 | 17231 | 16873 | 16519 | 16168 | 15819 | 15473 | 15130 | 14789 | 14451 | 14116 | 13784 | [illegible] | [illegible] | 12801 | 12478 | 12157 | 11839 |
| 4 | 17585 | 17225 | 16868 | 16513 | 16162 | 15813 | 15467 | 15124 | 14784 | 14446 | [illegible] | 13778 | 13448 | 13120 | 12795 | 12472 | 12152 | 11834 |
| | [illegible] | 17219 | 16862 | 16507 | 16156 | 15807 | 15461 | 15118 | 14778 | 14440 | 14105 | 13773 | 13442 | 13115 | 12790 | 12467 | 12147 | 11829 |
| | [illegible] | 17213 | 16856 | 16501 | 16150 | 15802 | 15456 | 15113 | 14772 | 14435 | [illegible] | 13767 | 13437 | [illegible] | [illegible] | 12462 | 12141 | 11824 |
| 7 | [illegible] | [illegible] | [illegible] | [illegible] | 16144 | 15796 | 15450 | 15107 | 14767 | 14429 | 14094 | 13761 | 13431 | 13104 | 12779 | 12456 | 12136 | 11818 |
| 8 | 17561 | 17201 | 16844 | 16490 | 16138 | 15790 | 15444 | [illegible] | [illegible] | 14423 | 14088 | 13756 | 13426 | 13099 | 12774 | 12451 | 12131 | 11813 |
| 9 | 17555 | 17195 | 16838 | 16484 | 16133 | 15784 | 15439 | 15096 | 14755 | [illegible] | 14083 | 13750 | 13421 | 13093 | 12768 | 12446 | 12125 | 11808 |
| 10 | 17549 | 17189 | 16832 | 16478 | 16127 | 15778 | 15433 | 15090 | 14750 | [illegible] | [illegible] | 13745 | 13415 | 13088 | 12763 | 12440 | 12120 | 11802 |
| 11 | 17543 | 17183 | 16826 | 16472 | 16121 | 15773 | 15427 | 15084 | 14744 | 14407 | 14072 | 13739 | [illegible] | 13082 | 12757 | 12435 | 12115 | 11797 |
| 12 | 17537 | 17177 | 16820 | 16466 | 16115 | 15767 | 15421 | 15079 | 14738 | 14401 | 14066 | 13734 | 13404 | 13077 | 12752 | 12430 | 12110 | 11792 |
| 13 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 14395 | 14061 | 13728 | [illegible] | 13071 | 12747 | 12424 | 12104 | 11787 |
| 14 | 17525 | 17165 | 16808 | 16454 | 16103 | 15755 | 15410 | 15067 | 14727 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 17519 | 17159 | 16802 | 16449 | 16098 | 15749 | 15404 | 15061 | 14722 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | 17513 | 17153 | 16796 | 16443 | 16092 | 15744 | 15398 | 15056 | 14716 | 14379 | 14044 | 13712 | 13382 | 13055 | 12730 | 12408 | 12088 | 11771 |
| 17 | 17507 | 17147 | 16791 | 16437 | 16086 | 15738 | 15393 | 15050 | 14710 | 14373 | 14038 | 13706 | 13377 | 13050 | 12725 | 12403 | 12083 | 11766 |
| 18 | 17501 | 17141 | 16785 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 14367 | 14033 | 13701 | 13371 | [illegible] | [illegible] | 12397 | 12078 | 11760 |
| 19 | 17495 | 17135 | 16779 | 16425 | 16074 | 15726 | 15381 | 15039 | 14699 | 14362 | 14027 | 13695 | 13366 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | [illegible] | [illegible] | [illegible] | [illegible] | 16068 | 15721 | 15375 | 15033 | 14693 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12387 | [illegible] |
| 21 | 17483 | 17123 | 16767 | 16413 | 16063 | 15715 | 15370 | 15027 | 14688 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12381 | 12062 |
| 22 | 17477 | 17117 | 16761 | 16407 | 16057 | 15709 | 15364 | 15022 | 14682 | 14345 | 14011 | 13679 | 13349 | [illegible] | [illegible] | [illegible] | 12376 | 12056 |
| 23 | 17471 | 17111 | 16755 | 16402 | 16051 | 15703 | 15358 | 15016 | 14676 | 14339 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12371 | [illegible] |
| 24 | 17465 | 17105 | 16749 | 16396 | 16045 | 15697 | 15353 | 15010 | 14671 | 14334 | 13999 | 13668 | 13338 | 13012 | 12687 | [illegible] | 12046 | [illegible] |
| 25 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12682 | [illegible] | [illegible] | 12041 |
| 26 | 17453 | [illegible] | 16737 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12677 | [illegible] | [illegible] | [illegible] |
| 27 | 17447 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12671 | [illegible] | 12030 | [illegible] |
| 28 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12666 | 12344 | 12025 | [illegible] |
| 29 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12660 | 12339 | 12019 | 11702 |
| 30 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12014 | 11697 |
| 31 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12009 | 11692 |
| 32 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 11998 | 11681 |
| 34 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 11676 |
| 35 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 37 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 38 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 39 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 44 | [illegible] | [illegible] | 16992 | 16637 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | 16986 | 16631 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 45 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 46 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 47 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 49 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 60 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
|

2 Degrees, or 2 Hours.

| ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m | m |
| | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 |
| 0 | 11553 | 11226 | 10914 | 10605 | 10208 | 0001 | 0601 | 0300 | 0002 | 8706 | 8501 | 8200 | 7018 | 7630 | 7343 | 7058 | 6775 | 6404 | 6215 | 5037 | 5662 |
| 1 | 11534 | 11221 | 10909 | 10600 | 10293 | 9989 | 9686 | 9385 | 9087 | 8791 | 8496 | 8204 | 7913 | 7625 | 7338 | 7053 | 6770 | 6489 | 6210 | 5933 | 5657 |
| 2 | 11529 | 11215 | 10904 | 10595 | 10288 | 9984 | 9681 | 9380 | 9082 | 8786 | 8491 | 8199 | 7908 | 7620 | 7333 | 7049 | 6766 | 6485 | 6206 | 5928 | 5652 |
| 3 | 11524 | [illegible] | | | | | | | | | | | | | | | | | | | |
| 4 | 11518 | 11205 | 10894 | 10585 | 10278 | 9973 | 9671 | 9370 | 9072 | 8776 | 8482 | 8189 | 7899 | 7610 | 7324 | 7039 | 6756 | 6475 | 6196 | 5919 | 5643 |
| 5 | 11513 | [illegible] | | | | | | | | | | | | | | | | | | | |
| 6 | 11508 | 11196 | 10885 | [illegible] | | | | | | | | | | | | | | | | | |
| 7 | 11503 | 11188 | 10878 | [illegible] | | | | | | | | | | | | | | | | | |
| 8 | 11497 | 11184 | 10873 | [illegible] | | | | | | | | | | | | | | | | | |
| 9 | 11492 | 11179 | 10868 | 10559 | 10253 | 9948 | 9646 | 9346 | 9047 | 8751 | 8457 | 8165 | 7875 | 7586 | 7300 | 7016 | 6733 | 6452 | 6173 | 5896 | 5620 |
| 10 | 11487 | 11174 | 10863 | [illegible] | | | | | | | | | | | | | | | | | |
| 11 | 11482 | 11168 | 10858 | 10549 | 10242 | 9938 | [illegible] | | | | | | | | | | | | | | |
| 12 | 11476 | 11163 | 10853 | 10541 | 10237 | 9933 | [illegible] | | | | | | | | | | | | | | |
| 13 | 11471 | 11158 | 10847 | 10539 | 10232 | 9928 | 9626 | 9326 | 9028 | 8732 | 8438 | 8146 | 7855 | 7567 | 7281 | 6997 | 6714 | 6433 | 6155 | 5877 | 5602 |
| 14 | 11466 | 11153 | 10842 | 10534 | 10227 | 9923 | 9621 | 9321 | 9023 | 8727 | 8433 | 8141 | 7851 | 7562 | 7276 | 6992 | 6709 | 6429 | 6150 | 5873 | 5597 |
| 15 | 11461 | 11148 | 10837 | [illegible] | | | | | | | | | | | | | | | | | |
| 16 | 11456 | 11143 | 10832 | 10523 | 10217 | 9913 | 9611 | 9311 | 9013 | 8717 | 8423 | 8131 | 7841 | 7553 | 7267 | 6982 | 6700 | 6419 | 6141 | 5864 | 5588 |
| 17 | 11450 | 11137 | 10827 | 10518 | 10212 | 9908 | 9606 | 9306 | 9008 | 8712 | 8418 | 8126 | 7836 | 7548 | 7262 | 6978 | 6695 | 6415 | 6136 | 5859 | 5584 |
| 18 | 11445 | 11132 | [illegible] | | | | | | | | | | | | | | | | | | |
| 19 | 11440 | 11127 | [illegible] | | | | | | | | | | | | | | | | | | |
| 20 | 11435 | 11122 | [illegible] | | | | | | | | | | | | | | | | | | |
| 21 | 11429 | 11117 | [illegible] | | | | | | | | | | | | | | | | | | |
| 22 | 11424 | 11111 | [illegible] | | | | | | | | | | | | | | | | | | |
| 23 | 11419 | 11106 | [illegible] | | | | | | | | | | | | | | | | | | |
| 24 | 11414 | 11101 | [illegible] | | | | | | | | | | | | | | | | | | |
| 25 | 11408 | 11096 | [illegible] | | | | | | | | | | | | | | | | | | |
| 26 | 11403 | 11091 | [illegible] | | | | | | | | | | | | | | | | | | |
| 27 | 11398 | 11086 | [illegible] | | | | | | | | | | | | | | | | | | |
| 28 | 11393 | 11080 | [illegible] | | | | | | | | | | | | | | | | | | |
| 29 | 11387 | 11075 | [illegible] | | | | | | | | | | | | | | | | | | |
| 30 | 11382 | 11070 | [illegible] | | | | | | | | | | | | | | | | | | |
| 31 | 11377 | 11065 | [illegible] | | | | | | | | | | | | | | | | | | |
| 32 | 11372 | 11059 | [illegible] | | | | | | | | | | | | | | | | | | |
| 33 | 11367 | 11054 | [illegible] | | | | | | | | | | | | | | | | | | |
| 34 | 11361 | 11049 | [illegible] | | | | | | | | | | | | | | | | | | |
| 35 | 11356 | 11044 | [illegible] | | | | | | | | | | | | | | | | | | |
| 36 | 11351 | 11038 | [illegible] | | | | | | | | | | | | | | | | | | |
| 37 | 11346 | 11034 | [illegible] | | | | | | | | | | | | | | | | | | |
| 38 | 11340 | 11028 | [illegible] | | | | | | | | | | | | | | | | | | |
| 39 | 11335 | 11023 | 10712 | 10406 | 10100 | 0797 | 0495 | 0196 | 8899 | 8604 | 8311 | 8020 | 7730 | 7443 | 7158 | 6874 | 6592 | 6312 | 6034 | 5758 | 5483 |
| 40 | 11330 | [illegible] | | | | | | | | | | | | | | | | | | | |
| 41 | 11325 | [illegible] | | | | | | | | | | | | | | | | | | | |
| 42 | 11320 | [illegible] | | | | | | | | | | | | | | | | | | | |
| 43 | 11314 | [illegible] | | | | | | | | | | | | | | | | | | | |
| 44 | 11309 | [illegible] | | | | | | | | | | | | | | | | | | | |
| 45 | 11304 | [illegible] | | | | | | | | | | | | | | | | | | | |
| 46 | 11299 | 11085 | 10775 | 10470 | 10165 | 9861 | 9561 | 9261 | 8965 | 8670 | 8377 | 8086 | 7797 | 7510 | 7224 | 6940 | 6658 | 6378 | 6100 | 5824 | 5549 |
| 47 | 11294 | [illegible] | | | | | | | | | | | | | | | | | | | |
| 48 | 11288 | 10977 | 10667 | 10360 | 10054 | 9751 | 9450 | [illegible] | | | | | | | | | | | | | |
| 49 | 11283 | 10971 | 10662 | 10355 | 10049 | 9746 | 9445 | 9147 | [illegible] | | | | | | | | | | | | |
| 50 | [illegible] | | 10657 | 10349 | 10044 | 9741 | 9440 | 9142 | 8845 | 8550 | 8257 | 7966 | 7678 | 7391 | 7105 | 6822 | 6541 | 6261 | 5983 | 5707 | 5433 |
| 51 | [illegible] | | [illegible] | 10344 | 10039 | 9736 | 9435 | 9137 | 8840 | [illegible] | | | | | | | | | | | |
| 52 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | [illegible] | | 10631 | 10324 | 10019 | 9716 | 9415 | 9117 | 8820 | 8526 | 8233 | 7942 | 7654 | 7367 | 7082 | 6799 | 6517 | 6238 | 5960 | 5684 | 5410 |
| 56 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 58 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 60 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |



| | ′ ″ | ° Degrees, or ° Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ° ′ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | [illegible] | [illegible] | [illegible] | 0.30103 | 0.47712 | [illegible] | [illegible] | 0.77815 | 0.84510 | 0.90309 | 0.95424 |
| 1 | [illegible] | [illegible] | 1.04139 | 1.07918 | 1.11394 | 1.14613 | 1.17609 | 1.20412 | 1.23045 | 1.25527 | 1.27875 |
| 2 | [illegible] | [illegible] | 32222 | 34242 | 36173 | 38021 | 39794 | 41497 | 43136 | 44716 | 46240 |
| 3 | [illegible] | [illegible] | 49136 | 50515 | 51851 | 53148 | 54407 | 55630 | 56820 | 57978 | 59106 |
| 4 | [illegible] | [illegible] | 61278 | 62325 | 63347 | 64345 | 65321 | 66276 | 67210 | 68124 | 69020 |
| 5 | [illegible] | [illegible] | 70757 | 71600 | 72428 | 73239 | 74036 | 74819 | 75587 | 76343 | 77085 |
| 6 | 1. 0 | 1.77815 | 1.78533 | 1.79239 | 1.79934 | 1.80618 | 1.81291 | 1.81954 | 1.82607 | 1.83251 | 1.83885 |
| 7 | 1 | 84510 | 85126 | 85733 | 86332 | 86923 | 87506 | 88081 | 88649 | 89209 | 89763 |
| 8 | 2 | 90309 | 90849 | 91381 | 91908 | 92428 | 92942 | 93450 | 93952 | 94448 | 94939 |
| 9 | 3 | 95424 | 95904 | 96379 | 96848 | 97313 | 97772 | 98227 | 98677 | 99123 | 99564 |
| 10 | 4 | 2.00000 | 2.00432 | 2.00860 | 2.01284 | 2.01703 | 2.02119 | 2.02531 | 2.02938 | 2.03342 | 2.03741 |
| 11 | 5 | 04139 | 04532 | 04922 | 05308 | 05690 | 06070 | 06446 | 06819 | 07188 | 07 [illegible] |
| 12 | 2. [illegible] | [illegible] | [illegible] | [illegible] | 2.08991 | 2.09342 | 2.09691 | 2.10037 | 2.10380 | 2.10721 | 2.11059 |
| 13 | 1 | 11394 | 11727 | 12057 | 12385 | 12710 | 13033 | 13354 | 13672 | 13988 | 14301 |
| 14 | 2 | 14613 | 14922 | 15229 | 15534 | 15836 | 16137 | 16435 | 16732 | 17026 | 17319 |
| 15 | 3 | 17609 | 17898 | 18184 | 18469 | 18752 | 19033 | 19312 | 19590 | 19866 | 20140 |
| 16 | 4 | 20412 | 20683 | 20952 | 21219 | 21484 | 21748 | 22011 | 22272 | 22531 | 22789 |
| 17 | 5 | 23045 | 23300 | 23553 | 23805 | 24055 | 24304 | 24551 | 24797 | 25042 | 25285 |
| 18 | 3. 0 | 2.25527 | 2.25768 | 2.26007 | 2.26245 | 2.26482 | 2.26717 | 2.26951 | 2.27184 | 2.27416 | 2.27646 |
| 19 | 1 | 27875 | 28103 | 28330 | 28556 | 28780 | 29003 | 29226 | 29447 | 29667 | 29885 |
| 20 | 2 | 30103 | 30320 | 30535 | 30750 | 30963 | 31175 | 31387 | 31597 | 31806 | 32015 |
| 21 | 3 | 32222 | 32428 | 32634 | 32838 | 33041 | 33244 | 33445 | 33646 | 33846 | 34044 |
| 22 | 4 | 34242 | 34439 | 34635 | 34830 | 35025 | 35218 | 35411 | 35603 | 35793 | 35984 |
| 23 | 5 | 36173 | 36361 | 36549 | 36736 | 36922 | 37107 | 37291 | 37475 | 37658 | 37840 |
| 24 | 4. 0 | 2.38021 | 2.38202 | 2.38382 | 2.38561 | 2.38739 | 2.38917 | 2.39094 | 2.39270 | 2.39445 | 2.39620 |
| 25 | 1 | 39794 | 39967 | 40140 | 40312 | 40483 | 40654 | 40824 | 40993 | 41162 | 41330 |
| 26 | 2 | 41497 | 41664 | 41830 | 41996 | 42160 | 42325 | 42488 | 42651 | 42813 | 42975 |
| 27 | 3 | 43136 | 43297 | 43457 | 43616 | 43775 | 43933 | 44091 | 44248 | 44404 | 44560 |
| 28 | 4 | 44716 | 44871 | 45025 | 45179 | 45332 | 45484 | 45637 | 45788 | 45939 | 46090 |
| 29 | 5 | 46240 | 46389 | 46538 | 46687 | 46835 | 46982 | 47129 | 47276 | 47422 | 47567 |
| 30 | 5. 0 | 2.47712 | 2.47857 | 2.48001 | 2.48144 | 2.48287 | 2.48430 | 2.48572 | 2.48714 | 2.48855 | 2.48996 |
| 31 | 1 | 49136 | 49276 | 49415 | 49554 | 49693 | 49831 | 49969 | 50106 | 50243 | 50379 |
| 32 | 2 | 50515 | 50650 | 50786 | 50920 | 51055 | 51188 | 51322 | 51455 | 51587 | 51 [illegible] |
| 33 | 3 | 51851 | 51983 | 52114 | 52244 | 52375 | 52504 | 52634 | 52763 | 52892 | 53 [illegible] |
| 34 | 4 | 53148 | 53275 | 53403 | 53529 | 53656 | 53782 | 53908 | 54033 | 54158 | 54 [illegible] |
| 35 | 5 | 54407 | 54531 | 54654 | 54777 | 54900 | 55023 | 55145 | 55267 | 55388 | 55 [illegible] |
| 36 | 6. 0 | 2.55630 | 2.55751 | 2.55871 | 2.55991 | 2.56110 | 2.56229 | 2.56348 | 2.56467 | 2. [illegible] | 2. [illegible] |
| 37 | 1 | 56820 | 56937 | 57054 | 57171 | 57287 | 57403 | 57519 | 57634 | 57749 | 57 [illegible] |
| 38 | 2 | 57978 | 58092 | 58206 | 58320 | 58433 | 58546 | 58659 | 58771 | 58883 | 58 [illegible] |
| 39 | 3 | 59106 | 59218 | 59329 | 59439 | 59550 | 59660 | 59770 | 59879 | 59988 | 60 [illegible] |
| 40 | 4 | 60206 | 60314 | 60423 | 60531 | 60638 | 60746 | 60853 | 60959 | 61066 | 61172 |
| 41 | 5 | 61278 | 61384 | 61490 | 61595 | 61700 | 61805 | 61909 | 62014 | 62118 | 62221 |
| 42 | 7. 0 | 2.62325 | 2.62428 | 2.62531 | 2.62634 | 2.62737 | 2.62839 | 2.62941 | 2.63043 | 2.63144 | 2.63246 |
| 43 | 1 | 63347 | 63448 | 63548 | 63649 | 63749 | 63849 | 63949 | 64048 | 64147 | 64246 |
| 44 | 2 | 64345 | 64444 | 64542 | 64640 | 64738 | 64836 | 64933 | 65031 | 65128 | 65225 |
| 45 | 3 | 65321 | 65418 | 65514 | 65610 | 65706 | 65801 | 65896 | 65992 | 66087 | 66181 |
| 46 | 4 | 66276 | 66370 | 66464 | 66558 | 66652 | 66745 | 66839 | 66932 | 67025 | 67117 |
| 47 | 5 | 67 [illegible] | 67302 | 67394 | 67486 | 67578 | 67669 | 67761 | 67852 | 67943 | 68034 |
| 48 | 8. 0 | 2. [illegible] | 2.68215 | 2.68305 | 2.68395 | 2.68485 | 2.68574 | 2.68664 | 2.68753 | 2.68842 | 2.68931 |
| 49 | 1 | [illegible] | 69108 | 69197 | 69285 | 69373 | 69461 | 69548 | 69636 | 69723 | [illegible] |
| 50 | 2 | [illegible] | 69984 | 70070 | 70157 | 70243 | 70329 | 70415 | 70501 | 70586 | 70672 |
| 51 | 3 | [illegible] | [illegible] | 70927 | 71012 | 71096 | 71181 | 71265 | 71349 | 71433 | 71517 |
| 52 | 4 | [illegible] | [illegible] | 71767 | 71850 | 71933 | 72016 | 72099 | 72181 | 72263 | 72346 |
| 53 | 5 | [illegible] | [illegible] | 72591 | 72673 | 72754 | 72835 | 72916 | 72997 | 73078 | 73159 |
| 54 | 9. [illegible] | [illegible] | [illegible] | 2.73400 | 2.73480 | 2.73560 | 2.73640 | 2.73719 | 2.73799 | 2.73878 | 2.73957 |
| 55 | 1 | [illegible] | [illegible] | 74194 | 74273 | 74351 | 74429 | 74507 | 74586 | 74663 | 74741 |
| 56 | [illegible] | [illegible] | [illegible] | [illegible] | 75051 | 75128 | 75205 | 75282 | 75358 | 75435 | 75511 |
| 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 75891 | 75967 | 76042 | 76118 | 76193 |
| 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 76641 | 76716 | 76790 | 76864 | 76938 |
| 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 77452 | 77525 | 77597 | 77670 |

| | ′ | ″ | o Degrees, or o Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0 | | | [illegible] | [illegible] | [illegible] | 2.78032 | 2.78104 | 2.78176 | 2.78247 | 2.78319 | 2.78390 | 2.78462 |
| 0 | | 1 | [illegible] | [illegible] | [illegible] | 78746 | 78817 | 78888 | 78958 | 79029 | 79099 | 79169 |
| 0 | | 2 | [illegible] | [illegible] | [illegible] | 79449 | 79518 | 79588 | 79657 | 79727 | 79796 | 79865 |
| 0 | | 3 | [illegible] | [illegible] | [illegible] | 80140 | 80209 | 80277 | 80346 | 80414 | 80482 | 80550 |
| 0 | | 4 | [illegible] | [illegible] | [illegible] | 80821 | 80889 | 80956 | 81023 | 81090 | 81158 | 81224 |
| 0 | | 5 | [illegible] | [illegible] | [illegible] | 81491 | 81558 | 81624 | 81690 | 81757 | 81823 | 81889 |
| 0 | 11. | 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2.82217 | 2.82282 | 2.82347 | 2.82413 | 2.82478 | 2.82543 |
| 0 | | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 82866 | 82930 | 82995 | 83059 | 83123 | 83187 |
| 0 | | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 83569 | 83632 | 83696 | 83759 | [illegible] |
| 0 | | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 84198 | 84261 | 84323 | 84386 | [illegible] |
| 0 | | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 84819 | 84880 | 84942 | 85003 | [illegible] |
| 0 | | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 85431 | 85491 | 85552 | 85612 | [illegible] |
| 0 | 12. | 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2.86034 | 2.86094 | 2.86153 | 2.86213 | [illegible] |
| 0 | | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 86629 | 86688 | 86747 | 86806 | [illegible] |
| 0 | | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 87216 | 87274 | 87332 | 87390 | [illegible] |
| 0 | | 3 | [illegible] | 87564 | 87622 | 87679 | 87737 | 87795 | 87852 | 87910 | 87967 | [illegible] |
| 0 | | 4 | 88081 | 88138 | 88195 | 88252 | 88309 | 88366 | 88423 | 88480 | 88536 | [illegible] |
| 0 | | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 0 | 13. | 0 | 2.89209 | 2.89265 | 2.89321 | 2.89376 | 2.89432 | 2.89487 | 2.89542 | 2.89597 | 2.89653 | 2.89708 |
| 0 | | 1 | 89763 | 89818 | 89873 | 89927 | 89982 | 90037 | 90091 | 90146 | 90200 | 90255 |
| 0 | | 2 | 90309 | 90363 | 90417 | 90472 | 90526 | 90580 | 90634 | 90687 | 90741 | 90795 |
| 0 | | 3 | 90849 | 90902 | 90956 | 91009 | 91062 | 91116 | 91169 | 91222 | 91275 | 91328 |
| 0 | | 4 | 91381 | 91434 | 91487 | 91540 | 91593 | 91645 | 91698 | 91751 | 91803 | 91855 |
| 0 | | 5 | 91908 | 91960 | 92012 | 92064 | 92117 | 92169 | 92221 | 92273 | 92324 | 92376 |
| 0 | 14. | 0 | 2.92428 | 2.92480 | 2.92531 | 2.92583 | 2.92634 | 2.92686 | 2.92737 | 2.92788 | 2.92840 | 2.92891 |
| 0 | | 1 | 92942 | 92993 | 93044 | 93095 | 93146 | 93197 | 93247 | 93298 | 93349 | 93399 |
| 0 | | 2 | 93450 | 93500 | 93551 | 93601 | 93651 | 93702 | 93752 | 93802 | 93852 | 93902 |
| 0 | | 3 | 93952 | 94002 | 94052 | 94101 | 94151 | 94201 | 94250 | 94300 | 94349 | 94399 |
| 0 | | 4 | 94448 | 94498 | 94547 | 94596 | 94645 | 94694 | 94743 | 94792 | 94841 | 94890 |
| 0 | | 5 | 94939 | 94988 | 95036 | 95085 | 95134 | 95182 | 95231 | 95279 | 95328 | 95376 |
| 0 | 15. | 0 | 2.95424 | 2.95472 | 2.95521 | 2.95569 | 2.95617 | 2.95665 | 2.95713 | 2.95761 | 2.95809 | 2.95856 |
| 0 | | 1 | 95904 | 95952 | 95999 | 96047 | 96095 | 96142 | 96190 | 96237 | 96284 | 96332 |
| 0 | | 2 | 96379 | 96426 | 96473 | 96520 | 96567 | 96614 | 96661 | 96707 | 96755 | 96802 |
| 0 | | 3 | 96848 | 96895 | 96942 | 96988 | 97035 | 97081 | 97128 | 97174 | 97220 | 97267 |
| 0 | | 4 | 97313 | 97359 | 97405 | 97451 | 97497 | 97543 | 97589 | 97635 | 97681 | 97727 |
| 0 | | 5 | 97772 | 97818 | 97864 | 97909 | 97955 | 98000 | 98046 | 98091 | 98137 | 98182 |
| 0 | 16. | 0 | 2.98227 | 2.98272 | 2.98318 | 2.98363 | 2.98408 | 2.98453 | 2.98498 | 2.98543 | 2.98588 | 2.98632 |
| 0 | | 1 | 98677 | 98722 | 98767 | 98811 | 98856 | 98900 | 98945 | 98989 | 99034 | 99078 |
| 0 | | 2 | 99123 | 99167 | 99211 | 99255 | 99300 | 99344 | 99388 | 99432 | 99476 | 99520 |
| 0 | | 3 | 99564 | 99607 | 99651 | 99695 | 99739 | 99782 | 99826 | 99870 | 99913 | 99957 |
| 0 | | 4 | 3.00000 | 3.00043 | 3.00087 | 3.00130 | 3.00173 | 3.00217 | 3.00260 | 3.00303 | 3.00346 | 3.00389 |
| 0 | | 5 | 00432 | 00475 | 00518 | 00561 | 00604 | 00647 | 00689 | 00732 | 00775 | 00817 |
| 0 | 17. | 0 | 3.00860 | 3.00903 | 3.00945 | 3.00988 | 3.01030 | 3.01072 | 3.01115 | 3.01157 | 3.01199 | 3.01242 |
| 0 | | 1 | 01284 | 01326 | 01368 | 01410 | 01452 | 01494 | 01536 | 01578 | 01620 | 01662 |
| 0 | | 2 | 01703 | 01745 | 01787 | 01828 | 01870 | 01912 | 01953 | 01995 | 02036 | 02078 |
| 0 | | 3 | 02119 | 02160 | 02202 | 02243 | 02284 | 02325 | 02366 | 02407 | 02449 | 02490 |
| 0 | | 4 | 02531 | 02572 | 02612 | 02653 | 02694 | 02735 | 02776 | 02816 | 02857 | 02898 |
| 0 | | 5 | 02938 | 02979 | 03019 | 03060 | 03100 | 03141 | 03181 | 03222 | 03262 | 03302 |
| 0 | 18. | 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 109 | | 1 | 03743 | 03782 | 03822 | 03862 | 03902 | 03941 | 03981 | 04021 | 04060 | 04100 |
| 110 | | 2 | 04139 | 04179 | 04218 | 04258 | 04297 | 04336 | 04376 | 04415 | 04454 | 04493 |
| 111 | | 3 | 04532 | 04571 | 04610 | 04650 | 04689 | 04727 | 04766 | 04805 | 04844 | 04883 |
| 112 | | 4 | 04922 | 04961 | 04999 | 05038 | 05077 | 05115 | 05154 | 05192 | 05231 | 05269 |
| 113 | | 5 | 05308 | 05346 | 05385 | 05423 | 05461 | 05500 | 05538 | 05576 | 05614 | 05652 |
| 0 | 19. | 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 115 | | 1 | 06070 | 06108 | 06145 | 06183 | 06221 | 06258 | 06296 | 06333 | 06371 | 06408 |
| 116 | | 2 | 06446 | 06483 | 06521 | 06558 | 06595 | 06633 | 06670 | 06707 | 06744 | 06781 |
| 117 | | 3 | 06819 | 06856 | 06893 | 06930 | 06967 | 07004 | 07041 | 07078 | 07115 | 07151 |
| 118 | | 4 | 07188 | 07225 | 07262 | 07298 | 07335 | 07372 | 07408 | 07445 | 07482 | 07518 |
| 119 | | 5 | 07555 | 07591 | 07628 | 07664 | 07700 | 07737 | 07773 | 07809 | 07846 | 07882 |

| | ′ ″ | o Degrees, or o Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ″ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| [illegible] | [illegible] | 3. 07918 | 3. 07954 | 3. 07990 | 3. 08027 | 3. 08063 | 3. 08099 | 3. 08135 | 3. 08171 | 3. 08207 | 3. 08243 |
| [illegible] | 1 | [illegible]279 | 08314 | 08350 | 08386 | 08422 | 08458 | 08493 | 08529 | 08565 | 08600 |
| [illegible] | 2 | [illegible]636 | 08672 | 08707 | 08743 | 08778 | 08814 | 08849 | 08884 | 08920 | 08955 |
| [illegible] | 3 | [illegible] | 09026 | 09061 | 09096 | 09132 | 09167 | 09202 | 09237 | 09272 | 09307 |
| [illegible] | 4 | [illegible] | 09377 | 09412 | 09447 | 09482 | 09517 | 09552 | 09587 | 09621 | 09656 |
| [illegible] | 5 | [illegible] | 09726 | 09760 | 09795 | 09830 | 09864 | 09899 | 09934 | 09968 | 10003 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3. 10243 | 3. 10278 | 3. 10312 | 3. 10346 |
| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 10585 | 10619 | 10653 | 10687 |
| [illegible] | 2 | [illegible]721 | [illegible]755 | 10789 | 10823 | 10857 | 10890 | 10924 | 10958 | 10992 | 11025 |
| [illegible] | 3 | [illegible] | [illegible] | 11126 | 11160 | 11193 | 11227 | 11261 | 11294 | 11327 | 11361 |
| 130 | 4 | 11394 | 11428 | 11461 | 11494 | 11528 | 11561 | 11594 | 11628 | 11661 | 11694 |
| 131 | 5 | 11727 | 11760 | 11793 | 11826 | 11860 | 11893 | 11926 | 11959 | 11992 | 12024 |
| 132 | 22. 0 | 3. 12057 | 3. 12090 | 3. 12123 | 3. 12156 | 3. 12189 | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] |
| 133 | 1 | 12385 | 12418 | 12450 | 12483 | 12516 | 12548 | 12581 | 12613 | 12646 | 12678 |
| 134 | 2 | 12710 | 12743 | 12775 | 12808 | 12840 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 135 | 3 | 13033 | 13066 | 13098 | 13130 | 13162 | 13194 | 13226 | 13258 | 13290 | 13322 |
| 136 | 4 | 13354 | 13386 | 13418 | 13450 | 13481 | 13513 | 13545 | 13577 | 13609 | 13640 |
| 137 | 5 | 13672 | 13704 | 13735 | 13767 | 13799 | 13830 | 13862 | 13893 | 13925 | 13956 |
| 138 | 23. 0 | 3. 13988 | 3. 14019 | 3. 14051 | 3. 14082 | 3. 14114 | 3. 14145 | 3. 14176 | 3. 14208 | 3. 14239 | 3. 14270 |
| 139 | 1 | 14301 | 14333 | 14364 | 14395 | 14426 | 14457 | 14489 | 14520 | 14551 | 14582 |
| 140 | 2 | 14613 | 14644 | 14675 | 14706 | 14737 | 14768 | 14799 | 14829 | 14860 | 14891 |
| 141 | 3 | 14922 | 14953 | 14983 | 15014 | 15045 | 15076 | 15106 | 15137 | 15168 | 15198 |
| 142 | 4 | 15229 | 15259 | 15290 | 15320 | 15351 | 15381 | 15412 | 15442 | 15473 | 15503 |
| [illegible] | 5 | 15534 | 15564 | 15594 | 15625 | 15655 | 15685 | 15715 | 15746 | 15776 | 15806 |
| [illegible] | 24. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] |
| 145 | 1 | 16137 | 16167 | 16197 | 16227 | 16256 | 16286 | 16316 | 16346 | 16376 | 16406 |
| [illegible] | 2 | 16435 | 16465 | 16495 | 16524 | 16554 | 16584 | 16613 | 16643 | 16673 | [illegible] |
| [illegible] | 3 | 16732 | 16761 | 16791 | 16820 | 16850 | 16879 | 16909 | 16938 | 16967 | [illegible] |
| [illegible] | 4 | 17026 | 17056 | 17085 | 17114 | 17143 | 17173 | 17202 | 17231 | 17260 | 17289 |
| [illegible] | 5 | 17319 | 17348 | 17377 | 17406 | 17435 | 17464 | 17493 | 17522 | 17551 | 17580 |
| [illegible] | [illegible] 0 | 3. 17609 | 3. 17638 | 3. 17667 | 3. 17696 | 3. 17725 | 3. 17754 | 3. 17782 | 3. 17811 | 3. 17840 | 3. 17869 |
| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 2 | 18184 | 18213 | 18241 | 18270 | 18298 | 18327 | 18355 | 18384 | 18412 | 18441 |
| [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 4 | 18752 | 18780 | 18808 | 18837 | 18865 | 18893 | 18921 | 18949 | 18977 | 19005 |
| [illegible] | 5 | 19033 | 19061 | 19089 | 19117 | 19145 | 19173 | 19201 | 19229 | 19257 | [illegible] |
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| [illegible] | 1 | 19590 | 19618 | 19645 | 19673 | 19700 | 19728 | 19756 | 19783 | 19811 | 19838 |
| [illegible] | 2 | 19866 | 19893 | 19921 | 19948 | 19976 | 20003 | 20030 | 20058 | 20085 | 20112 |
| [illegible] | 3 | 20140 | 20167 | 20194 | 20222 | 20249 | 20276 | 20303 | 20330 | 20358 | 20385 |
| [illegible] | 4 | 20412 | 20439 | 20466 | 20493 | 20520 | 20548 | 20575 | 20602 | 20629 | 20656 |
| [illegible] | 5 | 20683 | 20710 | 20737 | 20763 | 20790 | 20817 | 20844 | 20871 | 20898 | 20925 |
| [illegible] | 27. 0 | 3. 20951 | 3. 20978 | 3. 21005 | 3. 21032 | 3. 21059 | 3. 21085 | 3. 21112 | 3. 21139 | 3. 21165 | 3. [illegible] |
| [illegible] | 1 | 21219 | 21245 | 21272 | 21299 | 21325 | 21352 | 21378 | 21405 | 21431 | 21458 |
| [illegible] | 2 | 21484 | 21511 | 21537 | 21564 | 21590 | 21617 | 21643 | 21669 | 21696 | 21722 |
| [illegible] | 3 | 21748 | 21775 | 21801 | 21827 | 21854 | 21880 | 21906 | 21932 | 21958 | 21985 |
| 166 | 4 | 22011 | 22037 | 22063 | 22089 | 22115 | 22141 | 22167 | 22194 | 22220 | 22246 |
| 167 | 5 | 22272 | 22298 | 22324 | 22350 | 22376 | 22401 | 22427 | 22453 | 22479 | 22505 |
| 168 | 28. 0 | 3. 22531 | 3. 22557 | 3. 22583 | 3. 22608 | 3. 22634 | 3. 22660 | 3. 22686 | 3. 22712 | 3. 22737 | 3. 22763 |
| 169 | 1 | 22789 | 22814 | 22840 | 22866 | 22891 | 22917 | 22943 | 22968 | 22994 | 23019 |
| 170 | 2 | 23045 | 23070 | 23096 | 23121 | 23147 | 23172 | 23198 | 23223 | 23249 | 23274 |
| 171 | 3 | 23300 | 23325 | 23350 | 23376 | 23401 | 23426 | 23452 | 23477 | 23502 | 23528 |
| 172 | 4 | 23553 | 23578 | 23603 | 23629 | 23654 | 23679 | 23704 | 23729 | 23754 | 23779 |
| 173 | 5 | 23805 | 23830 | 23855 | 23880 | 23905 | 23930 | 23955 | 23980 | 24005 | 24030 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 175 | 1 | 24304 | 24329 | 24353 | 24378 | 24403 | 24428 | 24452 | 24477 | 24502 | 24527 |
| 176 | 2 | 24551 | 24576 | 24601 | 24625 | 24650 | 24674 | 24699 | 24724 | 24748 | 24773 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 178 | 4 | 25042 | 25066 | 25091 | 25115 | 25139 | 25164 | 25188 | 25212 | 25237 | 25261 |
| 179 | 5 | 25285 | 25310 | 25334 | 25358 | 25382 | 25406 | 25431 | 25455 | 25479 | 25503 |

| | | o Degrees, or o Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3.25624 | 3.25648 | [illegible] | 3.25696 | [illegible] | [illegible] |
| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | 25864 | [illegible] | 25911 | 25935 | [illegible] | [illegible] |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | 26102 | [illegible] | [illegible] | 26174 | [illegible] | [illegible] |
| [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | 26340 | [illegible] | [illegible] | 26411 | [illegible] | [illegible] |
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| [illegible] | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26881 | [illegible] | [illegible] |
| [illegible] | 31. 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 3 | 27646 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 4 | 27875 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 5 | 28103 | [illegible] | [illegible] | 28171 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 32. 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | 28556 | [illegible] | [illegible] | [illegible] | 28646 | 28668 | 28691 | 28713 | [illegible] | [illegible] |
| [illegible] | 2 | 28780 | [illegible] | [illegible] | [illegible] | 28870 | 28892 | 28914 | [illegible] | [illegible] | [illegible] |
| [illegible] | 3 | 29003 | [illegible] | [illegible] | 29071 | [illegible] | [illegible] | 29137 | [illegible] | [illegible] | [illegible] |
| [illegible] | 4 | 29226 | [illegible] | [illegible] | [illegible] | 29314 | 29336 | 29358 | 29380 | [illegible] | [illegible] |
| [illegible] | 5 | 29447 | 29469 | 29491 | 29513 | 29535 | 29557 | 29579 | 29601 | 29623 | [illegible] |
| [illegible] | 33. 0 | 3.29667 | 3.29688 | 3.29710 | [illegible] | 3.29754 | 3.29776 | 3.29798 | 3.29820 | 3.29842 | [illegible] |
| [illegible] | 1 | 29885 | 29907 | 29929 | 29951 | 29973 | 29994 | 30016 | 30038 | 30060 | [illegible] |
| [illegible] | 2 | 30103 | 30125 | 30146 | 30168 | 30190 | 30211 | 30233 | 30255 | 30276 | [illegible] |
| [illegible] | 3 | 30320 | 30341 | 30363 | 30384 | 30406 | 30428 | 30449 | 30471 | 30492 | [illegible] |
| [illegible] | 4 | 30535 | 30557 | [illegible] | 30600 | 30621 | 30643 | 30664 | 30685 | 30707 | [illegible] |
| [illegible] | 5 | 30750 | [illegible] | [illegible] | [illegible] | [illegible] | 30856 | 30878 | 30899 | 30920 | [illegible] |
| 204 | 34. 0 | 3.30963 | [illegible] | [illegible] | [illegible] | [illegible] | 3.31069 | [illegible] | [illegible] | 3.31133 | 3.31154 |
| 205 | 1 | 31175 | [illegible] | [illegible] | [illegible] | [illegible] | 31281 | [illegible] | [illegible] | 31345 | [illegible] |
| 206 | 2 | 31387 | [illegible] | [illegible] | [illegible] | 31471 | 31492 | 31513 | 31534 | 31555 | 31576 |
| 207 | 3 | 31597 | [illegible] | [illegible] | [illegible] | 31681 | 31703 | 31723 | 31744 | 31765 | 31785 |
| 208 | 4 | 31806 | 31827 | 31848 | 31868 | [illegible] | 31911 | 31931 | 31952 | 31973 | 31994 |
| 209 | 5 | 32015 | [illegible] | [illegible] | [illegible] | [illegible] | 32118 | [illegible] | [illegible] | 32181 | [illegible] |
| 210 | 35. 0 | 3.32222 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 211 | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 32531 | [illegible] | [illegible] | [illegible] | [illegible] |
| 212 | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 32736 | 32756 | 32777 | 32797 | [illegible] |
| 213 | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 32940 | [illegible] | [illegible] | 33001 | [illegible] |
| 214 | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 33143 | [illegible] | [illegible] | 33203 | [illegible] |
| 215 | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 33345 | [illegible] | [illegible] | 33405 | [illegible] |
| 216 | 36. 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3.33546 | [illegible] | [illegible] | [illegible] | [illegible] |
| 217 | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 33746 | [illegible] | [illegible] | [illegible] | [illegible] |
| 218 | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 33945 | [illegible] | [illegible] | [illegible] | [illegible] |
| 219 | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 34143 | [illegible] | [illegible] | [illegible] | [illegible] |
| 220 | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 34341 | [illegible] | [illegible] | [illegible] | [illegible] |
| 221 | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 34537 | [illegible] | [illegible] | [illegible] | [illegible] |
| 222 | 37. 0 | [illegible] | [illegible] | [illegible] | [illegible] | 3.34713 | 3.34733 | 3.34753 | 3.34772 | [illegible] | [illegible] |
| 223 | 1 | [illegible] | [illegible] | [illegible] | [illegible] | 34908 | 34928 | [illegible] | 34967 | [illegible] | [illegible] |
| 224 | 2 | [illegible] | [illegible] | [illegible] | [illegible] | 35102 | 35122 | [illegible] | [illegible] | [illegible] | [illegible] |
| 225 | 3 | [illegible] | [illegible] | [illegible] | [illegible] | 35295 | 35315 | [illegible] | [illegible] | [illegible] | [illegible] |
| 226 | 4 | [illegible] | [illegible] | [illegible] | [illegible] | 35488 | 35507 | [illegible] | [illegible] | [illegible] | [illegible] |
| 227 | 5 | [illegible] | [illegible] | [illegible] | [illegible] | 35679 | 35698 | [illegible] | [illegible] | 35755 | 35774 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3.35870 | 3.35889 | [illegible] | 3.35946 | [illegible] |
| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | 36059 | 36078 | 36097 | [illegible] | 36135 | [illegible] |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | 36248 | 36267 | 36286 | [illegible] | 36324 | [illegible] |
| [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | 36436 | 36455 | [illegible] | [illegible] | 36511 | [illegible] |
| [illegible] | 4 | [illegible] | [illegible] | [illegible] | [illegible] | 36624 | 36642 | [illegible] | [illegible] | 36698 | [illegible] |
| [illegible] | 5 | [illegible] | [illegible] | [illegible] | [illegible] | 36810 | 36829 | [illegible] | [illegible] | 36884 | [illegible] |
| [illegible] | 39. 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 37014 | 3.37033 | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 37199 | 37218 | [illegible] | 37254 | [illegible] |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 37383 | 37401 | [illegible] | 37438 | [illegible] |
| [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 37566 | 37585 | [illegible] | 37621 | [illegible] |
| [illegible] | 4 | [illegible] | [illegible] | [illegible] | [illegible] | 37731 | 37749 | 37767 | [illegible] | 37803 | [illegible] |
| [illegible] | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 37931 | 37949 | 37967 | 37985 | [illegible] |

| | | | o Degrees, or o Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | m | s | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 240 | 40. | 0 | 3.38021 | 3.38039 | 3.38057 | 3.38075 | 3.38093 | 3.38112 | 3.38130 | 3.38148 | 3.38166 | 3.38184 |
| [illegible] | | 1 | 38202 | 38220 | 38238 | 38256 | 38274 | 38292 | 38310 | 38328 | 38346 | 38364 |
| [illegible] | | 2 | 38382 | 38399 | 38417 | 38435 | 38453 | 38471 | 38489 | 38507 | 38525 | 38543 |
| [illegible] | | 3 | 38561 | 38578 | 38596 | 38614 | 38632 | 38650 | 38668 | 38686 | 38703 | 38721 |
| [illegible] | | 4 | 38739 | 38757 | 38775 | 38792 | 38810 | 38828 | 38846 | 38863 | 38881 | 38899 |
| [illegible] | | 5 | 38917 | 38934 | 38952 | 38970 | 38987 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 246 | 41. | 0 | 3.39094 | 3.39111 | 3.39129 | 3.39146 | 3.39164 | 3.39182 | 3.39199 | 3.39217 | 3.39235 | 3.39252 |
| 247 | | 1 | 39270 | 39287 | 39305 | 39322 | 39340 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 248 | | 2 | 39445 | 39463 | 39480 | 39498 | 39515 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 249 | | 3 | 39620 | 39637 | 39655 | 39672 | 39690 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 250 | | 4 | 39794 | 39811 | 39829 | 39846 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 251 | | 5 | 39967 | 39985 | 40002 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 252 | 42. | 0 | 3.40140 | 3.40157 | 3.40175 | 3.40192 | 3.40209 | 3.40226 | 3.40243 | 3.40261 | 3.40278 | 3.40295 |
| 253 | | 1 | 40312 | 40329 | 40346 | 40364 | 40381 | 40398 | [illegible] | [illegible] | [illegible] | [illegible] |
| 254 | | 2 | 40483 | 40500 | 40518 | 40535 | 40552 | 40569 | 40586 | 40603 | 40620 | 40637 |
| 255 | | 3 | 40654 | 40671 | 40688 | 40705 | 40722 | 40739 | 40756 | 40773 | 40790 | 40807 |
| 256 | | 4 | 40824 | 40841 | 40858 | 40875 | 40892 | 40909 | 40926 | 40943 | 40959 | 40976 |
| 257 | | 5 | 40993 | 41010 | 41027 | 41044 | 41061 | 41078 | 41095 | 41111 | 41128 | 41145 |
| [illegible] | [illegible] | | 3.41162 | 3.41179 | 3.41196 | 3.41213 | 3.41230 | 3.41247 | 3.41264 | 3.41280 | 3.41297 | 3.41314 |
| 259 | | 1 | 41330 | 41347 | 41363 | 41380 | 41397 | 41414 | 41430 | 41447 | 41464 | 41481 |
| 260 | | 2 | 41497 | 41514 | 41531 | 41547 | 41564 | 41581 | 41597 | 41614 | 41631 | 41647 |
| 261 | | 3 | 41664 | 41681 | 41697 | 41714 | 41731 | 41747 | 41764 | 41780 | 41797 | 41814 |
| 262 | | 4 | 41830 | 41847 | 41863 | 41880 | 41896 | 41913 | 41929 | 41946 | 41963 | 41979 |
| 263 | | 5 | 41996 | 42012 | 42029 | 42045 | 42062 | 42078 | 42095 | 42111 | 42127 | 42144 |
| 264 | 44. | 0 | 3.42160 | 3.42177 | 3.42193 | 3.42210 | 3.42226 | 3.42243 | 3.42259 | 3.42275 | 3.42292 | 3.42308 |
| 265 | | 1 | 42325 | 42341 | 42357 | 42374 | 42390 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 266 | | 2 | 42488 | 42504 | 42521 | 42537 | 42553 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 267 | | 3 | 42651 | 42667 | 42684 | 42700 | 42716 | 42732 | 42749 | 42765 | 42781 | 42797 |
| 268 | | 4 | 42813 | 42830 | 42846 | 42862 | 42878 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 269 | | 5 | 42975 | 42991 | 43008 | 43024 | 43040 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 270 | 45. | 0 | 3.43136 | 3.43152 | 3.43169 | 3.43185 | 3.43201 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 271 | | 1 | 43297 | 43313 | 43329 | 43345 | 43361 | 43377 | 43393 | 43409 | 43425 | 43441 |
| 272 | | 2 | 43457 | 43473 | 43489 | 43505 | 43521 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 273 | | 3 | 43616 | 43632 | 43648 | 43664 | 43680 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 274 | | 4 | 43775 | 43791 | 43807 | 43823 | 43838 | 43854 | 43870 | 43886 | 43902 | 43917 |
| 275 | | 5 | 43933 | 43949 | 43965 | 43981 | 43996 | 44012 | 44028 | 44044 | 44059 | 44075 |
| 276 | 46. | 0 | 3.44091 | 3.44107 | 3.44122 | 3.44138 | 3.44154 | 3.44170 | 3.44185 | 3.44201 | 3.44217 | 3.44232 |
| 277 | | 1 | 44248 | 44264 | 44279 | 44295 | 44311 | 44326 | 44342 | 44358 | 44373 | 44389 |
| 278 | | 2 | 44404 | 44420 | 44436 | 44451 | 44467 | 44483 | 44498 | 44514 | 44529 | 44545 |
| [illegible] | | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 280 | | 4 | 44716 | 44731 | 44747 | 44762 | 44778 | 44793 | 44809 | 44824 | 44840 | 44855 |
| 281 | | 5 | 44871 | 44886 | 44902 | 44917 | 44932 | 44948 | 44963 | 44979 | 44994 | 45010 |
| 282 | 47. | 0 | 3.45025 | 3.45040 | 3.45056 | 3.45071 | 3.45086 | 3.45102 | 3.45117 | 3.45133 | 3.45148 | 3.45163 |
| 283 | | 1 | 45179 | 45194 | 45209 | 45225 | 45240 | 45255 | 45271 | 45286 | 45301 | 45317 |
| 284 | | 2 | 45332 | 45347 | 45362 | 45378 | 45393 | 45408 | 45423 | 45439 | 45454 | 45469 |
| 285 | | 3 | 45484 | 45500 | 45515 | 45530 | 45545 | 45561 | 45576 | 45591 | 45606 | 45621 |
| 286 | | 4 | 45637 | 45652 | 45667 | 45682 | 45697 | 45712 | 45728 | 45743 | 45758 | 45773 |
| 287 | | 5 | 45788 | 45803 | 45818 | 45834 | 45849 | 45864 | 45879 | 45894 | 45909 | 45924 |
| 288 | 48. | 0 | 3.45939 | 3.45954 | 3.45969 | 3.45984 | 3.46000 | 3.46015 | 3.46030 | 3.46045 | 3.46060 | 3.46075 |
| [illegible] | | 1 | 46090 | 46105 | 46120 | 46135 | 46150 | 46165 | 46180 | 46195 | 46210 | 46225 |
| [illegible] | | 2 | 46240 | 46255 | 46270 | 46285 | 46300 | 46315 | 46330 | 46345 | 46359 | 46374 |
| [illegible] | | 3 | 46389 | 46404 | 46419 | 46434 | 46449 | 46464 | 46479 | 46494 | 46509 | 46523 |
| [illegible] | | 4 | 46538 | 46553 | 46568 | 46583 | 46598 | 46613 | 46627 | 46642 | 46657 | 46672 |
| [illegible] | | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 0 | 3.46835 | 3.46850 | 3.46864 | 3.46879 | 3.46894 | 3.46909 | 3.46923 | 3.46938 | 3.46953 | 3.46967 |
| [illegible] | | 1 | 46982 | 46997 | 47012 | 47026 | 47041 | 47056 | 47070 | 47085 | 47100 | 47114 |
| 296 | | 2 | 47129 | 47144 | 47159 | 47173 | 47188 | 47202 | 47217 | 47232 | [illegible] | [illegible] |
| [illegible] | | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | | 4 | 47422 | 47436 | 47451 | 47465 | 47480 | 47494 | 47509 | [illegible] | [illegible] | [illegible] |
| [illegible] | | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | ′ | ″ | 0 Degrees, or 0 Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *m* | *s* | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 300 | 50. | 0 | 3.47712 | 3.47727 | 3.47741 | 3.47756 | 3.47770 | 3.47784 | 3.47799 | 3.47813 | 3.47828 | 3.47842 |
| 301 | | 1 | 47857 | 47871 | 47885 | 47900 | 47914 | 47929 | 47943 | 47958 | 47972 | 47986 |
| 302 | | 2 | 48001 | 48015 | 48029 | 48044 | 48058 | 48073 | 48087 | 48101 | 48116 | 48130 |
| 303 | | 3 | 48144 | 48159 | 48173 | 48187 | 48202 | 48216 | 48230 | 48244 | 48259 | 48273 |
| 304 | | 4 | 48287 | 48302 | 48316 | 48330 | 48344 | 48359 | 48373 | 48387 | 48401 | 48416 |
| 305 | | 5 | 48430 | 48444 | 48458 | 48473 | 48487 | 48501 | 48515 | 48530 | 48544 | 48558 |
| 306 | 51. | 0 | 3.48572 | 3.48586 | 3.48601 | 3.48615 | 3.48629 | 3.48643 | 3.48657 | 3.48671 | 3.48686 | 3.48700 |
| 307 | | 1 | 48714 | 48728 | 48742 | 48756 | 48770 | 48785 | 48799 | 48813 | 48827 | 48841 |
| 308 | | 2 | 48855 | 48869 | 48883 | 48897 | 48911 | 48926 | 48940 | 48954 | 48968 | 48982 |
| 309 | | 3 | 48996 | 49010 | 49024 | 49038 | 49052 | 49066 | 49080 | 49094 | 49108 | 49122 |
| 310 | | 4 | 49136 | 49150 | 49164 | 49178 | 49192 | 49206 | 49220 | 49234 | 49248 | 49262 |
| 311 | | 5 | 49276 | 49290 | 49304 | 49318 | 49332 | 49346 | 49360 | 49374 | 49388 | 49402 |
| 312 | 52. | 0 | 3.49415 | 3.49429 | 3.49443 | 3.49457 | 3.49471 | 3.49485 | 3.49499 | 3.49513 | 3.49527 | 3.49541 |
| 313 | | 1 | 49554 | 49568 | 49582 | 49596 | 49610 | 49624 | 49638 | 49651 | 49665 | 49679 |
| 314 | | 2 | 49693 | 49707 | 49721 | 49734 | 49748 | 49762 | 49776 | 49790 | 49803 | 49817 |
| 315 | | 3 | 49831 | 49845 | 49859 | 49872 | 49886 | 49900 | 49914 | 49927 | 49941 | 49955 |
| 316 | | 4 | 49969 | 49982 | 49996 | 50010 | 50024 | 50037 | 50051 | 50065 | 50079 | 50092 |
| 317 | | 5 | 50106 | 50120 | 50133 | 50147 | 50161 | 50174 | 50188 | 50202 | 50215 | 50229 |
| 318 | 53. | 0 | [illegible] | | | | | | | | [illegible] | |
| 319 | | 1 | 50379 | 50393 | 50406 | 50420 | 50433 | 50447 | 50461 | 50474 | 50488 | 50501 |
| 320 | | 2 | 50515 | 50529 | 50542 | 50556 | 50569 | 50583 | 50596 | 50610 | 50623 | 50637 |
| 321 | | 3 | 50651 | 50664 | 50678 | 50691 | 50705 | 50718 | 50732 | 50745 | 50759 | 50772 |
| 322 | | 4 | 50786 | 50799 | 50813 | 50826 | 50840 | 50853 | 50866 | 50880 | 50893 | 50907 |
| 323 | | 5 | 50920 | 50934 | 50947 | 50961 | 50974 | 50987 | 51001 | 51014 | 51028 | 51041 |
| 324 | 54. | 0 | 3.51055 | 3.51068 | [illegible] | | | 3.51108 | 3.51121 | 3.51135 | 3.51148 | 3.51162 | 3.51175 |
| 325 | | 1 | 51188 | 51202 | 51215 | 51228 | 51242 | 51255 | 51268 | 51282 | 51295 | 51308 |
| 326 | | 2 | 51322 | 51335 | 51348 | 51362 | 51375 | 51388 | 51402 | 51415 | 51428 | 51441 |
| 327 | | 3 | 51455 | 51468 | 51481 | 51495 | 51508 | 51521 | 51534 | 51548 | 51561 | 51574 |
| 328 | | 4 | [illegible] | | | | 51640 | 51654 | 51667 | 51680 | 51693 | 51706 |
| 329 | | 5 | [illegible] | | | | 51772 | 51786 | 51799 | 51812 | 51825 | 51838 |
| 330 | 55. | 0 | 3.51851 | 3.51865 | 3.51878 | 3.51891 | 3.51904 | 3.51917 | 3.51930 | 3.51943 | 3.51957 | 3.51970 |
| 331 | | 1 | 51983 | 51996 | 52009 | 52022 | 52035 | 52048 | 52061 | 52075 | 52088 | [illegible] |
| 332 | | 2 | 52114 | 52127 | 52140 | 52153 | 52166 | 52179 | 52192 | 52205 | 52218 | [illegible] |
| 333 | | 3 | 52244 | 52257 | 52270 | 52284 | 52297 | 52310 | 52323 | 52336 | 52349 | [illegible] |
| 334 | | 4 | 52375 | 52388 | 52401 | 52414 | 52427 | 52440 | 52453 | 52466 | 52479 | [illegible] |
| 335 | | 5 | 52504 | 52517 | 52530 | 52543 | 52556 | 52569 | 52582 | 52595 | 52608 | [illegible] |
| 336 | 56. | 0 | 3.52634 | 3.52647 | 3.52660 | 3.52673 | 3.52686 | 3.52699 | 3.52711 | 3.52724 | 3.52737 | [illegible] |
| 337 | | 1 | 52763 | 52776 | 52789 | 52802 | 52815 | 52827 | 52840 | 52853 | 52866 | [illegible] |
| 338 | | 2 | 52892 | 52905 | 52917 | 52930 | 52943 | 52956 | 52969 | 52982 | 52994 | [illegible] |
| 339 | | 3 | 53020 | 53033 | 53046 | 53058 | 53071 | 53084 | 53097 | 53110 | 53122 | [illegible] |
| 340 | | 4 | 53148 | 53161 | 53173 | 53186 | 53199 | 53212 | 53224 | 53237 | 53250 | [illegible] |
| 341 | | 5 | 53275 | 53288 | 53301 | 53314 | 53326 | 53339 | 53352 | 53364 | 53377 | [illegible] |
| 342 | 57. | 0 | [illegible] | | 3.53441 | [illegible] | 3.53441 | 3.53453 | 3.53466 | 3.53479 | 3.53491 | [illegible] |
| 343 | | 1 | [illegible] | | [illegible] | | 53567 | 53580 | 53593 | 53605 | 53618 | [illegible] |
| 344 | | 2 | [illegible] | | [illegible] | | [illegible] | 53706 | 53719 | 53732 | 53744 | [illegible] |
| 345 | | 3 | [illegible] | | [illegible] | | [illegible] | 53832 | 53845 | 53857 | 53870 | [illegible] |
| 346 | | 4 | [illegible] | | [illegible] | | [illegible] | 53958 | 53970 | 53983 | 53995 | [illegible] |
| 347 | | 5 | [illegible] | | [illegible] | | 54083 | 54095 | 54108 | 54121 | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | | [illegible] | | [illegible] | 3.54208 | 3.54220 | 3.54233 | 3.54245 | [illegible] |
| [illegible] | | 1 | 54183 | 54295 | 54307 | 54320 | 54332 | 54345 | 54357 | 54370 | [illegible] | [illegible] |
| 350 | | 2 | 54407 | 54419 | 54432 | 54444 | 54456 | 54469 | 54481 | 54494 | [illegible] | [illegible] |
| 351 | | 3 | 54531 | 54543 | 54555 | 54568 | 54580 | 54592 | 54605 | 54617 | [illegible] | [illegible] |
| 352 | | 4 | 54654 | 54667 | 54679 | 54691 | 54704 | 54716 | 54728 | 54741 | [illegible] | [illegible] |
| 353 | | 5 | 54777 | 54790 | 54802 | 54814 | 54827 | 54839 | 54851 | [illegible] | [illegible] | [illegible] |
| 354 | 59. | 0 | 3.54900 | 3.54913 | 3.54925 | 3.54937 | 3.54949 | 3.54962 | 3.54974 | 3.54986 | 3.54998 | [illegible] |
| 355 | | 1 | 55023 | 55035 | 55047 | 55060 | 55072 | 55084 | 55096 | 55108 | 55121 | 55133 |
| 356 | | 2 | 55145 | 55157 | 55169 | 55182 | 55194 | 55206 | 55218 | 55230 | 55242 | 55255 |
| 357 | | 3 | 55267 | 55279 | 55291 | 55303 | 55315 | 55328 | 55340 | 55352 | 55364 | 55376 |
| [illegible] | | | [illegible] | | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 359 | | 5 | 55509 | 55522 | 55534 | 55546 | 55558 | 55570 | 55582 | [illegible] | [illegible] | [illegible] |

| | | 1 Degree, or 1 Hour. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ ″ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| [illegible] | 2. | 3. [illegible]930 | 3. 55642 | 3. 55654 | 3. 55666 | 3. 55678 | 3. 55691 | 3. 55703 | 3. 55715 | 3. 55727 | 3. 55739 |
| [illegible] | 1 | [illegible] 55751 | 55763 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 3 | [illegible] 55991 | 56003 | 56015 | 56027 | 56038 | 56050 | 56062 | 56074 | 56086 | 56098 |
| [illegible] | 4 | [illegible] 56110 | 56122 | 56134 | 56146 | 56158 | 56170 | 56182 | 56194 | 56205 | 56217 |
| [illegible] | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 1. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 376 | 2. 0 | 3. 57054 | 3. 57066 | 3. 57078 | 3. 57089 | 3. 57101 | 3. 57113 | 3. 57124 | 3. 57136 | 3. 57148 | 3. [illegible] |
| 377 | 1 | 57171 | 57183 | 57194 | 57206 | 57217 | 57229 | 57241 | 57252 | 57264 | [illegible] |
| 378 | 2 | 57287 | 57299 | 57310 | 57322 | 57334 | 57345 | 57357 | 57368 | 57380 | 57392 |
| 379 | 3 | 57403 | 57415 | 57426 | 57438 | 57449 | 57461 | 57473 | 57484 | 57496 | 57507 |
| 380 | 4 | 57519 | 57530 | 57542 | 57553 | 57565 | 57576 | 57588 | 57600 | 57611 | 57623 |
| 381 | 5 | 57634 | 57646 | 57657 | 57669 | 57680 | 57692 | 57703 | 57715 | 57726 | 57738 |
| 382 | 3. 0 | 3. 57749 | 3. 57761 | 3. 57772 | 3. 57784 | 3. 57795 | 3. 57807 | 3. 57818 | 3. 57830 | 3. 57841 | 3. 57852 |
| 383 | 1 | 57864 | 57875 | 57887 | 57898 | 57910 | 57921 | 57933 | 57944 | 57955 | 57967 |
| 384 | 2 | 57978 | 57990 | 58001 | 58013 | 58024 | 58035 | 58047 | 58058 | 58070 | 58081 |
| 385 | 3 | 58092 | 58104 | 58115 | 58127 | 58138 | 58149 | 58161 | 58172 | 58184 | 58195 |
| 386 | 4 | 58206 | 58218 | 58229 | 58240 | 58252 | 58263 | 58274 | 58286 | 58297 | 58309 |
| 387 | 5 | 58320 | 58331 | 58343 | 58354 | 58365 | 58377 | 58388 | 58399 | 58410 | 58422 |
| 388 | 4. 0 | 3. 58433 | 3. 58444 | 3. 58456 | 3. 58467 | 3. 58478 | 3. 58490 | 3. 58501 | 3. 58512 | 3. 58524 | 3. 58535 |
| 389 | 1 | 58546 | 58557 | 58569 | 58580 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 390 | 2 | 58659 | 58670 | 58681 | 58692 | 58704 | 58715 | 58726 | 58737 | 58749 | 58760 |
| 391 | 3 | 58771 | 58782 | 58794 | 58805 | 58816 | 58827 | 58838 | 58850 | 58861 | 58872 |
| 392 | 4 | 58883 | 58894 | 58906 | 58917 | 58928 | 58939 | 58950 | 58961 | 58973 | 58984 |
| 393 | 5 | 58995 | 59006 | 59017 | 59028 | 59040 | 59051 | 59062 | 59073 | 59084 | 59095 |
| 394 | 5. 0 | 3. 59106 | 3. 59118 | 3. 59129 | 3. 59140 | 3. 59151 | 3. 59162 | 3. 59173 | 3. 59184 | 3. 59195 | 3. 59207 |
| 395 | 1 | 59218 | 59229 | 59240 | 59251 | 59262 | 59273 | 59284 | 59295 | 59306 | 59318 |
| 396 | 2 | 59329 | 59340 | 59351 | 59362 | 59373 | 59384 | 59395 | 59406 | 59417 | 59428 |
| 397 | 3 | 59439 | 59450 | 59461 | 59472 | 59483 | 59494 | 59506 | 59517 | 59528 | 59539 |
| 398 | 4 | 59550 | 59561 | 59572 | 59583 | 59594 | 59605 | 59616 | 59627 | 59638 | 59649 |
| 399 | 5 | 59660 | 59671 | 59682 | 59693 | 59704 | 59715 | 59726 | 59737 | 59748 | 59759 |
| [illegible] | 6. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 400 | 1 | 59879 | 59890 | 59901 | 59912 | 59923 | 59934 | 59945 | 59956 | 59966 | 59977 |
| 401 | 2 | 59988 | 59999 | 60010 | 60021 | 60032 | 60043 | 60054 | 60065 | 60076 | 60086 |
| 402 | 3 | 60097 | 60108 | 60119 | 60130 | 60141 | 60152 | 60163 | 60173 | 60184 | 60195 |
| 403 | 4 | 60206 | 60217 | 60228 | 60239 | 60249 | 60260 | 60271 | 60282 | 60293 | 60304 |
| 404 | 5 | 60314 | 60325 | 60336 | 60347 | 60358 | 60369 | 60379 | 60390 | 60401 | 60412 |
| 405 | 7. 0 | 3. 60423 | 3. 60433 | 3. 60444 | 3. 60455 | 3. 60466 | 3. 60477 | 3. 60487 | 3. 60498 | 3. 60509 | 3. 60520 |
| 406 | 1 | 60531 | 60541 | 60552 | 60563 | 60574 | 60584 | 60595 | 60606 | 60617 | 60627 |
| 407 | 2 | 60638 | 60649 | 60660 | 60670 | 60681 | 60692 | 60703 | 60713 | 60724 | 60735 |
| 408 | 3 | 60746 | 60756 | 60767 | 60778 | 60788 | 60799 | 60810 | 60821 | 60831 | 60842 |
| [illegible] | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 409 | 8. 0 | 3. 61066 | 3. 61077 | 3. 61087 | 3. 61098 | 3. 61109 | 3. 61119 | 3. 61130 | 3. 61140 | 3. 61151 | 3. 61162 |
| 410 | 1 | 61172 | 61183 | 61194 | 61204 | 61215 | 61225 | 61236 | 61247 | 61257 | 61268 |
| 411 | 2 | 61278 | 61289 | 61300 | 61310 | 61321 | 61331 | 61342 | 61352 | 61363 | 61374 |
| 412 | 3 | 61384 | 61395 | 61405 | 61416 | 61426 | 61437 | 61448 | 61458 | 61469 | 61479 |
| 413 | 4 | 61490 | 61500 | 61511 | 61521 | 61532 | 61542 | 61553 | 61563 | 61574 | 61584 |
| 414 | 5 | 61595 | 61606 | 61616 | 61627 | 61637 | 61648 | 61658 | 61669 | 61679 | 61690 |
| [illegible] | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 415 | 1 | 61805 | 61815 | 61826 | 61836 | 61847 | 61857 | 61868 | 61878 | 61888 | 61899 |
| 416 | 2 | 61909 | 61920 | 61930 | 61941 | 61951 | 61962 | 61972 | 61982 | 61993 | 62003 |
| 417 | 3 | 62014 | 62024 | 62034 | 62045 | 62055 | 62066 | 62076 | 62086 | 62097 | 62107 |
| 418 | 4 | 62118 | 62128 | 62138 | 62149 | 62159 | 62170 | 62180 | 62190 | 62201 | 62211 |
| [illegible] | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | 1 Degree, or 1 Hour. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *m* | *s* | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 420 | 10. | 0 | 3. 62325 | 3. 62335 | 3. 62346 | 3. 62356 | 3. 62366 | 3. 62377 | 3. 62387 | 3. 62397 | 3. 62408 | 3. 62418 |
| 421 | | 1 | 62428 | 62439 | 62449 | 62459 | 62469 | 62480 | 62490 | 62500 | 62511 | 62521 |
| 422 | | 2 | 62531 | 62542 | 62552 | 62562 | 62572 | 62583 | 62593 | 62603 | 62613 | 62624 |
| 423 | | 3 | 62634 | 62644 | 62655 | 62665 | 62675 | 62685 | 62696 | 62706 | 62716 | 62726 |
| 424 | | 4 | 62737 | 62747 | 62757 | 62767 | 62778 | 62788 | 62798 | 62808 | 62818 | 62829 |
| 425 | | 5 | 62839 | 62849 | 62859 | 62870 | 62880 | 62890 | 62900 | 62910 | 62921 | 62931 |
| 426 | 11. | 0 | 3. 62941 | 3. 62951 | 3. 62961 | 3. 62972 | 3. 62982 | 3. 62992 | 3. 63002 | 3. 63012 | 3. 63022 | 3. 63033 |
| 427 | | 1 | 63043 | 63053 | 63063 | 63073 | 63083 | 63094 | 63104 | 63114 | 63124 | 63134 |
| 428 | | 2 | 63144 | 63155 | 63165 | 63175 | 63185 | 63195 | 63205 | 63215 | 63225 | 63236 |
| 429 | | 3 | 63246 | 63256 | 63266 | 63276 | 63286 | 63296 | 63306 | 63317 | 63327 | 63337 |
| 430 | | 4 | 63347 | 63357 | 63367 | 63377 | 63387 | 63397 | 63407 | 63417 | 63428 | 63438 |
| 431 | | 5 | 63448 | 63458 | 63468 | 63478 | 63488 | 63498 | 63508 | 63518 | 63528 | 63538 |
| 432 | 12. | 0 | 3. 63548 | 3. 63558 | 3. 63568 | 3. 63579 | 3. 63589 | 3. 63599 | 3. 63609 | 3. 63619 | 3. 63629 | 3. 63639 |
| 433 | | 1 | 63649 | 63659 | 63669 | 63679 | 63689 | 63699 | 63709 | 63719 | 63729 | 63739 |
| 434 | | 2 | 63749 | 63759 | 63769 | 63779 | 63789 | 63799 | 63809 | 63819 | 63829 | 63839 |
| 435 | | 3 | 63849 | 63859 | 63869 | 63879 | 63889 | 63899 | 63909 | 63919 | 63929 | 63939 |
| 436 | | 4 | 63949 | 63959 | 63969 | 63979 | 63988 | 63998 | 64008 | 64018 | 64028 | 64038 |
| 437 | | 5 | 64048 | 64058 | 64068 | 64078 | 64088 | 64098 | 64108 | 64118 | 64128 | 64137 |
| 438 | 13. | 0 | 3. 64147 | 3. 64157 | 3. 64167 | 3. 64177 | 3. 64187 | 3. 64197 | 3. 64207 | 3. 64217 | 3. 64227 | 3. 64237 |
| 439 | | 1 | 64246 | 64256 | 64266 | 64276 | 64286 | 64296 | 64306 | 64316 | 64326 | 64335 |
| 440 | | 2 | 64345 | 64355 | 64365 | 64375 | 64385 | 64395 | 64404 | 64414 | 64424 | 64434 |
| 441 | | 3 | 64444 | 64454 | 64464 | 64473 | 64483 | 64493 | 64503 | 64513 | 64523 | 64532 |
| 442 | | 4 | 64542 | 64552 | 64562 | 64572 | 64582 | 64591 | 64601 | 64611 | 64621 | 64631 |
| 443 | | 5 | 64640 | 64650 | 64660 | 64670 | 64680 | 64689 | 64699 | 64709 | 64719 | 64729 |
| 444 | 14. | 0 | 3. 64738 | 3. 64748 | 3. 64758 | 3. 64768 | 3. 64777 | 3. 64787 | 3. 64797 | 3. 64807 | 3. 64816 | 3. 64826 |
| 445 | | 1 | 64836 | 64846 | 64856 | 64865 | 64875 | 64885 | 64895 | 64904 | 64914 | 64924 |
| 446 | | 2 | 64933 | 64943 | 64953 | 64963 | 64972 | 64982 | 64992 | 65002 | 65011 | 65021 |
| 447 | | 3 | 65031 | 65040 | 65050 | 65060 | 65070 | 65079 | 65089 | 65099 | 65108 | 65118 |
| 448 | | 4 | 65128 | 65137 | 65147 | 65157 | 65167 | 65176 | 65186 | 65196 | 65205 | 65215 |
| 449 | | 5 | 65225 | 65234 | 65244 | 65254 | 65263 | 65273 | 65283 | 65292 | 65302 | 65312 |
| 450 | 15. | 0 | 3. 65321 | 3. 65331 | 3. 65341 | 3. 65350 | 3. 65360 | 3. 65369 | 3. 65379 | 3. 65389 | 3. 65398 | 3. 65408 |
| 451 | | 1 | 65418 | 65427 | 65437 | 65447 | 65456 | 65466 | 65475 | 65485 | 65495 | 65504 |
| 452 | | 2 | 65514 | 65523 | 65533 | 65543 | 65552 | 65562 | 65571 | 65581 | 65591 | 65600 |
| 453 | | 3 | 65610 | 65619 | 65629 | 65639 | 65648 | 65658 | 65667 | 65677 | 65686 | 65696 |
| 454 | | 4 | 65706 | 65715 | 65725 | 65734 | 65744 | 65753 | 65763 | 65772 | 65782 | 65792 |
| 455 | | 5 | 65801 | 65811 | 65820 | 65830 | 65839 | 65849 | 65858 | 65868 | 65877 | 65887 |
| 456 | 16. | 0 | 3. 65896 | 3. 65906 | 3. 65916 | 3. 65925 | 3. 65935 | 3. 65944 | 3. 65954 | 3. 65963 | 3. 65973 | 3. 65982 |
| 457 | | 1 | 65992 | 66001 | 66011 | 66020 | 66030 | 66039 | 66049 | 66058 | 66068 | 66077 |
| 458 | | 2 | 66087 | 66096 | 66106 | 66115 | 66124 | 66134 | 66143 | 66153 | 66162 | 66172 |
| 459 | | 3 | 66181 | 66191 | 66200 | 66210 | 66219 | 66229 | 66238 | 66247 | 66257 | 66266 |
| 460 | | 4 | 66276 | 66285 | 66295 | 66304 | 66314 | 66323 | 66332 | 66342 | 66351 | 66361 |
| 461 | | 5 | 66370 | 66380 | 66389 | 66398 | 66408 | 66417 | 66427 | 66436 | 66445 | 66455 |
| 462 | 17. | 0 | 3. 66464 | 3. 66474 | 3. 66483 | 3. 66492 | 3. 66502 | 3. 66511 | 3. 66521 | 3. 66530 | 3. 66539 | 3. 66549 |
| 463 | | 1 | 66558 | 66567 | 66577 | 66586 | 66596 | 66605 | 66614 | 66624 | 66633 | 66642 |
| 464 | | 2 | 66652 | 66661 | 66671 | 66680 | 66689 | 66699 | 66708 | 66717 | 66727 | 66736 |
| 465 | | 3 | 66745 | 66755 | 66764 | 66773 | 66783 | 66792 | 66801 | 66811 | 66820 | 66829 |
| 466 | | 4 | 66839 | 66848 | 66857 | 66867 | 66876 | 66885 | 66894 | 66904 | 66913 | 66922 |
| 467 | | 5 | 66932 | 66941 | 66950 | 66960 | 66969 | 66978 | 66987 | 66997 | 67006 | 67015 |
| 468 | 18. | 0 | [illegible] | | | | | | | | | |
| 469 | | 1 | 67117 | 67127 | 67136 | 67145 | 67154 | 67164 | 67173 | 67182 | 67191 | 67201 |
| 470 | | 2 | 67210 | 67219 | 67228 | 67237 | 67247 | 67256 | 67265 | 67274 | 67284 | 67293 |
| 471 | | 3 | 67302 | 67311 | 67321 | 67330 | 67339 | 67348 | 67357 | 67367 | 67376 | 67385 |
| 472 | | 4 | 67394 | 67403 | 67413 | 67422 | 67431 | 67440 | 67449 | 67459 | 67468 | 67477 |
| 473 | | 5 | 67486 | 67495 | 67504 | 67514 | 67523 | 67532 | 67541 | 67550 | 67560 | 67569 |
| 474 | 19. | 0 | 3. 67578 | 3. 67587 | 3. 67596 | 3. 67605 | 3. 67614 | 3. 67624 | 3. 67633 | 3. 67642 | 3. 67651 | 3. 67660 |
| 475 | | 1 | 67669 | 67678 | 67688 | 67697 | 67706 | 67715 | 67724 | 67733 | 67742 | 67752 |
| 476 | | 2 | 67861 | 67770 | 67779 | 67788 | 67797 | 67806 | 67815 | 67825 | 67834 | 67843 |
| 477 | | 3 | 67852 | 67861 | 67870 | 67879 | 67888 | 67897 | 67906 | 67916 | 67925 | 67934 |
| 478 | | 4 | 67943 | 67952 | 67961 | 67970 | 67979 | 67988 | 67997 | 68006 | 68015 | 68024 |
| 479 | | 5 | 68034 | 68043 | 68052 | 68061 | 68070 | 68079 | 68088 | 68097 | 68106 | 68115 |

| Num. | ′ | ″ | 1 Degree, or 1 Hour. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | m | s | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 480 | 20. | 0 | 3.68124 | 3.68133 | 3.68142 | 3.68151 | 3.68160 | 3.68169 | 3.68178 | 3.68187 | 3.68196 | 3.68205 |
| 481 | | 1 | 68215 | 68224 | 68233 | 68242 | 68251 | 68260 | 68269 | 68278 | 68287 | [illegible] |
| 482 | | 2 | 68305 | 68314 | 68323 | 68332 | 68341 | 68350 | 68359 | 68368 | 68377 | [illegible] |
| 483 | | 3 | 68395 | 68404 | 68413 | 68422 | 68431 | 68440 | 68449 | 68458 | 68467 | [illegible] |
| 484 | | 4 | 68485 | 68494 | 68502 | 68511 | 68520 | 68529 | 68538 | 68547 | 68556 | [illegible] |
| 485 | | 5 | 68574 | 68583 | 68592 | 68601 | 68610 | 68619 | 68628 | 68637 | 68646 | 68655 |
| 486 | 21. | 0 | 3.68664 | 3.68673 | 3.68681 | 3.68690 | 3.68699 | 3.68708 | 3.68717 | 3.68726 | 3.68735 | 3.[illegible] |
| 487 | | 1 | 68753 | 68762 | 68771 | 68780 | 68789 | 68797 | 68806 | 68815 | 68824 | [illegible] |
| 488 | | 2 | 68842 | 68851 | 68860 | 68869 | 68878 | 68886 | 68895 | 68904 | 68913 | 68922 |
| 489 | | 3 | 68931 | 68940 | 68949 | 68958 | 68966 | 68975 | 68984 | 68993 | 69002 | 69011 |
| 490 | | 4 | 69020 | 69028 | 69037 | 69046 | 69055 | 69064 | 69073 | 69082 | 69090 | 69099 |
| 491 | | 5 | 69108 | 69117 | 69126 | 69135 | 69144 | 69152 | 69161 | 69170 | 69179 | 69188 |
| 492 | 22. | 0 | 3.[illegible] | 3.69205 | 3.69214 | 3.69223 | 3.69232 | 3.69241 | 3.[illegible] | 3.[illegible] | 3.[illegible] | 3.[illegible] |
| 493 | | 1 | 69285 | 69293 | 69302 | 69311 | 69320 | 69329 | 69338 | 69346 | 69355 | [illegible] |
| 494 | | 2 | 69373 | 69381 | 69390 | 69399 | 69408 | 69417 | 69425 | 69434 | 69443 | [illegible] |
| 495 | | 3 | 69461 | 69469 | 69478 | 69487 | 69496 | 69504 | 69513 | 69522 | 69531 | 69539 |
| 496 | | 4 | 69548 | 69557 | 69566 | 69574 | 69583 | 69592 | 69601 | 69609 | 69618 | 69627 |
| 497 | | 5 | 69636 | 69644 | 69653 | 69662 | 69671 | 69679 | 69688 | 69697 | 69705 | [illegible] |
| 498 | 23. | 0 | 3.69723 | 3.69732 | 3.69740 | 3.69749 | 3.69758 | 3.69767 | 3.69775 | 3.69784 | 3.69793 | 3.[illegible] |
| 499 | | 1 | 69810 | 69819 | 69827 | 69836 | 69845 | 69854 | 69862 | 69871 | 69880 | [illegible] |
| 500 | | 2 | 69897 | 69906 | 69914 | 69923 | 69932 | 69940 | 69949 | 69958 | 69966 | 69975 |
| 501 | | 3 | 69984 | 69992 | 70001 | 70010 | 70018 | 70027 | 70036 | 70044 | 70053 | 70062 |
| 502 | | 4 | 70070 | 70079 | 70088 | 70096 | 70105 | 70114 | 70122 | 70131 | 70140 | [illegible] |
| 503 | | 5 | 70157 | 70165 | 70174 | 70183 | 70191 | 70200 | 70209 | 70217 | 70226 | [illegible] |
| 504 | 24. | 0 | 3.70243 | 3.70252 | 3.[illegible] | 3.[illegible] | 3.[illegible] | 3.70286 | 3.70295 | 3.70303 | 3.70312 | 3.[illegible] |
| 505 | | 1 | 70329 | 70338 | [illegible] | [illegible] | [illegible] | [illegible] | 70381 | 70389 | 70398 | [illegible] |
| 506 | | 2 | 70415 | 70424 | [illegible] | [illegible] | [illegible] | [illegible] | 70467 | 70475 | 70484 | [illegible] |
| 507 | | 3 | [illegible] | 70509 | [illegible] | 70526 | 70535 | 70544 | 70552 | 70561 | 70569 | [illegible] |
| 508 | | 4 | 70586 | 70595 | 70603 | 70612 | 70621 | 70629 | 70638 | 70646 | 70655 | [illegible] |
| 509 | | 5 | 70672 | 70680 | 70689 | 70697 | 70706 | 70714 | 70723 | 70731 | 70740 | [illegible] |
| 510 | 25. | 0 | 3.70757 | 3.70766 | 3.70774 | 3.70783 | 3.70791 | 3.70800 | 3.70808 | 3.70817 | 3.70825 | 3.[illegible] |
| 511 | | 1 | 70842 | 70851 | 70859 | 70868 | 70876 | 70885 | 70893 | 70902 | 70910 | 70919 |
| 512 | | 2 | 70927 | 70935 | 70944 | 70952 | 70961 | 70969 | 70978 | 70986 | 70995 | 71003 |
| 513 | | 3 | 71012 | 71020 | 71029 | 71037 | 71046 | 71054 | 71062 | 71071 | 71079 | [illegible] |
| 514 | | 4 | 71096 | 71105 | 71113 | 71122 | 71130 | 71139 | 71147 | 71155 | 71164 | 71172 |
| 515 | | 5 | 71181 | 71189 | 71198 | 71206 | 71214 | 71223 | 71231 | 71240 | 71248 | 71257 |
| 516 | 26. | 0 | 3.71265 | 3.71273 | 3.71282 | 3.71290 | 3.71299 | 3.71307 | 3.71315 | 3.71324 | 3.71332 | 3.71341 |
| 517 | | 1 | 71349 | 71357 | 71366 | 71374 | 71383 | 71391 | 71399 | 71408 | 71416 | 71425 |
| 518 | | 2 | 71433 | 71441 | 71450 | 71458 | 71466 | 71475 | 71483 | 71492 | 71500 | 71508 |
| 519 | | 3 | 71517 | 71525 | 71533 | 71542 | 71550 | 71559 | 71567 | 71575 | 71584 | 71592 |
| 520 | | 4 | 71600 | 71609 | 71617 | 71625 | 71634 | 71642 | 71650 | 71659 | 71667 | 71675 |
| 521 | | 5 | 71684 | 71692 | 71700 | 71709 | 71717 | 71725 | 71734 | 71742 | 71750 | 71759 |
| 522 | [illegible] | 0 | 3.71767 | 3.71775 | 3.71784 | 3.71792 | 3.71800 | 3.71809 | 3.71817 | 3.71825 | 3.[illegible] | 3.[illegible] |
| [illegible] | | 1 | 71850 | 71858 | 71867 | 71875 | 71883 | 71892 | 71900 | 71908 | 71917 | 71925 |
| [illegible] | | 2 | 71933 | 71941 | 71950 | 71958 | 71966 | 71975 | 71983 | 71991 | 71999 | 72008 |
| [illegible] | | 3 | 72016 | 72024 | 72032 | 72041 | 72049 | 72057 | 72066 | 72074 | 72082 | 72090 |
| [illegible] | | 4 | 72099 | 72107 | 72115 | 72123 | 72132 | 72140 | 72148 | 72156 | 72165 | 72173 |
| [illegible] | | 5 | 72181 | 72189 | 72198 | 72206 | 72214 | 72222 | 72230 | 72239 | 72247 | 72255 |
| 528 | 28. | 0 | 3.72263 | 3.72272 | 3.72280 | 3.72288 | 3.72296 | 3.72304 | 3.72313 | 3.72321 | 3.72329 | 3.72337 |
| 529 | | 1 | 72346 | 72354 | 72362 | 72370 | 72378 | 72387 | 72395 | 72403 | 72411 | [illegible] |
| 530 | | 2 | 72428 | 72436 | 72444 | 72452 | 72460 | 72469 | 72477 | 72485 | 72493 | [illegible] |
| 531 | | 3 | 72509 | 72518 | 72526 | 72534 | 72542 | 72550 | 72558 | 72567 | 72575 | 72583 |
| 532 | | 4 | 72591 | 72599 | 72607 | 72616 | 72624 | 72632 | 72640 | 72648 | 72656 | 72665 |
| 533 | | 5 | 72673 | 72681 | 72689 | 72697 | 72705 | 72713 | 72722 | 72730 | 72738 | 72746 |
| 534 | 29. | 0 | 3.72754 | 3.72762 | 3.72770 | 3.72779 | 3.72787 | 3.72795 | 3.72803 | 3.72811 | 3.72819 | 3.72827 |
| 535 | | 1 | 72835 | 72843 | 72852 | 72860 | 72868 | 72876 | 72884 | 72892 | 72900 | 72908 |
| 536 | | 2 | 72916 | 72925 | 72933 | 72941 | 72949 | 72957 | 72965 | 72973 | 72981 | 72989 |
| 537 | | 3 | 72997 | 73006 | 73014 | 73022 | 73030 | 73038 | 73046 | 73054 | 73062 | 73070 |
| 538 | | 4 | 73078 | 73086 | 73094 | 73102 | 73111 | 73119 | 73127 | 73135 | 73143 | 73151 |
| 539 | | 5 | 73159 | 73167 | 73175 | 73183 | 73191 | 73199 | 73207 | 73215 | 73223 | 73231 |

| | | 1 Degree, or 1 Hour. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| | | 3.73240 | 3.73247 | 3.73255 | 3.73262 | 3.73272 | 3.73280 | 3.73288 | 3.73296 | 3.73304 | 3.73312 |
| | 1 | 73320 | 73328 | 73335 | 73344 | 73352 | 73360 | 73368 | 73376 | 73384 | 73392 |
| | 2 | 73400 | 73408 | 73415 | 73424 | 73432 | 73440 | 73448 | 73456 | 73464 | 73472 |
| | 3 | 73480 | 73488 | 73495 | 73504 | 73512 | 73520 | 73528 | 73536 | 73544 | 73552 |
| 544 | 4 | 73560 | 73568 | 73575 | 73584 | 73592 | 73600 | 73608 | 73616 | 73624 | 73632 |
| 545 | 5 | 73640 | 73648 | 73655 | 73664 | 73672 | 73679 | 73687 | 73695 | 73703 | 73711 |
| | 0 | 3.73719 | 3.73727 | 3.73735 | 3.73743 | 3.73751 | 3.73759 | 3.73767 | 3.73775 | 3.73783 | 3.73791 |
| 547 | 1 | 73799 | 73807 | 73815 | 73823 | 73830 | 73838 | 73846 | 73854 | 73862 | 73870 |
| 548 | 2 | 73878 | 73886 | 73894 | 73902 | 73910 | 73918 | 73926 | 73933 | 73941 | 73949 |
| 549 | 3 | 73957 | 73965 | 73973 | 73981 | 73989 | 73997 | 74005 | 74013 | 74020 | 74028 |
| 550 | 4 | 74036 | 74044 | 74052 | 74060 | 74068 | 74076 | 74084 | 74092 | 74099 | 74107 |
| 551 | 5 | 74115 | 74123 | 74131 | 74139 | 74147 | 74155 | 74162 | 74170 | 74178 | 74186 |
| 552 | 0 | 3.74194 | 3.74202 | 3.74210 | 3.74218 | 3.74225 | 3.74233 | 3.74241 | 3.74249 | 3.74257 | 3.74265 |
| 553 | 1 | 74273 | 74280 | 74288 | 74296 | 74304 | 74312 | 74320 | 74327 | 74335 | 74343 |
| 554 | 2 | 74351 | 74359 | 74367 | 74374 | 74382 | 74390 | 74398 | 74406 | 74414 | 74421 |
| 555 | 3 | 74429 | 74437 | 74445 | 74453 | 74461 | 74468 | 74476 | 74484 | 74492 | 74500 |
| 556 | 4 | 74507 | 74515 | 74523 | 74531 | 74539 | 74547 | 74554 | 74562 | 74570 | 74578 |
| 557 | 5 | 74586 | 74593 | 74601 | 74609 | 74617 | 74624 | 74632 | 74640 | 74648 | 74656 |
| 558 | 0 | 3.74663 | 3.74671 | 3.74679 | 3.74687 | 3.74695 | 3.74702 | 3.74710 | 3.74718 | 3.74726 | 3.74733 |
| 559 | 1 | 74741 | 74749 | 74757 | 74764 | 74772 | 74780 | 74788 | 74796 | 74803 | 74811 |
| 560 | 2 | 74819 | 74827 | 74834 | 74842 | 74850 | 74858 | 74865 | 74873 | 74881 | 74889 |
| 561 | 3 | 74896 | 74904 | 74912 | 74920 | 74927 | 74935 | 74943 | 74950 | 74958 | 74966 |
| 562 | 4 | 74974 | 74981 | 74989 | 74997 | 75005 | 75012 | 75020 | 75028 | 75035 | 75043 |
| 563 | 5 | 75051 | 75059 | 75066 | 75074 | 75082 | 75089 | 75097 | 75105 | 75113 | 75120 |
| | | 3.75128 | 3.75136 | 3.75143 | 3.75151 | 3.75159 | 3.75166 | 3.75174 | 3.75182 | 3.75189 | 3.75197 |
| | 1 | 75205 | 75213 | 75220 | 75228 | 75236 | 75243 | 75251 | 75259 | 75266 | 75274 |
| | 2 | 75282 | 75289 | 75297 | 75305 | 75312 | 75320 | 75328 | 75335 | 75343 | 75351 |
| | 3 | 75358 | 75366 | 75374 | 75381 | 75389 | 75397 | 75404 | 75412 | 75420 | 75427 |
| | 4 | 75435 | 75442 | 75450 | 75458 | 75465 | 75473 | 75481 | 75488 | 75496 | 75504 |
| | 5 | 75511 | 75519 | 75526 | 75534 | 75542 | 75549 | 75557 | 75565 | 75572 | 75580 |
| 57 | 0 | 3.75587 | 3.75595 | 3.75603 | 3.75610 | 3.75618 | 3.75626 | 3.75633 | 3.75641 | 3.75648 | 3.75656 |
| 57 | 1 | 75664 | 75671 | 75679 | 75686 | 75694 | 75702 | 75709 | 75717 | 75724 | 75732 |
| 57 | 2 | 75740 | 75747 | 75755 | 75762 | 75770 | 75778 | 75785 | 75793 | 75800 | 75808 |
| 57 | 3 | 75815 | 75823 | 75831 | 75838 | 75846 | 75853 | 75861 | 75868 | 75876 | 75884 |
| 57 | 4 | 75891 | 75899 | 75906 | 75914 | 75921 | 75929 | 75937 | 75944 | 75952 | 75959 |
| 57 | 5 | 75967 | 75974 | 75982 | 75989 | 75997 | 76005 | 76012 | 76020 | 76027 | 76035 |
| 57 | 0 | 3.76042 | 3.76050 | 3.76057 | 3.76065 | 3.76072 | 3.76080 | 3.76087 | 3.76095 | 3.76103 | 3.76110 |
| 57 | 1 | 76118 | 76125 | 76133 | 76140 | 76148 | 76155 | 76163 | 76170 | 76178 | 76185 |
| 57 | 2 | 76193 | 76200 | 76208 | 76215 | 76223 | 76230 | 76238 | 76245 | 76253 | 76260 |
| 57 | 3 | 76268 | 76275 | 76283 | 76290 | 76298 | 76305 | 76313 | 76320 | 76328 | 76335 |
| 580 | 4 | 76343 | 76350 | 76358 | 76365 | 76373 | 76380 | 76388 | 76395 | 76403 | 76410 |
| 581 | 5 | 76418 | 76425 | 76433 | 76440 | 76448 | 76455 | 76462 | 76470 | 76477 | 76485 |
| 582 | 3 | 76492 | 76500 | 76507 | 76515 | 76522 | 76530 | 76537 | 76545 | 76552 | 76559 |
| 583 | 1 | 76567 | 76574 | 76582 | 76589 | 76597 | 76604 | 76612 | 76619 | 76626 | 76634 |
| 584 | 2 | 76641 | 76649 | 76656 | 76664 | 76671 | 76678 | 76686 | 76693 | 76701 | 76708 |
| 585 | 3 | 76716 | 76723 | 76730 | 76738 | 76745 | 76753 | 76760 | 76768 | 76775 | 76782 |
| 586 | 4 | 76790 | 76797 | 76805 | 76812 | 76819 | 76827 | 76834 | 76842 | 76849 | 76856 |
| 587 | 5 | 76864 | 76871 | 76879 | 76886 | 76893 | 76901 | 76908 | 76916 | 76923 | 76930 |
| | 0 | 76938 | 76945 | 76953 | 76960 | 76967 | 76975 | 76982 | 76989 | 76997 | 77004 |
| | 1 | 77012 | 77019 | 77026 | 77034 | 77041 | 77048 | 77056 | 77063 | 77070 | 77078 |
| | 2 | 77085 | 77093 | 77100 | 77107 | 77115 | 77122 | 77129 | 77137 | 77144 | 77151 |
| 590 | 3 | 77159 | 77166 | 77173 | 77181 | 77188 | 77195 | 77203 | 77210 | 77217 | 77225 |
| | 4 | 77232 | 77240 | 77247 | 77254 | 77262 | 77269 | 77276 | 77283 | 77291 | 77298 |
| | 5 | 77305 | 77313 | 77320 | 77327 | 77335 | 77342 | 77349 | 77357 | 77364 | 77371 |
| | | 77379 | 77386 | 77393 | 77401 | 77408 | 77415 | 77422 | 77430 | 77437 | 77444 |
| | 1 | 77452 | 77459 | 77466 | 77474 | 77481 | 77488 | 77495 | 77503 | 77510 | 77517 |
| | 2 | 77525 | 77532 | 77539 | 77546 | 77554 | 77561 | 77568 | 77576 | 77583 | 77590 |
| | 3 | 77597 | 77605 | 77612 | 77619 | 77627 | 77634 | 77641 | 77648 | 77656 | 77663 |
| | 4 | 77670 | 77677 | 77685 | 77692 | 77699 | 77706 | 77714 | 77721 | 77728 | 77735 |
| | 5 | 77743 | 77750 | 77757 | 77764 | 77772 | 77779 | 77786 | 77793 | 77801 | 77808 |

| ′ | ″ | 1 Degree, or 1 Hour. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| [illegible] | 0 | 3.77815 | 3.77822 | 3.77830 | 3.77837 | 3.77844 | 3.77851 | 3.77859 | 3.77866 | 3.77873 | [illegible] |
| [illegible] | 1 | 77887 | 77895 | 77902 | 77909 | 77916 | 77924 | 77931 | 77938 | 77945 | [illegible] |
| [illegible] | 2 | 77960 | 77967 | 77974 | 77981 | 77988 | 77996 | 78003 | 78010 | 78017 | 78025 |
| [illegible] | 3 | 78032 | 78039 | 78046 | 78053 | 78061 | 78068 | 78075 | 78082 | 78089 | 78097 |
| [illegible] | 4 | 78104 | 78111 | 78118 | 78125 | 78132 | 78140 | 78147 | 78154 | 78161 | 78168 |
| [illegible] | 5 | 78176 | 78183 | 78190 | 78197 | 78204 | 78211 | 78219 | [illegible] | [illegible] | [illegible] |
| [illegible] | 0 | 3.78247 | 3.78254 | 3.78262 | 3.78269 | 3.78276 | 3.78283 | 3.78290 | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | 78319 | 78326 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 4 | 78533 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 5 | 78604 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 0 | 3.78675 | 3.78682 | 3.78689 | 3.78696 | 3.78704 | 3.78711 | 3.78718 | 3.78725 | 3.78732 | [illegible] |
| [illegible] | 1 | 78746 | 78753 | 78760 | 78767 | 78774 | 78781 | 78789 | 78796 | 78803 | [illegible] |
| [illegible] | 2 | 78817 | 78824 | 78831 | 78838 | 78845 | 78852 | 78859 | 78866 | 78873 | [illegible] |
| [illegible] | 3 | 78888 | 78895 | 78902 | 78909 | 78916 | 78923 | 78930 | 78937 | 78944 | 78951 |
| [illegible] | 4 | 78958 | 78965 | 78972 | 78979 | 78986 | 78993 | 79000 | 79007 | 79014 | 79021 |
| [illegible] | 5 | 79029 | 79036 | 79043 | 79050 | 79057 | 79064 | 79071 | [illegible] | [illegible] | [illegible] |
| [illegible] | 0 | 3.79099 | 3.79106 | 3.79113 | 3.79120 | 3.79127 | 3.79134 | 3.79141 | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | 79169 | 79176 | 79183 | 79190 | 79197 | 79204 | 79211 | [illegible] | [illegible] | [illegible] |
| [illegible] | 2 | 79239 | 79246 | 79953 | 79260 | 79267 | 79274 | 79281 | [illegible] | [illegible] | [illegible] |
| [illegible] | 3 | 79309 | 79316 | 79323 | 79330 | 79337 | 79344 | 79351 | [illegible] | [illegible] | [illegible] |
| [illegible] | 4 | 79379 | 79386 | 79393 | 79400 | 79407 | 79414 | 79421 | [illegible] | [illegible] | [illegible] |
| [illegible] | 5 | 79449 | 79456 | 79463 | 79470 | 79477 | 79484 | 79491 | [illegible] | [illegible] | [illegible] |
| [illegible] | 5 | 3.79518 | 3.79525 | 3.79532 | 3.79539 | 3.79546 | 3.79553 | 3.79560 | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | 79588 | 79595 | 79602 | 79609 | 79616 | 79623 | 79630 | [illegible] | [illegible] | [illegible] |
| [illegible] | 2 | 79657 | 79664 | 79671 | 79678 | 79685 | 79692 | 79699 | [illegible] | [illegible] | [illegible] |
| [illegible] | 3 | 79727 | 79734 | 79741 | 79748 | 79754 | 79761 | 79768 | [illegible] | [illegible] | [illegible] |
| [illegible] | 4 | 79796 | 79803 | 79810 | 79817 | 79824 | 79831 | 79837 | 79844 | [illegible] | [illegible] |
| [illegible] | 5 | 79865 | 79872 | 79879 | 79886 | 79893 | 79900 | 79906 | 79913 | 7992[illegible] | [illegible] |
| [illegible] | 0 | 3.79934 | 3.79941 | 3.79948 | 3.79955 | 3.79962 | 3.79969 | 3.79975 | 3.79982 | 3.79989 | 3.799[illegible] |
| [illegible] | 1 | 80003 | 80010 | 80017 | 80024 | 80030 | 80037 | 80044 | 80051 | 80058 | 80065 |
| [illegible] | 2 | 80072 | 80079 | 80085 | 80092 | 80099 | 80106 | 80113 | 80120 | 80127 | 80134 |
| [illegible] | 3 | 80140 | 80147 | 80154 | 80161 | 80168 | 80175 | 80182 | 80188 | 80195 | 80202 |
| [illegible] | 4 | 80209 | 80216 | 80223 | 80229 | 80236 | 80243 | 80250 | 80257 | 80264 | 80271 |
| [illegible] | 5 | 80277 | 80284 | 80291 | 80298 | 80305 | 80312 | 80318 | 80325 | 80332 | 80339 |
| [illegible] | 0 | 3.80346 | 3.80353 | 3.80359 | 3.80366 | 3.80373 | 3.80380 | 3.80387 | 3.80393 | 3.80400 | 3.80407 |
| [illegible] | 1 | 80414 | 80421 | 80428 | 80434 | 80441 | 80448 | 80455 | 80462 | 80468 | 80475 |
| [illegible] | 2 | 80482 | 80489 | 80496 | 80502 | 80509 | 80516 | 80523 | 80530 | 80536 | 80543 |
| [illegible] | 3 | 80550 | 80557 | 80564 | 80570 | 80577 | 80584 | 80591 | 80598 | 80604 | 80611 |
| [illegible] | 4 | 80618 | 80625 | 80632 | 80638 | 80645 | 80652 | 80659 | 80665 | 80672 | 80679 |
| [illegible] | 5 | 80686 | 80693 | 80699 | 80706 | 80713 | 80720 | 80726 | 80733 | 80740 | 80747 |
| [illegible] | 0 | 3.80754 | 3.80760 | 3.80767 | 3.80774 | 3.80781 | 3.80787 | 3.80794 | 3.80801 | 3.80808 | 3.80814 |
| [illegible] | 1 | 80821 | 80828 | 80835 | 80841 | 80848 | 80855 | 80862 | 80868 | 80875 | 80882 |
| [illegible] | 2 | 80889 | 80895 | 80902 | 80909 | 80916 | 80922 | 80929 | 80936 | 80943 | 80949 |
| [illegible] | 3 | 80956 | 80963 | 80969 | 80976 | 80983 | 80990 | 80996 | 81003 | 81010 | 81017 |
| [illegible] | 4 | 81023 | 81030 | 81037 | 81043 | 81050 | 81057 | 81064 | 81070 | 81077 | 81084 |
| [illegible] | 5 | 81090 | 81097 | 81104 | 81111 | 81117 | 81124 | 81131 | 81137 | 81144 | 81151 |
| [illegible] | 0 | 3.81157 | 3.81164 | 3.81171 | 3.81178 | 3.81184 | 3.81191 | 3.81198 | 3.81204 | 3.81211 | 3.81218 |
| [illegible] | 1 | 81224 | 81231 | 81238 | 81245 | 81251 | 81258 | 81265 | 81271 | 81278 | 81285 |
| [illegible] | 2 | 81291 | 81298 | 81305 | 81311 | 81318 | 81325 | 81331 | 81338 | 81345 | 81351 |
| [illegible] | 3 | 81358 | 81365 | 81371 | 81378 | 81385 | 81391 | 81398 | 81405 | 81411 | 81418 |
| [illegible] | 4 | 81425 | 81431 | 81438 | 81445 | 81451 | 81458 | 81465 | 81471 | 81478 | 81485 |
| [illegible] | 5 | 81491 | 81498 | 81505 | 81511 | 81518 | 81525 | 81531 | 81538 | 81544 | [illegible] |
| [illegible] | 0 | 3.81558 | 3.81564 | 3.81571 | 3.81578 | 3.81584 | 3.81591 | 3.81598 | 3.81604 | 3.81611 | 3.81617 |
| [illegible] | 1 | 81624 | 81631 | 81637 | 81644 | 81651 | 81657 | 81664 | 81671 | 81677 | 81684 |
| [illegible] | 2 | 81690 | 81697 | 81704 | 81710 | 81717 | 81723 | 81730 | 81737 | 81743 | 81750 |
| [illegible] | 3 | 81756 | 81763 | 81770 | 81776 | 81783 | 81790 | 81796 | 81803 | 81809 | 81816 |
| [illegible] | 4 | 81823 | 81829 | 81836 | 81842 | 81849 | 81856 | 81862 | 81869 | 81875 | 81882 |
| [illegible] | 5 | 81889 | 81895 | 81902 | 81908 | 81915 | 81921 | 81928 | 81935 | 81941 | 81948 |

| | ′ ″ | 1 Degree, or 1 Hour. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *m* *s* | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 660 | 50. 0 | 3. 81954 | 3. 81961 | 3. 81968 | 3. 81974 | 3. 81981 | 3. 81987 | 3. 81994 | 3. 82000 | 3. 82007 | 3. 82014 |
| 661 | 1 | 82020 | 82027 | 82033 | 82040 | 82046 | 82053 | 82060 | 82066 | 82073 | 82079 |
| 662 | 2 | 82086 | 82092 | 82099 | 82105 | 82112 | 82119 | 82125 | 82132 | 82138 | 82145 |
| 663 | 3 | 82151 | 82158 | 82164 | 82171 | 82178 | 82184 | 82191 | 82197 | 82204 | 82210 |
| 664 | 4 | 82217 | 82223 | 82230 | 82236 | 82243 | 82249 | 82256 | 82263 | 82269 | 82276 |
| 665 | 5 | 82282 | 82289 | 82295 | 82302 | 82308 | 82315 | 82321 | 82328 | 82334 | 82341 |
| 666 | 51. 0 | 3. 82347 | 3. 82354 | 3. 82360 | 3. 82367 | 3. 82373 | 3. 82380 | 3. 82387 | 3. 82393 | 3. 82400 | 3. 82406 |
| 667 | 1 | 82413 | 82419 | 82426 | 82432 | 82439 | 82445 | 82452 | 82458 | 82465 | 82471 |
| 668 | 2 | 82478 | 82484 | 82491 | 82497 | 82504 | 82510 | 82517 | 82523 | 82530 | 82536 |
| 669 | 3 | 82543 | 82549 | 82556 | 82562 | 82569 | 82575 | 82582 | 82588 | 82595 | 82601 |
| 670 | 4 | 82607 | 82614 | 82620 | 82627 | 82633 | 82640 | 82646 | 82653 | 82659 | 82666 |
| 671 | 5 | 82672 | 82679 | 82685 | 82692 | 82698 | 82705 | 82711 | 82718 | 82724 | 82730 |
| 672 | 52. 0 | 3. 82737 | 3. 82743 | 3. 82750 | 3. 82756 | 3. 82763 | 3. 82769 | 3. 82776 | 3. 82782 | 3. 82789 | 3. 82795 |
| 673 | 1 | 82802 | 82808 | 82814 | 82821 | 82827 | 82834 | 82840 | 82847 | 82853 | 82860 |
| 674 | 2 | 82866 | 82872 | 82879 | 82885 | 82892 | 82898 | 82905 | 82911 | 82917 | 82924 |
| 675 | 3 | 82930 | 82937 | 82943 | 82950 | 82956 | 82963 | 82969 | 82975 | 82982 | 82988 |
| 676 | 4 | 82995 | 83001 | 83008 | 83014 | 83020 | 83027 | 83033 | 83040 | 83046 | 83052 |
| 677 | 5 | 83059 | 83065 | 83072 | 83078 | 83085 | 83091 | 83097 | 83104 | 83110 | 83117 |
| 678 | 53. 0 | 3. 83123 | 3. 83129 | 3. 83136 | 3. 83142 | 3. 83149 | 3. 83155 | 3. 83161 | 3. 83168 | 3. 83174 | 3. 83181 |
| 679 | 1 | 83187 | 83193 | 83200 | 83206 | 83213 | 83219 | 83225 | 83232 | 83238 | 83245 |
| 680 | 2 | 83251 | 83257 | 83264 | 83270 | 83276 | 83283 | 83289 | 83296 | 83302 | 83308 |
| 681 | 3 | 83315 | 83321 | 83327 | 83334 | 83340 | 83347 | 83353 | 83359 | 83366 | 83372 |
| 682 | 4 | 83378 | 83385 | 83391 | 83398 | 83404 | 83410 | 83417 | 83423 | 83429 | 83436 |
| 683 | 5 | 83442 | 83448 | 83455 | 83461 | 83467 | 83474 | 83480 | 83487 | 83493 | 83499 |
| 684 | 54. 0 | 3. 83506 | 3. 83512 | 3. 83518 | 3. 83525 | 3. 83531 | 3. 83537 | 3. 83544 | 3. 83550 | 3. 83556 | 3. 83563 |
| 685 | 1 | 83569 | 83575 | 83582 | 83588 | 83594 | 83601 | 83607 | 83613 | 83620 | 83626 |
| 686 | 2 | 83632 | 83639 | 83645 | 83651 | 83658 | 83664 | 83670 | 83677 | 83683 | 83689 |
| 687 | 3 | 83696 | 83702 | 83708 | 83715 | 83721 | 83727 | 83734 | 83740 | 83747 | 83753 |
| 688 | 4 | 83759 | 83765 | 83771 | 83778 | 83784 | 83790 | 83797 | 83803 | 83809 | 83816 |
| 689 | 5 | 83822 | 83828 | 83835 | 83841 | 83847 | 83853 | 83860 | 83866 | 83872 | 83879 |
| 690 | 55. 0 | 3. 83885 | 3. 83891 | 3. 83897 | 3. 83904 | 3. 83910 | 3. 83916 | 3. 83923 | 3. 83929 | 3. 83935 | 3. 83942 |
| 691 | 1 | 83948 | 83954 | 83960 | 83967 | 83973 | 83979 | 83985 | 83992 | 83998 | 84004 |
| 692 | 2 | 84011 | 84017 | 84023 | 84029 | 84036 | 84042 | 84048 | 84055 | 84061 | 84067 |
| 693 | 3 | 84073 | 84080 | 84086 | 84092 | 84098 | 84105 | 84111 | 84117 | 84123 | 84130 |
| 694 | 4 | 84136 | 84142 | 84148 | 84155 | 84161 | 84167 | 84173 | 84180 | 84186 | 84192 |
| 695 | 5 | 84198 | 84205 | 84211 | 84217 | 84223 | 84230 | 84236 | 84242 | 84248 | 84255 |
| 696 | 56. 0 | 3. 84261 | 3. 84267 | 3. 84273 | 3. 84280 | 3. 84286 | 3. 84292 | 3. 84298 | 3. 84305 | 3. 84311 | 3. 84317 |
| 697 | 1 | 84323 | 84330 | 84336 | 84342 | 84348 | 84354 | 84361 | 84367 | 84373 | 84379 |
| 698 | 2 | 84386 | 84392 | 84398 | 84404 | 84411 | 84417 | 84423 | 84429 | 84435 | 84442 |
| 699 | 3 | 84448 | 84454 | 84460 | 84467 | 84473 | 84479 | 84485 | 84491 | 84497 | 84504 |
| 700 | 4 | 84510 | 84516 | 84522 | 84528 | 84535 | 84541 | 84547 | 84553 | 84559 | 84566 |
| 701 | 5 | 84572 | 84578 | 84584 | 84590 | 84597 | 84603 | 84609 | 84615 | 84621 | 84628 |
| 702 | 57. 0 | 84634 | 3. 84640 | 3. 84646 | 3. 84652 | 3. 84658 | 3. 84665 | 3. 84671 | 3. 84677 | 3. 84683 | 3. 84689 |
| 703 | 1 | 84696 | 84702 | 84708 | 84714 | 84720 | 84726 | 84733 | 84739 | 84745 | 84751 |
| 704 | 2 | 84757 | 84763 | 84770 | 84776 | 84782 | 84788 | 84794 | 84800 | 84807 | 84813 |
| 705 | 3 | 84819 | 84825 | 84831 | 84837 | 84844 | 84850 | 84856 | 84862 | 84868 | 84874 |
| 706 | 4 | 84880 | 84887 | 84893 | 84899 | 84905 | 84911 | 84917 | 84924 | 84930 | 84936 |
| 707 | 5 | 84942 | 84948 | 84954 | 84960 | 84967 | 84973 | 84979 | 84985 | 84991 | 84997 |
| 708 | 58. 0 | 3. 85003 | 3. 85009 | 3. 85016 | 3. 85022 | 3. 85028 | 3. 85034 | 3. 85040 | 3. 85046 | 3. 85052 | 3. 85058 |
| 709 | 1 | 85065 | 85071 | 85077 | 85083 | 85089 | 85095 | 85101 | 85107 | 85114 | 85120 |
| 710 | 2 | 85126 | 85132 | 85138 | 85144 | 85150 | 85156 | 85163 | 85169 | 85175 | 85181 |
| 711 | 3 | 85187 | 85193 | 85199 | 85205 | 85211 | 85217 | 85224 | 85230 | 85236 | 85242 |
| 712 | 4 | 85248 | 85254 | 85260 | 85266 | 85272 | 85278 | 85285 | 85291 | 85297 | 85303 |
| 713 | 5 | 85309 | 85315 | 85321 | 85327 | 85333 | 85339 | 85345 | 85352 | 85358 | 85364 |
| 714 | 59. 0 | 3. 85370 | 3. 85376 | 3. 85382 | 3. 85388 | 3. 85394 | 3. 85400 | 3. 85406 | 3. 85412 | 3. 85418 | 3. 85425 |
| 715 | 1 | 85431 | 85437 | 85443 | 85449 | 85455 | 85461 | 85467 | 85473 | 85479 | 85485 |
| 716 | 2 | 85491 | 85497 | 85503 | 85509 | 85516 | 85522 | 85528 | 85534 | 85540 | 85546 |
| 717 | 3 | 85552 | 85558 | 85564 | 85570 | 85576 | 85582 | 85588 | 85594 | 85600 | 85606 |
| 718 | 4 | 85612 | 85618 | 85625 | 85631 | 85637 | 85643 | 85649 | 85655 | 85661 | 85667 |
| 719 | 5 | 85673 | 85679 | 85685 | 85691 | 85697 | 85703 | 85709 | 85715 | 85721 | 85727 |

| | ′ ″ | 2 Degrees, or 2 Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | *m* *s* | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 720 | 0. 0 | 3. 85733 | 3. 85739 | 3. 85745 | 3. 85751 | 3. 85757 | 3. 85763 | 3. 85769 | 3. 85775 | 3. 85781 | 3. 85788 |
| 721 | 1 | 85794 | 85800 | 85806 | 85812 | 85818 | 85824 | 85830 | 85836 | 85842 | 85848 |
| 722 | 2 | 85854 | 85860 | 85866 | 85872 | 85878 | 85884 | 85890 | 85896 | 85902 | 85908 |
| 723 | 3 | 85914 | 85920 | 85926 | 85932 | 85938 | 85944 | 85950 | 85956 | 85962 | 85968 |
| 724 | 4 | 85974 | 85980 | 85986 | 85992 | 85998 | 86004 | 86010 | 86016 | 86022 | 86028 |
| 725 | 5 | 86034 | 86040 | 86046 | 86052 | 86058 | 86064 | 86070 | 86076 | 86082 | 86088 |
| 726 | 1. 0 | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] |
| 727 | 1 | 86153 | 86159 | 86165 | 86171 | 86177 | 86183 | 86189 | 86195 | 86201 | 86207 |
| 728 | 2 | 86213 | 86219 | 86225 | 86231 | 86237 | 86243 | 86249 | 86255 | 86261 | 86267 |
| 729 | 3 | 86273 | 86279 | 86285 | 86291 | 86297 | 86303 | 86308 | 86314 | 86320 | 86326 |
| 730 | 4 | 86332 | 86338 | 86344 | 86350 | 86356 | 86362 | 86368 | 86374 | 86380 | 86386 |
| 731 | 5 | 86392 | 86398 | 86404 | 86410 | 86415 | 86421 | 86427 | 86433 | 86439 | 86445 |
| 732 | 2. 0 | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] |
| 733 | 1 | 86510 | 86516 | 86522 | 86528 | 86534 | 86540 | 86546 | 86552 | 86558 | 86564 |
| 734 | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 735 | 3 | 86629 | 86635 | 86641 | 86646 | 86652 | 86658 | 86664 | 86670 | 86676 | 86682 |
| 736 | 4 | 86688 | 86694 | 86700 | 86705 | 86711 | 86717 | 86723 | 86729 | 86735 | 86741 |
| 737 | 5 | 86747 | 86753 | 86759 | 86764 | 86770 | 86776 | 86782 | 86788 | 86794 | 86800 |
| 738 | 3. 0 | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] |
| 739 | 1 | 86864 | 86870 | 86876 | 86882 | 86888 | 86894 | 86900 | 86906 | 86911 | 86917 |
| 740 | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 741 | 3 | 86982 | 86988 | 86994 | 86999 | 87005 | 87011 | 87017 | 87023 | 87029 | [illegible] |
| 742 | 4 | 87040 | 87046 | 87052 | 87058 | 87064 | 87070 | 87075 | 87081 | 87087 | [illegible] |
| 743 | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 744 | 4. 0 | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | [illegible] |
| 745 | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 746 | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 747 | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 748 | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 749 | 5 | 87448 | 87454 | 87460 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 750 | 5. 0 | 3. 87506 | 3. 87512 | 3. 87518 | 3. 87523 | 3. 87529 | 3. 87535 | 3. 87541 | 3. 87547 | 3. 87552 | 3. 87558 |
| 751 | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 752 | 2 | 87622 | 87628 | 87633 | 87639 | 87645 | 87651 | 87656 | 87662 | 87668 | 87674 |
| 753 | 3 | 87679 | 87685 | 87691 | 87697 | 87703 | 87708 | 87714 | 87720 | 87726 | 87731 |
| 754 | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 755 | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 756 | 6. 0 | 3. 87852 | 3. 87858 | 3. 87864 | 3. 87869 | 3. 87875 | 3. 87881 | 3. 87887 | 3. 87892 | 3. 87898 | 3. 87904 |
| 757 | 1 | 87910 | 87915 | 87921 | 87927 | 87933 | 87938 | 87944 | 87950 | 87955 | 87961 |
| 758 | 2 | 87967 | 87973 | 87978 | 87984 | 87990 | 87996 | 88001 | 88007 | 88012 | 88018 |
| 759 | 3 | 88024 | 88030 | 88036 | 88041 | 88047 | 88053 | 88058 | 88064 | 88070 | 88076 |
| 760 | 4 | 88081 | 88087 | 88093 | 88098 | 88104 | 88110 | 88116 | 88121 | 88127 | 88133 |
| 761 | 5 | 88138 | 88144 | 88150 | 88156 | 88161 | 88167 | 88173 | 88178 | 88184 | 88190 |
| 762 | 7. 0 | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] |
| 763 | 1 | 88252 | 88258 | 88264 | 88270 | 88275 | 88281 | 88287 | 88292 | 88298 | 88304 |
| 764 | 2 | 88309 | 88315 | 88321 | 88326 | 88332 | 88338 | 88343 | 88349 | 88355 | 88360 |
| 765 | 3 | 88366 | 88372 | 88377 | 88383 | 88389 | 88395 | 88400 | 88406 | 88413 | 88417 |
| 766 | 4 | 88423 | 88429 | 88434 | 88440 | 88446 | 88451 | 88457 | 88463 | 88468 | 88474 |
| 767 | 5 | 88480 | 88485 | 88491 | 88497 | 88502 | 88508 | 88513 | 88519 | 88525 | 88530 |
| 768 | 8. 0 | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] |
| 769 | 1 | 88593 | 88598 | 88604 | 88610 | 88615 | 88621 | 88627 | 88632 | 88638 | 88643 |
| 770 | 2 | 88649 | 88655 | 88660 | 88666 | 88672 | 88677 | 88683 | 88689 | 88694 | 88700 |
| 771 | 3 | 88705 | 88711 | 88717 | 88722 | 88728 | 88734 | 88739 | 88745 | 88750 | 88756 |
| 772 | 4 | 88762 | 88767 | 88773 | 88779 | 88784 | 88790 | 88795 | 88801 | 88807 | 88812 |
| 773 | 5 | 88818 | 88824 | 88829 | 88835 | 88840 | 88846 | 88852 | 88857 | 88863 | 88868 |
| 774 | 9. 0 | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] | 3. [illegible] |
| 775 | 1 | 88930 | 88936 | 88941 | 88947 | 88953 | 88958 | 88964 | 88969 | 88975 | 88981 |
| 776 | 2 | 88986 | 88992 | 88997 | 89003 | 89009 | 89014 | 89020 | 89025 | 89031 | 89037 |
| 777 | 3 | 89042 | 89048 | 89053 | 89059 | 89064 | 89070 | 89076 | 89081 | 89087 | 89092 |
| 778 | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 779 | 5 | 89154 | 89159 | 89165 | 89170 | 89176 | 89182 | 89187 | 89193 | 89198 | 89204 |

| | ′ | ″ | 2 Degrees, or 2 Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | m | s | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 780 | 11. | 0 | 3. 89209 | 3. 89215 | 3. 89221 | 3. 89226 | 3. 89232 | 3. 89237 | 3. 89243 | 3. 89248 | 3. 89254 | 3. 89260 |
| 781 | | 1 | 89265 | 89271 | 89276 | 89282 | 89287 | 89293 | 89298 | 89304 | 89310 | 89315 |
| 782 | | 2 | 89321 | 89326 | 89332 | 89337 | 89343 | 89348 | 89354 | 89360 | 89365 | 89371 |
| 783 | | 3 | 89376 | 89382 | 89387 | 89393 | 89398 | 89404 | 89409 | 89415 | 89421 | 89426 |
| 784 | | 4 | 89432 | 89437 | 89443 | 89448 | 89454 | 89459 | 89465 | 89470 | 89476 | 89481 |
| 785 | | 5 | 89487 | 89492 | 89498 | 89504 | 89509 | 89515 | 89520 | 89526 | 89531 | 89537 |
| 786 | 11. | 0 | 3. 89542 | 3. 89548 | 3. 89553 | 3. 89559 | 3. 89564 | 3. 89570 | 3. 89575 | 3. 89581 | 3. 89586 | 3. 89592 |
| 787 | | 1 | 89597 | 89603 | 89609 | 89614 | 89620 | 89625 | 89631 | 89636 | 89642 | 89647 |
| 788 | | 2 | [illegible] | | | | | | | | | |
| 789 | | 3 | 89708 | 89713 | 89719 | 89724 | 89730 | 89735 | 89741 | 89746 | 89752 | 89757 |
| 790 | | 4 | 89763 | 89768 | 89774 | 89779 | 89785 | 89790 | 89796 | 89801 | 89807 | 89812 |
| 791 | | 5 | 89818 | 89823 | 89829 | 89834 | 89840 | 89845 | 89851 | 89856 | 89862 | 89867 |
| 792 | 12. | 0 | 3. 89873 | 3. 89878 | 3. 89883 | 3. 89889 | 3. 89894 | 3. 89900 | 3. 89905 | 3. 89911 | 3. 89916 | 3. 89922 |
| 793 | | 1 | 89927 | 89933 | 89938 | 89944 | 89949 | 89955 | 89960 | 89966 | 89971 | 89977 |
| 794 | | 2 | 89982 | 89988 | 89993 | 89998 | 90004 | 90009 | 90015 | 90020 | 90026 | 90031 |
| 795 | | 3 | 90037 | 90042 | 90048 | 90053 | 90059 | 90064 | 90069 | 90075 | 90080 | 90086 |
| 796 | | 4 | 90091 | 90097 | 90102 | 90108 | 90113 | 90119 | 90124 | 90129 | 90135 | 90140 |
| 797 | | 5 | 90146 | 90151 | 90157 | 90162 | 90168 | 90173 | 90179 | 90184 | 90189 | 90195 |
| 798 | 13. | 0 | 3. 90200 | 3. 90206 | 3. 90211 | 3. 90217 | 3. 90222 | 3. 90227 | 3. 90233 | 3. 90238 | 3. 90244 | 3. 90249 |
| 799 | | 1 | 90255 | 90260 | 90266 | 90271 | 90276 | 90282 | 90287 | 90293 | 90298 | 90304 |
| 800 | | 2 | 90309 | 90314 | 90320 | 90325 | 90331 | 90336 | 90342 | 90347 | 90352 | 90358 |
| 801 | | 3 | 90363 | 90369 | 90374 | 90380 | 90385 | 90390 | 90396 | 90401 | 90407 | 90412 |
| 802 | | 4 | 90417 | 90423 | 90428 | 90434 | 90439 | 90445 | 90450 | 90455 | 90461 | 90466 |
| 803 | | 5 | 90472 | 90477 | 90482 | 90488 | 90493 | 90499 | 90504 | 90509 | 90515 | 90520 |
| 804 | 14. | 0 | 3. 90526 | 3. 90531 | 3. 90536 | 3. 90542 | 3. 90547 | 3. 90553 | 3. 90558 | 3. 90563 | 3. 90569 | 3. 90574 |
| 805 | | 1 | 90580 | 90585 | 90590 | 90596 | 90601 | 90607 | 90612 | 90617 | 90623 | 90628 |
| 806 | | 2 | 90634 | 90639 | 90644 | 90650 | 90655 | 90660 | 90666 | 90671 | 90677 | 90682 |
| 807 | | 3 | 90687 | 90693 | 90698 | 90703 | 90709 | 90714 | 90720 | 90725 | 90730 | 90736 |
| 808 | | 4 | 90741 | 90747 | 90752 | 90757 | 90763 | 90768 | 90773 | 90779 | 90784 | 90789 |
| 809 | | 5 | 90795 | 90800 | 90806 | 90811 | 90816 | 90822 | 90827 | 90832 | 90838 | 90843 |
| 810 | 15. | 0 | [illegible] | | | | | | | | | |
| 811 | | 1 | 90902 | 90907 | 90913 | 90918 | 90924 | 90929 | 90934 | 90940 | 90945 | 90950 |
| 812 | | 2 | 90956 | 90961 | 90966 | 90972 | 90977 | 90982 | 90988 | 90993 | 90998 | 91004 |
| 813 | | 3 | 91009 | 91014 | 91020 | 91025 | 91030 | 91036 | 91041 | 91046 | 91052 | 91057 |
| 814 | | 4 | 91062 | 91068 | 91073 | 91078 | 91084 | 91089 | 91094 | 91100 | 91105 | 91110 |
| 815 | | 5 | 91116 | 91121 | 91126 | 91132 | 91137 | 91142 | 91148 | 91153 | 91158 | 91164 |
| 816 | 16. | 0 | 3. 91169 | 3. 91174 | 3. 91180 | 3. 91185 | 3. 91190 | 3. 91196 | 3. 91201 | 3. 91206 | 3. 91212 | 3. 91217 |
| 817 | | 1 | 91222 | 91228 | 91233 | 91238 | 91243 | 91249 | 91254 | 91259 | 91265 | 91270 |
| 818 | | 2 | 91275 | 91281 | 91286 | 91291 | 91297 | 91302 | 91307 | 91312 | 91318 | 91323 |
| 819 | | 3 | 91328 | 91334 | 91339 | 91344 | 91350 | 91355 | 91360 | 91365 | 91371 | 91376 |
| 820 | | 4 | 91381 | 91387 | 91392 | 91397 | 91403 | 91408 | 91413 | 91418 | 91424 | 91429 |
| 821 | | 5 | 91434 | [illegible] | | | | | | | | |
| 822 | 17. | 0 | 3. 91487 | 3. 91492 | 3. 91498 | 3. 91503 | 3. 91508 | 3. 91514 | 3. 91519 | 3. 91524 | 3. 91529 | 3. 91535 |
| 823 | | 1 | 91540 | 91545 | 91551 | 91556 | 91561 | 91566 | 91572 | 91577 | 91582 | 91587 |
| 824 | | 2 | 91593 | 91598 | 91603 | 91609 | 91614 | 91619 | 91624 | 91630 | 91635 | 91640 |
| 825 | | 3 | 91645 | 91651 | 91656 | 91661 | 91666 | 91672 | 91677 | 91682 | 91687 | 91693 |
| 826 | | 4 | 91698 | 91703 | 91709 | 91714 | 91719 | 91724 | 91730 | 91735 | 91740 | 91745 |
| 827 | | 5 | 91751 | 91756 | 91761 | 91766 | 91772 | 91777 | 91782 | 91787 | 91793 | 91798 |
| 828 | 18. | 0 | 3. 91803 | 3. 91808 | 3. 91814 | 3. 91819 | 3. 91824 | 3. 91829 | 3. 91834 | 3. 91840 | 3. 91845 | 3. 91850 |
| 829 | | 1 | 91855 | 91861 | 91866 | 91871 | 91876 | 91882 | 91887 | 91892 | 91897 | 91903 |
| 830 | | 2 | 91908 | 91913 | 91918 | 91924 | 91929 | 91934 | 91939 | 91944 | 91950 | 91955 |
| 831 | | 3 | 91960 | 91965 | 91971 | 91976 | 91981 | 91986 | 91991 | 91997 | 92002 | 92007 |
| 832 | | 4 | 92012 | 92018 | 92023 | 92028 | 92033 | 92038 | 92044 | 92049 | 92054 | 92049 |
| 833 | | 5 | [illegible] | | | | | | | | | |
| 834 | 19. | 0 | [illegible] | | | | | | | | | |
| 835 | | 1 | 92169 | 92174 | 92179 | 92184 | 92189 | 92195 | 92200 | 92205 | 92210 | 92215 |
| 836 | | 2 | 92221 | 92226 | 92231 | 92236 | 92241 | 92247 | 92252 | 92257 | 92262 | 92267 |
| 837 | | 3 | 92273 | 92278 | 92283 | 92288 | 92293 | 92298 | 92304 | 92309 | 92314 | 92319 |
| 838 | | 4 | 92324 | 92330 | 92335 | 92340 | 92345 | 92350 | 92355 | 92361 | 92366 | 92371 |
| 839 | | 5 | [illegible] | | | | | | | | | |

| | | 2 Degrees, or 2 Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ ″ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 840 | 20. 0 | 3. 92415 | 3. 92433 | 3. 92438 | 3. 92443 | 3. 92449 | 3. 92454 | 3. 92459 | 3. 92464 | 3. 92469 | 3. 92474 |
| 841 | 1 | 92485 | 92485 | 92490 | 92495 | 92500 | 92505 | 92511 | 92516 | 92521 | 92526 |
| 842 | 2 | 92531 | 92536 | 92542 | 92547 | 92552 | 92557 | 92562 | 92567 | 92572 | 92578 |
| 843 | 3 | 92583 | 92588 | 92593 | 92598 | 92603 | 92609 | 92614 | 92619 | 92624 | 92629 |
| 844 | 4 | 92634 | 92639 | 92645 | 92650 | 92655 | 92660 | 92665 | 92670 | 92675 | 92681 |
| 845 | 5 | 92686 | 92691 | 92696 | 92701 | 92706 | 92711 | 92716 | 92722 | 92727 | 92732 |
| 846 | 21. 0 | 3. 92737 | 3. 92742 | 3. 92747 | 3. 92752 | 3. 92758 | 3. 92763 | 3. 92768 | 3. 92773 | 3. 92778 | 3. 92783 |
| 847 | 1 | 92788 | 92793 | 92799 | 92804 | 92809 | 92814 | 92819 | 92824 | 92829 | 92834 |
| 848 | 2 | 92840 | 92845 | 92850 | 92855 | 92860 | 92865 | 92870 | 92875 | 92881 | 92886 |
| 849 | 3 | 92891 | 92896 | 92901 | 92906 | 92911 | 92916 | 92921 | 92927 | 92932 | 92937 |
| 850 | 4 | 92942 | 92947 | 92952 | 92957 | 92962 | 92967 | 92973 | 92978 | 92983 | 92988 |
| 851 | 5 | 92993 | 92998 | 93003 | 93008 | 93013 | 93018 | 93024 | 93029 | 93034 | 93039 |
| 852 | 22. 0 | 3. 93044 | 3. 93049 | 3. 93054 | 3. 93059 | 3. 93064 | 3. 93069 | 3. 93075 | 3. 93080 | 3. 93085 | 3. 93090 |
| 853 | 1 | 93095 | 93100 | 93105 | 93110 | 93115 | 93120 | 93125 | 93131 | 93136 | 93141 |
| 854 | 2 | 93146 | 93151 | 93156 | 93161 | 93166 | 93171 | 93176 | 93181 | 93186 | 93192 |
| 855 | 3 | 93197 | 93202 | 93207 | 93212 | 93217 | 93222 | 93227 | 93232 | 93237 | 93242 |
| 856 | 4 | 93247 | 93252 | 93258 | 93263 | 93268 | 93273 | 93278 | 93283 | 93288 | 93293 |
| 857 | 5 | 93298 | 93303 | 93308 | 93313 | 93318 | 93323 | 93328 | 93334 | 93339 | 93344 |
| 858 | 23. 0 | 3. 93349 | 3. 93354 | 3. 93359 | 3. 93364 | 3. 93369 | 3. 93374 | 3. 93379 | 3. 93384 | 3. 93389 | 3. 93394 |
| 859 | 1 | 93399 | 93404 | 93409 | 93414 | 93420 | 93425 | 93430 | 93435 | 93440 | 93445 |
| 860 | 2 | 93450 | 93455 | 93460 | 93465 | 93470 | 93475 | 93480 | 93485 | 93490 | 93495 |
| 861 | 3 | 93500 | 93505 | 93510 | 93515 | 93520 | 93526 | 93531 | 93536 | 93541 | 93546 |
| 862 | 4 | 93551 | 93556 | 93561 | 93566 | 93571 | 93576 | 93581 | 93586 | 93591 | 93596 |
| 863 | 5 | 93601 | 93606 | 93611 | 93616 | 93621 | 93626 | 93631 | 93636 | 93641 | 93646 |
| 864 | 24. 0 | 3. 93651 | 3. 93656 | 3. 93661 | 3. 93666 | 3. 93671 | 3. 93676 | 3. 93682 | 3. 93687 | 3. 93692 | 3. 93697 |
| 865 | 1 | 93702 | 93707 | 93712 | 93717 | 93722 | 93727 | 93732 | 93737 | 93742 | 93747 |
| 866 | 2 | 93752 | 93757 | 93762 | 93767 | 93772 | 93777 | 93782 | 93787 | 93792 | 93797 |
| 867 | 3 | 93802 | 93807 | 93812 | 93817 | 93822 | 93827 | 93832 | 93837 | 93842 | 93847 |
| 868 | 4 | 93852 | 93857 | 93862 | 93867 | 93872 | 93877 | 93882 | 93887 | 93892 | 93897 |
| 869 | 5 | 93902 | 93907 | 93912 | 93917 | 93922 | 93927 | 93932 | 93937 | 93942 | 93947 |
| 870 | 25. 0 | 3. 93952 | 3. 93957 | 3. 93962 | 3. 93967 | 3. 93972 | 3. 93977 | 3. 93982 | 3. 93987 | 3. 93992 | 3. 93997 |
| 871 | 1 | 94002 | 94007 | 94012 | 94017 | 94022 | 94027 | 94032 | 94037 | 94042 | 94047 |
| 872 | 2 | 94052 | 94057 | 94062 | 94067 | 94072 | 94077 | 94082 | 94086 | 94091 | 94096 |
| 873 | 3 | 94101 | 94106 | 94111 | 94116 | 94121 | 94126 | 94131 | 94136 | 94141 | 94146 |
| 874 | 4 | 94151 | 94156 | 94161 | 94166 | 94171 | 94176 | 94181 | 94186 | 94191 | 94196 |
| 875 | 5 | 94201 | 94206 | 94211 | 94216 | 94221 | 94226 | 94231 | 94236 | 94240 | 94245 |
| 876 | 26. 0 | 3. 94250 | 3. 94255 | 3. 94260 | 3. 94265 | 3. 94270 | 3. 94275 | 3. 94280 | 3. 94285 | 3. 94290 | 3. 94295 |
| 877 | 1 | 94300 | 94305 | 94310 | 94315 | 94320 | 94325 | 94330 | 94335 | 94340 | 94345 |
| 878 | 2 | 94349 | 94354 | 94359 | 94364 | 94369 | 94374 | 94379 | 94384 | 94389 | 94394 |
| 879 | 3 | 94399 | 94404 | 94409 | 94414 | 94419 | 94424 | 94429 | 94434 | 94438 | 94443 |
| 880 | 4 | 94448 | 94453 | 94458 | 94463 | 94468 | 94473 | 94478 | 94483 | 94488 | 94493 |
| 881 | 5 | 94498 | 94503 | 94507 | 94512 | 94517 | 94522 | 94527 | 94532 | 94537 | 94542 |
| 882 | 27. 0 | 3. 94547 | 3. 94552 | 3. 94557 | 3. 94562 | 3. 94567 | 3. 94571 | 3. 94576 | 3. 94581 | 3. 94586 | 3. 94591 |
| 883 | 1 | 94596 | 94601 | 94606 | 94611 | 94616 | 94621 | 94626 | 94630 | 94635 | 94640 |
| 884 | 2 | 94645 | 94650 | 94655 | 94660 | 94665 | 94670 | 94675 | 94680 | 94685 | 94689 |
| 885 | 3 | 94694 | 94699 | 94704 | 94709 | 94714 | 94719 | 94724 | 94729 | 94734 | 94738 |
| 886 | 4 | 94743 | 94748 | 94753 | 94758 | 94763 | 94768 | 94773 | 94778 | 94783 | 94787 |
| 887 | 5 | 94792 | 94797 | 94802 | 94807 | 94811 | 94816 | 94822 | 94826 | 94832 | 94836 |
| 888 | 28. 0 | 3. 94841 | 3. 94846 | 3. 94851 | 3. 94856 | 3. 94861 | 3. 94866 | 3. 94871 | 3. 94876 | 3. 94881 | 3. 94885 |
| 889 | 1 | 94890 | 94895 | 94900 | 94905 | 94910 | 94915 | 94919 | 94924 | 94929 | 94934 |
| 890 | 2 | 94939 | 94944 | 94949 | 94954 | 94959 | 94963 | 94968 | 94973 | 94978 | 94983 |
| 891 | 3 | 94988 | 94993 | 94998 | 95002 | 95007 | 95012 | 95017 | 95021 | 95027 | 95031 |
| 892 | 4 | 95036 | 95041 | 95046 | 95051 | 95056 | 95061 | 95066 | 95071 | 95075 | 95080 |
| 893 | 5 | 95085 | 95090 | 95095 | 95100 | 95105 | 95109 | 95114 | 95119 | 95124 | 95129 |
| 894 | 29. 0 | 3. 95134 | 3. 95139 | 3. 95143 | 3. 95148 | 3. 95153 | 3. 95158 | 3. 95163 | 3. 95168 | 3. 95173 | 3. 95177 |
| 895 | 1 | 95182 | 95187 | 95192 | 95197 | 95202 | 95207 | 95211 | 95216 | 95221 | 95226 |
| 896 | 2 | 95231 | 95240 | 95245 | 95250 | 95255 | 95260 | 95265 | 95270 | 95274 | 95279 |
| 897 | 3 | 95279 | 95284 | 95289 | 95294 | 95299 | 95303 | 95308 | 95313 | 95318 | 95323 |
| 898 | 4 | 95328 | 95332 | 95337 | 95342 | 95347 | 95352 | 95357 | 95361 | 95366 | 95371 |
| 899 | 5 | 95376 | 95381 | 95386 | 95390 | 95395 | 95400 | 95405 | 95410 | 95415 | 95419 |

| | | | 2 Degrees, or 2 Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | m | s | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 901 | | 1 | 95472 | 95477 | 95482 | 95487 | 95492 | 95497 | 95501 | 95506 | 95511 | 95516 |
| 902 | | 2 | 95521 | 95525 | 95530 | 95535 | 95540 | 95545 | 95550 | 95554 | 95559 | 95564 |
| 903 | | 3 | 95569 | 95574 | 95578 | 95583 | 95588 | 95593 | 95598 | 95602 | 95607 | 95612 |
| 904 | | 4 | 95617 | 95622 | 95626 | 95631 | 95636 | 95641 | 95646 | 95650 | 95655 | 95660 |
| 905 | | 5 | 95665 | 95670 | 95674 | 95679 | 95684 | 95689 | 95694 | 95698 | 95703 | 95708 |
| 906 | 31. | 0 | 3.95713 | 3.95718 | 3.95722 | 3.95727 | 3.95732 | 3.95737 | 3.95742 | 3.95746 | 3.95751 | 3.95756 |
| 907 | | 1 | 95761 | 95766 | 95770 | 95775 | 95780 | 95785 | 95789 | 95794 | 95799 | 95804 |
| 908 | | 2 | 95809 | 95813 | 95818 | 95823 | 95828 | 95832 | 95837 | 95842 | 95847 | 95852 |
| 909 | | 3 | 95856 | 95861 | 95866 | 95871 | 95875 | 95880 | 95885 | 95890 | 95895 | 95899 |
| 910 | | 4 | 95904 | 95909 | 95914 | 95918 | 95923 | 95928 | 95933 | 95938 | 95942 | 95947 |
| 911 | | 5 | 95952 | 95957 | 95961 | 95966 | 95971 | 95976 | 95980 | 95985 | 95990 | 95995 |
| 912 | 32. | 0 | 3.95999 | 3.96004 | 3.96009 | 3.96014 | 3.96019 | 3.96023 | 3.96028 | 3.96033 | 3.96038 | 3.96042 |
| 913 | | 1 | 96047 | 96052 | 96057 | 96061 | 96066 | 96071 | 96076 | 96080 | 96085 | 96090 |
| 914 | | 2 | 96095 | 96099 | 96104 | 96109 | 96114 | 96118 | 96123 | 96128 | 96133 | 96137 |
| 915 | | 3 | 96142 | 96147 | 96152 | 96156 | 96161 | 96166 | 96171 | 96175 | 96180 | 96185 |
| 916 | | 4 | 96190 | 96194 | 96199 | 96204 | 96209 | 96213 | 96218 | 96223 | 96227 | 96232 |
| 917 | | 5 | 96237 | 96282 | 96246 | 96251 | 96256 | 96261 | 96265 | 96270 | 96275 | 96280 |
| 918 | 33. | 0 | 3.96284 | 3.96289 | 3.96294 | 3.96298 | 3.96303 | 3.96308 | 3.96313 | 3.96317 | 3.96322 | 3.96327 |
| 919 | | 1 | 96332 | 96336 | 96341 | 96346 | 96350 | 96355 | 96360 | 96365 | 96369 | 96374 |
| 920 | | 2 | 96379 | 96384 | 96388 | 96393 | 96398 | 96402 | 96407 | 96412 | 96417 | 96421 |
| 921 | | 3 | 96426 | 96431 | 96435 | 96440 | 96445 | 96450 | 96454 | 96459 | 96464 | 96468 |
| 922 | | 4 | 96473 | 96478 | 96483 | 96487 | 96492 | 96497 | 96501 | 96506 | 96511 | 96515 |
| 923 | | 5 | 96520 | 96525 | 96530 | 96534 | 96539 | 96544 | 96548 | 96553 | 96558 | 96562 |
| 924 | 34. | 0 | 3.96567 | 3.96572 | 3.96577 | 3.96581 | 3.96586 | 3.96591 | 3.96595 | 3.96600 | 3.96605 | 3.96609 |
| 925 | | 1 | 96614 | 96619 | 96624 | 96628 | 96633 | 96638 | 96642 | 96647 | 96652 | 96656 |
| 926 | | 2 | 96661 | 96666 | 96670 | 96675 | 96680 | 96685 | 96689 | 96694 | 96699 | 96703 |
| 927 | | 3 | 96708 | 96713 | 96717 | 96722 | 96727 | 96731 | 96736 | 96741 | 96745 | 96750 |
| 928 | | 4 | 96755 | 96759 | 96764 | 96769 | 96774 | 96778 | 96783 | 96788 | 96792 | 96797 |
| 929 | | 5 | 96802 | 96806 | 96811 | 96816 | 96820 | 96825 | 96830 | 96834 | 96839 | 96844 |
| 930 | 35. | 0 | 3.96848 | 3.96853 | 3.96858 | 3.96862 | 3.96867 | 3.96872 | 3.96876 | 3.96881 | 3.96886 | 3.96890 |
| 931 | | 1 | 96895 | 96900 | 96904 | 96909 | 96914 | 96918 | 96923 | 96928 | 96932 | 96937 |
| 932 | | 2 | 96942 | 96946 | 96951 | 96956 | 96960 | 96965 | 96970 | 96974 | 96979 | 96984 |
| 933 | | 3 | 96988 | 96993 | 96997 | 97002 | 97007 | 97011 | 97016 | 97021 | 97025 | 97030 |
| 934 | | 4 | 97035 | 97039 | 97044 | 97049 | 97053 | 97058 | 97063 | 97067 | 97072 | 97077 |
| [illegible] | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 936 | 36. | 0 | 3.97128 | 3.97132 | 3.97137 | 3.97142 | 3.97146 | 3.97151 | 3.97155 | 3.97160 | 3.97165 | 3.97169 |
| 937 | | 1 | 97174 | 97179 | 97183 | 97188 | 97192 | 97197 | 97202 | 97206 | 97211 | 97216 |
| 938 | | 2 | 97220 | 97225 | 97230 | 97234 | 97239 | 97243 | 97248 | 97253 | 97257 | 97262 |
| 939 | | 3 | 97267 | 97271 | 97276 | 97280 | 97285 | 97290 | 97294 | 97299 | 97304 | 97308 |
| 940 | | 4 | 97313 | 97317 | 97322 | 97327 | 97331 | 97336 | 97340 | 97345 | 97350 | 97354 |
| 941 | | 5 | 97359 | 97364 | 97368 | 97373 | 97377 | 97382 | 97387 | 97391 | 97396 | 97400 |
| 942 | 37. | 0 | 3.97405 | 3.97410 | 3.97414 | 3.97419 | 3.97424 | 3.97428 | 3.97433 | 3.97437 | 3.97442 | 3.97447 |
| 943 | | 1 | 97451 | 97456 | 97460 | 97465 | 97470 | 97474 | 97479 | 97483 | 97488 | 97493 |
| 944 | | 2 | 97497 | 97502 | 97506 | 97511 | 97516 | 97520 | 97525 | 97529 | 97534 | 97539 |
| 945 | | 3 | 97543 | 97548 | 97552 | 97557 | 97562 | 97566 | 97571 | 97575 | 97580 | 97585 |
| 946 | | 4 | 97589 | 97594 | 97598 | 97603 | 97607 | 97612 | 97617 | 97621 | 97626 | 97630 |
| 947 | | 5 | 97635 | 97640 | 97644 | 97649 | 97653 | 97658 | 97663 | 97667 | 97672 | 97676 |
| 948 | 38. | 0 | 3.97681 | 3.97685 | 3.97690 | 3.97695 | 3.97699 | 3.97704 | 3.97708 | 3.97713 | 3.97717 | 3.97722 |
| 949 | | 1 | 97727 | 97731 | 97736 | 97740 | 97745 | 97749 | 97754 | 97759 | 97763 | 97768 |
| 950 | | 2 | 97772 | 97777 | 97782 | 97786 | 97791 | 97795 | 97800 | 97804 | 97809 | 97813 |
| 951 | | 3 | 97818 | 97823 | 97827 | 97832 | 97836 | 97841 | 97845 | 97850 | 97855 | 97859 |
| 952 | | 4 | 97864 | 97868 | 97873 | 97877 | 97882 | 97886 | 97891 | 97896 | 97900 | 97905 |
| 953 | | 5 | 97909 | 97914 | 97918 | 97923 | 97928 | 97932 | 97937 | 97941 | 97946 | 97950 |
| [illegible] | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 955 | | 1 | 98000 | 98005 | 98009 | 98014 | 98019 | 98023 | 98028 | 98032 | 98037 | 98041 |
| 956 | | 2 | 98046 | 98050 | 98055 | 98059 | 98064 | 98068 | 98073 | 98078 | 98082 | 98087 |
| 957 | | 3 | 98091 | 98096 | 98100 | 98105 | 98109 | 98114 | 98118 | 98123 | 98127 | 98132 |
| 958 | | 4 | 98137 | 98141 | 98146 | 98150 | 98155 | 98159 | 98164 | 98168 | 98173 | 98177 |
| 959 | | 5 | 98182 | 98186 | 98191 | 98195 | 98200 | 98204 | 98209 | 98214 | 98218 | 982[illegible] |

| ′ | ″ | 2 Degrees, or 2 Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| m | s | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | 98271 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 98308 | 98313 |
| [illegible] | 2 | 98318 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 98349 | 98354 | 98358 |
| [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 98394 | 98399 | 98403 |
| [illegible] | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 98439 | 98444 | 98448 |
| [illegible] | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 98484 | 98489 | 98493 |
| [illegible] | 41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 98529 | 98534 | 98538 |
| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 98574 | 98579 | 98583 |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 98619 | 98623 | 98628 |
| [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 98664 | 98668 | 98673 |
| [illegible] | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 98709 | 98713 | 98717 |
| [illegible] | 5 | [illegible] | [illegible] | [illegible] | [illegible] | 98744 | [illegible] | [illegible] | [illegible] | 98758 | 98762 |
| [illegible] | 42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | [illegible] | 98816 | [illegible] | [illegible] | [illegible] | 98834 | 98838 | 98843 | 98847 | 98851 |
| [illegible] | 2 | [illegible] | 98860 | [illegible] | [illegible] | [illegible] | 98878 | 98883 | 98887 | 98892 | 98896 |
| [illegible] | 3 | [illegible] | 98905 | [illegible] | [illegible] | [illegible] | 98923 | 98927 | 98932 | 98936 | 98941 |
| [illegible] | 4 | [illegible] | 98949 | [illegible] | [illegible] | [illegible] | 98967 | 98972 | 98976 | 98981 | 98985 |
| [illegible] | 5 | [illegible] | 98994 | [illegible] | [illegible] | [illegible] | 99012 | 99016 | 99021 | 99025 | 99029 |
| [illegible] | 43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | [illegible] | 99083 | [illegible] | [illegible] | [illegible] | 99100 | 99105 | 99109 | 99114 | 99118 |
| [illegible] | 2 | [illegible] | 99127 | [illegible] | [illegible] | [illegible] | 99145 | 99149 | 99154 | 99158 | 99162 |
| [illegible] | 3 | [illegible] | 99171 | [illegible] | [illegible] | [illegible] | 99189 | 99193 | 99198 | 99202 | 99207 |
| [illegible] | 4 | [illegible] | 99216 | [illegible] | [illegible] | [illegible] | 99233 | 99238 | 99242 | 99247 | 99251 |
| [illegible] | 5 | [illegible] | 99260 | [illegible] | [illegible] | [illegible] | 99277 | 99282 | 99286 | 99291 | 99295 |
| [illegible] | 44 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | [illegible] | 99348 | [illegible] | [illegible] | [illegible] | 99366 | 99370 | 99374 | 99379 | 99383 |
| [illegible] | 2 | [illegible] | 99392 | [illegible] | [illegible] | [illegible] | 99410 | 99414 | 99419 | 99423 | 99427 |
| [illegible] | 3 | [illegible] | 99436 | [illegible] | [illegible] | [illegible] | 99454 | 99458 | 99463 | 99467 | 99471 |
| [illegible] | 4 | [illegible] | 99480 | [illegible] | [illegible] | [illegible] | 99498 | 99502 | 99506 | 99511 | 99515 |
| [illegible] | 5 | [illegible] | 99524 | [illegible] | [illegible] | [illegible] | 99542 | 99546 | 99550 | 99555 | 99559 |
| [illegible] | 45 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 1 | [illegible] | 99612 | [illegible] | [illegible] | [illegible] | 99629 | [illegible] | 99638 | 99642 | 99647 |
| [illegible] | 2 | [illegible] | 99656 | [illegible] | [illegible] | [illegible] | 99673 | [illegible] | 99682 | 99686 | 99691 |
| [illegible] | 3 | [illegible] | 99699 | [illegible] | [illegible] | [illegible] | 99717 | [illegible] | 99726 | 99730 | 99734 |
| [illegible] | 4 | [illegible] | 99743 | [illegible] | [illegible] | [illegible] | 99760 | [illegible] | 99769 | 99774 | 99778 |
| [illegible] | 5 | [illegible] | 99787 | [illegible] | [illegible] | [illegible] | 99804 | 99808 | 99813 | 99817 | 99821 |
| [illegible] | 46 | 3. 99826 | 3. 99830 | 3. 99835 | 3. 99839 | 3. [illegible] | 3. 99848 | 3. [illegible] | 3. 99856 | 3. 99861 | 3. 99865 |
| [illegible] | 1 | [illegible] | 99874 | [illegible] | [illegible] | [illegible] | 99891 | 99896 | 99900 | 99904 | 99909 |
| [illegible] | 2 | [illegible] | 99917 | [illegible] | [illegible] | [illegible] | 99935 | 99939 | 99944 | 99948 | 99952 |
| [illegible] | 3 | [illegible] | 99961 | 99965 | 99970 | [illegible] | 99978 | 99983 | 99987 | 99991 | 99996 |
| [illegible] | 4 | 4. 00000 | 4. 00004 | 4. 00009 | 4. 00013 | 4. 00017 | 4. 00022 | 4. [illegible] | 4. 00030 | 4. 00035 | 4. 00039 |
| [illegible] | 5 | [illegible] | 00048 | [illegible] | [illegible] | [illegible] | 00065 | 00069 | 00074 | 00078 | 00082 |
| [illegible] | 47 | [illegible] | 4. 00091 | 4. 00095 | 4. 00100 | 4. [illegible] | 4. [illegible] | 4. [illegible] | 4. 00117 | 4. 00121 | 4. 00126 |
| [illegible] | 1 | [illegible] | 00134 | [illegible] | [illegible] | [illegible] | 00152 | 00156 | 00160 | 00165 | 00169 |
| [illegible] | 2 | [illegible] | 00178 | [illegible] | [illegible] | [illegible] | 00195 | 00199 | 00204 | 00208 | 00212 |
| [illegible] | 3 | [illegible] | 00221 | [illegible] | [illegible] | [illegible] | 00238 | 00243 | 00247 | 00251 | 00255 |
| [illegible] | 4 | [illegible] | 00264 | [illegible] | [illegible] | [illegible] | 00281 | 00286 | 00290 | 00294 | 00299 |
| [illegible] | 5 | [illegible] | 00307 | [illegible] | [illegible] | [illegible] | 00325 | 00329 | 00333 | 00337 | 00342 |
| [illegible] | 48 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4. 00368 | 4. 00372 | 4. 00376 | 4. 00381 | 4. 00385 |
| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 00411 | 00415 | 00419 | 00424 | 00428 |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 00454 | 00458 | 00462 | 00467 | 00471 |
| [illegible] | 3 | [illegible] | 00479 | [illegible] | [illegible] | [illegible] | 00497 | 00501 | 00505 | 00509 | 00514 |
| [illegible] | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 00539 | 00544 | 00548 | 00552 | 00557 |
| [illegible] | 5 | [illegible] | 00565 | [illegible] | [illegible] | [illegible] | 00582 | 00587 | 00591 | 00595 | 00600 |
| [illegible] | 49 | 4. 00604 | 4. 00608 | 4. 00612 | 4. 00617 | 4. [illegible] | 4. 00625 | 4. 00629 | 4. 00634 | 4. 00638 | 4. 00642 |
| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 00668 | 00672 | 00677 | 00681 | 00685 |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 00711 | 00715 | 00719 | 00724 | 00728 |
| [illegible] | 3 | [illegible] | 00736 | [illegible] | [illegible] | [illegible] | 00753 | 00758 | 00762 | 00766 | 00771 |
| [illegible] | 4 | [illegible] | 00779 | [illegible] | [illegible] | [illegible] | 00796 | 00800 | 00805 | 00809 | 00813 |
| [illegible] | 5 | [illegible] | 00822 | [illegible] | [illegible] | [illegible] | 00839 | 00843 | 00847 | 00851 | 00856 |

| Numb. | ′ | ″ | 2 Degrees, or 2 Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | m | s | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 1020 | 50. | 0 | 4. 00800 | 4. 00804 | 4. 00809 | 4. 00813 | 4. 00817 | 4. 00821 | 4. 00826 | 4. 00830 | 4. 00834 | 4. 00838 |
| 1021 | | 1 | 00903 | 00907 | 00911 | 00915 | 00920 | 00924 | 00928 | 00932 | 00937 | 00941 |
| 1022 | | 2 | 00945 | 00949 | 00954 | 00958 | 00962 | 00966 | 00971 | 00975 | 00979 | 00983 |
| 1023 | | 3 | 00988 | 00992 | 00996 | 01000 | 01005 | 01009 | 01013 | 01017 | 01022 | 01026 |
| 1024 | | 4 | 01030 | 01034 | 01038 | 01043 | 01047 | 01051 | 01055 | 01060 | 01064 | 01068 |
| 1025 | | 5 | 01072 | 01077 | 01081 | 01085 | 01089 | 01094 | 01098 | 01102 | 01106 | 01110 |
| 1026 | 51. | 0 | 4. 01115 | 4. 01119 | 4. 01123 | 4. 01127 | 4. 01132 | 4. 01136 | 4. 01140 | 4. 01144 | 4. 01149 | 4. 01153 |
| 1027 | | 1 | 01157 | 01161 | 01166 | 01170 | 01174 | 01178 | 01182 | 01187 | 01191 | 01195 |
| 1028 | | 2 | 01199 | 01204 | 01208 | 01212 | 01216 | 01220 | 01225 | 01229 | 01233 | 01237 |
| 1029 | | 3 | 01242 | 01246 | 01250 | 01254 | 01258 | 01263 | 01267 | 01271 | 01275 | 01280 |
| 1030 | | 4 | 01284 | 01288 | 01292 | 01296 | 01301 | 01305 | 01309 | 01313 | 01317 | 01322 |
| 1031 | | 5 | 01326 | 01330 | 01334 | 01338 | 01343 | 01347 | 01351 | 01355 | 01360 | 01364 |
| 1032 | 52. | 0 | 4. 01368 | 4. 01372 | 4. 01376 | 4. 01381 | 4. 01385 | 4. 01389 | 4. 01393 | 4. 01397 | 4. 01402 | 4. 01406 |
| 1033 | | 1 | 01410 | 01414 | 01418 | 01423 | 01427 | 01431 | 01435 | 01439 | 01444 | 01448 |
| 1034 | | 2 | 01452 | 01456 | 01460 | 01465 | 01469 | 01473 | 01477 | 01481 | 01486 | 01490 |
| 1035 | | 3 | 01494 | 01498 | 01502 | 01507 | 01511 | 01515 | 01519 | 01523 | 01528 | 01532 |
| 1036 | | 4 | 01536 | 01540 | 01544 | 01549 | 01553 | 01557 | 01561 | 01565 | 01570 | 01574 |
| 1037 | | 5 | 01578 | 01582 | 01586 | 01590 | 01595 | 01599 | 01603 | 01607 | 01611 | 01616 |
| 1038 | 53. | 0 | 4. 01620 | 4. 01624 | 4. 01628 | 4. 01632 | 4. 01637 | 4. 01641 | 4. 01645 | 4. 01649 | 4. 01654 | 4. 01657 |
| 1039 | | 1 | 01662 | 01666 | 01670 | 01674 | 01678 | 01682 | 01687 | 01691 | 01695 | 01699 |
| 1040 | | 2 | 01703 | 01708 | 01712 | 01716 | 01720 | 01724 | 01728 | 01733 | 01737 | 01741 |
| 1041 | | 3 | 01745 | 01749 | 01753 | 01758 | 01762 | 01766 | 01770 | 01774 | 01778 | 01783 |
| 1042 | | 4 | 01787 | 01791 | 01795 | 01799 | 01803 | 01808 | 01812 | 01816 | 01820 | 01824 |
| 1043 | | 5 | 01828 | 01833 | 01837 | 01841 | 01845 | 01849 | 01853 | 01858 | 01862 | 01866 |
| 1044 | 54. | 0 | 4. 01870 | 4. 01874 | 4. 01878 | 4. 01883 | 4. 01887 | 4. 01891 | 4. 01895 | 4. 01899 | 4. 01904 | 4. 01907 |
| 1045 | | 1 | 01911 | 01916 | 01920 | 01924 | 01928 | 01932 | 01937 | 01941 | 01945 | 01949 |
| 1046 | | 2 | 01953 | 01957 | 01961 | 01966 | 01970 | 01974 | 01978 | 01982 | 01986 | 01991 |
| 1047 | | 3 | 01994 | 01999 | 02003 | 02007 | 02011 | 02015 | 02020 | 02024 | 02028 | 02032 |
| 1048 | | 4 | 02036 | 02040 | 02044 | 02049 | 02053 | 02057 | 02061 | 02065 | 02069 | 02073 |
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| 1050 | 55. | 0 | 4. 02119 | 4. 02123 | 4. 02127 | 4. 02131 | 4. 02135 | 4. 02140 | 4. 02144 | 4. 02148 | 4. 02152 | 4. 02156 |
| 1051 | | 1 | 02160 | 02164 | 02169 | 02173 | 02177 | 02181 | 02185 | 02189 | 02193 | 02197 |
| 1052 | | 2 | 02202 | 02206 | 02210 | 02214 | 02218 | 02222 | 02226 | 02230 | 02235 | 02239 |
| 1053 | | 3 | 02243 | 02247 | 02251 | 02255 | 02259 | 02263 | 02268 | 02272 | 02276 | 02280 |
| 1054 | | 4 | 02284 | 02288 | 02292 | 02296 | 02301 | 02305 | 02309 | 02313 | 02317 | 02321 |
| 1055 | | 5 | 02325 | 02329 | 02333 | 02338 | 02342 | 02346 | 02350 | 02354 | 02358 | 02362 |
| 1056 | 56. | 0 | 4. 02366 | 4. 02370 | 4. 02375 | 4. 02379 | 4. 02383 | 4. 02387 | 4. 02391 | 4. 02395 | 4. 02399 | 4. 02403 |
| 1057 | | 1 | 02407 | 02412 | 02416 | 02420 | 02424 | 02428 | 02432 | 02436 | 02440 | 02444 |
| 1058 | | 2 | 02449 | 02453 | 02457 | 02461 | 02465 | 02469 | 02473 | 02477 | 02481 | 02485 |
| 1059 | | 3 | 02490 | 02494 | 02498 | 02502 | 02506 | 02510 | 02514 | 02518 | 02522 | 02526 |
| 1060 | | 4 | 02531 | 02535 | 02539 | 02543 | 02547 | 02551 | 02555 | 02559 | 02563 | 02567 |
| 1061 | | 5 | 02572 | 02576 | 02580 | 02584 | 02588 | 02592 | 02596 | 02600 | 02604 | 02608 |
| 1062 | 57. | 0 | 4. 02612 | 4. 02617 | 4. 02621 | 4. 02625 | 4. 02629 | 4. 02633 | 4. 02637 | 4. 02641 | 4. 02645 | 4. 02649 |
| 1063 | | 1 | 02653 | 02657 | 02661 | 02665 | 02670 | 02674 | 02678 | 02682 | 02686 | 02690 |
| 1064 | | 2 | 02694 | 02698 | 02702 | 02706 | 02710 | 02715 | 02719 | 02723 | 02727 | 02731 |
| 1065 | | 3 | 02735 | 02739 | 02743 | 02747 | 02751 | 02755 | 02759 | 02764 | 02768 | 02772 |
| 1066 | | 4 | 02776 | 02780 | 02784 | 02788 | 02792 | 02796 | 02800 | 02804 | 02808 | 02812 |
| 1067 | | 5 | 02816 | 02821 | 02825 | 02829 | 02833 | 02837 | 02841 | 02845 | 02849 | 02853 |
| 1068 | 58. | 0 | 4. 02857 | 4. 02861 | 4. 02865 | 4. 02869 | 4. 02873 | 4. 02877 | 4. 02882 | 4. 02886 | 4. 02890 | 4. 02894 |
| 1069 | | 1 | 02898 | 02902 | 02906 | 02910 | 02914 | 02918 | 02922 | 02926 | 02930 | 02934 |
| 1070 | | 2 | 02938 | 02942 | 02946 | 02951 | 02955 | 02959 | 02963 | 02967 | 02971 | 02975 |
| 1071 | | 3 | 02979 | 02983 | 02987 | 02991 | 02995 | 02999 | 03003 | 03007 | 03011 | 03015 |
| 1072 | | 4 | 03019 | 03024 | 03028 | 03032 | 03036 | 03040 | 03044 | 03048 | 03052 | 03056 |
| 1073 | | 5 | 03060 | 03064 | 03068 | 03072 | 03076 | 03080 | 03084 | 03088 | 03092 | 03096 |
| 1074 | 59. | 0 | 4. 03100 | 4. 03104 | 4. 03108 | 4. 03112 | 4. 03116 | 4. 03120 | 4. 03124 | 4. 03128 | 4. 03133 | 4. 03137 |
| 1075 | | 1 | 03141 | 03145 | 03149 | 03153 | 03157 | 03161 | 03165 | 03169 | 03173 | 03177 |
| 1076 | | 2 | 03181 | 03185 | 03189 | 03193 | 03197 | 03201 | 03205 | 03209 | 03213 | 03218 |
| 1077 | | 3 | 03222 | 03226 | 03230 | 03234 | 03238 | 03242 | 03246 | 03250 | 03254 | 03258 |
| 1078 | | 4 | 03262 | 03266 | 03270 | 03274 | 03278 | 03282 | 03286 | 03290 | 03294 | 03298 |
| 1079 | | 5 | 03302 | 03306 | 03310 | 03314 | 03318 | 03322 | 03326 | 03330 | 03334 | 03338 |

| | | 3 Degrees, or 3 Hours. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| [illegible] | 0 | 4.03342 | 4.03346 | 4.03350 | 4.03354 | 4.03358 | 4.03362 | 4.03366 | 4.03371 | 4.03375 | 4.03379 |
| [illegible] | 1 | 03383 | 03387 | 03391 | 03395 | 03399 | 03403 | 03407 | 03411 | 03415 | 03419 |
| [illegible] | 2 | 03423 | 03427 | 03431 | 03435 | 03439 | 03443 | 03447 | 03451 | 03455 | 03459 |
| [illegible] | 3 | 03463 | 03467 | 03471 | 03475 | 03479 | 03483 | 03487 | 03491 | 03495 | 03499 |
| [illegible] | 4 | 03503 | 03507 | 03511 | 03515 | 03519 | 03523 | 03527 | 03531 | 03535 | 03539 |
| [illegible] | 5 | 03543 | 03547 | 03551 | 03555 | 03559 | 03563 | 03567 | 03571 | 03575 | 03579 |
| [illegible] | 0 | 4.03583 | 4.03587 | 4.03591 | 4.03595 | 4.03599 | 4.03603 | 4.03607 | 4.03611 | 4.03615 | 4.03619 |
| [illegible] | 1 | 03623 | 03627 | 03631 | 03635 | 03639 | 03643 | 03647 | 03651 | 03655 | 03659 |
| [illegible] | 2 | 03663 | 03667 | 03671 | 03675 | 03679 | 03683 | 03687 | 03691 | 03695 | 03699 |
| [illegible] | 3 | 03703 | 03707 | 03711 | 03715 | 03719 | 03723 | 03727 | 03731 | 03735 | 03739 |
| [illegible] | 4 | 03743 | 03747 | 03751 | 03755 | 03759 | 03763 | 03767 | 03771 | 03775 | 03778 |
| [illegible] | 5 | 03782 | 03786 | 03790 | 03794 | 03798 | 03803 | 03806 | 03810 | 03815 | 03818 |
| [illegible] | 0 | [illegible] | [illegible] | [illegible] | [illegible] | 4.03838 | 4.03842 | 4.03846 | 4.03850 | 4.03854 | 4.03858 |
| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 03886 | 03890 | 03894 | 03898 |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 03926 | 03930 | 03933 | 03937 |
| [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 03965 | 03969 | 03973 | 03977 |
| [illegible] | 4 | [illegible] | [illegible] | [illegible] | [illegible] | 03997 | 04001 | 04005 | 04009 | 04013 | 04017 |
| [illegible] | 5 | [illegible] | [illegible] | [illegible] | [illegible] | 04036 | 04040 | 04044 | 04048 | 04052 | 04056 |
| [illegible] | 0 | [illegible] | 4.04064 | 4.04068 | 4.04072 | 4.04076 | 4.04080 | 4.04084 | 4.04088 | 4.04092 | 4.04096 |
| [illegible] | 1 | [illegible] | 04104 | 04108 | 04112 | 04116 | 04120 | 04123 | 04127 | 04131 | 04135 |
| [illegible] | 2 | [illegible] | [illegible] | 04147 | 04151 | 04155 | 04159 | 04163 | 04167 | 04171 | 04175 |
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| [illegible] | 4 | [illegible] | [illegible] | 04226 | 04230 | 04234 | 04238 | 04242 | 04246 | 04250 | 04254 |
| [illegible] | 5 | [illegible] | [illegible] | 04265 | 04269 | 04273 | 04277 | 04281 | 04385 | 04289 | 04293 |
| [illegible] | 0 | 4.04297 | 4.04301 | 4.04305 | 4.04309 | 4.04313 | 4.04317 | 4.04320 | 4.04324 | 4.04328 | 4.04332 |
| [illegible] | 1 | 04336 | 04340 | 04344 | 04348 | 04352 | 04356 | 04360 | 04364 | 04368 | 04372 |
| [illegible] | 2 | 04376 | 04379 | 04383 | 04387 | 04391 | 04395 | 04399 | 04403 | 04407 | 04411 |
| [illegible] | 3 | 04415 | 04419 | 04423 | 04427 | 04430 | 04434 | 04438 | 04442 | 04446 | 04450 |
| [illegible] | 4 | 04454 | 04458 | 04462 | 04466 | 04470 | 04473 | 04477 | 04481 | 04485 | 04489 |
| [illegible] | 5 | 04493 | 04497 | 04501 | 04505 | 04509 | 04513 | 04517 | 04521 | 04524 | 04528 |
| [illegible] | 0 | 4.04532 | 4.04536 | 4.04540 | 4.04544 | 4.04548 | 4.04552 | 4.04556 | 4.04560 | 4.04564 | 4.04567 |
| [illegible] | 1 | 04571 | 04575 | 04579 | 04583 | 04587 | 04591 | 04595 | 04599 | 04603 | 04607 |
| [illegible] | 2 | 04610 | 04614 | 04618 | 04622 | 04626 | 04630 | 04634 | 04638 | 04642 | 04646 |
| [illegible] | 3 | 04650 | 04653 | 04657 | 04661 | 04665 | 04669 | 04673 | 04677 | 04681 | 04685 |
| [illegible] | 4 | 04689 | 04692 | 04696 | 04700 | 04704 | 04708 | 04712 | 04716 | 04720 | 04724 |
| [illegible] | 5 | 04727 | 04731 | 04735 | 04739 | 04743 | 04747 | 04751 | 04755 | 04759 | 04763 |
| [illegible] | 0 | 4.04766 | 4.04770 | 4.04774 | 4.04778 | 4.04782 | 4.04786 | 4.04790 | 4.04794 | [illegible] | [illegible] |
| [illegible] | 1 | 04805 | 04809 | 04813 | 04817 | 04821 | 04825 | 04829 | 04833 | 04836 | [illegible] |
| [illegible] | 2 | 04844 | 04848 | 04852 | 04856 | 04860 | 04864 | 04868 | 04871 | 04875 | [illegible] |
| [illegible] | 3 | 04883 | 04887 | 04891 | 04895 | 04899 | 04902 | 04906 | 04910 | 04914 | [illegible] |
| [illegible] | 4 | 04922 | 04926 | 04930 | 04933 | 04937 | 04941 | 04945 | 04949 | 04953 | [illegible] |
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| [illegible] | 2 | 05077 | 05080 | 05084 | 05088 | 05092 | 05096 | 05100 | [illegible] | [illegible] | [illegible] |
| [illegible] | 3 | 05115 | 05119 | 05123 | 05127 | 05131 | 05135 | 05138 | [illegible] | [illegible] | [illegible] |
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| [illegible] | 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 05292 | [illegible] | [illegible] | [illegible] |
| [illegible] | 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 05327 | 05331 | [illegible] | [illegible] | [illegible] |
| [illegible] | 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 05369 | [illegible] | [illegible] | [illegible] |
| [illegible] | 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 05408 | [illegible] | [illegible] | [illegible] |
| [illegible] | 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 05446 | [illegible] | [illegible] | [illegible] |
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| [illegible] | 4 | [illegible] | [illegible] | [illegible] | 05626 | [illegible] | [illegible] | 05637 | [illegible] | [illegible] | [illegible] |
| [illegible] | 5 | [illegible] | [illegible] | [illegible] | 05664 | 05668 | 05671 | 05675 | [illegible] | [illegible] | [illegible] |

| ′ | 0ʰ | Sine | | | | | | Cosine | | Secant | | Cosecant | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| | | | 15″ | 30″ | 45″ | 60″ | | | | | | | 15″ | 30″ | 45″ | 60″ | | | |
| | | ″ | ″ | ″ | ″ | ″ | | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | | | |
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| 6 | 1. 2 | 7. | | | | | | | | | | 2. | 83730 | 81611 | 79591 | 77661 | | | |
| 7 | 4 | | | | | | | | | | | | | | | | | | |
| 8 | 6 | | | | | | | | | | | | 69118 | 67594 | 66121 | 64697 | | | |
| 9 | 8 | | | | | | | | | | | | 63318 | 61982 | 60686 | 59427 | | | |
| 10 | 10 | | | | | | | | | | | | | | | | | | |
| 11 | 12 | | | | | | | | | | | | | | | | | | |
| 12 | 14 | 54291 | 55180 | 56094 | 57024 | 57707 | | 00 | 00 | 00 | 00 | | | | | | | | |
| 13 | 16 | 57767 | 58594 | 59406 | 60203 | 60985 | | 00 | 00 | 00 | 00 | | | | | | | | |
| 14 | 18 | 60985 | 61754 | 62500 | 63252 | 63982 | | 00 | 00 | 00 | 00 | | | | | | | | |
| 15 | 1. 0 | 7. | 63982 | 64699 | 65406 | 66101 | 66784 | 10.000 | 00 | 00 | 0.000 | 00 | 00 | | | | | | |
| 16 | 2 | | 66784 | 67458 | 68121 | 68774 | 69417 | | 00 | 00 | | 00 | 01 | | | | | | |
| 17 | 4 | | 69417 | 70051 | 70676 | 71292 | 71900 | 9.999 | 99 | 99 | | 01 | 01 | | | | | | |
| 18 | 6 | | 71900 | 72499 | 73090 | 73673 | 74248 | | 99 | 99 | | 01 | 01 | | | | | | |
| 19 | 8 | | 74248 | 74815 | 75376 | 75929 | 76475 | | 00 | 00 | | 01 | 01 | | | | | | |
| 20 | 1. 10 | 7. | 76475 | 77015 | 77548 | 78074 | 78594 | 9.999 | 99 | 99 | 0.000 | 01 | 01 | | | | | | |
| 21 | 12 | | 78594 | 79108 | 79616 | | | | 99 | 99 | | 01 | 01 | | | | | | |
| 22 | 14 | | | | | | | | 99 | 99 | | 01 | 01 | | | | | | |
| 23 | 16 | | 82545 | 83015 | 83479 | 83939 | 84393 | | 99 | 99 | | 01 | 01 | | | | | | |
| 24 | 18 | | 84393 | 84843 | 85289 | 85730 | 86166 | | 00 | 00 | | 01 | 01 | | | | | | |
| 25 | 1. 20 | 7. | 86166 | 86598 | 87026 | 87450 | 87870 | 9.999 | 99 | 99 | 0.000 | 01 | 01 | 2. | | | | | |
| 26 | 22 | | 87870 | 88285 | 88697 | 89105 | 89509 | | 99 | 99 | | 01 | 01 | | | | | | |
| 27 | 24 | | 89509 | 89909 | 90305 | 90698 | 91088 | | 99 | 99 | | 01 | 01 | | 10491 | 10091 | 09695 | 09302 | |
| 28 | 26 | | 91088 | 91474 | 91857 | 92236 | 92612 | | 99 | 98 | | 01 | 02 | | 08912 | 08526 | 08143 | 07764 | |
| 29 | 28 | | 92612 | 92985 | 93354 | 93721 | 94084 | | 98 | 98 | | 02 | 02 | | | 07015 | 06646 | 06279 | |
| 30 | 2. 0 | 7. | 94084 | 94445 | 94802 | 95157 | 955 | 9.999 | 98 | 98 | 0.000 | 02 | 02 | 2. | 05916 | 05555 | 05198 | 04843 | |
| 31 | 2 | | 95508 | 95857 | 96203 | 96546 | 96887 | | 98 | 98 | | 02 | 02 | | 04492 | 04143 | 03797 | 03454 | |
| 32 | 4 | | 96887 | 97225 | 97562 | 97893 | 98223 | | | | | | | | | | | | |
| 33 | 6 | | | | | 99199 | 995 | | | | | | | | | | | | |
| 34 | 8 | | | | | 00467 | 00779 | | 98 | 98 | | 02 | 02 | * | 00480 | 00162 | 99846 | 99533 | 99221 |
| 35 | | | | | | | | | | | | | | | | | | | |
| 36 | | | | | | | 03192 | | 98 | 97 | | 02 | 03 | 1. | 99221 | 98912 | 98605 | 98301 | 97998 |
| 37 | 12 | | | | | 3 | 04350 | | 97 | 97 | | 03 | 03 | | 97998 | 97697 | 97399 | 97102 | 96808 |
| 38 | 14 | | | | 04918 | 05199 | 05478 | | 97 | 97 | | 03 | 03 | | 96808 | 96516 | 96225 | 95937 | 95650 |
| 39 | 16 | | | | 06031 | 06305 | 06578 | | 97 | 97 | | 03 | 03 | | 95650 | 95365 | 95082 | 94801 | 94522 |
| 40 | 18 | | | | | | | | | | | | | | 94522 | 94244 | 93969 | 93695 | 93422 |
| 41 | 2. 20 | | | | | | | | | | | | | 1. | | | | | |
| 42 | 22 | | 07650 | 07914 | 08176 | 08437 | 08696 | | 97 | 97 | | 03 | 03 | | 92350 | 92086 | 91824 | 91563 | 91304 |
| 43 | 24 | | 08696 | 08954 | 09210 | 09465 | 09718 | | 97 | 97 | | 03 | 03 | | 91304 | 91046 | 90790 | 90535 | 90282 |
| 44 | 26 | | 09718 | 09970 | 10220 | 10469 | 10717 | | 97 | 96 | | 03 | 04 | | 90282 | 90030 | 89780 | 89531 | 89283 |
| 45 | 28 | 56 | 10717 | 10963 | 11207 | 11451 | 11693 | | 96 | 96 | | 04 | 04 | | 89283 | 89037 | 88793 | 88549 | 88307 |
| 46 | 3. 0 | 3. | 11693 | | | | | 9.999 | 96 | 96 | 0.000 | 04 | 04 | 1. | | | | | |
| 47 | 4 | | 12647 | 12882 | 13117 | 13349 | 13581 | | 96 | 96 | | 04 | 04 | | 87353 | 87118 | 86883 | 86651 | 86419 |
| 48 | 8 | | 13581 | 13811 | 14041 | 14269 | 14495 | | 96 | 96 | | 04 | 04 | | 86419 | 86189 | 85959 | 85731 | 85505 |
| 49 | 12 | | 14495 | 14721 | 14945 | 15169 | 15391 | | 96 | 96 | | 04 | 04 | | 85505 | 85279 | 85055 | 84831 | 84609 |
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| 51 | 3. 20 | | 16268 | 16485 | 16700 | 16915 | 17128 | 9.999 | 95 | 95 | 0.000 | 05 | 05 | 1. | 83732 | 83515 | 83300 | 83085 | 82872 |
| 52 | 24 | | 17128 | 17340 | 17552 | 17762 | 17971 | | 95 | 95 | | 05 | 05 | | 82872 | 82660 | 82448 | 82238 | 82029 |
| 53 | 28 | | | | | | | | | | | | | | | | | | |
| 54 | 32 | | 18798 | 19003 | 19206 | 19409 | 19610 | | 95 | 95 | | 05 | 05 | | 81202 | 80997 | 80794 | 80591 | 80390 |
| 55 | 36 | | 19610 | 19811 | 20010 | 20209 | 20407 | | 95 | 94 | | 05 | 06 | | 80390 | 80189 | 79990 | 79791 | 79593 |
| 56 | 3. 40 | | | | | | | 9.999 | 94 | 94 | 0.000 | 06 | 06 | 1. | 79593 | 79396 | 79200 | 79005 | 78811 |
| 57 | 44 | | | | | | | | 94 | 94 | | 06 | 06 | | 78811 | 78617 | 78425 | 78233 | 78042 |
| 58 | 48 | | | | | | | | 94 | 94 | | 06 | 06 | | 78042 | 77852 | 77663 | 77474 | 77287 |
| 59 | 52 | | | | | | | | 94 | 94 | | 06 | 06 | | 77287 | 77100 | 76914 | 76729 | 76544 |
| 60 | 56 | | | | | | | | 94 | 93 | | 06 | 07 | | 76544 | 76361 | 76178 | 75996 | 75814 |
| | | | 4″ | 3″ | 2″ | 1″ | 0″ | | | | | | | | | 3″ | 2″ | 1″ | 0″ | m s |
| | | | | | | | | | | | | | | | | 45″ | 30″ | 15″ | 0″ | |
| | | Sine | | | | | | Cosine | | Secant | | Cosecant | | | | | | | 11ʰ 179 |
| | | Cosine | | | | | | Sine | | Cosecant | | Secant | | | | | | | |

| 0° | 0h | Verſed | | | | | | Coverſed | | | | | | Suverſed | | | Sucoverſed | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90° | 6h | Coverſed | | | | | | Suverſed | | | | | | Sucoverſed | | | Verſed | | | | | | | |
| ′ | m s | ° | 15 | 30 | 45 | 60 | | ° | 15 | 30 | 45 | 60 | | ° | 60 | | ° | 15 | 30 | 45 | 60 | | | |
| | | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 0 | 0. 0 | 1. * | 12127 | 72333 | 07551 | 32539 | | 9.698 97 | 94 | 91 | 88 | 84 | | 10.000 00 | 00 | | 9.698 | 97 | | | | | | |
| 1 | 4 | 2. 32539 | 51921 | 67757 | 81147 | 92745 | | | 84 | 81 | 78 | 75 | 72 | | 00 | 00 | 9.699 | 10 | 13 | 16 | 19 | | | |
| 2 | 8 | * 92745 | 02976 | 12127 | 20406 | 27963 | | | 72 | 69 | 66 | 62 | 59 | | 00 | 00 | | 22 | 25 | 29 | 32 | 35 | | |
| 3 | 12 | 3. 27963 | 34916 | 41353 | 47345 | 52951 | | | 59 | 56 | 53 | 50 | 46 | | 00 | 00 | | 35 | 38 | 41 | 44 | 47 | 44 | 56 |
| 4 | 16 | 52951 | 58217 | 63182 | 67878 | 72333 | | | 46 | 43 | 40 | 37 | 34 | | 00 | 00 | | 47 | 51 | 54 | 57 | 60 | 59. 40 | 55 |
| 5 | 0. 20 | 3. 72333 | 76571 | 80612 | 84473 | 88169 | | 9.698 34 | 31 | 28 | 24 | 21 | | 10.000 00 | 00 | | 9.699 | 03 | 06 | 09 | 12 | 15 | 30 | 54 |
| 6 | 24 | * 88169 | 91715 | 95122 | 98400 | 01559 | | | 21 | 18 | 15 | 12 | 08 | | 00 | 00 | | 73 | 76 | 79 | 82 | 85 | 32 | 53 |
| 7 | 28 | 4. 01559 | 04607 | 07551 | 10400 | 13157 | | * | 08 | 05 | 02 | 99 | 96 | | 00 | 00 | | 85 | 88 | 92 | 95 | 98 | 28 | 52 |
| 8 | 32 | 13157 | 15830 | 18423 | 20941 | 23388 | | 9.697 | 96 | 93 | 89 | 86 | 83 | | 00 | 00 | | 97 | 01 | 04 | 07 | 11 | 24 | 51 |
| 9 | 36 | 23388 | 25768 | 28084 | 30340 | 32539 | | | 83 | 80 | 77 | 74 | 7 | | 00 | 00 | 9.7 | 1 | 14 | 17 | 20 | 23 | 20 | 50 |
| 10 | 0. 40 | 4. 32539 | 34684 | 36777 | 38821 | 40818 | | 9.697 | 70 | 67 | 64 | 61 | 58 | 10.000 | 00 | 00 | 9.7 | 3 | 26 | 29 | 32 | 35 | 16 | 49 |
| 11 | 44 | 40818 | 42770 | 44679 | 46547 | 48375 | | | 58 | 55 | 51 | 48 | 45 | | 00 | 00 | | 38 | 41 | 44 | 47 | 50 | 12 | 48 |
| 12 | 48 | 48375 | 50166 | 51921 | 53641 | 55328 | | | 45 | 42 | 39 | 36 | 32 | | 00 | 00 | | 54 | 57 | 60 | 63 | 66 | 8 | 47 |
| 13 | 52 | 55328 | 56982 | 58606 | 60200 | 61765 | | | 32 | 29 | 26 | 23 | 20 | | 00 | 00 | | 61 | 64 | 67 | 70 | 73 | 4 | 46 |
| 14 | 56 | 61765 | 63302 | 64813 | 66298 | 67757 | | | 20 | 17 | 13 | 10 | 07 | | 00 | 00 | | 73 | 77 | 80 | 83 | 86 | 0 | 45 |
| 15 | 1. 0 | 4. 67757 | 69193 | 70605 | 71995 | 73363 | | * | 07 | 04 | 01 | 98 | 94 | 10.000 | 00 | 00 | 9.700 | 86 | 89 | 92 | 96 | 99 | 56 | 44 |
| 16 | 4 | 73 | 74 | 75 | 77 | 78 | | 9.696 | 04 | 01 | 88 | 85 | 82 | | 00 | 00 | | 98 | 02 | 05 | 08 | 11 | 52 | 43 |
| 17 | 8 | 78629 | 79897 | 81147 | 82379 | 83594 | | | 82 | 79 | 75 | 72 | 69 | | 00 | 00 | 9.701 | 11 | 14 | 18 | 21 | 24 | 48 | 42 |
| 18 | 12 | 83594 | 84792 | 85973 | 87139 | 88290 | | | 69 | 66 | 63 | 60 | 56 | | 00 | 00 | | 24 | 27 | 30 | 33 | 36 | 44 | 41 |
| 19 | 16 | 88290 | 89425 | 90546 | 91653 | 92745 | | | 56 | 53 | 50 | 47 | 44 | | 00 | 00 | | 36 | 40 | 43 | 46 | 49 | 58. 40 | 40 |
| 20 | 1. 20 | 4. 92745 | 93821 | 94883 | 95931 | 96965 | | 9.696 | 43 | 40 | 37 | 34 | 31 | | 00 | 00 | 9.701 | 49 | 52 | 55 | 58 | 61 | 12 | 39 |
| 21 | 24 | * 96983 | 98011 | 99027 | 00031 | 01024 | | | 31 | 28 | 25 | 21 | 18 | | 00 | 00 | | 61 | 65 | 68 | 71 | 74 | 32 | 38 |
| 22 | 28 | 5. 01024 | 02005 | 02976 | 03935 | 04885 | | | 18 | 15 | 12 | 09 | 05 | | 00 | 00 | | 73 | 77 | 80 | 83 | 87 | 28 | 37 |
| 23 | 32 | 04824 | 05754 | 06675 | 07586 | 08488 | | * | 08 | 02 | 99 | 96 | 93 | | 00 | 00 | | 85 | 89 | 93 | 96 | 99 | 24 | 36 |
| 24 | 36 | 08381 | 09267 | 10145 | 11014 | 11877 | | 9.695 | 93 | 90 | 86 | 83 | 80 | 9.999 | 99 | 99 | | 97 | 01 | 05 | 08 | 11 | 58. 20 | 35 |
| 25 | 1. 40 | 5. 12127 | 12991 | 13847 | 14694 | 15534 | | 9.695 | 80 | 77 | 74 | 70 | 67 | 9.999 | 99 | 99 | 9.702 | 11 | 15 | 18 | 21 | 24 | 16 | 34 |
| 26 | 44 | 15534 | 16365 | 17188 | 18004 | 18812 | | | 67 | 64 | 61 | 58 | 55 | | 99 | 99 | | 24 | 27 | 30 | 34 | 37 | 12 | 33 |
| 27 | 48 | 18812 | 19612 | 20406 | 21192 | 21971 | | | 55 | 51 | 48 | 45 | 42 | | 99 | 99 | | 37 | 40 | 43 | 46 | 49 | 8 | 32 |
| 28 | 52 | 21971 | 22743 | 23508 | 24267 | 25019 | | | 42 | 39 | 35 | 32 | 29 | | 99 | 99 | | 49 | 53 | 56 | 59 | 62 | 4 | 31 |
| 29 | 56 | 25019 | 25764 | 26503 | 27236 | 27963 | | | 29 | 26 | 23 | 20 | 16 | | 99 | 99 | | 62 | 65 | 68 | 71 | 74 | 58. 0 | 30 |
| 30 | 2. 0 | 5. 27963 | 28684 | 29399 | 30108 | 30811 | | 9.695 | 16 | 13 | 10 | 07 | 04 | 9.999 | 99 | 99 | 9.702 | 74 | 77 | 80 | 83 | 87 | 52 | 29 |
| 31 | 4 | 30811 | 31509 | 32201 | 32888 | 33569 | | * | 04 | 00 | 97 | 94 | 91 | | 99 | 99 | | 86 | 90 | 93 | 96 | 99 | 48 | 28 |
| 32 | 8 | 33569 | 34243 | 34911 | 35573 | 36231 | | 9.694 | 91 | 88 | 84 | 81 | 78 | | 99 | 99 | | 98 | 02 | 05 | 08 | 12 | 44 | 27 |
| 33 | 12 | 36231 | 36884 | 37534 | 38179 | 38819 | | | 78 | 75 | 72 | 69 | 65 | | 99 | 99 | 9.703 | 11 | 15 | 18 | 21 | 24 | 40 | 26 |
| 34 | 16 | 38819 | 39454 | 40085 | 40711 | 41332 | | | 65 | 62 | 59 | 56 | 53 | | 99 | 99 | | 27 | 31 | 34 | 37 | 40 | 36 | 25 |
| 35 | 2. 20 | 5. 41352 | 41971 | 42584 | 43194 | 43799 | | 9.694 | 53 | 49 | 46 | 43 | 40 | 9.999 | 99 | 99 | 9.703 | 43 | 46 | 49 | 52 | 56 | 32 | 24 |
| 36 | 24 | 43799 | 44400 | 44997 | 45590 | 46179 | | | 40 | 37 | 33 | 30 | 27 | | 99 | 99 | | 59 | 62 | 65 | 68 | 71 | 28 | 23 |
| 37 | 28 | 46179 | 46764 | 46345 | 47922 | 48495 | | | 27 | 24 | 21 | 17 | 14 | | 99 | 99 | | 75 | 78 | 81 | 84 | 87 | 24 | 22 |
| 38 | 32 | 48495 | 49065 | 49631 | 50193 | 50752 | | | 14 | 11 | 08 | 05 | 01 | | 99 | 99 | | 91 | 94 | 97 | 00 | 03 | 20 | 21 |
| 39 | 36 | 50752 | 51307 | 51858 | 52405 | 52948 | | * | 01 | 98 | 95 | 92 | 89 | | 99 | 99 | | 07 | 10 | 13 | 16 | 19 | 16 | 20 |
| 40 | 2. 40 | 5. 52951 | 53492 | 54030 | 54564 | 55095 | | 9.693 | 89 | 86 | 82 | 79 | 76 | 9.999 | 99 | 98 | * | 99 | 02 | 06 | 09 | 12 | 16 | 19 |
| 41 | 44 | 55623 | 56148 | 56670 | 57189 | 57704 | | | 76 | 73 | 70 | 66 | 63 | | 98 | 98 | 9.704 | 12 | 15 | 18 | 22 | 25 | 12 | 18 |
| 42 | 48 | 57189 | 57704 | 58216 | 58726 | 59232 | | | 63 | 60 | 57 | 54 | 50 | | 98 | 98 | | 24 | 27 | 31 | 34 | 37 | 8 | 17 |
| 43 | 52 | 59232 | 59736 | 60236 | 60734 | 61229 | | | 50 | 47 | 44 | 41 | 38 | | 98 | 98 | | 37 | 40 | 43 | 46 | 50 | 4 | 16 |
| 44 | 56 | 61229 | 61721 | 62211 | 62697 | 63181 | | | 38 | 34 | 31 | 28 | 25 | | 98 | 98 | | 49 | 52 | 56 | 59 | 62 | 57. 0 | 15 |
| 45 | 3. 0 | 5. 63181 | 63661 | 64141 | 64617 | 65090 | | 9.693 | 25 | 22 | 19 | 15 | 12 | 9.999 | 98 | 98 | 9.704 | 62 | 65 | 68 | 71 | 74 | 0 | 14 |
| 46 | 4 | 65090 | 65561 | 66029 | 66495 | 66858 | | * | 12 | 09 | 06 | 02 | 99 | | 98 | 98 | | 74 | 77 | 80 | 84 | 87 | 52 | 13 |
| 47 | 8 | 66858 | 67419 | 67877 | 68333 | 68787 | | 9.692 | 99 | 96 | 93 | 90 | 86 | | 98 | 98 | | 87 | 90 | 93 | 96 | 99 | 48 | 12 |
| 48 | 12 | 68787 | 69238 | 69687 | 70133 | 70578 | | | 86 | 83 | 80 | 77 | 74 | | 98 | 98 | | 99 | 02 | 05 | 09 | 12 | 44 | 11 |
| 49 | 16 | 70578 | 71020 | 71460 | 71897 | 72332 | | | 74 | 70 | 67 | 64 | 61 | | 98 | 98 | 9.705 | 12 | 15 | 18 | 21 | 24 | 56. 40 | 10 |
| 50 | 3. 20 | 5. 72332 | 72764 | 73194 | 73620 | 74043 | | 9.692 | 61 | 58 | 54 | 51 | 48 | 9.999 | 98 | 98 | 9.705 | 24 | 27 | 30 | 33 | 36 | 32 | 9 |
| 51 | 24 | 74043 | 74463 | 74880 | 75294 | 75704 | | | 45 | 42 | 38 | 35 | 32 | | 98 | 98 | | 37 | 40 | 43 | 46 | 49 | 28 | 8 |
| 52 | 28 | 75704 | 76111 | 76570 | 76983 | 77394 | | | 29 | 26 | 22 | 19 | 16 | | 98 | 98 | | 49 | 53 | 56 | 59 | 62 | 24 | 7 |
| 53 | 32 | 77394 | 77797 | 78209 | 78614 | 79017 | | | 13 | 10 | 07 | 03 | 00 | | 98 | 98 | | 62 | 65 | 68 | 71 | 74 | 20 | 6 |
| 54 | 36 | 79017 | 79418 | 79818 | 80215 | 80610 | | * | 06 | 03 | 00 | 97 | 94 | | 98 | 98 | | 74 | 78 | 81 | 84 | 87 | 16 | 5 |
| 55 | 3. 40 | 5. 80610 | 81002 | 81391 | 81778 | 82161 | | 9.691 | 90 | 87 | 84 | 81 | 78 | 9.999 | 98 | 98 | 9.706 | 87 | 90 | 93 | 96 | 99 | 12 | 4 |
| 56 | 44 | 82161 | 82541 | 82918 | 83292 | 83663 | | | 74 | 71 | 68 | 65 | 62 | | 98 | 98 | | 99 | 02 | 05 | 08 | 11 | 8 | 3 |
| 57 | 48 | 83663 | 84032 | 84397 | 84759 | 85118 | | | 58 | 55 | 52 | 48 | 45 | | 97 | 97 | 9.706 | 11 | 14 | 17 | 20 | 23 | 4 | 2 |
| 58 | 52 | 85118 | 85474 | 85828 | 86178 | 86526 | | | 42 | 39 | 36 | 32 | 29 | | 97 | 97 | | 24 | 27 | 30 | 33 | 36 | 0 | 1 |
| 59 | 56 | 86526 | 86870 | 87211 | 87549 | 87884 | | | 26 | 23 | 19 | 16 | 13 | | 97 | 97 | | 36 | 39 | 42 | 45 | 48 | 56. 40 | 0 |
| | | ° | ′ | ″ | ″ | ″ | ″ | ° | ′ | ″ | ″ | ″ | ″ | ° | ′ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| | | Suverſed | | | | | | Coverſed | | | | | | Verſed | | | Sucoverſed | | | | | | m s | ′ |
| | | Coverſed | | | | | | Verſed | | | | | | Sucoverſed | | | Suverſed | | | | | | 3 | 17 |
| | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 |

| ′ | m s | Sine / Cosine 0″ | 15″ | 30″ | 45″ | 60″ | Cosine / Sine 60″ | Secant / Cosecant 0″ | 60″ | Cosecant / Secant 0″ | 15″ | 30″ | 45″ | 60″ | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 4 | 8.2 | | | 4546 | 4725 | 4903 | 9.999 93 | 93 | 0.000 07 | 07 | 1.7 5814 | 5634 | 5454 | 5275 | 5097 | 56 | 59 |
| 1 | | | | | 5258 | 5434 | 5609 | 93 | 93 | 07 | 07 | 5097 | 4919 | 4742 | 4566 | 4391 | 52 | 58 |
| 2 | 8 | | 5609 | 5784 | 5958 | 6132 | 6304 | 93 | 93 | 07 | 07 | 4391 | 4216 | 4042 | 3868 | 3696 | 48 | 57 |
| 3 | 12 | | 6304 | 6476 | 6648 | 6818 | 6988 | 93 | 92 | 07 | 08 | 3696 | 3524 | 3352 | 3182 | 3012 | 44 | 56 |
| 4 | 16 | | 6988 | 7157 | 7326 | 7494 | 7661 | 92 | 92 | 08 | 08 | 3012 | 2843 | 2674 | 2506 | 2339 | 55. 40 | 55 |
| 5 | | | | | | | | 9.999 | | 0.000 | | 1.7 | | | | | | |
| 6 | 24 | | 8324 | 8489 | 8652 | 8815 | 8977 | 92 | 92 | 08 | 08 | 1676 | 1511 | 1348 | 1185 | 1023 | 32 | 53 |
| 7 | 28 | | 8977 | 9139 | 9300 | 9461 | 9621 | 92 | 92 | 08 | 08 | 1023 | 0861 | 0700 | 0539 | 0379 | 28 | 52 |
| 8 | 32 | * | 9621 | 9780 | 9939 | 0097 | 0255 | 92 | 91 | 08 | 09 | * 0379 | 0220 | 0061 | 9903 | 9745 | 24 | 51 |
| 9 | 36 | 8.3 | 0255 | 0412 | 0568 | 0724 | 0879 | 91 | 91 | 09 | 09 | 1.6 9745 | 9588 | 9432 | 9276 | 9121 | 55. 20 | 50 |
| 10 | | | | | | | | 9.999 | | 0.000 | | 1.6 | | | | | | |
| 11 | 44 | | 1495 | 1648 | 1800 | 1952 | 2103 | 91 | 90 | 09 | 10 | 8505 | 8352 | 8200 | 8048 | 7897 | 12 | 48 |
| 12 | 48 | | 2103 | 2253 | 2403 | 2553 | 2702 | 90 | 90 | 10 | 10 | 7897 | 7747 | 7597 | 7447 | 7298 | 8 | 47 |
| 13 | 52 | | 2702 | 2850 | 2998 | 3145 | 3292 | 90 | 90 | 10 | 10 | 7298 | 7150 | 7002 | 6855 | 6708 | 4 | 46 |
| 14 | 56 | | 3292 | 3439 | 3585 | 3732 | 3875 | 90 | 90 | 10 | 10 | 6708 | 6561 | 6415 | 6268 | 6121 | 53. 0 | 45 |
| 15 | | 8.3 | | | | | | 9.999 | | 0.000 | | 1.6 | | | | | | |
| 16 | 4 | | 4450 | 4593 | 4735 | 4877 | 5018 | 89 | 89 | 11 | 11 | 5550 | 5407 | 5265 | 5123 | 4982 | 52 | 43 |
| 17 | 8 | | 5018 | 5159 | 5299 | 5439 | 5578 | 89 | 89 | 11 | 11 | 4982 | 4841 | 4701 | 4561 | 4422 | 48 | 42 |
| 18 | 12 | | 5578 | 5717 | 5856 | 5994 | 6131 | 89 | 89 | 11 | 11 | 4422 | 4283 | 4144 | 4006 | 3869 | 44 | 41 |
| 19 | 16 | | 6131 | 6268 | 6405 | 6540 | 6678 | 89 | 88 | 11 | 12 | 3869 | 3732 | 3595 | 3460 | 3322 | 54. 40 | 40 |
| 20 | | 8.3 | | | | | | 9.999 | | 0.000 | | 1.6 | | | | | | |
| 21 | 24 | | 7217 | 7353 | 7487 | 7621 | 7753 | 88 | 88 | 12 | 12 | 2783 | 2649 | 2513 | 2383 | 2247 | 36 | 39 |
| 22 | 28 | | 7753 | 7882 | 8014 | 8145 | 8276 | 88 | 87 | 12 | 13 | 2247 | 2118 | 1986 | 1855 | 1724 | 32 | 38 |
| 23 | 32 | | 8276 | 8407 | 8537 | 8667 | 8796 | 87 | 87 | 13 | 13 | 1724 | 1593 | 1463 | 1333 | 1204 | 28 | 37 |
| 24 | 36 | | 8796 | 8924 | 9054 | 9182 | 9311 | 87 | 87 | 13 | 13 | 1204 | 1076 | 0946 | 0818 | 0689 | 24 | 36 |
| 25 | 5. 40 | 8.3 | 9310 | 9438 | 9565 | 9692 | 9818 | 9.999 87 | 86 | 0.000 13 | 14 | 1.6 0690 | 0562 | 0435 | 0308 | 0182 | 16 | 34 |
| 26 | 44 | | 9818 | 9944 | 0070 | 0195 | 0321 | 86 | 86 | 14 | 14 | 0182 | 0056 | 9930 | 9805 | 9679 | 12 | 33 |
| 27 | 48 | 8.4 | 0321 | 0446 | 0570 | 0694 | 0817 | 86 | 86 | 14 | 14 | 1.5 9679 | 9554 | 9430 | 9306 | 9183 | 8 | 32 |
| 28 | 52 | | 0817 | 0940 | 1062 | 1184 | 1307 | 86 | 85 | 14 | 15 | 9183 | 9060 | 8938 | 8815 | 8693 | 4 | 31 |
| 29 | 56 | | 1307 | 1429 | 1550 | 1671 | 1792 | 85 | 85 | 15 | 15 | 8693 | 8571 | 8450 | 8329 | 8208 | 54. 0 | 30 |
| 30 | | 8.4 | 1792 | 1912 | 2032 | 2151 | 2272 | 9.999 | 85 | 0.000 | 15 | 1.5 | | | | | | |
| 31 | 4 | | 2272 | 2391 | 2510 | 2628 | 2746 | 85 | 84 | 15 | 16 | 7728 | 7609 | 7490 | 7372 | 7254 | 52 | 28 |
| 32 | 8 | | 2746 | 2864 | 2982 | 3099 | 3216 | 84 | 84 | 16 | 16 | 7254 | 7136 | 7018 | 6901 | 6784 | 48 | 27 |
| 33 | 12 | | 3216 | 3333 | 3449 | 3565 | 3681 | 84 | 84 | 16 | 16 | 6784 | 6667 | 6551 | 6435 | 6319 | 44 | 26 |
| 34 | 16 | | 3680 | 3795 | 3910 | 4025 | 4139 | 84 | 83 | 16 | 17 | 6320 | 6205 | 6090 | 5975 | 5861 | 53. 40 | 25 |
| 35 | | 8.4 | 4139 | 4254 | 4368 | 4482 | 4596 | 9.999 | 83 | 0.000 | 17 | 1.5 | | | | | | |
| 36 | 24 | | 4594 | 4707 | 4820 | 4932 | 5044 | 83 | 83 | 17 | 17 | 5406 | 5293 | 5180 | 5068 | 4956 | 32 | 23 |
| 37 | 28 | | 5044 | 5156 | 5267 | 5378 | 5489 | 83 | 82 | 17 | 18 | 4956 | 4844 | 4733 | 4622 | 4511 | 28 | 22 |
| 38 | 32 | | 5489 | 5600 | 5710 | 5820 | 5930 | 82 | 82 | 18 | 18 | 4511 | 4400 | 4290 | 4180 | 4070 | 24 | 21 |
| 39 | 36 | | 5930 | 6040 | 6149 | 6258 | 6366 | 82 | 82 | 18 | 18 | 4070 | 3960 | 3851 | 3742 | 3634 | 53. 20 | 20 |
| 40 | | 8.4 | 6366 | 6473 | 6581 | 6688 | 6794 | 9.999 | 82 | 0.000 | 18 | 1.5 | | | | | | |
| 41 | 44 | | 6798 | 6906 | 7013 | 7120 | 7226 | 81 | 81 | 19 | 19 | 3202 | 3094 | 2987 | 2870 | 2774 | 12 | 18 |
| 42 | 48 | | 7226 | 7333 | 7439 | 7544 | 7650 | 81 | 80 | 19 | 20 | 2774 | 2667 | 2561 | 2456 | 2350 | 8 | 17 |
| 43 | 52 | | 7650 | 7755 | 7860 | 7965 | 8070 | 81 | 80 | 19 | 20 | 2350 | 2245 | 2140 | 2035 | 1931 | 4 | 16 |
| 44 | 56 | | 8070 | 8174 | 8278 | 8381 | 8485 | 80 | 80 | 20 | 20 | 1931 | 1826 | 1722 | 1619 | 1515 | 53. 0 | 15 |
| 45 | | | | | | | | 9.999 | 79 | 0.000 | 21 | 1.5 | | | | | | |
| 46 | 4 | | 8896 | 8999 | 9101 | 9202 | 9304 | 79 | 79 | 21 | 21 | 1104 | 1001 | 0899 | 0798 | 0696 | 52 | 13 |
| 47 | 8 | | 9304 | 9405 | 9506 | 9607 | 9708 | 79 | 79 | 21 | 21 | 0696 | 0595 | 0494 | 0393 | 0292 | 48 | 12 |
| 48 | 12 | * | 9708 | 9808 | 9908 | 0008 | 0108 | 79 | 78 | 21 | 22 | * 0292 | 0192 | 0092 | 9992 | 9892 | 44 | 11 |
| 49 | 16 | 8.5 | 0108 | 0207 | 0307 | 0406 | 0504 | 78 | 78 | 22 | 22 | 1.4 9892 | 9793 | 9693 | 9594 | 9496 | 52. 40 | 10 |
| 50 | | | | | | | | 9.999 | 78 | 0.000 | 22 | 1.4 | | | | | | |
| 51 | 7. 20 | 8.5 | 0504 | 0603 | 0701 | 0799 | 0897 | 78 | 77 | 22 | 23 | 9496 | 9397 | 9299 | 9201 | 9103 | 36 | 9 |
| 52 | | | | | | | | 77 | 77 | 23 | 23 | 9103 | 9006 | 8908 | 8810 | 8713 | 32 | 8 |
| 53 | 28 | | 1287 | 1384 | 1480 | 1576 | 1673 | 77 | 77 | 23 | 23 | 8713 | 8616 | 8520 | 8424 | 8327 | 28 | 7 |
| 54 | 32 | | 1673 | 1769 | 1864 | 1960 | 2055 | 77 | 76 | 23 | 24 | 8327 | 8231 | 8136 | 8040 | 7945 | 24 | 6 |
| 55 | 36 | | 2055 | 2150 | 2245 | 2339 | 2434 | 76 | 76 | 24 | 24 | 7945 | 7850 | 7755 | 7661 | 7566 | 53. 20 | 5 |
| 56 | 7. 40 | 8.5 | 2434 | 2529 | 2623 | 2717 | 2810 | 9.999 76 | 75 | 0.000 24 | 25 | 1.4 7566 | 7471 | 7377 | 7283 | 7190 | 16 | 4 |
| 57 | 44 | | 2810 | 2904 | 2997 | 3090 | 3183 | 75 | 75 | 25 | 25 | 7190 | 7096 | 7003 | 6910 | 6817 | 12 | 3 |
| 58 | 48 | | 3185 | 3275 | 3368 | 3460 | 3552 | 75 | 74 | 25 | 26 | 6817 | 6725 | 6632 | 6540 | 6448 | 8 | 2 |
| 59 | 52 | | 3552 | 3643 | 3733 | 3824 | 3914 | 74 | 74 | 26 | 26 | 6448 | 6357 | 6267 | 6176 | 6086 | 4 | 1 |
| 60 | 56 | | 3914 | 4004 | 4094 | 4183 | 4273 | 74 | 73 | 26 | 27 | 6086 | 5996 | 5906 | 5817 | 5727 | 53. 0 | 0 |
| | | | 45″ | 30″ | 15″ | 0″ | | 60″ | 0″ | 60″ | 0″ | 60″ | 45″ | 30″ | 15″ | 0″ | m | s |
| | | Sine / Cosine | | | | | | Cosine / Sine | | Secant / Cosecant | | Cosecant / Secant | | | | | 11h | 178° |
| | | | | | | | | | | | | | | | | | 5h | 88° |

| | | Verſed | | | | | | Coverſed | | | | | | Suverſed | | | | | | Sucoverſed | | | | | | Sucoverſed Verted | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | m. s. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 0 | 4. 0 | 5. 8 | 8168 | 8530 | 8889 | 9247 | 9604 | 9. 691 | 32 | 29 | 26 | 23 | 19 | 9. 999 | 97 | 97 | 9. 709 | 48 | 52 | 55 | 58 | 61 | 50 | 59 |
| 1 | 4 | * | 9604 | 9950 | 0313 | 0665 | 1016 | | 19 | 16 | 13 | 10 | 07 | | 97 | 96 | | 61 | 64 | 67 | 70 | 73 | 52 | 58 |
| 2 | 8 | 5. 9 | 1016 | 1366 | 1714 | 2061 | 2406 | * | 07 | 03 | 00 | 97 | 94 | | 96 | 96 | | 73 | 76 | 80 | 83 | 86 | 45 | 57 |
| 3 | 12 | | 2406 | 2750 | 3093 | 3434 | 3774 | 9. 690 | 94 | 91 | 87 | 84 | 81 | | 96 | 96 | | 86 | 89 | 92 | 95 | 98 | 44 | 56 |
| 4 | 16 | | 3774 | 4113 | 4450 | 4786 | 5121 | | 81 | 78 | 74 | 71 | 68 | | 96 | 96 | * | 98 | 01 | 04 | 07 | 10 | 55. 40 | 55 |
| 5 | 20 | 5. 9 | 5121 | 5454 | 5786 | 6117 | 6447 | 9. 690 | 68 | 65 | 62 | 58 | 55 | 9. 999 | 96 | 96 | 9. 707 | 10 | 14 | 17 | 20 | 23 | 36 | 54 |
| 6 | 24 | | 6447 | 6775 | 7102 | 7428 | 7753 | | 55 | 52 | 49 | 45 | 42 | | 96 | 96 | | 23 | 26 | 29 | 32 | 35 | 32 | 53 |
| 7 | 28 | | 7753 | 8076 | 8399 | 8720 | 9040 | | 42 | 39 | 36 | 33 | 29 | | 96 | 96 | | 35 | 38 | 41 | 45 | 48 | 28 | 52 |
| 8 | 32 | * | 9040 | 9358 | 9676 | 9992 | 0308 | | 29 | 26 | 23 | 20 | 17 | | 96 | 96 | | 48 | 51 | 54 | 57 | 00 | 24 | 51 |
| 9 | [illegible] | | | | | | | | 17 | 13 | [illegible] | | | | | | | | | | | | | |
| 10 | [illegible] | | | | | | | | [illegible] | | | | | | | | | | | | | | | |
| 11 | [illegible] | | | | | | | 9. 6[illegible] | [illegible] | | | | | | | | | | | | | | | |
| 12 | 4 | | [illegible] | 1205 | 4605 | 4904 | 5202 | | 78 | 75 | 71 | 68 | 65 | | 95 | 95 | * | 07 | 00 | 03 | 06 | 09 | 8 | 47 |
| 13 | 52 | | 5202 | 5499 | 5795 | 6090 | 6384 | | 65 | 62 | 58 | 55 | 52 | | 95 | 95 | 9. 708 | 09 | 13 | 16 | 19 | 22 | 4 | [illegible] |
| 14 | [illegible] | | 6384 | 6677 | 6969 | 7260 | 7550 | | 52 | 49 | 46 | 42 | 39 | | 95 | 95 | | 22 | 25 | 28 | 31 | 34 | [illegible] | [illegible] |
| 15 | [illegible] | | [illegible] | | | | | [illegible] | | | | | | | | | [illegible] | | | | | | | |
| 16 | 4 | | 8700 | 8985 | 9270 | 9555 | 9839 | | 26 | 23 | 20 | 16 | 13 | | 95 | 95 | | 47 | 50 | 53 | 56 | 59 | [illegible] | 43 |
| 17 | 8 | * | 9836 | 0117 | 0398 | 0677 | 0956 | | 13 | 10 | 07 | 04 | 00 | | 95 | 94 | | 59 | 02 | 05 | 08 | 11 | 4[illegible] | [illegible] |
| 18 | 12 | 6. 1 | 0956 | 1234 | 1511 | 1787 | 2063 | * | 00 | 97 | 94 | 91 | 87 | | 94 | 94 | | 71 | 74 | 77 | 81 | 84 | 44 | 41 |
| 19 | 16 | | 2063 | 2337 | 2611 | 2883 | 3155 | 9. 688 | 87 | 84 | 81 | 78 | 74 | | 94 | 94 | | 84 | 87 | 90 | 93 | 96 | 54. 40 | 40 |
| 20 | 5. 20 | 6. 1 | 3155 | 3426 | 3696 | 3966 | 4234 | 9. 688 | 74 | 71 | 68 | 65 | 62 | 9. 999 | 94 | 94 | * | 96 | 99 | 02 | 05 | 08 | 30 | 39 |
| 21 | 24 | | 4234 | 4502 | 4769 | 5035 | 5300 | | 62 | 58 | 55 | 52 | 49 | | 94 | 94 | 9. 709 | 08 | 11 | 14 | 18 | 21 | 32 | 38 |
| 22 | 28 | | 5300 | 5564 | 5828 | 6091 | 6353 | | 49 | 45 | 42 | 39 | 36 | | 94 | 94 | | 21 | 24 | 27 | 30 | 33 | 28 | 37 |
| 23 | 32 | | 6353 | 6614 | 6874 | 7134 | 7393 | | 36 | 32 | 29 | 26 | 23 | | 94 | 94 | | 33 | 36 | 39 | 42 | 45 | 24 | 36 |
| 24 | 36 | | 7393 | 7651 | 7908 | 8165 | 8421 | | 23 | 20 | 16 | 13 | 10 | | 94 | 93 | | 45 | 48 | 51 | 55 | 58 | 54. 20 | 35 |
| 25 | 5. 40 | 6. 1 | 8421 | 8676 | 8930 | 9184 | 9437 | * | 10 | 07 | 03 | 00 | 97 | 9. 999 | 93 | 93 | 9. 709 | 58 | 61 | 64 | 67 | 70 | 10 | 34 |
| 26 | 44 | * | 9437 | 9686 | 9940 | 0191 | 0441 | 9. 687 | 97 | 94 | 90 | 87 | 84 | | 93 | 93 | | 70 | 73 | 76 | 79 | 82 | 12 | [illegible] |
| 27 | 48 | 6. 2 | 0441 | 0690 | 0938 | 1186 | 1433 | | 84 | 81 | 77 | 74 | 71 | | 93 | 93 | | 82 | 85 | 88 | 91 | 95 | 6 | 32 |
| 28 | 52 | | [illegible] | | | | | | 71 | [illegible] | 64 | 61 | [illegible] | | [illegible] | | | | | | | | | |
| 29 | 56 | | [illegible] | | | | | | [illegible] | 55 | 51 | 48 | 45 | | [illegible] | | [illegible] | | | | | | | |
| 30 | 6. 0 | 6. 2 | 3385 | 3626 | 3866 | 4106 | 4345 | 9. 687 | 45 | 42 | 39 | 35 | [illegible] | 9. 999 | [illegible] | | 9. 7[illegible] | | | | | | | |
| 31 | 4 | | 4345 | 4583 | 4821 | 5058 | 5294 | | 32 | 29 | 26 | 22 | 19 | | [illegible] | | | | | | | | | |
| 32 | 8 | | 5294 | 5530 | 5765 | 5999 | 6233 | | 19 | 16 | 13 | 09 | [illegible] | | [illegible] | | | | | | | | | |
| 33 | 12 | | 6233 | 6466 | 6699 | 6931 | 7162 | * | 06 | 03 | 00 | 96 | 93 | | 92 | 92 | | 56 | 59 | 62 | 65 | 68 | 44 | 26 |
| 34 | 16 | | 7162 | 7393 | 7623 | 7852 | 8081 | 9. 686 | 93 | 90 | 87 | 83 | 80 | | 92 | 91 | | 68 | 71 | 75 | 78 | 81 | 53. 40 | 25 |
| 35 | 6. 20 | 6. 2 | 8081 | 8309 | 8537 | 8764 | 8991 | 9. 686 | 80 | 77 | 74 | 70 | [illegible] | [illegible] | | | | | | | | | | |
| 36 | 24 | | 8991 | 9217 | 9442 | 9667 | 9891 | | 67 | 64 | 61 | [illegible] | [illegible] | | | | | | | | | | | |
| [illegible] | [illegible] | * | 9891 | 0114 | 0337 | 0560 | 0781 | | 54 | 51 | 48 | [illegible] | [illegible] | | | | | | | | | | | |
| [illegible] | [illegible] | | [illegible] | | | | | | [illegible] | | | | | | | | | | | | | | | |
| [illegible] | [illegible] | | [illegible] | | | | | | [illegible] | | | | | | | | | | | | | | | |
| [illegible] | [illegible] | | [illegible] | | | | | | [illegible] | | | | | 9. 999 | 91 | 91 | 9. 711 | 42 | 45 | 48 | 51 | 54 | 16 | 19 |
| [illegible] | [illegible] | | [illegible] | | | | | | [illegible] | | | | | | 91 | 90 | | [illegible] | | | | | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | | | | | | [illegible] | | | | | | 90 | 90 | | [illegible] | | | | | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | | | | | | [illegible] | | | | | | [illegible] |

| 92° | 6h | Sine / Cosine | | | | | Cosine / Sine | | Secant / Cosecant | | Cosecant / Secant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | m s | 0″ / 0s | 15 / 1s | 30 / 2s | 45 / 3s | 60 / 4s | 0s | 60 | 0s | 60 | 0″ | 15 | 30 | 45 | 60 | | |
| 0 | 8. 0 | 8.5 4.8 | [illegible] | | | | 9.999 74 | 73 | 0.000 26 | 27 | [illegible] | | | | | | |
| 1 | 4 | 4642 | 4732 | 4821 | 4910 | 4999 | 73 | 73 | 27 | 27 | 5358 | 5268 | 5179 | 5090 | 5001 | 52 | 58 |
| 2 | 8 | [illegible] | | | | | 73 | 72 | 27 | 28 | [illegible] | | | | | | |
| 3 | 12 | 5354 | 5442 | 5530 | 5618 | 5705 | 72 | 72 | 28 | 28 | 4646 | 4558 | 4470 | 4382 | 4295 | 44 | 56 |
| 4 | 16 | 5705 | 5793 | 5880 | 5967 | 6054 | 72 | 71 | 28 | 29 | 4295 | 4207 | 4120 | 4033 | 3946 | 51. 40 | 55 |
| 5 | 8. 20 | 8.5 [illegible] | | | | | 9.999 71 | 71 | 0.000 29 | 29 | 1.4 [illegible] | | | | | | |
| 6 | 24 | [illegible] | | | | | 71 | 70 | 29 | 30 | [illegible] | | | | | 52 | 54 |
| 7 | 28 | 6743 | 6828 | 6914 | 6999 | 7084 | 70 | 70 | 30 | 30 | 3257 | 3172 | 3086 | 3001 | 2916 | 28 | 52 |
| 8 | 32 | [illegible] | | | | | 70 | 69 | 30 | 31 | [illegible] | | | | | 4 | 51 |
| 9 | 36 | [illegible] | | | | | 69 | 69 | 31 | 31 | [illegible] | | | | | 51. 0 | 50 |
| 10 | 8. 40 | [illegible] | | | | | 9.999 [illegible] | 68 | [illegible] | 32 | [illegible] | | | | | | |
| 11 | 44 | [illegible] | | | | | [illegible] | 68 | [illegible] | 32 | [illegible] | | | | | 1 | 4 |
| 12 | 48 | 8419 | 8501 | 8583 | 8665 | 8747 | 68 | 67 | 32 | 33 | 1581 | 1499 | 1417 | 1335 | 1253 | 8 | 47 |
| 13 | 52 | 8747 | 8828 | 8910 | 8991 | 9072 | 67 | 67 | 33 | 33 | 1253 | 1172 | 1090 | 1009 | 0928 | 4 | 46 |
| 14 | 56 | 9072 | 9153 | 9234 | 9314 | 9395 | 67 | 66 | 33 | 34 | 0928 | 0847 | 0766 | 0686 | 0605 | 51. 0 | 45 |
| 15 | 9. 0 | 8.5 9395 | 9475 | 9555 | 9635 | 9715 | 9.999 66 | 66 | 0.000 34 | 34 | 1.4 0605 | 0525 | 0445 | 0365 | 0285 | 56 | 44 |
| 16 | 4 | * 9715 | 9795 | 9874 | 9954 | 0033 | 66 | 65 | 34 | 35 | * 0285 | 0205 | 0126 | 0046 | 9967 | 52 | 43 |
| 17 | 8 | 8.6 0033 | 0112 | 0191 | 0270 | 0349 | 65 | 65 | 35 | 35 | 1.3 9967 | 9888 | 9808 | 9730 | 9651 | 48 | 42 |
| 18 | 12 | 0349 | 0427 | 0506 | 0584 | 0662 | 65 | 64 | 35 | 36 | 9651 | 9573 | 9494 | 9416 | 9338 | 44 | 41 |
| 19 | 16 | 0662 | 0740 | 0818 | 0896 | 0973 | 64 | 64 | 36 | 36 | 9338 | 9260 | 9182 | 9104 | 9027 | 50. 40 | 40 |
| 20 | 9. 20 | 8.6 [illegible] | | | | | 9.999 [illegible] | 63 | 0.000 [illegible] | 37 | 1.3 [illegible] | | | | | | |
| 21 | 24 | [illegible] | | | | | [illegible] | 63 | [illegible] | 37 | [illegible] | | | | | 3 | 3 |
| 22 | 28 | 1589 | 1665 | 1742 | 1818 | 1894 | 63 | 62 | 37 | 38 | 8411 | 8335 | 8258 | 8182 | 8106 | 28 | 37 |
| 23 | 32 | 1894 | 1970 | 2045 | 2121 | 2196 | 62 | 62 | 38 | 38 | 8106 | 8030 | 7955 | 7879 | 7804 | 24 | 36 |
| 24 | 36 | 2196 | 2271 | 2347 | 2422 | 2497 | 62 | 61 | 38 | 39 | 7804 | 7729 | 7653 | 7578 | 7503 | 50. 20 | 35 |
| 25 | 9. 40 | 8.6 2497 | 2571 | 2646 | 2720 | 2795 | 9.999 61 | 61 | 0.000 39 | 39 | 1.3 7503 | 7429 | 7354 | 7280 | 7205 | 16 | 34 |
| 26 | 44 | 2795 | 2869 | 2943 | 3017 | 3091 | 61 | 60 | 39 | 40 | 7205 | 7131 | 7057 | 6983 | 6909 | 12 | 33 |
| 27 | 48 | 3091 | 3165 | 3238 | 3312 | 3385 | 60 | 60 | 40 | 40 | 6909 | 6835 | 6762 | 6688 | 6615 | 8 | 32 |
| 28 | 52 | 3385 | 3459 | 3532 | 3605 | 3678 | 60 | 59 | 40 | 41 | 6615 | 6541 | 6468 | 6395 | 6322 | 4 | 31 |
| 29 | 56 | 3678 | 3750 | 3823 | 3896 | 3968 | 59 | 59 | 41 | 41 | 6322 | 6250 | 6177 | 6104 | 6032 | 50. 0 | 30 |
| 30 | 10. 0 | 8.6 [illegible] | | | | | 9.999 [illegible] | 58 | 0.000 [illegible] | 42 | 1.3 [illegible] | | | | | | |
| 31 | 4 | 4256 | 4328 | 4400 | 4471 | 4543 | 58 | 58 | 42 | 42 | 5744 | 5672 | 5600 | 5529 | 5457 | 52 | 28 |
| 32 | 8 | 4543 | 4614 | 4685 | 4756 | 4827 | 58 | 57 | 42 | 43 | 5457 | 5386 | 5315 | 5244 | 5173 | 48 | 27 |
| 33 | 12 | 4827 | 4898 | 4969 | 5040 | 5110 | 57 | 56 | 43 | 44 | 5173 | 5102 | 5031 | 4960 | 4890 | 44 | 26 |
| 34 | 16 | 5110 | 5181 | 5251 | 5321 | 5391 | 56 | 56 | 44 | 44 | 4890 | 4819 | 4749 | 4679 | 4609 | 49. 40 | 25 |
| 35 | 10. 20 | 8.6 [illegible] | | | | | 9.999 [illegible] | 55 | 0.000 [illegible] | 45 | 1.3 [illegible] | | | | | | |
| 36 | 24 | 5670 | 5740 | 5809 | 5878 | 5947 | 55 | 55 | 45 | 45 | 4330 | 4260 | 4191 | 4122 | 4053 | 32 | 23 |
| 37 | 28 | 5947 | 6017 | 6085 | 6154 | 6223 | 55 | 54 | 45 | 46 | 4053 | 3983 | 3915 | 3846 | 3777 | 28 | 22 |
| 38 | 32 | [illegible] | | | | | 54 | 54 | 46 | 46 | [illegible] | | | | | 24 | 21 |
| 39 | 36 | [illegible] | | | | | 54 | 53 | 46 | 47 | [illegible] | | | | | 40 | 20 |
| 40 | 10. 40 | 8.6 6769 | 6837 | 6904 | 6972 | 7039 | 9.999 53 | 52 | 0.000 47 | 48 | 1.3 3231 | [illegible] | | | | 16 | 19 |
| 41 | 44 | 7039 | 7107 | 7174 | 7241 | 7308 | 52 | 52 | 48 | 48 | 2961 | [illegible] | | | | 12 | 18 |
| 42 | 48 | 7308 | 7375 | 7442 | 7508 | 7575 | 52 | 51 | 48 | 49 | 2692 | [illegible] | | | | 8 | 17 |
| 43 | 52 | 7575 | 7642 | 7708 | 7774 | 7841 | 51 | 51 | 49 | 49 | 2425 | [illegible] | | | | 4 | 16 |
| 44 | 56 | 7841 | 7907 | 7973 | 8039 | 8104 | 51 | 50 | 49 | 50 | 2159 | 2093 | 2027 | 1962 | 1896 | 49. 0 | 15 |
| 45 | 11. 0 | 8.6 [illegible] | | | | | 9.999 [illegible] | 49 | 0.000 [illegible] | 51 | 1.3 [illegible] | | | | | | |
| 46 | 4 | 8367 | 8432 | 8497 | 8562 | 8627 | 49 | 49 | 51 | 51 | 1633 | [illegible] | | | | | |
| 47 | 8 | 8627 | 8692 | 8757 | 8822 | 8886 | 49 | 48 | 51 | 52 | 1373 | [illegible] | | | | | |
| 48 | 12 | 8886 | 8951 | 9015 | 9080 | 9144 | 48 | 47 | 52 | 53 | 1114 | 1049 | 0985 | 0920 | 0856 | 44 | 14 |
| 49 | 16 | 9144 | 9208 | 9272 | 9336 | 9400 | 47 | 47 | 53 | 53 | 0856 | 0792 | 0728 | 0664 | 0600 | 48. 40 | 13 |
| 50 | 11. 20 | 8.6 9400 | 9464 | 9527 | 9591 | 9654 | 9.999 47 | 46 | 0.000 53 | 54 | 1.2 [illegible] | | | | | | |
| 51 | 24 | 9654 | 9718 | 9781 | 9844 | 9907 | 46 | 46 | 54 | 54 | 0346 | 0282 | 0219 | 0156 | 0093 | 32 | 11 |
| 52 | 28 | * 9907 | 9970 | 0033 | 0096 | 0159 | 46 | 45 | 54 | 55 | * 0093 | 0030 | 9967 | 9904 | 9841 | 28 | 10 |
| 53 | 32 | [illegible] | | | | | 45 | 44 | 55 | 56 | 1.2 9841 | 9778 | 9716 | 9653 | 9591 | 24 | 9 |
| 54 | 36 | [illegible] | | | | | 44 | 44 | 56 | 56 | 9591 | 9529 | 9466 | 9404 | 9342 | 48. 20 | 8 |
| 55 | 11. 40 | 8.7 [illegible] | | | | | 9.999 44 | 43 | 0.000 57 | 57 | 1.2 9342 | 9280 | 9219 | 9157 | 9095 | 16 | 7 |
| 56 | 44 | 0905 | 0966 | 1028 | 1089 | 1151 | 43 | 42 | [illegible] | 58 | 9095 | 9033 | 8972 | 8911 | 8849 | 12 | 6 |
| 57 | 48 | 1151 | 1212 | 1273 | 1334 | 1395 | 42 | 42 | [illegible] | 58 | 8849 | 8788 | 8727 | 8666 | 8605 | 8 | 5 |
| 58 | 52 | 1395 | 1456 | 1517 | 1578 | 1638 | 42 | 41 | [illegible] | 59 | 8605 | 8544 | 8483 | 8422 | 8362 | 4 | 4 |
| 59 | 56 | 1638 | 1699 | 1759 | 1820 | 1880 | 41 | 40 | [illegible] | 60 | 8362 | [illegible] | | | | 50. 0 | 3 |
| | | [illegible] | | | | | [illegible] | | [illegible] | | [illegible] | | | | | | |
| | | Cosine | | | | | Cosine / Sine | | Secant / Cosecant | | Cosecant / Secant | | | | | 11 | 11 |
| | | Cosine | | | | | Sine | | Cosecant | | Secant | | | | | 5 | |

| ′ | m s | Versed 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | Coversed 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | Suversed 0″ | 60″ 4″ | Sucoversed 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0. 0 | 6.4 8371 | 8527 | 8732 | 8937 | 9092 | 9.683 | 54 | 51 | 48 | 44 | 41 | 9.999 | 87 | 87 | 9.713 | 87 | 90 | 93 | 96 | 99 | 56 | 59 |
| 1 | 4 | 9092 | 9271 | 9450 | 9628 | 9807 | | 41 | 38 | 35 | 31 | 28 | | 87 | 86 | * | 99 | 02 | 05 | 08 | 11 | 52 | 58 |
| 2 | 8 | 9807 | 9984 | 0116 | 0339 | 0516 | | 28 | 25 | 22 | 18 | 15 | | 86 | 86 | 9.714 | 11 | 14 | 17 | 20 | 23 | 48 | 57 |
| 3 | 12 | 6.5 0516 | 0692 | 0868 | 1044 | 1219 | | 15 | 12 | 08 | 05 | 02 | | 86 | 86 | | 23 | 26 | 29 | 33 | 36 | 44 | 56 |
| 4 | 16 | 1219 | 1395 | 1568 | 1744 | 1916 | * | 02 | 00 | 9.695 | 92 | 89 | | 86 | 85 | | 35 | 38 | 41 | 45 | 48 | 41. 40 | 55 |
| 5 | 20 | 6.5 1916 | 2088 | 2260 | 2432 | 2603 | 9.682 | 86 | 82 | 79 | 76 | | 9.999 | 85 | 85 | 9.714 | 47 | 51 | 54 | 57 | | 36 | 54 |
| 6 | 24 | 2603 | 2780 | 2952 | 3124 | 3295 | | 76 | 72 | 69 | 66 | 63 | | 85 | 85 | | 60 | 63 | 66 | 69 | 72 | 32 | 53 |
| 7 | 28 | 3295 | 3466 | 3636 | 3806 | 3976 | | 63 | 59 | 56 | 53 | 49 | | 85 | 85 | | 72 | 75 | 78 | 81 | 84 | 28 | 52 |
| 8 | 32 | 3976 | 4146 | 4315 | 4484 | 4652 | | 49 | 46 | 43 | 40 | 36 | | 85 | 85 | | 84 | 87 | 90 | 93 | 96 | 24 | 51 |
| 9 | 36 | 4652 | 4820 | 4988 | 5156 | 5323 | | 36 | 33 | 30 | 27 | 23 | | 85 | 84 | * | 96 | 00 | 03 | 06 | 09 | 51. 20 | 50 |
| 10 | 40 | 6.5 5323 | 5490 | 5657 | 5824 | 5988 | 9.682 | 23 | 20 | 17 | 13 | 10 | 9.999 | 84 | 84 | 9.715 | 09 | 12 | 15 | 18 | 21 | 16 | 49 |
| 11 | 44 | 5988 | 6154 | 6320 | 6484 | 6646 | * | 10 | 07 | 04 | 00 | 97 | | 84 | 84 | | 21 | 24 | 27 | 30 | 33 | 12 | 48 |
| 12 | 48 | 6646 | 6813 | 6977 | 7141 | 7304 | 9.681 | 97 | 94 | 90 | 87 | 84 | | 84 | 84 | | 33 | 36 | 39 | 42 | 45 | 8 | 47 |
| 13 | 52 | 7304 | 7467 | 7630 | 7792 | 7955 | | 84 | 81 | 77 | 74 | 71 | | 84 | 84 | | 45 | 48 | 51 | 54 | 57 | 4 | 46 |
| 14 | 56 | 7955 | 8117 | 8278 | 8439 | 8600 | | 71 | 67 | 64 | 61 | 58 | | 84 | 83 | | 57 | 60 | 63 | 66 | 69 | 51. 0 | 45 |
| 15 | 0. 4 | 6.5 8600 | 8761 | 8921 | 9081 | 9241 | 9.681 | 58 | 54 | 51 | 48 | 44 | 9.999 | 83 | 83 | 9.715 | 69 | 72 | 75 | 79 | 82 | 50 | 44 |
| 16 | 4 | 9241 | 9401 | 9560 | 9719 | 9878 | | 44 | 41 | 38 | 35 | 31 | | 83 | 83 | | 82 | 85 | 88 | 91 | 94 | 52 | 43 |
| 17 | 8 | 9878 | 0036 | 0194 | 0352 | 0509 | | 31 | 28 | 25 | 21 | 18 | | 83 | 82 | * | 94 | 97 | 00 | 03 | 06 | 48 | 42 |
| 18 | 12 | 6.6 0509 | 0666 | 0823 | 0980 | 1136 | | 18 | 15 | 12 | 08 | 05 | | 82 | 82 | 9.716 | 06 | 09 | 12 | 15 | 18 | 44 | 41 |
| 19 | 16 | 1136 | 1292 | 1448 | 1604 | 1759 | * | 05 | 02 | 98 | 95 | 92 | | 82 | 82 | | 18 | 21 | 24 | 27 | 30 | 50. 40 | 40 |
| 20 | 0. 8 | 6.6 1759 | 1914 | 2068 | 2223 | 2377 | 9.680 | 92 | 89 | 85 | 82 | 79 | 9.999 | 82 | 82 | 9.716 | 30 | 33 | 36 | 39 | 42 | 36 | 39 |
| 21 | 24 | 2377 | 2531 | 2684 | 2838 | 2991 | | 79 | 75 | 72 | 69 | 66 | | 82 | 81 | | 42 | 45 | 48 | 51 | 54 | 32 | 38 |
| 22 | 28 | 2991 | 3143 | 3296 | 3448 | 3600 | | 66 | 62 | 59 | 56 | 52 | | 81 | 81 | | 54 | 57 | 60 | 63 | 66 | 28 | 37 |
| 23 | 32 | 3600 | 3752 | 3903 | 4054 | 4205 | | 52 | 49 | 46 | 42 | 39 | | 81 | 81 | | 66 | 69 | 73 | 76 | 79 | 24 | 36 |
| 24 | 36 | 4205 | 4356 | 4506 | 4656 | 4806 | | 39 | 36 | 33 | 29 | 26 | | 81 | 81 | | 79 | 82 | 85 | 88 | 91 | 50. 20 | 35 |
| 25 | 0. 40 | 6.6 4806 | 4956 | 5105 | 5254 | 5403 | 9.680 | 26 | 23 | 19 | 16 | 13 | 9.999 | 81 | 80 | * | 91 | 94 | 97 | 00 | 03 | 16 | 34 |
| 26 | 44 | 5403 | 5552 | 5700 | 5848 | 5996 | | 13 | 10 | 06 | 03 | 00 | | 80 | 80 | 9.717 | 03 | 06 | 09 | 12 | 15 | 12 | 33 |
| 27 | 48 | 5996 | 6143 | 6291 | 6438 | 6585 | * | 00 | 96 | 93 | 90 | 86 | | 80 | 80 | | 15 | 18 | 21 | 24 | 27 | 8 | 32 |
| 28 | 52 | 6585 | 6731 | 6878 | 7024 | 7170 | 9.679 | 86 | 83 | 80 | 77 | 73 | | 80 | 80 | | 27 | 30 | 33 | 36 | 39 | 4 | 31 |
| 29 | 56 | 7170 | 7315 | 7461 | 7606 | 7751 | | 73 | 70 | 67 | 63 | 60 | | 80 | 79 | | 39 | 42 | 45 | 48 | 51 | 50. 0 | 30 |
| 30 | 1. 0 | 6.6 7751 | 7896 | 8040 | 8184 | 8328 | 9.679 | 57 | 53 | 50 | 47 | | 9.999 | 79 | 79 | 9.717 | 51 | 54 | 57 | 60 | 63 | 55 | 29 |
| 31 | 4 | 8328 | 8471 | 8615 | 8758 | 8901 | | 47 | 44 | 40 | 37 | 34 | | 79 | 79 | | 63 | 66 | 69 | 72 | 75 | 52 | 28 |
| 32 | 8 | 8901 | 9044 | 9187 | 9328 | 9470 | | 34 | 30 | 27 | 24 | 20 | | 79 | 78 | | 75 | 78 | 81 | 84 | 87 | 48 | 27 |
| 33 | 12 | * 9470 | 9612 | 9754 | 9895 | 0036 | | 20 | 17 | 14 | 11 | 07 | | 78 | 78 | * | 87 | 90 | 94 | 97 | 00 | 44 | 26 |
| 34 | 16 | 6.7 0036 | 0177 | 0318 | 0458 | 0599 | * | 07 | 04 | 01 | 9.697 | 94 | | 78 | 78 | 9.718 | 00 | 03 | 06 | 09 | 12 | 40 | 25 |
| 35 | 1. 20 | 6.7 0599 | 0738 | 0878 | 1017 | 1157 | 9.678 | 94 | 91 | 87 | 84 | 81 | 9.999 | 78 | 78 | 9.718 | 11 | 15 | 18 | 21 | 24 | 36 | 24 |
| 36 | 24 | 1157 | 1296 | 1435 | 1573 | 1712 | | 81 | 78 | 74 | 71 | 68 | | 78 | 77 | | 24 | 27 | 30 | 33 | 36 | 32 | 23 |
| 37 | 28 | 1712 | 1850 | 1988 | 2125 | 2263 | | 68 | 64 | 61 | 58 | 54 | | 77 | 77 | | 36 | 39 | 42 | 45 | 48 | 28 | 22 |
| 38 | 32 | 2263 | 2400 | 2537 | 2674 | 2811 | | 54 | 51 | 48 | 44 | 41 | | 77 | 77 | | 48 | 51 | 54 | 57 | 60 | 24 | 21 |
| 39 | 36 | 2811 | 2947 | 3084 | 3220 | 3355 | | 41 | 38 | 35 | 31 | 28 | | 77 | 76 | | 60 | 63 | 66 | 69 | 72 | 49. 20 | 20 |
| 40 | 1. 40 | 6.7 3355 | 3491 | 3626 | 3761 | 3896 | 9.678 | 28 | 25 | 21 | 18 | 15 | 9.999 | 76 | 76 | 9.718 | 72 | 75 | 78 | 81 | 84 | 16 | 19 |
| 41 | 44 | 3896 | 4031 | 4166 | 4300 | 4434 | | 15 | 11 | 08 | 05 | 01 | | 76 | 76 | | 84 | 87 | 90 | 93 | 96 | 12 | 18 |
| 42 | 48 | 4434 | 4568 | 4702 | 4835 | 4969 | * | 01 | 98 | 95 | 91 | 88 | | 76 | 76 | * | 96 | 99 | 02 | 05 | 08 | 8 | 17 |
| 43 | 52 | 4969 | 5102 | 5235 | 5367 | 5500 | 9.677 | 88 | 85 | 82 | 78 | 75 | | 76 | 75 | 9.719 | 08 | 11 | 14 | 17 | 20 | 4 | 16 |
| 44 | 56 | 5500 | 5632 | 5764 | 5896 | 6028 | | 75 | 72 | 68 | 65 | 62 | | 75 | 75 | | 20 | 23 | 26 | 29 | 32 | 49. 0 | 15 |
| 45 | 1. 0 | 6.7 6028 | 6159 | 6290 | 6421 | 6552 | 9.677 | 62 | 58 | 55 | 52 | 48 | 9.999 | 75 | 75 | 9.719 | 32 | 35 | 38 | 41 | 44 | 56 | 14 |
| 46 | 4 | 6552 | 6683 | 6814 | 6944 | 7074 | | 48 | 45 | 42 | 38 | 35 | | 75 | 74 | | 44 | 47 | 50 | 53 | 56 | 52 | 13 |
| 47 | 8 | 7074 | 7204 | 7334 | 7463 | 7592 | | 35 | 32 | 29 | 25 | 22 | | 74 | 74 | | 56 | 59 | 62 | 65 | 68 | 48 | 12 |
| 48 | 12 | 7592 | 7722 | 7851 | 7979 | 8108 | | 22 | 19 | 15 | 12 | 09 | | 74 | 74 | | 68 | 71 | 74 | 77 | 80 | 44 | 11 |
| 49 | 16 | 8108 | 8236 | 8364 | 8492 | 8620 | * | 09 | 06 | 02 | 9.699 | 96 | | 74 | 73 | | 80 | 83 | 86 | 89 | 92 | 40 | 10 |
| 50 | 1. 20 | 6.7 8620 | 8747 | 8874 | 9001 | 9128 | 9.676 | 96 | 93 | 89 | 86 | 83 | 9.999 | 73 | 73 | | 92 | 95 | 98 | 01 | 04 | 36 | 9 |
| 51 | 24 | 9128 | 9255 | 9382 | 9509 | 9636 | | 83 | 79 | 76 | 73 | 69 | | 73 | 73 | 9.720 | 04 | 07 | 10 | 13 | 16 | 32 | 8 |
| 52 | 28 | * 9636 | 9762 | 9888 | 0014 | 0139 | | 69 | 65 | 62 | 59 | 56 | | 73 | 72 | | 16 | 19 | 22 | 25 | 28 | 28 | 7 |
| 53 | 32 | 6.8 0139 | 0265 | 0390 | 0515 | 0640 | | 56 | 52 | 49 | 46 | 42 | | 72 | 72 | | 28 | 31 | 34 | 37 | 40 | 24 | 6 |
| 54 | 36 | 0640 | 0764 | 0889 | 1013 | 1137 | | 42 | 39 | 36 | 32 | 29 | | 72 | 72 | | 40 | 43 | 46 | 49 | 52 | 48. 20 | 5 |
| 55 | 1. 40 | 6.8 1137 | 1261 | 1385 | 1509 | 1632 | 9.676 | 29 | 26 | 22 | 19 | 16 | 9.999 | 72 | 72 | 9.720 | 52 | 55 | 58 | 61 | 64 | 16 | 4 |
| 56 | 44 | 1632 | 1756 | 1879 | 2002 | 2124 | | 16 | 12 | 09 | 06 | 03 | | 72 | 71 | | 64 | 67 | 70 | 73 | 76 | 12 | 3 |
| 57 | 48 | 2124 | 2247 | 2369 | 2492 | 2613 | * | 03 | 9.699 | 96 | 92 | 89 | | 71 | 71 | | 76 | 79 | 82 | 85 | 88 | 8 | 2 |
| 58 | 52 | 2613 | 2735 | 2857 | 2979 | 3100 | 9.675 | 89 | 86 | 82 | 79 | 76 | | 71 | 71 | * | 88 | 91 | 94 | 97 | 00 | 4 | 1 |
| 59 | 56 | 3100 | 3221 | 3342 | 3463 | 3584 | | 76 | 73 | 69 | 66 | 63 | | 71 | 70 | 9.721 | 00 | 03 | 06 | 09 | 12 | 0 | 0 |
| | | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0″ | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0″ | 4″ 60″ | 0″ 0″ | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0″ | m s | ′ |
| | | Versed | | | | | Coversed | | | | | Versed | | Sucoversed | | | | | 1′ 8 | 1′ 7 |
| | | Coversed | | | | | Versed | | | | | Sucoversed | | Suversed | | | | | 5′ | 1′ 7 |

| ′ | ″ | ″ | Sine / Cosine 0′ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | Cosine / Sine 0′ 0s | 60″ 4s | Secant / Cosecant 0′ 0s | 60″ 4s | Cosecant / Secant 0′ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 12. 0 | 8.7 | 1880 | 1940 | [illegible] | [illegible] | [illegible] | 9.999 45 | 45 | 0.000 55 | 55 | 1.2 8120 | [illegible] | [illegible] | [illegible] | 7580 | 50 | 59 |
| 1 | 4 | | 2120 | 2180 | 2240 | 2300 | 2359 | 40 | 39 | 60 | 61 | 7880 | 7820 | 7760 | 7700 | 7641 | 53 | 58 |
| 2 | 8 | | 2359 | 2419 | 2478 | 2538 | 2597 | 39 | 38 | 61 | 62 | 7641 | 7581 | 7521 | 7462 | 7403 | 48 | 57 |
| 3 | 12 | | 2597 | 2656 | 2716 | 2775 | 2834 | 38 | 38 | 62 | 62 | 7403 | 7344 | 7284 | 7225 | 7166 | 44 | 56 |
| 4 | 16 | | 2834 | 2893 | 2951 | 3010 | 3069 | 38 | 37 | 62 | 63 | 7166 | 7107 | 7049 | 6990 | [illegible] | 47. 4 | 55 |
| 5 | 12. 20 | 8.7 | 3069 | 3127 | 3186 | 3244 | 3303 | 9.999 37 | 36 | 0.000 63 | 64 | 1.2 6931 | 6873 | 6814 | [illegible] | [illegible] | 39 | 54 |
| 6 | 24 | | 3303 | 3361 | 3419 | 3477 | 3535 | 36 | 36 | 64 | 64 | 6697 | 6639 | 6581 | [illegible] | [illegible] | 35 | 53 |
| 7 | 28 | | 3535 | 3593 | 3651 | 3709 | 3767 | 36 | 35 | 64 | 65 | 6465 | 6407 | 6349 | 6291 | [illegible] | 28 | 52 |
| 8 | 32 | | 3767 | 3824 | 3882 | 3939 | 3997 | 35 | 34 | 65 | 66 | 6233 | 6176 | 6118 | 6061 | [illegible] | 24 | 51 |
| 9 | 36 | | 3997 | [illegible] | [illegible] | [illegible] | [illegible] | 34 | 34 | 66 | 66 | 6003 | 5946 | 5888 | 5831 | 5774 | 47. 2 | 50 |
| 10 | 12. 40 | 8.7 | 4226 | [illegible] | 4340 | 4397 | 4454 | 9.999 34 | 33 | 0.000 66 | 67 | 1.2 5774 | 5717 | 5660 | 5603 | 5546 | 19 | 49 |
| 11 | 44 | | 4454 | 4510 | 4567 | 4624 | [illegible] | 33 | 32 | 67 | 68 | 5546 | 5490 | 5433 | 5376 | 5320 | 12 | 48 |
| 12 | 48 | | 4680 | 4737 | 4793 | 4849 | [illegible] | 32 | 32 | 68 | 68 | 5320 | 5263 | 5207 | 5151 | 5094 | 8 | 47 |
| 13 | 52 | | 4906 | 4962 | 5018 | 5074 | [illegible] | 32 | 31 | 68 | 69 | 5094 | 5038 | 4982 | 4926 | 4870 | 4 | 46 |
| 14 | 56 | | 5130 | 5186 | 5241 | 5297 | 5353 | 31 | 30 | 69 | 70 | 4870 | 4814 | 4759 | 4703 | 4647 | 47. 0 | 45 |
| 15 | 13. 0 | 8.7 | [illegible] | [illegible] | 5464 | 5519 | 5575 | 9.999 30 | 29 | 0.000 70 | 71 | 1.2 4647 | 4592 | 4536 | 4481 | 4425 | 56 | 44 |
| 16 | 4 | | 5575 | 5630 | 5685 | 5740 | 5795 | 29 | 29 | 71 | 71 | 4425 | 4370 | 4315 | 4260 | [illegible] | 52 | 43 |
| 17 | 8 | | 5795 | 5850 | 5905 | 5960 | 6015 | 29 | 28 | 71 | 72 | 4205 | 4150 | 4095 | 4040 | 3985 | 48 | 42 |
| 18 | 12 | | 6015 | 6070 | 6125 | 6179 | 6234 | 28 | 27 | 72 | 73 | 3985 | 3930 | 3875 | 3821 | 3766 | 44 | 41 |
| 19 | 16 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 27 | 26 | 73 | 74 | 3766 | 3712 | 3657 | 3603 | 3549 | 46. 4 | 40 |
| 20 | 13. 20 | 8.7 | [illegible] | [illegible] | 6559 | 6613 | 6667 | 9.999 26 | 26 | 0.000 74 | 74 | 1.2 3549 | 3495 | 3441 | 3387 | 3333 | 39 | 39 |
| 21 | 24 | | 6667 | 6721 | 6775 | 6829 | 6883 | 26 | 25 | 74 | 75 | 3333 | 3279 | 3225 | 3171 | 3117 | 35 | 38 |
| 22 | 28 | | 6883 | 6936 | 6990 | 7044 | 7097 | 25 | 24 | 75 | 76 | 3117 | 3064 | 3010 | 2956 | 2903 | 28 | 37 |
| 23 | 32 | | 7097 | 7150 | 7204 | 7257 | 7310 | 24 | 23 | 76 | 77 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24 | 36 |
| 24 | 36 | | 7310 | 7363 | 7416 | 7469 | 7522 | 23 | 23 | 77 | 77 | 2690 | 2637 | 2584 | 2531 | 2478 | 46. 0 | 35 |
| 25 | 13. 40 | 8.7 | 7522 | 7575 | 7628 | 7681 | 7733 | 9.999 23 | 22 | 0.000 77 | 78 | 1.2 2478 | 2425 | 2372 | 2319 | 2267 | 1 | 34 |
| 26 | 44 | | 7733 | 7786 | 7838 | 7891 | 7943 | 22 | 21 | 78 | 79 | 2267 | 2214 | 2161 | 2109 | 2057 | 12 | 33 |
| 27 | 48 | | 7943 | 7996 | 8048 | 8100 | 8152 | 21 | 20 | 79 | 80 | 2057 | 2004 | 1952 | 1900 | 1848 | 8 | 32 |
| 28 | 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 20 | 20 | 80 | 80 | [illegible] | [illegible] | 1743 | 1691 | 1640 | 4 | 31 |
| 29 | 56 | | 8360 | 8412 | 8464 | 8516 | 8568 | 20 | 19 | 80 | 81 | 1640 | 1588 | 1536 | 1484 | 1432 | 46. 0 | 30 |
| 30 | 14. 0 | 8.7 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.999 19 | 18 | 0.000 81 | 82 | 1.2 1432 | 1381 | 1329 | 1277 | 1226 | 51 | 29 |
| 31 | 4 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 18 | 17 | 82 | 83 | 1226 | 1175 | 1124 | 1073 | 1021 | 43 | 28 |
| 32 | 8 | | 8979 | 9030 | 9081 | 9132 | 9183 | 17 | 17 | 83 | 83 | 1021 | 0970 | 0919 | 0868 | [illegible] | 4 | 27 |
| 33 | 12 | | 9183 | 9234 | 9284 | 9335 | 9386 | 17 | 16 | 83 | 84 | 0817 | 0766 | 0716 | 0665 | [illegible] | 34 | 26 |
| 34 | 16 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 16 | 15 | 84 | 85 | [illegible] | [illegible] | 0513 | 0462 | [illegible] | 25. 5 | 25 |
| 35 | 14. 20 | 8.7 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.999 15 | 14 | [illegible] | [illegible] | 1.2 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 51 | 24 |
| 36 | 24 | | 9789 | 9840 | 9890 | 9940 | 9990 | 14 | 13 | 86 | 87 | 0211 | 0160 | 0110 | 0060 | [illegible] | 43 | 23 |
| 37 | 28 | * | 9990 | 0040 | 0090 | 0139 | 0189 | 13 | 13 | 87 | 87 | * 0010 | 9960 | 9910 | 9861 | [illegible] | 34 | 22 |
| 38 | 32 | 8.8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 13 | 12 | 87 | 88 | 1.1 9811 | 9761 | 9711 | 9662 | [illegible] | 26 | 21 |
| 39 | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12 | 11 | 88 | 89 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 17. 3 | 20 |
| 40 | 14. 40 | 8.8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.999 11 | 10 | [illegible] | [illegible] | 1.1 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1 | 19 |
| 41 | 44 | | 0782 | 0831 | 0880 | 0929 | 0978 | 10 | 09 | 90 | 91 | 9218 | 9169 | 9120 | 9071 | 9022 | 13 | 18 |
| 42 | 48 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 09 | 09 | 91 | 91 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 8 | 17 |
| 43 | 52 | | 1173 | 1221 | 1270 | 1318 | 1367 | 09 | 08 | 91 | 92 | 8827 | 8779 | 8730 | 8682 | 8633 | 4 | 16 |
| 44 | 56 | | 1367 | [illegible] | 1462 | 1510 | 1560 | 08 | 07 | 92 | 93 | 8633 | 8585 | 8537 | 8488 | 8440 | 13. 3 | 15 |
| 45 | 15 | 8.8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.999 [illegible] | [illegible] | [illegible] | [illegible] | 1.1 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 51 | 14 |
| 46 | 4 | | 1752 | 1800 | 1848 | 1896 | 1944 | 06 | 05 | 94 | 95 | 8248 | 8200 | 8152 | 8104 | 8056 | 43 | 13 |
| 47 | 8 | | 1944 | 1991 | 2039 | 2087 | 2134 | 05 | 04 | 95 | 96 | 8056 | 8009 | 7961 | 7913 | 7866 | 34 | 12 |
| 48 | 12 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 04 | 04 | 96 | 96 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26 | 11 |
| 49 | 16 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 03 | 96 | 97 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 17. 4 | 10 |
| 50 | 15. 20 | 8.8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 02 | [illegible] | 98 | 1.1 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 17 | 9 |
| 51 | 24 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 13 | 8 |
| 52 | 28 | | 2888 | 2935 | 2982 | 3028 | 3075 | 01 | 00 | * 99 | 00 | 7112 | 7065 | 7018 | 6972 | 6925 | 9 | 7 |
| 53 | 32 | | [illegible] | 3121 | 3168 | 3214 | 3261 | * 00 | 99 | 0.001 00 | 01 | 6925 | 6879 | 6832 | 6786 | 6739 | 4 | 6 |
| 54 | 36 | | [illegible] | 3307 | 3353 | 3399 | 3446 | 9.998 99 | 98 | 01 | 02 | 6739 | 6693 | 6647 | 6601 | 6554 | 13. 3 | 5 |
| 55 | 15. 40 | 8.8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 1.1 6554 | 6508 | 6462 | 6416 | [illegible] | 17 | 4 |
| 56 | 44 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 97 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 13 | 3 |
| 57 | 48 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9 | 2 |
| 58 | 52 | | [illegible] | [illegible] | 4132 | 4177 | [illegible] | 96 | 95 | 04 | 05 | 6004 | 5959 | 5913 | 5868 | 5823 | 4 | 1 |
| 59 | 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 94 | [illegible] | 06 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 14. 4 | 0 |
| | | | Cosine | | | | | Sine | | Cosecant | | Secant | | | | | | |

| 3° | 0h | Versed | | | | | Coversed | | | | | Suversed | | Sucoversed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6h | Coversed | | | | | Suversed | | | | | Sucoversed | | Versed | | | | | | |
| ′ | m s | 0° | 15′ 1° | 30′ 2° | 45′ 3° | 60′ 4° | 0° | 15′ 1° | 30′ 2° | 45′ 3° | 60′ 4° | 0° | 60′ 4 | 0° | 15′ 1° | 30′ 2° | 45′ 3° | 60′ 4° | | |
| 0 | 12. 0 | 6.8 | 3584 | 4137 | 4385 | 3945 | 4295 | 9.675 | 62 | 56 | 50 | 43 | 46 | 9.999 | 7 | 9.721 | 18 | 15 | 18 | 21 | 24 | 56 | 54 |
| 1 | 4 | | 4065 | 4185 | 4304 | 4424 | 4543 | | 49 | 46 | 42 | 39 | 36 | | 70 | 70 | | 24 | 27 | 30 | 33 | 36 | 52 | 58 |
| 2 | 8 | | 4543 | 4663 | 4782 | 4900 | 5019 | | 36 | 32 | 29 | 26 | 22 | | 70 | 69 | | 36 | 39 | 42 | 45 | 48 | 48 | 37 |
| 3 | 12 | | 5019 | 5138 | 5256 | 5374 | 5492 | | 22 | 19 | 16 | 12 | 09 | | 69 | 69 | | 48 | 51 | 54 | 57 | 60 | 44 | 56 |
| 4 | 16 | | 5492 | 5611 | 5729 | 5847 | 5965 | * | 09 | 06 | 02 | 99 | 96 | | 69 | 69 | | 60 | 63 | 66 | 69 | 72 | 47. 40 | 55 |
| 5 | 12. 20 | 6.8 | 5963 | 6080 | 6197 | 6314 | 6431 | 9.674 | 96 | 92 | 89 | 86 | 82 | 9.999 | 69 | 68 | 9.721 | 72 | 75 | 78 | 81 | 84 | 36 | 54 |
| 6 | 24 | | 6431 | 6548 | 6665 | 6781 | 6897 | | 82 | 79 | 76 | 72 | 69 | | 68 | 68 | | 84 | 87 | 90 | 93 | 96 | 32 | 53 |
| 7 | 28 | | 6897 | 7013 | 7129 | 7244 | 7360 | | 69 | 66 | 62 | 59 | 55 | | 68 | 68 | * | 96 | 99 | 02 | 05 | 08 | 28 | 52 |
| 8 | 32 | | 7360 | 7475 | 7591 | 7706 | 7821 | | 55 | 52 | 49 | 46 | 42 | | 68 | 67 | 9.722 | 08 | 11 | 14 | 17 | 20 | 24 | 51 |
| 9 | 36 | | 7821 | 7935 | 8050 | 8165 | 8279 | | 42 | 39 | 36 | 32 | 29 | | 67 | 67 | | 20 | 23 | 26 | 29 | 32 | 47. 20 | 50 |
| 10 | 12. 40 | 6.8 | 8279 | 8393 | 8507 | 8621 | 8735 | 9.674 | 29 | 26 | 22 | 19 | 16 | 9.999 | 67 | 66 | 9.722 | 32 | 35 | 38 | 41 | 44 | 16 | 49 |
| 11 | 44 | | 8735 | 8848 | 8962 | 9075 | 9188 | | 16 | 12 | 09 | 06 | 02 | | 66 | 66 | | 44 | 47 | 50 | 53 | 56 | 1 | 48 |
| 12 | 48 | | 9188 | 9301 | 9414 | 9527 | 9639 | | 02 | 99 | 96 | 92 | 89 | | 66 | 65 | | 56 | 59 | 62 | 65 | 68 | 45. 48 | 47 |
| 13 | 52 | | 9639 | 9752 | 9864 | 9976 | 0088 | 9.673 | 89 | 86 | 82 | 79 | 76 | | 65 | 65 | | 68 | 71 | 74 | 77 | 80 | 30 | 46 |
| 14 | 56 | 6.9 | 0088 | 0200 | 0312 | 0424 | 0535 | | 76 | 72 | 69 | 66 | 62 | | 65 | 64 | | 80 | 83 | 86 | 89 | 92 | 45. 12 | 45 |
| 15 | 13. 0 | 6.9 | 0535 | 0646 | 0757 | 0868 | 0979 | 9.673 | 62 | 59 | 56 | 52 | 49 | 9.999 | 65 | 65 | * | 92 | 95 | 98 | 01 | 04 | 57 | 44 |
| 16 | 4 | | 0979 | 1089 | 1200 | 1310 | 1421 | | 49 | 46 | 42 | 39 | 36 | | 64 | 64 | 9.723 | 04 | 07 | 10 | 13 | 16 | 44 | 43 |
| 17 | 8 | | 1421 | 1531 | 1641 | 1751 | 1860 | | 36 | 32 | 29 | 25 | 22 | | 64 | 64 | | 16 | 19 | 22 | 25 | 28 | 48 | 42 |
| 18 | 12 | | 1860 | 1970 | 2080 | 2190 | 2300 | | 22 | 19 | 15 | 12 | 09 | | 64 | 64 | | 28 | 31 | 34 | 37 | 40 | 44 | 41 |
| 19 | 16 | | 2298 | 2407 | 2516 | 2624 | 2733 | * | 09 | 05 | 02 | 99 | 95 | | 64 | 63 | | 40 | 43 | 46 | 49 | 52 | 40 | 40 |
| 20 | 13. 20 | 6.9 | 2733 | 2841 | 2950 | 3058 | 3166 | 9.672 | 92 | 89 | 86 | 82 | 79 | 9.999 | 63 | 63 | 9.723 | 52 | 55 | 58 | 61 | 64 | 36 | 39 |
| 21 | 24 | | 3166 | 3274 | 3382 | 3489 | 3597 | | 82 | 79 | 75 | 72 | 69 | | 63 | 63 | | 64 | 67 | 70 | 73 | 76 | 32 | 38 |
| 22 | 28 | | 3597 | 3704 | 3812 | 3919 | 4026 | | 69 | 65 | 62 | 59 | 55 | | 63 | 62 | | 76 | 79 | 82 | 85 | 88 | 28 | 37 |
| 23 | 32 | | 4026 | 4133 | 4240 | 4346 | 4453 | | 55 | 52 | 49 | 45 | 42 | | 62 | 62 | | 88 | 91 | 94 | 97 | 00 | 24 | 36 |
| 24 | 36 | | 4453 | 4559 | 4665 | 4771 | 4877 | | 42 | 38 | 35 | 32 | 28 | | 62 | 61 | * | 00 | 03 | 06 | 09 | 12 | 20 | 35 |
| 25 | 13. 40 | 6.9 | 4877 | 4983 | 5089 | 5194 | 5300 | 9.672 | 28 | 25 | 22 | 18 | 15 | 9.999 | 61 | 61 | 9.724 | 11 | 14 | 17 | 20 | 23 | 16 | 34 |
| 26 | 44 | | 5300 | 5405 | 5510 | 5615 | 5720 | | 15 | 12 | 08 | 05 | 02 | | 61 | 61 | | 23 | 26 | 29 | 32 | 35 | 12 | 33 |
| 27 | 48 | | 5720 | 5825 | 5930 | 6034 | 6139 | * | 02 | 98 | 95 | 92 | 88 | | 61 | 60 | | 35 | 38 | 41 | 44 | 47 | 8 | 32 |
| 28 | 52 | | 6139 | 6243 | 6347 | 6451 | 6555 | 9.671 | 88 | 84 | 81 | 78 | 75 | | 60 | 60 | | 47 | 50 | 53 | 56 | 59 | 4 | 31 |
| 29 | 56 | | 6555 | 6659 | 6763 | 6866 | 6970 | | 75 | 71 | 68 | 65 | 61 | | 60 | 59 | | 59 | 62 | 65 | 68 | 71 | 46. 0 | 30 |
| 30 | 14. 0 | 6.9 | 6970 | 7073 | 7176 | 7279 | 7382 | 9.671 | 61 | 58 | 55 | 51 | 48 | 9.999 | 59 | 59 | 9.724 | 71 | 74 | 77 | 80 | 83 | 56 | 29 |
| 31 | 4 | | 7382 | 7485 | 7588 | 7690 | 7793 | | 48 | 44 | 41 | 38 | 34 | | 59 | 59 | | 83 | 86 | 89 | 92 | 95 | 32 | 28 |
| 32 | 8 | | 7793 | 7895 | 7997 | 8099 | 8201 | | 34 | 31 | 28 | 24 | 21 | | 59 | 58 | * | 94 | 97 | 00 | 03 | 06 | 48 | 27 |
| 33 | 12 | | 8201 | 8303 | 8405 | 8506 | 8608 | | 21 | 18 | 14 | 11 | 08 | | 58 | 58 | 9.725 | 06 | 09 | 12 | 15 | 18 | 44 | 26 |
| 34 | 16 | | 8608 | 8709 | 8811 | 8912 | 9013 | * | 08 | 04 | 01 | 97 | 94 | | 58 | 58 | | 18 | 21 | 24 | 27 | 30 | 45. 40 | 25 |
| 35 | 14. 20 | 6.9 | 9013 | 9114 | 9214 | 9315 | 9416 | 9.670 | 94 | 91 | 87 | 84 | 81 | 9.999 | 58 | 57 | 9.725 | 30 | 33 | 36 | 39 | 42 | 36 | 24 |
| 36 | 24 | | 9416 | 9516 | 9617 | 9717 | 9817 | | 81 | 77 | 74 | 71 | 67 | | 57 | 57 | | 42 | 45 | 48 | 51 | 54 | 32 | 23 |
| 37 | 28 | | 9817 | 9917 | 0017 | 0116 | 0216 | | 67 | 64 | 60 | 57 | 54 | | 57 | 56 | | 54 | 57 | 60 | 63 | 65 | 28 | 22 |
| 38 | 32 | | 0216 | 0315 | 0415 | 0514 | 0613 | | 54 | 50 | 47 | 44 | 40 | | 56 | 56 | | 65 | 68 | 71 | 74 | 77 | 24 | 21 |
| 39 | 36 | | 0613 | 0712 | 0811 | 0910 | 1009 | | 40 | 37 | 34 | 30 | 27 | | 56 | 56 | | 77 | 80 | 83 | 86 | 89 | 45. 20 | 20 |
| 40 | 14. 40 | 7.0 | 1009 | 1108 | 1206 | 1304 | 1403 | 9.670 | 27 | 23 | 20 | 17 | 13 | 9.999 | 56 | 55 | * | 89 | 92 | 95 | 98 | 01 | 17 | 19 |
| 41 | 44 | | 1403 | 1501 | 1599 | 1697 | 1795 | | 13 | 10 | 07 | 03 | 00 | | 55 | 55 | 9.726 | 01 | 04 | 07 | 10 | 13 | 1 | 18 |
| 42 | 48 | | 1795 | 1892 | 1990 | 2088 | 2185 | * | 00 | 96 | 93 | 90 | 86 | | 55 | 54 | | 13 | 16 | 19 | 22 | 25 | 45 | 17 |
| 43 | 52 | | 2185 | 2282 | 2379 | 2476 | 2573 | 9.669 | 86 | 83 | 80 | 76 | 73 | | 54 | 54 | | 25 | 28 | 31 | 34 | 37 | 29 | 16 |
| 44 | 56 | | 2573 | 2670 | 2767 | 2864 | 2960 | | 73 | 70 | 66 | 63 | 59 | | 54 | 53 | | 37 | 40 | 43 | 46 | 49 | 13 | 15 |
| 45 | 15. 0 | 7.0 | 2960 | 3057 | 3153 | 3249 | 3345 | 9.669 | 59 | 56 | 53 | 49 | 46 | 9.999 | 53 | 53 | 9.726 | 49 | 52 | 55 | 58 | 61 | 57 | 14 |
| 46 | 4 | | 3345 | 3441 | 3537 | 3633 | 3729 | | 46 | 43 | 39 | 36 | 32 | | 53 | 53 | | 61 | 64 | 67 | 70 | 73 | 41 | 13 | |
| 47 | 8 | | 3729 | 3824 | 3920 | 4015 | 4110 | | 32 | 29 | 26 | 22 | 19 | | 53 | 52 | | 73 | 76 | 79 | 81 | 84 | 25 | 12 | |
| 48 | 12 | | 4110 | 4205 | 4300 | 4395 | 4490 | | 19 | 16 | 12 | 09 | 05 | | 52 | 52 | | 84 | 87 | 90 | 93 | 96 | 9 | 11 | |
| 49 | 16 | | 4490 | 4585 | 4680 | 4774 | 4869 | * | 05 | 02 | 99 | 95 | 92 | | 52 | 51 | | 96 | 99 | 02 | 05 | 08 | 44. 52 | 10 | |
| 50 | 15. 20 | 7.0 | 4869 | 4963 | 5057 | 5151 | 5245 | 9.668 | 92 | 89 | 85 | 82 | 78 | 9.999 | 51 | 51 | 9.727 | 08 | 11 | 14 | 17 | 20 | 36 | 9 | |
| 51 | 24 | | 5245 | 5339 | 5433 | 5527 | 5620 | | 78 | 75 | 72 | 68 | 65 | | 51 | 51 | | 20 | 23 | 26 | 29 | 32 | 20 | 8 | |
| 52 | 28 | | 5620 | 5714 | 5807 | 5901 | 5994 | | 65 | 62 | 58 | 55 | 51 | | 51 | 50 | | 32 | 35 | 38 | 41 | 44 | 4 | 7 | |
| 53 | 32 | | 5994 | 6087 | 6180 | 6273 | 6366 | | 51 | 48 | 45 | 41 | 38 | | 50 | 50 | | 44 | 47 | 50 | 53 | 56 | 44. 48 | 6 | |
| 54 | 36 | | 6366 | 6458 | 6551 | 6643 | 6736 | | 38 | 35 | 31 | 28 | 24 | | 50 | 49 | | 56 | 59 | 62 | 65 | 68 | 32 | 5 | |
| 55 | 15. 40 | 7.0 | 6736 | 6828 | 6920 | 7013 | 7105 | 9.668 | 24 | 21 | 18 | 14 | 11 | 9.999 | 49 | 49 | 9.727 | 68 | 71 | 74 | 77 | 80 | 16 | 4 | |
| 56 | 44 | | 7105 | 7196 | 7288 | 7380 | 7472 | * | 11 | 07 | 04 | 01 | 97 | | 49 | 48 | | 80 | 83 | 86 | 89 | 92 | 44. 0 | 3 | |
| 57 | 48 | | 7472 | 7563 | 7655 | 7746 | 7837 | 9.667 | 97 | 94 | 91 | 87 | 84 | | 48 | 48 | * | 92 | 95 | 98 | 01 | 04 | 43. 44 | 2 | |
| 58 | 52 | | 7837 | 7928 | 8020 | 8110 | 8201 | | 84 | 80 | 77 | 74 | 70 | | 48 | 48 | 9.728 | 04 | 07 | 10 | 13 | 16 | 28 | 1 | |
| 59 | 56 | | 8201 | 8292 | 8383 | 8473 | 8564 | | 70 | 67 | 63 | 60 | 57 | | 48 | 47 | | 16 | 19 | 22 | 25 | 28 | 12 | 0 | |
| | | 4s 60″ | 3s 45″ | 2s 30″ | 1s 15″ | 0s 0″ | 4s 60″ | 3s 45″ | 2s 30″ | 1s 15″ | 0s 0″ | 4s 60″ | 0s 0″ | 4s 60″ | 3s 45″ | 2s 30″ | 1s 15″ | 0s 0″ | m s | ′ |
| | | Suversed | | | | | Coversed | | | | | Versed | | Sucoversed | | | | | 11s | |
| | | Coversed | | | | | Versed | | | | | Sucoversed | | Suversed | | | | | | |

| 4° | 0h | Sine | | | | | Cosine | | Secant | | Cosecant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 94° | 6h | Cosine | | | | | Sine | | Cosecant | | Secant | | | | | | |
| ′ | m s | 0″ 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | 0″ 0″ | 60″ 4″ | 0″ 0″ | 60″ 4″ | 0″ 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | | |
| 0 | 16. 0 | 8. 84 358 | 404 | 449 | 494 | 539 | 9. 998 94 | 93 | 0. 001 06 | 07 | 1. 15 642 | 596 | 551 | 506 | 461 | 57 | 59 |
| 1 | 4 | 539 | 584 | 629 | 673 | 718 | 93 | 92 | 07 | 08 | 461 | 416 | 371 | 327 | 282 | 52 | 58 |
| 2 | 8 | 718 | 763 | 808 | 852 | 897 | 92 | 91 | 08 | 09 | 282 | 237 | 193 | 148 | 103 | 48 | 57 |
| 3 | 12 | * 897 | 942 | 986 | 031 | 075 | 91 | 91 | 09 | 09 | * 103 | 058 | 014 | 970 | 925 | 44 | 56 |
| 4 | 16 | 8. 85 075 | 120 | 164 | 208 | 252 | 91 | 90 | 09 | 10 | 1. 14 925 | 881 | 836 | 792 | 748 | 43. 40 | 55 |
| 5 | 16. 20 | 8. 85 252 | 297 | 341 | 385 | 429 | 9. 998 90 | 89 | 0. 001 10 | 11 | 1. 14 748 | 703 | 659 | 615 | 571 | 36 | 54 |
| 6 | 24 | 429 | 473 | 517 | 561 | 605 | 89 | 88 | 11 | 12 | 571 | 527 | 483 | 439 | 395 | 32 | 53 |
| 7 | 28 | 605 | 649 | 693 | 736 | 780 | 88 | 87 | 12 | 13 | 395 | 351 | 307 | 264 | 220 | 28 | 52 |
| 8 | 32 | 780 | 824 | 867 | 911 | 955 | 87 | 86 | 13 | 14 | 220 | 176 | 133 | 089 | 045 | 24 | 51 |
| 9 | 36 | * 955 | 998 | 042 | 085 | 128 | 86 | 85 | 14 | 15 | * 045 | 002 | 958 | 915 | 872 | 43. 20 | 50 |
| 10 | 16. 40 | 8. 86 128 | 172 | 215 | 258 | 301 | 9. 998 85 | 84 | 0. 001 15 | 16 | 1. 13 872 | 828 | 785 | 742 | 698 | 16 | 49 |
| 11 | 44 | 301 | 345 | 388 | 431 | 474 | 84 | 83 | 16 | 17 | 699 | 655 | 612 | 569 | 526 | 12 | 48 |
| 12 | 48 | 474 | 517 | 560 | 603 | 645 | 83 | 82 | 17 | 18 | 526 | 483 | 440 | 397 | 355 | 8 | 47 |
| 13 | 52 | 645 | 688 | 731 | 774 | 816 | 82 | 81 | 18 | 19 | 355 | 312 | 269 | 226 | 184 | 4 | 46 |
| 14 | 56 | 816 | 859 | 902 | 944 | 987 | 81 | 80 | 19 | 20 | 184 | 141 | 098 | 056 | 013 | 43. 0 | 45 |
| 15 | 17. 0 | * 987 | 030 | 072 | 114 | 157 | 9. 998 80 | 79 | 0. 001 20 | 21 | * 013 | 971 | 928 | 886 | 844 | 56 | 44 |
| 16 | 4 | 8. 87 156 | 199 | 241 | 283 | 325 | 79 | 79 | 21 | 21 | 1. 12 844 | 801 | 759 | 717 | 675 | 52 | 43 |
| 17 | 8 | 325 | 368 | 410 | 452 | 494 | 79 | 78 | 21 | 22 | 675 | 632 | 590 | 548 | 506 | 48 | 42 |
| 18 | 12 | 494 | 536 | 578 | 620 | 661 | 78 | 77 | 22 | 23 | 506 | 464 | 422 | 380 | 339 | 44 | 41 |
| 19 | 16 | 661 | 703 | 745 | 787 | 829 | 77 | 76 | 23 | 24 | 339 | 297 | 254 | 213 | 171 | 42. 40 | 40 |
| 20 | 17. 20 | 8. 87 829 | 870 | 912 | 953 | 995 | 9. 998 76 | 75 | 0. 001 24 | 25 | 1. 12 171 | 130 | 088 | 047 | 005 | 36 | 39 |
| 21 | 24 | * 995 | 036 | 078 | 119 | 161 | 75 | 74 | 25 | 26 | * 005 | 964 | 922 | 881 | 839 | 32 | 38 |
| 22 | 28 | 8. 88 161 | 202 | 243 | 285 | 326 | 74 | 73 | 26 | 27 | 1. 11 839 | 798 | 757 | 715 | 674 | 28 | 37 |
| 23 | 32 | 326 | 367 | 408 | 449 | 490 | 73 | 72 | 27 | 28 | 674 | 633 | 592 | 551 | 510 | 24 | 36 |
| 24 | 36 | 490 | 531 | 572 | 613 | 654 | 72 | 71 | 28 | 29 | 510 | 469 | 428 | 387 | 346 | 42. 20 | 35 |
| 25 | 17. 40 | 8. 88 654 | 695 | 736 | 777 | 817 | 9. 998 71 | 70 | 0. 001 29 | 30 | 1. 11 346 | 305 | 264 | 223 | 183 | 16 | 34 |
| 26 | 44 | 817 | 858 | 899 | 939 | 980 | 70 | 69 | 30 | 31 | 183 | 142 | 101 | 061 | 020 | 12 | 33 |
| 27 | 48 | * 980 | 021 | 061 | 102 | 142 | 69 | 68 | 31 | 32 | * 020 | 979 | 939 | 898 | 858 | 8 | 32 |
| 28 | 52 | 8. 89 142 | 182 | 223 | 263 | 304 | 68 | 67 | 32 | 33 | 1. 10 858 | 817 | 777 | 737 | 696 | 4 | 31 |
| 29 | 56 | 304 | 344 | 384 | 424 | 464 | 67 | 66 | 33 | 34 | 696 | 656 | 616 | 576 | 536 | 42. 0 | 30 |
| 30 | 18. 0 | 8. 89 464 | 504 | 545 | 585 | 625 | 9. 998 66 | 65 | 0. 001 34 | 35 | 1. 10 536 | 496 | 455 | 415 | 375 | 56 | 29 |
| 31 | 4 | 625 | 665 | 704 | 744 | 784 | 65 | 64 | 35 | 36 | 375 | 335 | 295 | 256 | 216 | 52 | 28 |
| 32 | 8 | 784 | 824 | 864 | 904 | 943 | 64 | 63 | 36 | 37 | 216 | 176 | 136 | 096 | 057 | 48 | 27 |
| 33 | 12 | * 943 | 983 | 023 | 062 | 102 | 63 | 62 | 37 | 38 | * 057 | 017 | 977 | 938 | 898 | 44 | 26 |
| 34 | 16 | 8. 90 102 | 141 | 181 | 220 | 260 | 62 | 61 | 38 | 39 | 1. 09 898 | 859 | 819 | 780 | 740 | 41. 40 | 25 |
| 35 | 18. 20 | 8. 90 260 | 299 | 338 | 378 | 417 | 9. 998 61 | 60 | 0. 001 39 | 40 | 1. 09 740 | 701 | 661 | 622 | 583 | 36 | 24 |
| 36 | 24 | 417 | 456 | 495 | 534 | 574 | 60 | 59 | 40 | 41 | 583 | 544 | 505 | 466 | 426 | 32 | 23 |
| 37 | 28 | 574 | 613 | 652 | 691 | 730 | 59 | 58 | 41 | 42 | 426 | 387 | 348 | 309 | 270 | 28 | 22 |
| 38 | 32 | 730 | 769 | 808 | 846 | 885 | 58 | 57 | 42 | 43 | 270 | 231 | 192 | 153 | 115 | 24 | 21 |
| 39 | 36 | * 885 | 924 | 963 | 002 | 040 | 57 | 56 | 43 | 44 | * 115 | 076 | 037 | 000 | 960 | 11. 20 | 20 |
| 40 | 18. 40 | 8. 91 040 | 079 | 118 | 156 | 195 | 9. 998 56 | 55 | 0. 001 44 | 45 | 1. 08 960 | 921 | 882 | 844 | 805 | 16 | 19 |
| 41 | 44 | 195 | 233 | 272 | 310 | 349 | 55 | 54 | 45 | 46 | 805 | 767 | 728 | 690 | 651 | 12 | 18 |
| 42 | 48 | 349 | 387 | 426 | 464 | 502 | 54 | 53 | 46 | 47 | 651 | 613 | 574 | 536 | 498 | 8 | 17 |
| 43 | 52 | 502 | 540 | 579 | 617 | 655 | 53 | 52 | 47 | 48 | 498 | 460 | 421 | 383 | 345 | 4 | 16 |
| 44 | 56 | 655 | 693 | 731 | 769 | 807 | 52 | 51 | 48 | 49 | 345 | 307 | 269 | 231 | 193 | 41. 40 | 15 |
| 45 | 19. 0 | 8. 91 807 | 845 | 883 | 921 | 959 | 9. 998 51 | 50 | 0. 001 49 | 50 | 1. 08 193 | 155 | 117 | 079 | 041 | 56 | 14 |
| 46 | 4 | * 959 | 997 | 035 | 073 | 110 | 50 | 48 | 50 | 52 | * 041 | 003 | 965 | 927 | 890 | 52 | 13 |
| 47 | 8 | 8. 92 110 | 148 | 186 | 223 | 261 | 48 | 47 | 52 | 53 | 1. 07 890 | 852 | 814 | 777 | 739 | 48 | 12 |
| 48 | 12 | 261 | 299 | 336 | 374 | 411 | 47 | 46 | 53 | 54 | 739 | 701 | 664 | 626 | 589 | 44 | 11 |
| 49 | 16 | 411 | 449 | 486 | 524 | 561 | 46 | 45 | 54 | 55 | 589 | 551 | 514 | 476 | 439 | 40. 0 | 10 |
| 50 | 19. 20 | 8. 92 561 | 598 | 636 | 673 | 710 | 9. 998 45 | 44 | 0. 001 55 | 56 | 1. 07 439 | 402 | 364 | 327 | 290 | 36 | 9 |
| 51 | 24 | 710 | 747 | 784 | 822 | 859 | 44 | 43 | 56 | 57 | 290 | 253 | 217 | 178 | 141 | 32 | 8 |
| 52 | 28 | * 859 | 896 | 933 | 970 | 007 | 43 | 42 | 57 | 58 | * 141 | 104 | 067 | 030 | 993 | 28 | 7 |
| 53 | 32 | 8. 93 007 | 044 | 081 | 118 | 154 | 42 | 41 | 58 | 59 | 1. 06 [illegible] | 957 | 918 | 882 | 845 | 24 | 6 |
| 54 | 36 | 154 | 191 | 228 | 265 | 301 | 41 | 40 | 59 | 60 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 20 | 5 |
| 55 | 19. 40 | 8. 93 301 | 338 | 375 | 411 | 448 | 9. 998 40 | 39 | 0. 001 60 | 61 | 1. 06 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12 | 4 |
| 56 | 44 | 448 | 485 | 521 | 558 | 594 | 39 | 38 | 61 | 62 | 552 | 515 | 479 | 442 | 406 | 8 | 3 |
| 57 | 48 | 594 | 631 | 667 | 703 | 740 | 38 | 37 | 62 | 63 | 406 | 369 | 333 | 297 | [illegible] | 4 | 2 |
| 58 | 52 | 740 | 777 | 812 | 849 | 885 | 37 | 36 | 63 | 64 | 260 | 224 | 188 | 151 | 115 | 0 | 1 |
| 59 | 56 | *(8. 94)885 | 921 | 957 | 993 | 030 | 36 | 34 | 64 | 66 | *(1. 05)115 | 079 | 043 | [illegible] | [illegible] | [illegible] | 0 |
| | | 4′ 60″ | 3′ 45″ | 2′ 30″ | 1′ 15″ | 0′ 0″ | 4′ 60″ | 0′ 0″ | 4′ 60″ | 0′ 0″ | 4′ 60″ | 3′ 45″ | 2′ 30″ | 1′ 15″ | 0′ 0″ | m s | ′ |
| | | Sine | | | | | Cosine | | Secant | | Cosecant | | | | | 11h | 17° |
| | | Cosine | | | | | Sine | | Cosecant | | Secant | | | | | 5h | 85° |

| 4° | 0h | Verſed | | | | | Coverſed | | | | | Suverſed | | Sucoverſed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 94° | 6h | Coverſed | | | | | Suverſed | | | | | Sucoverſed | | Verſed | | | | | | |
| ′ | m s | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 4″ | 0″ | 1″ | 2″ | 3″ | 4″ | | |
| | | ″ | ″ | ″ | ″ | ″ | ″ | 1″ | 2″ | 3″ | 4″ | ″ | | ″ | ″ | ″ | ″ | ″ | | |
| 0 | 0. 0 | 7. 0 | | | 0745 | 0835 | 9. 667 | 57 | 53 | 50 | 46 | 43 | 9. 999 | 47 | 47 | 9. 726 | 25 | 28 | 31 | 34 | 37 | 50 | 59 |
| 1 | 4 | | | | 0835 | 9195 | | 43 | 40 | 36 | 33 | 30 | | 47 | 46 | | 37 | 40 | 43 | 46 | 49 | 52 | 58 |
| 2 | 8 | | | | 0924 | 0924 | | 30 | 26 | 23 | 19 | 16 | | 46 | 46 | | 49 | 52 | 55 | 58 | 61 | 48 | 57 |
| 3 | 12 | | | | 1013 | 1013 | | 17 | 13 | 10 | 06 | 02 | | 46 | 45 | | 61 | 64 | 67 | 70 | 73 | 44 | 56 |
| 4 | 16 | | | | 1102 | 1102 | | 04 | 00 | 9. 657 | 53 | 50 | | 45 | 45 | | 73 | 76 | 78 | 81 | 84 | 43. 40 | 55 |
| 5 | 0. 20 | 7. 1 | | | 1191 | 1191 | 9. 656 | 91 | 87 | 84 | 80 | 77 | 9. 999 | 45 | 44 | 9. 728 | 84 | 87 | 90 | 93 | 96 | 36 | 54 |
| 6 | 24 | | 0708 | 0796 | 0884 | 0972 | 1060 | | 75 | 72 | 69 | 65 | 62 | | 44 | 44 | * | 90 | 99 | 02 | 05 | 08 | 32 | 53 |
| 7 | 28 | | 1060 | 1148 | 1236 | 1323 | 1411 | | 62 | 58 | 55 | 52 | 48 | | 44 | 43 | 9. 729 | 08 | 11 | 14 | 17 | 20 | 28 | 52 |
| 8 | 32 | | 1411 | 1498 | 1586 | 1673 | 1760 | | 48 | 45 | 41 | 38 | 35 | | 43 | 43 | | 20 | 23 | 25 | 28 | 31 | 24 | 51 |
| 9 | 36 | | 1760 | 1847 | 1934 | 2021 | 2108 | | 35 | 31 | 28 | 24 | 21 | | 43 | 43 | | 31 | 34 | 37 | 40 | 43 | 43. 20 | 50 |
| 10 | 0. 40 | 7. 1 | | | | | 9. 656 | 21 | 18 | 14 | 11 | 07 | 9. 999 | 43 | 42 | 9. 729 | 43 | 46 | 49 | 52 | 55 | 16 | 49 |
| 11 | 44 | | | | | | | 07 | 04 | 01 | 9. 597 | 94 | | 42 | 42 | | 55 | 58 | 61 | 64 | 67 | 12 | 47 |
| 12 | 48 | | | | | | 9. 655 | 92 | 88 | 85 | 82 | 78 | | 42 | 41 | | 67 | 70 | 72 | 75 | 78 | 8 | 47 |
| 13 | 52 | | | | | | | 78 | 75 | 72 | 68 | 65 | | 41 | 41 | | 78 | 81 | 84 | 87 | 90 | 4 | 46 |
| 14 | 56 | | | | | | | 64 | 61 | 58 | 54 | 51 | | 41 | 41 | | | | | | | | |
| 15 | 17. 0 | 7. 1 | | | | | 9. 655 | 50 | 47 | 44 | 43 | 39 | 9. 999 | 40 | 40 | 9. 730 | 02 | 05 | 08 | 11 | 14 | | |
| 16 | 4 | | | | | | | 36 | 33 | 29 | 26 | | | 40 | 39 | | 14 | 16 | 19 | 22 | 28 | | |
| 17 | 8 | | | | | | | 22 | 19 | 16 | 12 | | | 39 | 39 | | 25 | 28 | 31 | 34 | 37 | | |
| 18 | 12 | | | | | | * | 09 | 05 | 02 | 99 | | | 39 | 38 | | 37 | 40 | 43 | 46 | 49 | | |
| 19 | 16 | | | | | | 9. 654 | 95 | 92 | 88 | 85 | | | 38 | 38 | | 49 | 52 | 55 | | | | |
| 20 | 17. 20 | 7. 1 | 5513 | 5597 | 5680 | 5763 | 5846 | 9. 654 | 82 | 78 | 75 | 71 | 9. 999 | 38 | 37 | 9. 730 | 60 | 63 | 66 | 69 | 72 | | |
| 21 | 24 | | 5846 | 5930 | 6013 | 6096 | 6178 | | 71 | 68 | 64 | 61 | 58 | | 37 | 37 | | 72 | 75 | 78 | 81 | 84 | 32 | 38 |
| 22 | 28 | | 6178 | 6261 | 6344 | 6427 | 6509 | | 58 | 54 | 51 | 47 | 44 | | 37 | 36 | | 84 | 87 | 90 | 93 | | | |
| 23 | 32 | | 6509 | 6592 | 6674 | 6756 | 6839 | | 44 | 41 | 37 | 34 | 30 | | 36 | 36 | * | 96 | 98 | 01 | 04 | 07 | 24 | 36 |
| 24 | 36 | | 6839 | 6921 | 7003 | 7085 | 7167 | | 30 | 27 | 24 | 20 | 17 | | 36 | 35 | 9. 731 | 07 | 10 | 13 | 16 | 19 | | |
| 25 | 17. 40 | 7. 1 | 7167 | 7248 | 7331 | 7412 | 7494 | 9. 654 | 17 | 13 | 10 | 06 | 03 | 9. 999 | 35 | 35 | 9. 731 | 19 | 22 | 25 | 28 | 31 | | |
| 26 | 44 | | 7494 | 7575 | 7657 | 7738 | 7820 | * | 03 | 00 | 96 | 93 | 89 | | 35 | 34 | | 31 | 34 | 36 | 39 | 42 | | |
| 27 | 48 | | 7820 | 7901 | 7982 | 8063 | 8144 | 9. 663 | 89 | 86 | 83 | 79 | 76 | | 34 | 34 | | 42 | 45 | 48 | 51 | 54 | 8 | 32 |
| 28 | 52 | | 8144 | 8225 | 8306 | 8387 | 8468 | | 76 | 72 | 69 | 66 | 62 | | 34 | 33 | | 54 | 57 | 60 | 63 | | | |
| 29 | 56 | | 8468 | 8549 | 8630 | 8711 | 8791 | | 62 | 59 | 55 | 52 | 48 | | 33 | 33 | | 66 | 69 | 72 | 74 | | | |
| 30 | 18. 0 | 7. 1 | 8790 | 8870 | 8950 | 9030 | 9111 | 9. 663 | 48 | 45 | 42 | 38 | 35 | 9. 999 | 33 | 33 | 9. 731 | 77 | 80 | 83 | 86 | 89 | 56 | 09 |
| 31 | 4 | | 9111 | 9191 | 9271 | 9351 | 9431 | | 35 | 31 | 28 | 25 | 21 | | 33 | 32 | | 80 | 83 | 86 | 89 | 92 | 3 | 22 |
| 32 | 8 | | 9430 | 9510 | 9590 | 9670 | 9749 | | 21 | 18 | 14 | 11 | 07 | | 32 | 32 | 9. 732 | 01 | 04 | 07 | 10 | 13 | 49 | 35 |
| 33 | 12 | * | 9749 | 9828 | 9908 | 9987 | 0066 | * | 07 | 04 | 01 | 97 | 94 | | 32 | 31 | | 12 | 15 | 18 | 21 | 24 | 44 | 21 |
| 34 | 16 | 7. 2 | 0066 | 0145 | 0225 | 0304 | 0383 | 9. 662 | 94 | 90 | 87 | 83 | 80 | | 31 | 31 | | 24 | 27 | 30 | 33 | 36 | 41. 40 | 25 |
| 35 | 18. 20 | 7. 2 | 0383 | 0461 | 0540 | 0619 | 0698 | 9. 662 | 80 | 77 | 73 | 70 | 66 | 9. 999 | 31 | 30 | 9. 732 | 36 | 39 | 42 | 44 | 47 | 36 | 24 |
| 36 | 24 | | 0698 | 0776 | 0855 | 0933 | 1012 | | 66 | 63 | 60 | 56 | 53 | | 30 | 29 | | 47 | 50 | 53 | 56 | 59 | 32 | 23 |
| 37 | 28 | | 1012 | 1090 | 1168 | 1246 | 1325 | | 53 | 49 | 46 | 42 | 39 | | 29 | 29 | | 59 | 62 | 65 | 68 | 71 | 28 | 22 |
| 38 | 32 | | 1325 | 1403 | 1481 | 1558 | 1636 | | 39 | 36 | 32 | 29 | 25 | | 29 | 28 | | 71 | 74 | 76 | 79 | 82 | 24 | 21 |
| 39 | 36 | | 1636 | 1714 | 1792 | 1869 | 1947 | | 25 | 22 | 18 | 15 | 12 | | 28 | 28 | | 82 | 85 | 88 | 91 | 94 | 41. 20 | 22 |
| 40 | | | | | | | | | | | | 01 | 98 | 9. 999 | 28 | 27 | * | 94 | 97 | 00 | 03 | 06 | 16 | 19 |
| 41 | | | | | | | | | | | | 88 | 84 | | 27 | 27 | 9. 733 | 06 | 09 | 11 | 14 | 17 | 12 | 18 |
| 42 | | | | | | | | | | | | | 70 | | 27 | 26 | | 17 | 20 | 23 | 26 | 29 | 8 | 17 |
| 43 | | | | | | | | | | | | 60 | 57 | | 26 | 26 | | 29 | 32 | 35 | 38 | 41 | 4 | 16 |
| 44 | 56 | | 3178 | 3255 | 3331 | 3407 | 3483 | | 57 | 53 | 50 | 46 | 43 | | 26 | 25 | | 41 | 43 | 46 | 49 | 52 | 41. 0 | 15 |
| 45 | | | | | | | | | | | | | 29 | 9. 999 | 25 | 25 | 9. 733 | 52 | 55 | 58 | 61 | 64 | 50 | 14 |
| 46 | | | | | | | | | | | | | 16 | | 25 | 24 | | 64 | 67 | 70 | 73 | 75 | 53 | 13 |
| 47 | | | | | | | | | | | | 5 | 02 | | 24 | 24 | | 75 | 78 | 81 | 84 | 87 | 40 | 12 |
| 48 | | | | | | | | | | | | 2 | 88 | | 24 | 23 | | 87 | 90 | 93 | 96 | 99 | 44 | 11 |
| 49 | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | m | s | ′ |
| | | | | | | | Coverſed | | | | | Verſed | | Sucoverſed | | | | | | | | 11h | 175 | |
| | | | | | | | Verſed | | | | | Sucoverſed | | Suverſed | | | | | | | | 5h | 85 | |

| ′ | 0ʰ | Sine / Cosine | 0″ 0ˢ | 15″ 1ˢ | 30″ 2ˢ | 45″ 3ˢ | 60″ 4ˢ | Cosine / Sine | 0″ 0ˢ | 15″ 1ˢ | 30″ 2ˢ | 45″ 3ˢ | 60″ 4ˢ | Secant / Cosecant | 0″ 0ˢ | 15″ 1ˢ | 30″ 2ˢ | 45″ 3ˢ | 60″ 4ˢ | Cosecant / Secant | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 95′ | 6ʰ | Cosine | | | | | | Sine | | | | | | Cosecant | | | | | | Secant | | |
| 0 | | | | | | | | 9.99 | 834 | 834 | 834 | 834 | 833 | | | | | | | | | |
| 1 | 4 | | | 174 | 210 | 246 | 282 | 317 | 833 | 833 | 833 | 833 | 832 | | 167 | 167 | 167 | 167 | 168 | | 826 | 790 | 754 | 718 | 683 | 52 | 58 |
| 2 | | | | | | | | | 832 | 832 | 832 | 832 | 831 | | 168 | 168 | 168 | 168 | 169 | | 683 | 647 | 611 | 575 | 539 | 51 | 57 |
| 3 | | | | | | | | | 831 | 831 | 831 | 831 | 830 | | 169 | 169 | 169 | 169 | 170 | | 539 | 504 | 468 | 432 | 397 | 50 | 56 |
| 4 | 16 | | | 603 | 639 | 675 | 710 | 746 | 830 | 830 | 829 | 829 | 829 | | 170 | 170 | 171 | 171 | 171 | | 397 | 361 | 325 | 290 | 254 | 39.49 | 55 |
| 5 | | | | | | | | | 829 | 829 | 828 | 828 | 828 | | 171 | 171 | 172 | 172 | 172 | | 254 | 219 | 183 | 148 | 112 | 39 | 54 |
| 6 | 24 | | * | 887 | 923 | 958 | 993 | 029 | 828 | 827 | 827 | 827 | 827 | | 172 | 173 | 173 | 173 | 173 | | * | 113 | 077 | 042 | 007 | 971 | 32 | 53 |
| 7 | 28 | | 8.95 | 029 | 064 | 099 | 134 | 170 | 827 | 826 | 826 | 826 | 825 | | 173 | 174 | 174 | 174 | 175 | | 1.04 | 971 | 936 | 901 | 866 | 830 | 28 | 52 |
| 8 | 32 | | | 170 | 205 | 240 | 275 | 310 | 825 | 825 | 825 | 825 | 824 | | 175 | 175 | 175 | 175 | 176 | | | 830 | 795 | 760 | 725 | 690 | 24 | 51 |
| 9 | | | | | | | | | 824 | 824 | 824 | 823 | 823 | | 176 | 176 | 176 | 177 | 177 | | | | | | | 39.20 | 50 |
| 10 | | | | | | | | | 9.99 | | | | | | | | | | | | 1.04 | | | | | | |
| 11 | 44 | | | 580 | 614 | 649 | 683 | 718 | 822 | 822 | 821 | 821 | 821 | | 178 | 178 | 179 | 179 | 179 | | | 411 | 376 | 341 | 306 | 272 | 12 | 48 |
| 12 | 48 | | | 728 | 763 | 798 | 832 | 867 | 821 | 821 | 820 | 820 | 820 | | 179 | 179 | 180 | 180 | 180 | | | 272 | 237 | 202 | 168 | 133 | 8 | 47 |
| 13 | 52 | | * | 867 | 902 | 936 | 971 | 005 | 820 | 819 | 819 | 819 | 819 | | 180 | 181 | 181 | 181 | 181 | | * | 133 | 098 | 064 | 029 | 995 | 4 | 46 |
| 14 | | | | | | | | | 819 | 818 | 818 | 818 | 818 | | 181 | 182 | 182 | 182 | 183 | | 1.03 | | | | | 39.0 | 45 |
| 15 | | | | | | | | | 9.99 | | | | | | | | | | | | 1.03 | | | | | | |
| 16 | 4 | | | 292 | 327 | 361 | 396 | 430 | 817 | 817 | 816 | 816 | 815 | | 183 | 183 | 184 | 184 | 185 | | | 708 | 673 | 638 | 603 | 569 | 5 | 43 |
| 17 | 8 | | | 430 | 465 | 499 | 533 | 568 | 815 | 815 | 814 | 814 | 813 | | 185 | 185 | 186 | 186 | 187 | | | 569 | 535 | 500 | 465 | 431 | 4 | 42 |
| 18 | 12 | | | 568 | 602 | 636 | 671 | 705 | 813 | 813 | 812 | 812 | 811 | | 187 | 187 | 188 | 188 | 189 | | | 431 | 397 | 362 | 328 | 294 | 3 | 41 |
| 19 | 16 | | | 705 | 739 | 773 | 807 | 841 | 811 | 810 | 810 | 809 | 809 | | 189 | 190 | 190 | 191 | 191 | | | 294 | 260 | 227 | 193 | 160 | 38.2 | 40 |
| 20 | | | | | | | | | 9.99 | | | | | | | | | | | | 1.03 | | | | | | |
| 21 | 24 | | * | 960 | 994 | 027 | 061 | 095 | 810 | 810 | 810 | 810 | 810 | | 190 | 190 | 190 | 190 | 191 | | * | 040 | 006 | 973 | 939 | 905 | 32 | 38 |
| 22 | 28 | | 8.97 | 095 | 128 | 162 | 195 | 229 | 809 | 809 | 809 | 808 | 808 | | 191 | 191 | 191 | 192 | 192 | | 1.02 | 905 | 872 | 838 | 805 | 771 | 28 | 37 |
| 23 | 32 | | | 229 | 262 | 296 | 329 | 363 | 808 | 807 | 807 | 807 | 806 | | 192 | 193 | 193 | 193 | 194 | | | 771 | 738 | 704 | 671 | 637 | 24 | 36 |
| 24 | | | | | | | | | 806 | 806 | 806 | 805 | 805 | | 194 | 194 | 194 | 195 | 195 | | | 637 | 604 | 571 | 537 | 504 | 38.2 | 35 |
| 25 | | | | | | | | | 9.99 | | | | | | | | | | | | 1.02 | | | | | | |
| 26 | 44 | | | 629 | 662 | 696 | 729 | 762 | 804 | 804 | 804 | 804 | 803 | | 196 | 196 | 196 | 196 | 197 | | | 371 | 338 | 304 | 271 | 238 | 12 | 33 |
| 27 | 48 | | | 762 | 795 | 828 | 861 | 894 | 803 | 803 | 803 | 802 | 802 | | 197 | 197 | 197 | 198 | 198 | | | 238 | 205 | 172 | 139 | 106 | 8 | 32 |
| 28 | 52 | | | 894 | 927 | 960 | 993 | 026 | 802 | 801 | 801 | 801 | 800 | | 198 | 199 | 199 | 199 | 200 | | | 106 | 073 | 040 | 007 | 974 | 4 | 31 |
| 29 | 56 | | | 026 | 059 | 092 | 125 | 158 | 800 | 800 | 799 | 799 | 799 | | 200 | 200 | 201 | 201 | 201 | | | 974 | 941 | 908 | 875 | 842 | 38.0 | 30 |
| 30 | | | | | | | | | 9.99 | | | | | | | | | | | | 1.01 | | | | | | |
| 31 | 4 | | | 288 | 321 | 354 | 386 | 419 | 798 | 798 | 798 | 797 | 797 | | 202 | 202 | 202 | 203 | 203 | | | 712 | 679 | 646 | 614 | 581 | 52 | 28 |
| 32 | 8 | | | 419 | 451 | 484 | 517 | 549 | 797 | 797 | 797 | 796 | 796 | | 203 | 203 | 203 | 204 | 204 | | | 581 | 549 | 516 | 483 | 451 | 48 | 27 |
| 33 | 12 | | | 549 | 582 | 614 | 647 | 679 | 795 | 795 | 795 | 795 | 794 | | 205 | 205 | 205 | 206 | 206 | | | 451 | 418 | 386 | 353 | 321 | 44 | 26 |
| 34 | 16 | | | 679 | 711 | 744 | 776 | 808 | 794 | 794 | 793 | 793 | 793 | | 206 | 206 | 207 | 207 | 207 | | | 321 | 289 | 256 | 224 | 192 | 37.40 | 25 |
| 35 | | | | | | | | | 9.99 | | | | | | | | | | | | 1.01 | | | | | | |
| 36 | 24 | | * | 937 | 970 | 002 | 034 | 066 | 792 | 792 | 791 | 791 | 791 | | 208 | 208 | 208 | 209 | 209 | | * | 063 | 030 | 998 | 966 | 934 | 32 | 23 |
| 37 | 28 | | 8.99 | 066 | 098 | 130 | 162 | 194 | 791 | 790 | 790 | 790 | 790 | | 209 | 210 | 210 | 210 | 210 | | 1.00 | 934 | 902 | 870 | 838 | 806 | 28 | 22 |
| 38 | 32 | | | 194 | 226 | 258 | 290 | 322 | 790 | 789 | 789 | 789 | 788 | | 210 | 211 | 211 | 211 | 212 | | | 806 | 774 | 742 | 710 | 678 | 24 | 21 |
| 39 | | | | | | | | | 788 | 788 | 788 | 787 | 787 | | 212 | 212 | 212 | 213 | 213 | | | 678 | 646 | 614 | 582 | 550 | 37.20 | 20 |
| 40 | 22.40 | | 8.99 | 450 | 481 | 513 | 545 | 577 | 9.99 | 787 | 787 | 786 | 786 | 786 | 0.00 | 213 | 213 | 214 | 214 | 214 | 1.00 | 55 | | | | | | 19 |
| 41 | 44 | | | 577 | 609 | 640 | 672 | 704 | | 786 | 786 | 785 | 785 | 785 | | 214 | 214 | 215 | 215 | 215 | | | | | | | | 18 |
| 42 | | | | | | | | | | 785 | 784 | 784 | 784 | 783 | | 215 | 216 | 216 | 216 | 217 | | | | | | | | 17 |
| 43 | 52 | | | 830 | 861 | 893 | 924 | 956 | | 783 | 783 | 783 | 783 | 782 | | 217 | 217 | 217 | 217 | 218 | | | | | | | | 16 |
| 44 | | | | | | | | | | 782 | 782 | 782 | 781 | 781 | | 218 | 218 | 218 | 219 | 219 | | | | | | | | 15 |
| 45 | | | | | | | | | | | | | | | | | | | | | | |
| 46 | | | | | | | | | | 781 | 781 | 780 | 780 | 780 | 0.00 | 219 | 219 | 220 | 220 | 220 | 0.99 | 918 | 887 | 856 | 824 | 793 | 50 | 14 |
| 47 | | | | | | | | | | 780 | 779 | 779 | 779 | 778 | | 220 | 221 | 221 | 221 | 222 | | 793 | 762 | 731 | 699 | 668 | 52 | 13 |
| 48 | | | | | | | | | | 778 | 778 | 777 | 777 | 777 | | 222 | 222 | 223 | 223 | | | | | | | | 4 | 12 |
| 49 | | | | | | | | | | 777 | 777 | 776 | 776 | 776 | | 223 | 223 | 224 | 224 | | | | | | | | 4 | 11 |
| 50 | 23.20 | | 9.00 | 704 | 735 | 766 | 797 | 828 | 9.99 | 775 | 774 | 774 | 774 | 773 | 0.00 | 225 | 226 | 226 | 226 | 227 | 0.99 | | | | | | 50 | 10 |
| 51 | 24 | | | 828 | 859 | 889 | 920 | 951 | | 773 | 773 | 773 | 772 | 772 | | 227 | 227 | 227 | 228 | 228 | | 172 | 141 | 111 | | | 52 | 9 |
| 52 | | | | | | | | | | 772 | 771 | 771 | 771 | 770 | | 228 | 228 | 229 | 229 | | | | | | | | 4 | 8 |
| 53 | | | | | | | | | | 771 | 770 | 770 | 770 | 769 | | 229 | 230 | 230 | 230 | 231 | 0.98 | 926 | 896 | 865 | | | 4 | 7 |
| 54 | | | | | | | | | | | | | | | | | | | | | | |
| 55 | | | | | | | | | 9.99 | 768 | 768 | 767 | 767 | 767 | 0.00 | 232 | 232 | 233 | 233 | 233 | 0.98 | 682 | 651 | 621 | 590 | | 1 | 6 |
| 56 | 44 | | | 44 | | | 531 | 561 | | 766 | 766 | 766 | 765 | 765 | | 233 | 234 | 234 | 234 | 235 | | 560 | 530 | 499 | 469 | | 1 | 5 |
| 57 | 48 | | | 561 | | | | | | 765 | 764 | 764 | 764 | 763 | | 235 | 235 | 235 | 236 | 236 | | 439 | 408 | 378 | 348 | 318 | 0 | 4 |
| 58 | | | | 858 | | | | | | 763 | 763 | 763 | 762 | 762 | | 236 | 236 | 237 | 237 | 237 | | 318 | 287 | 257 | 227 | 197 | 4 | 3 |
| 59 | | | | 858 | | | | | | 762 | 762 | 761 | 761 | 761 | | 237 | 238 | 238 | 238 | 239 | | 197 | 167 | 137 | 107 | 077 | 36.0 | 2 |
| 60 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | 60″ | 45″ | 30″ | 15″ | 0 | | | |
| | | Sine / Cosine | | | | | | Cosine / Sine | | | | | | Secant / Cosecant | | | | | | Cosecant / Secant | | |

| ′ | o h | m | Versed | | | | | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | Versed | | | | | | |
| | | | o | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | | | o s | 1 s | 2 s | 3 s | 4 s | o s | 1 s | 2 s | 3 s | 4 s | o s | 1 s | 2 s | 3 s | 4 s | m | 1 | 2 | 3 | 4 | | |
| 0 | 20. 0 | | 7.27 | 936 | [illegible] | | | 9.65 | 937 | 933 | 930 | 926 | 923 | 9.99 | 917 | 917 | 917 | 917 | 917 | 9.73 | [illegible] | | | | | | |
| 1 | | 4 | 7.28 | 225 | 297 | [illegible] | | | 923 | 919 | 916 | 913 | 909 | | 917 | 917 | 917 | 916 | 916 | | [illegible] | | | | 52 | 28 |
| 2 | | 8 | | 513 | [illegible] | | | | [illegible] | 926 | 902 | 899 | 895 | | 916 | 916 | 916 | 916 | 916 | | [illegible] | | | 48 | 52 | 27 |
| 3 | | 12 | | [illegible] | [illegible] | | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 916 | 916 | 915 | 915 | 915 | | 561 | 564 | 567 | 569 | 572 | 44 | 56 |
| 4 | | 16 | 7.29 | 086 | 157 | 228 | 300 | 371 | 881 | 877 | 874 | 871 | 868 | | 915 | 915 | 915 | 915 | 915 | | 572 | 575 | 578 | 581 | 584 | 39 40 | 55 |
| 5 | 20. 20 | | 7.29 | 371 | [illegible] | [illegible] | | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | | | | 40 | 54 |
| 6 | | 24 | | 655 | 726 | 797 | 867 | 938 | 854 | 850 | 847 | 844 | 840 | | 914 | 914 | 914 | 914 | 914 | | 596 | 598 | 601 | 604 | 607 | 32 | 53 |
| 7 | | 28 | | * | 938 | 009 | 079 | 150 | 220 | 840 | 837 | 834 | 830 | 826 | | 913 | 913 | 913 | 913 | 913 | | 607 | 610 | 613 | 616 | 619 | 28 | 52 |
| 8 | | 32 | 7.30 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24 | 51 |
| 9 | | 36 | | 501 | 571 | 642 | 712 | 782 | 812 | 809 | 806 | 802 | 799 | | 912 | 912 | 912 | 912 | 912 | | 630 | 633 | 636 | 639 | 642 | 39. 20 | 50 |
| 10 | 20. 40 | | | * | [illegible] | [illegible] | [illegible] | [illegible] | 9.65 | 799 | 795 | 792 | [illegible] | [illegible] | 9.99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.73 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 16 | 49 |
| 11 | | 4 | 7.31 | [illegible] | 131 | 201 | 271 | 340 | | 785 | 781 | 778 | 774 | 771 | | 911 | 911 | 911 | 911 | 911 | | 653 | 656 | 659 | 662 | 665 | 12 | 48 |
| 12 | | 8 | | [illegible] | 410 | 479 | 549 | 618 | | 771 | 767 | 764 | 761 | 757 | | 911 | 911 | 910 | 910 | 910 | | 665 | 668 | 671 | 673 | 676 | 8 | 47 |
| 13 | | 12 | | 618 | 687 | 757 | 826 | 895 | | 757 | 754 | 750 | 747 | 743 | | 910 | 910 | 910 | 910 | 909 | | 676 | 679 | 682 | 685 | 688 | 4 | 46 |
| 14 | | 16 | | * | [illegible] | 033 | 102 | 171 | | 743 | 740 | 736 | 733 | 729 | | 909 | 909 | 909 | 909 | 909 | | 688 | 691 | 694 | 697 | 699 | 39. 0 | 45 |
| 15 | 21. 0 | | 7.32 | 171 | [illegible] | [illegible] | [illegible] | [illegible] | 9.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.73 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | | 4 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 710 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 711 | [illegible] | [illegible] | [illegible] | [illegible] | 8 | [illegible] |
| 17 | | 8 | | 720 | 789 | 857 | 925 | 994 | | 702 | 698 | 695 | 691 | 688 | | 908 | 908 | 907 | 907 | 907 | | 722 | 725 | 728 | 731 | 734 | 48 | 42 |
| 18 | | 12 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 44 | 41 |
| 19 | | 16 | 7.33 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 674 | 671 | 667 | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 74[illegible] | [illegible] | [illegible] | [illegible] | 757 | 40 | 4 |
| 20 | 21. 20 | | 7.33 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.73 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 21 | | 24 | | * | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 32 | [illegible] |
| 22 | | 28 | 7.34 | 079 | 146 | 213 | 281 | 348 | | 632 | 629 | 625 | 622 | 618 | | 905 | 905 | 904 | 904 | 904 | | 780 | 783 | 786 | 789 | 792 | 28 | 37 |
| 23 | | 32 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24 | [illegible] |
| 24 | | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 21. 40 | | | * | [illegible] | [illegible] | [illegible] | [illegible] | 9.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.73 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | | 44 | 7.35 | 150 | [illegible] | [illegible] | [illegible] | [illegible] | | 577 | 573 | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 12 | [illegible] |
| 27 | | 48 | | 416 | 482 | 549 | 615 | 681 | | 563 | 559 | 556 | 553 | 549 | | 902 | 902 | 901 | 901 | 901 | | 837 | 840 | 843 | 846 | 849 | 8 | 32 |
| 28 | | 52 | | 681 | [illegible] | [illegible] | [illegible] | [illegible] | | 540 | 54[illegible] | [illegible] | 530 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 84[illegible] | [illegible] | [illegible] | [illegible] | 860 | 4 | 31 |
| 29 | | 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | [illegible] | | 7.36 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.73 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | | 4 | | 471 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 52 | 28 |
| 32 | | 8 | | 733 | [illegible] | [illegible] | [illegible] | [illegible] | | 403 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4 | 27 |
| 33 | | 12 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 4[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 44 | [illegible] |
| 34 | | 16 | 7.37 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 17. 40 | [illegible] |
| 35 | [illegible] | | 7.37 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.73 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | | 24 | | * | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 32 | [illegible] |
| 37 | | 28 | 7.38 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 28 | [illegible] |
| 38 | | 32 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 24 | [illegible] |
| 39 | | 36 | | 544 | [illegible] | [illegible] | [illegible] | [illegible] | | 396 | 39[illegible] | [illegible] | [illegible] | [illegible] | | 894 | 894 | 894 | 894 | 894 | | 975 | [illegible] | [illegible] | [illegible] | [illegible] | 37. [illegible] | [illegible] |
| 40 | [illegible] | | | * | [illegible] | [illegible] | [illegible] | [illegible] | 9.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.73 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | | 44 | 7.39 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | | 48 | | 309 | 372 | 435 | 499 | 562 | | 354 | 351 | 347 | 344 | 340 | | 892 | 892 | 892 | 892 | 892 | 9.74 | 009 | 012 | 015 | 018 | 021 | 8 | 17 |
| 43 | | 52 | | 562 | 625 | 688 | 752 | 815 | | 340 | 337 | 333 | 330 | 326 | | 892 | 892 | 892 | 891 | 891 | | 021 | 024 | 027 | 029 | 032 | 4 | 16 |
| 44 | | 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 45 | [illegible] | | 7.40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.74 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 46 | | 4 | | 31 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 47 | | 8 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | | 12 | | 818 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 49 | | 16 | 7.41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 50 | [illegible] | | 7.41 | 315 | 377 | [illegible] | [illegible] | [illegible] | 9.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.74 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | | 24 | | 563 | 625 | 686 | 748 | 810 | | 228 | 225 | 221 | 218 | 214 | | 887 | 887 | 886 | 886 | 886 | | 112 | 115 | 118 | 121 | 124 | 32 | 8 |
| 52 | | 28 | | * | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 28 | [illegible] |
| 53 | | 32 | 7.42 | 056 | 117 | 179 | 240 | 301 | | 200 | 197 | 193 | 190 | 186 | | 885 | 885 | 885 | 885 | 885 | | 135 | 138 | 141 | 144 | 146 | 24 | 6 |
| 54 | | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 26 | [illegible] |
| 55 | [illegible] | | 7.42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.65 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.74 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 56 | | 44 | | * | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | | 48 | 7.43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 58 | | 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4 | 1 |
| 59 | | 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | | | 4′ | 3′ | 2′ | 1′ | 0′ | 4′ | 3′ | 2′ | 1′ | 0′ | 4′ | 3′ | 2′ | 1′ | 0′ | 4′ | 3′ | 2′ | 1′ | 0′ | m | |
| | | | 60″ | 45″ | 30″ | 15″ | | 60″ | 45″ | 30″ | 15″ | | 60″ | 45″ | 30″ | 15″ | | 60″ | 45″ | 30″ | 15″ | | s | |
| | | | Suversed | | | | | Coversed | | | | | Versed | | | | | [illegible] | | | | | | |
| | | | Coversed | | | | | Versed | | | | | Sucoversed | | | | | | | | | | | |

| ′ | | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0° | 15′ | 30′ | 45′ | 60′ | 0° | 15′ | 30′ | 45′ | 60′ | 0° | 15′ | 30′ | 45′ | 60′ | 0° | 15′ | 30′ | 45′ | 60′ |
| 0 | | | | | | | | | | | | | | | | | | | | | |
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| 3 | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | |
| 5 | 24. 20 | 9. 02 | 520 | 550 | 579 | 609 | 639 | 9. 99 | 755 | 754 | 754 | 754 | 753 | 0. 00 | 245 | 246 | 246 | 246 | 247 | 0. 97 | 4 | 44 | 421 | 391 | 361 | 33 | 34 |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 28 | | 757 | 786 | 816 | 845 | 874 | | 752 | 752 | 751 | 751 | 751 | | 248 | 248 | 249 | 249 | 249 | | 243 | 214 | 184 | 155 | 126 | 28 | 52 |
| 8 | 32 | | 874 | 904 | 933 | 962 | 992 | | 751 | 750 | 750 | 750 | 749 | | 249 | 250 | 250 | 250 | 251 | | 126 | 096 | 067 | 038 | 008 | 24 | 51 |
| 9 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | 9. 03 | | | | | | 9. 99 | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 48 | | 342 | 371 | 400 | 429 | 458 | | 745 | 745 | 745 | 744 | 744 | | 255 | 255 | 255 | 256 | | | 774 | 745 | | | | | |
| 13 | 52 | | 458 | 487 | 516 | 545 | 574 | | 744 | 744 | 743 | 743 | 742 | | 256 | 256 | 257 | 257 | | | | | | | | | |
| 14 | 56 | | 574 | 603 | 632 | 661 | 690 | | 742 | 742 | 742 | 741 | 741 | | 258 | 258 | 258 | 259 | | | | | | | | | |
| 15 | 25. 0 | 9. 03 | 690 | 718 | 747 | 776 | 805 | 9. 99 | 741 | 741 | 740 | 740 | 740 | 0. 00 | 259 | 259 | 260 | 260 | 260 | 0. 96 | 310 | 282 | 253 | | | | |
| 16 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 12 | 9. 04 | 034 | 063 | 091 | 120 | 149 | | 737 | 737 | 736 | 736 | 736 | | 263 | 263 | 264 | 264 | 264 | 0. 95 | 966 | 937 | 909 | 880 | 851 | | |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 25. 2 | 9. 04 | | | | | | 9. 99 | | | | | | 0. 00 | | | | | | 0. 95 | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 28 | | 490 | 518 | 546 | 574 | 603 | | 731 | 731 | 730 | 730 | 730 | | 269 | 269 | 270 | | | | | | | | | | |
| 23 | 32 | | 603 | 631 | 659 | 687 | 715 | | 730 | 730 | 729 | 729 | 728 | | 270 | 270 | 271 | | | | | | | | | | |
| 24 | 36 | | 715 | 744 | 772 | 800 | 828 | | 728 | 728 | 728 | 727 | 727 | | 272 | 272 | 272 | | | | | | | | | | |
| 25 | 25. 4 | 9. 04 | | | | | | 9. 99 | | | | | | 0. 00 | | | | | | 0. 94 | | | | | | | |
| 26 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | 48 | 9. 05 | | | | | | | | | | | | | | | | | | 0. 94 | | | | | | | |
| 28 | 52 | | 164 | 191 | 219 | 247 | 275 | | 723 | 722 | 722 | 722 | 721 | | 277 | 278 | 278 | 278 | 279 | | 836 | 809 | 781 | 753 | 725 | 4 | 31 |
| 29 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | | 9. 05 | | | | | | 9. 99 | | | | | | 0. 00 | | | | | | 0. 94 | | | | | | | |
| 31 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 25. 20 | 9. 06 | | | | | | 9. 99 | | | | | | 0. 00 | | | | | | | | | | | | | |
| 36 | 24 | | | | | | | | | | | | | | | | | | | 0. 93 | | | | | | | |
| 37 | 28 | | 155 | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | 32 | | 264 | | | | 34 | | | | | | | | | | | | | | | | | | | | |
| 39 | 36 | | 374 | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 25. 4 | 9. 06 | | | | | | 9. 99 | | | | | | 0. 00 | 295 | 295 | 295 | | | | | | | | | | |
| 41 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | 48 | | 696 | 723 | 750 | 777 | 804 | | 702 | 702 | 702 | 701 | 701 | | 298 | 298 | 298 | 299 | 299 | | 304 | 277 | 250 | | | | |
| 43 | | | | | | | | | 701 | 701 | 700 | 700 | 699 | | 299 | 299 | 300 | 300 | 301 | | 196 | 170 | 145 | | | | |
| 44 | | | | | | | | | 699 | 699 | 699 | 69 | | | | | | | | | | | | | | | |
| 45 | | 9. 07 | | | | | | 9. 99 | 698 | 697 | 697 | 697 | 696 | | | | | | | | | | | | | | |
| 46 | | | | | | | | | 696 | 696 | 696 | 695 | 695 | | | | | | | | | | | | | | |
| 47 | | | | | | | | | 695 | 695 | 694 | 694 | 693 | | | | | | | | | | | | | | |
| 48 | | | | | | | | | 693 | 693 | 693 | 692 | 692 | | | | | | | | | | | | | | |
| 49 | | | | | | | | | 692 | 692 | 691 | 691 | 690 | | | | | | | | | | | | | | |
| 50 | | | | | | | | 9. 99 | 690 | 690 | 690 | 689 | 689 | 0. 00 | 31 | 31 | | | | | 347 | 320 | | | | | |
| 51 | | | | | | | | | 689 | 688 | 688 | 688 | 687 | | 31 | 31 | | 313 | 314 | | 242 | 215 | 189 | | | | |
| 52 | | | | | | | | | | | | | | | 31 | 31 | | | | | | | | | | | |
| 53 | | | | | | | | | 686 | 685 | | | | | 31 | 31 | | | | | | | | | | | |
| 54 | | | | | | | | | | 684 | 684 | 683 | 683 | | 31 | 31 | | | | | | | | | | | |
| 55 | | | | | | | | | | 682 | 682 | 682 | 681 | 0. 00 | 31 | 31 | | | | | | | | | | | |
| 56 | | | | | | | | | 681 | 681 | 680 | 680 | 680 | | 31 | 31 | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | 31 | 31 | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | 31 | 31 | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | 31 | 31 | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | 5h 18′ |

| | | Versed | | | | | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Coversed | | | | | Suversed | | | | | Versed | | | | | Versed | | | | | | |
| | | 0″ 0ˢ | 15″ 1ˢ | 30″ 2ˢ | 45″ 3ˢ | 60″ 4ˢ | 0″ 0ˢ | 15″ 1ˢ | 30″ 2ˢ | 45″ 3ˢ | 60″ 4ˢ | 0″ 0ˢ | 15″ 1ˢ | 30″ 2ˢ | 45″ 3ˢ | 60″ 4ˢ | 0″ 0ˢ | 15″ 1ˢ | 30″ 2ˢ | 45″ 3ˢ | 60″ 4ˢ | | |
| 0 | 0 | | | | | | | | | | | 9.99 | 881 | 881 | 881 | 880 | 9.74 | 215 | 218 | 220 | 223 | 226 | | |
| 1 | 4 | 7.44 | | | | | | | | | | | | | 880 | 88 | | | | | | | | |
| 2 | 8 | | | | | | | | | | | | | 880 | 879 | 879 | | 238 | 240 | 243 | 246 | 249 | 48 | 57 |
| 3 | 12 | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 16 | | | | | | | | | | | | | 878 | 878 | 878 | | 260 | 263 | 266 | 269 | 272 | 35.40 | 55 |
| 5 | 20 | | | | | | | | | | | | | 877 | 877 | 877 | 9.74 | 272 | 274 | 277 | 280 | 283 | 36 | 54 |
| 6 | 24 | 7.45 | 104 | 154 | 203 | 253 | | | | | | | 877 | 877 | 877 | 876 | | 283 | 286 | 288 | 291 | 294 | 32 | 53 |
| 7 | 28 | | | | | | | | | | | | 876 | 876 | 876 | 876 | | 294 | 297 | 300 | 303 | 306 | 28 | 52 |
| 8 | 32 | | 605 | | | | 9.64 | | | | | | 876 | 875 | 875 | 875 | | 306 | 308 | 311 | 314 | 317 | 24 | 51 |
| 9 | 36 | | | | | | | | | | | | 875 | 875 | 874 | 874 | | 317 | 320 | 323 | 325 | 328 | 35.20 | 50 |
| 10 | 40 | 7.46 | | | | | 9.64 | | | | | 9.99 | | | | | 9.74 | | | | | | 16 | 49 |
| 11 | 44 | | | | | | | | | | | | | | | | | | | | | | 12 | 48 |
| 12 | 48 | | 605 | 664 | 722 | 780 | 838 | | 934 | 930 | 926 | 923 | 919 | | 873 | 873 | 872 | 872 | 872 | | 351 | 354 | 357 | 359 | 362 | 8 | 47 |
| 13 | 52 | * | 838 | 896 | 955 | 013 | 071 | | 919 | 916 | 912 | 909 | 905 | | 872 | 872 | 872 | 872 | 871 | | 362 | 365 | 368 | 371 | 374 | 4 | 46 |
| 14 | 56 | 7.47 | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 0 | | | | | | 9.64 | | | | | 9.99 | | | | | 9.74 | | | | | | 20 | 44 |
| 16 | 4 | | 583 | 641 | 700 | 758 | | | | | | | | | | | | | | | | | 52 | 43 |
| 17 | 8 | | | | | | | | | | | | | | | | | | | | | | 48 | 42 |
| 18 | 12 | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 16 | | 699 | 757 | 816 | 874 | 933 | | 849 | 845 | 842 | 838 | 835 | | 869 | 868 | 868 | 868 | 868 | | 419 | 422 | 425 | 427 | 430 | 44 | 41 |
| 20 | 20 | 7.48 | 111 | | | 337 | 395 | 452 | | 835 | 831 | 828 | 824 | 821 | | 868 | 868 | 868 | 867 | 867 | | 430 | 433 | 436 | 439 | 442 | 34.40 | 40 |
| 21 | 24 | | 680 | 737 | 794 | 850 | 907 | | 807 | 803 | 799 | 796 | 793 | | 867 | 866 | 866 | 866 | 866 | | | | | | | | |
| 22 | 28 | * | 907 | 964 | 021 | 077 | 134 | | 793 | 789 | 785 | 782 | 778 | | 866 | 866 | 866 | 865 | 865 | | | | | | | | |
| 23 | 32 | 7.49 | 134 | 191 | 247 | 304 | 360 | | 778 | 775 | 771 | 768 | 764 | | 865 | 865 | 865 | 865 | 864 | | | | | | | | |
| 24 | 36 | | 360 | 417 | 473 | 530 | 586 | | | | | | | | | | | | | | | | | | | | |
| 25 | 40 | 7.49 | 586 | 642 | 699 | 755 | 811 | | | | | | | | | | | | | | | | | | | | |
| 26 | 44 | * | 811 | 867 | 923 | 979 | 036 | | | | | | | | | | | | | | | | | | | | |
| 27 | 48 | 7.50 | 036 | 092 | 148 | 204 | 259 | | | | | | | | | | | | | | | | | | | | |
| 28 | 52 | | 259 | 315 | 371 | 427 | | | | | | | | | | | | | | | | | | | | | |
| 29 | 56 | | 483 | 539 | 594 | 650 | 706 | | 694 | 690 | 686 | 683 | 679 | | 861 | | | | | | | | | | | | |
| 30 | 0 | 7.50 | 706 | 761 | 817 | 872 | 928 | | 679 | 676 | 672 | 669 | 665 | | 860 | | | | | | | | | | | | |
| 31 | 4 | * | 928 | 983 | 039 | 094 | 149 | | 665 | 662 | 658 | 655 | 651 | | 859 | 859 | 859 | 859 | 859 | | 566 | 569 | 571 | 574 | 577 | 52 | 37 |
| 32 | 8 | 7.51 | 149 | | | | 315 | | | | | | | | | | | | | | | | | | | 4 | 36 |
| 33 | 12 | | 370 | 426 | 481 | 537 | 592 | | | | | | | | | | | | | | | | | | | 44 | 35 |
| 34 | 16 | | 592 | 647 | 703 | 758 | 813 | | | | | | | | | | | | | | | | | | | 36 | 34 |
| 35 | 20 | * | 813 | 869 | 924 | 979 | 035 | | 609 | 605 | 601 | 598 | 594 | | 857 | 856 | 856 | 856 | 856 | | 811 | 814 | | | | 28 | 33 |
| 36 | 24 | 7.52 | 035 | 090 | 146 | 201 | 256 | | 594 | 591 | 587 | 584 | 580 | | 856 | 856 | 855 | 855 | 855 | | 622 | 625 | | | | 20 | 32 |
| 37 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | 12 | 31 |
| 38 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 30 |
| 39 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | 44 | 29 |
| 40 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | 36 | 28 |
| 41 | 44 | * | | | | | | | | | | | | | | | | | | | | | | | | 28 | 27 |
| 42 | 48 | 7.53 | | | | | | | | | | | | | | | | | | | | | | | | 20 | 26 |
| 43 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | 12 | 25 |
| 44 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 24 |
| 45 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 44 | 23 |
| 46 | 4 | 7.54 | | | | | | | | | | | | | | | | | | | | | | | | 36 | 22 |
| 47 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | 28 | 21 |
| 48 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | 20 | 20 |
| 49 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | 12 | 19 |
| 50 | 20 | 7.55 | | | | | | | | | | | | | | | | | | | | | | | | 4 | 18 |
| 51 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | 44 | 17 |
| 52 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | 36 | 16 |
| 53 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | 28 | 15 |
| 54 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | 20 | 14 |
| 55 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | 12 | 13 |
| 56 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 12 |
| 57 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | 44 | 11 |
| 58 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | 36 | 10 |
| 59 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | 28 | 9 |
| 60 | 0 | | | | | | | | | | | 9.99 | 842 | 841 | 841 | 841 | 9.74 | 835 | 838 | 841 | 844 | 846 | 16 | 4 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ′ | m s | ° | 0′ | 15″ | 30″ | 45″ | 60″ |
|---|---|---|---|---|---|---|---|
| 0 | 28. 0 | 9. 08 | 589 | 615 | 641 | 667 | 692 |
| 1 | 4 | | 692 | 718 | 744 | 769 | 795 |
| 2 | 8 | | 795 | 820 | 846 | 871 | 897 |
| 3 | 12 | | 897 | 923 | 948 | 974 | 999 |
| 4 | 16 | * | 999 | 025 | 050 | 076 | 101 |
| 5 | 20. 20 | 9. 09 | 101 | 126 | 152 | 177 | 202 |
| 6 | 24 | | 202 | 228 | 253 | 278 | 304 |
| 7 | 28 | | 304 | 329 | 354 | 379 | 405 |
| 8 | 32 | | 405 | 430 | 455 | 480 | 506 |
| 9 | 36 | | 506 | 531 | 556 | 581 | 606 |
| 10 | 40. 4 | 9. 09 | 606 | 631 | 656 | 681 | 707 |
| 11 | 44 | | 707 | 732 | 757 | 782 | 807 |
| 12 | 48 | | 807 | 832 | 857 | 882 | 907 |
| 13 | 52 | * | 907 | 931 | 956 | 981 | 006 |
| 14 | 56 | 9. 10 | 006 | 031 | 056 | 081 | 106 |
| 15 | 29. 0 | 9. 10 | 106 | 130 | 155 | 180 | 205 |
| 16 | 4 | | 205 | 230 | 254 | 279 | 304 |
| 17 | 8 | | 304 | 329 | 353 | 378 | 403 |
| 18 | 12 | | 403 | 427 | 452 | 477 | 501 |
| 19 | 16 | | 501 | 526 | 551 | 575 | 600 |
| 20 | 20. 20 | 9. 10 | 599 | 624 | 648 | 673 | 697 |
| 21 | 24 | | 697 | 722 | 746 | 771 | 795 |
| 22 | 28 | | 795 | 820 | 844 | 868 | 893 |
| 23 | 32 | | 893 | 917 | 941 | 966 | 990 |
| 24 | 36 | * | 990 | 014 | 039 | 063 | 087 |
| 25 | 29. 40 | 9. 11 | 087 | 112 | 136 | 160 | 184 |
| 26 | 44 | | 184 | 208 | 233 | 257 | 281 |
| 27 | 48 | | 281 | 305 | 329 | 353 | 377 |
| 28 | 52 | | 377 | 401 | 425 | 449 | 474 |
| 29 | 56 | | 474 | 498 | 522 | 546 | 570 |
| 30 | 30. 0 | 9. 11 | 570 | 594 | 618 | 642 | 666 |
| 31 | 4 | | 666 | 690 | 713 | 737 | 761 |
| 32 | 8 | | 761 | 785 | 809 | 833 | 857 |
| 33 | 12 | | 857 | 881 | 904 | 928 | 952 |
| 34 | 16 | * | 952 | 976 | 000 | 023 | 047 |
| 35 | 30. 20 | 9. 12 | 047 | 071 | 094 | 118 | 142 |
| 36 | 24 | | 142 | 165 | 189 | 213 | 236 |
| 37 | 28 | | 236 | 260 | 283 | 307 | 330 |
| 38 | 32 | | 330 | 354 | 378 | 401 | 425 |
| 39 | 36 | | 425 | 448 | 472 | 496 | 519 |
| 40 | 30. 40 | 9. 12 | 519 | 543 | 566 | 590 | 613 |
| 41 | 44 | | 613 | 636 | 660 | 683 | 707 |
| 42 | 48 | | 707 | 730 | 753 | 777 | 800 |
| 43 | 52 | | 800 | 823 | 846 | 870 | 893 |
| 44 | 56 | | 893 | 916 | 939 | 963 | 986 |
| 45 | 31. 0 | * | 986 | 009 | 032 | 055 | 079 |
| 46 | 4 | 9. 13 | 079 | 102 | 125 | 148 | 171 |
| 47 | 8 | | 171 | 194 | 217 | 240 | 263 |
| 48 | 12 | | 263 | 286 | 309 | 332 | 355 |
| 49 | 16 | | 355 | 378 | 401 | 424 | 447 |
| 50 | 31. 20 | 9. 13 | 447 | 470 | 493 | 516 | 539 |
| 51 | 24 | | 539 | 562 | 585 | 608 | 631 |
| 52 | 28 | | 631 | 654 | 677 | 700 | 723 |
| 53 | 32 | | 723 | 746 | 769 | 792 | 815 |
| 54 | 36 | | 815 | 838 | 861 | 884 | 907 |
| 55 | 31. 40 | * | 907 | 930 | 952 | 975 | 998 |
| 56 | 44 | 9. 14 | 998 | 021 | 044 | 067 | 089 |
| 57 | 48 | | 089 | 112 | 135 | 158 | 180 |
| 58 | 52 | | 180 | 203 | 226 | 248 | 271 |
| 59 | 56 | | 271 | 294 | 316 | 339 | 362 |

| ′ | ° | 0″ | 15″ | 30″ | 45″ | 60″ |
|---|---|---|---|---|---|---|
| | | 0s | 1s | 2s | 3s | 4s |
| 0 | 9. 99 | 075 | 075 | 074 | 074 | 074 |
| 1 | | 674 | 673 | 673 | 672 | 672 |
| 2 | | 672 | 672 | 671 | 671 | 671 |
| 3 | | 670 | 670 | 670 | 669 | 669 |
| 4 | | 668 | 668 | 668 | 667 | 667 |
| 5 | 9. 99 | 667 | 667 | 666 | 666 | 666 |
| 6 | | 665 | 665 | 665 | 664 | 664 |
| 7 | | 664 | 664 | 663 | 663 | 663 |
| 8 | | 663 | 662 | 662 | 661 | 661 |
| 9 | | 661 | 661 | 660 | 660 | 659 |
| 10 | 9. 99 | 659 | 659 | 658 | 658 | 658 |
| 11 | | 658 | 657 | 657 | 657 | 656 |
| 12 | | 656 | 656 | 655 | 655 | 655 |
| 13 | | 655 | 654 | 654 | 653 | 653 |
| 14 | | 653 | 653 | 652 | 652 | 651 |
| 15 | 9. 99 | 651 | 651 | 651 | 650 | 650 |
| 16 | | 650 | 649 | 649 | 649 | 648 |
| 17 | | 648 | 648 | 647 | 647 | 647 |
| 18 | | 647 | 646 | 646 | 645 | 645 |
| 19 | | 645 | 645 | 644 | 644 | 643 |
| 20 | 9. 99 | 643 | 642 | 642 | 642 | 641 |
| 21 | | 641 | 641 | 641 | 640 | 640 |
| 22 | | 639 | 639 | 639 | 638 | 638 |
| 23 | | 638 | 637 | 637 | 637 | 636 |
| 24 | | 636 | 636 | 635 | 635 | 635 |
| 25 | 9. 99 | 634 | 634 | 634 | 633 | 633 |
| 26 | | 633 | 633 | 632 | 632 | 632 |
| 27 | | 631 | 631 | 631 | 630 | 630 |
| 28 | | 630 | 629 | 629 | 629 | 628 |
| 29 | | 628 | 628 | 627 | 627 | 627 |
| 30 | 9. 99 | 626 | 626 | 626 | 625 | 625 |
| 31 | | 625 | 625 | 624 | 624 | 624 |
| 32 | | 623 | 623 | 623 | 622 | 622 |
| 33 | | 622 | 621 | 621 | 621 | 620 |
| 34 | | 620 | 620 | 619 | 619 | 618 |
| 35 | 9. 99 | 618 | 618 | 618 | 617 | 617 |
| 36 | | 617 | 616 | 616 | 616 | 615 |
| 37 | | 615 | 615 | 614 | 614 | 613 |
| 38 | | 613 | 613 | 613 | 612 | 612 |
| 39 | | 612 | 611 | 611 | 610 | 610 |
| 40 | 9. 99 | 610 | 609 | 609 | 608 | 608 |
| 41 | | 608 | 607 | 607 | 606 | 606 |
| 42 | | 606 | 605 | 605 | 604 | 604 |
| 43 | | 604 | 603 | 603 | 602 | 602 |
| 44 | | 602 | 601 | 601 | 600 | 600 |
| 45 | 9. 99 | 599 | 599 | 598 | 598 | 597 |
| 46 | | 597 | 596 | 596 | 595 | 595 |
| 47 | | 595 | 594 | 594 | 593 | 593 |
| 48 | | 592 | 592 | 591 | 591 | 590 |
| 49 | | 590 | 589 | 589 | 588 | 588 |
| 50 | 9. 99 | 587 | 587 | 586 | 586 | 585 |
| 51 | | 585 | 584 | 584 | 583 | 583 |
| 52 | | 582 | 582 | 581 | 581 | 580 |
| 53 | | 580 | 579 | 579 | 578 | 578 |
| 54 | | 577 | 577 | 576 | 576 | 575 |

| ′ | ° | 0″ | 15″ | 30″ | 45″ | 60″ |
|---|---|---|---|---|---|---|
| | | 0s | 1s | 2s | 3s | 4s |
| 0 | 0. 00 | 325 | 325 | 326 | 326 | 326 |
| 1 | | 327 | 327 | 327 | 328 | 328 |
| 2 | | 328 | 328 | 329 | 329 | 330 |
| 3 | | 330 | 330 | 330 | 331 | 331 |
| 4 | | 331 | 332 | 332 | 333 | 333 |
| 5 | 0. 00 | 333 | 333 | 334 | 334 | 334 |
| 6 | | 334 | 335 | 335 | 335 | 336 |
| 7 | | 336 | 336 | 337 | 337 | 337 |
| 8 | | 338 | 338 | 338 | 339 | 339 |
| 9 | | 339 | 340 | 340 | 341 | 341 |
| 10 | 0. 00 | 341 | 342 | 342 | 343 | 343 |
| 11 | | 343 | 344 | 344 | 345 | 345 |
| 12 | | 345 | 346 | 346 | 347 | 347 |
| 13 | | 347 | 348 | 348 | 349 | 349 |
| 14 | | 350 | 350 | 351 | 351 | 352 |
| 15 | 0. 00 | 352 | 353 | 353 | 354 | 354 |
| 16 | | 355 | 355 | 356 | 356 | 357 |
| 17 | | 357 | 358 | 358 | 359 | 359 |
| 18 | | 360 | 360 | 361 | 361 | 362 |
| 19 | | 362 | 363 | 363 | 364 | 364 |
| 20 | 0. 00 | 365 | 365 | 366 | 366 | 367 |
| 21 | | 367 | 368 | 368 | 369 | 369 |
| 22 | | 370 | 370 | 371 | 371 | 372 |
| 23 | | 372 | 373 | 373 | 374 | 374 |
| 24 | | 375 | 375 | 376 | 376 | 377 |
| 25 | 0. 00 | 377 | 378 | 378 | 379 | 379 |
| 26 | | 380 | 380 | 381 | 381 | 382 |
| 27 | | 382 | 383 | 383 | 384 | 384 |
| 28 | | 385 | 385 | 386 | 386 | 387 |
| 29 | | 387 | 388 | 388 | 389 | 389 |
| 30 | 0. 00 | 390 | 390 | 391 | 391 | 392 |
| 31 | | 392 | 393 | 393 | 394 | 394 |
| 32 | | 395 | 395 | 396 | 396 | 397 |
| 33 | | 397 | 398 | 398 | 399 | 399 |
| 34 | | 400 | 400 | 401 | 401 | 402 |
| 35 | 0. 00 | 402 | 403 | 403 | 404 | 404 |
| 36 | | 405 | 405 | 406 | 406 | 407 |
| 37 | | 407 | 408 | 408 | 408 | 409 |
| 38 | | 410 | 410 | 410 | 411 | 411 |
| 39 | | 411 | 412 | 412 | 412 | 413 |
| 40 | 0. 00 | 413 | 413 | 414 | 414 | 414 |
| 41 | | 415 | 415 | 415 | 416 | 416 |
| 42 | | 416 | 416 | 417 | 417 | 418 |
| 43 | | 418 | 418 | 419 | 419 | 419 |
| 44 | | 419 | 420 | 420 | 421 | 421 |
| 45 | 0. 00 | 422 | 422 | 422 | 423 | 423 |
| 46 | | 423 | 423 | 424 | 424 | 425 |
| 47 | | 425 | 426 | 426 | 426 | 427 |
| 48 | | 427 | 427 | 428 | 428 | 429 |
| 49 | | 429 | 429 | 430 | 430 | 431 |
| 50 | 0. 00 | 431 | 431 | 432 | 432 | 433 |
| 51 | | 433 | 433 | 434 | 434 | 435 |
| 52 | | 435 | 435 | 436 | 436 | 437 |
| 53 | | 437 | 437 | 438 | 438 | 439 |
| 54 | | 439 | 439 | 440 | 440 | 441 |
| 55 | 0. 00 | 441 | 442 | 442 | 443 | 443 |
| 56 | | 443 | 444 | 444 | 445 | 445 |
| 57 | | 446 | 446 | 446 | 447 | 447 |
| 58 | | 448 | 448 | 448 | 449 | 449 |
| 59 | | 450 | 450 | 451 | 451 | 452 |

| ′ | ° | 0″ | 15″ | 30″ | 45″ | 60″ |
|---|---|---|---|---|---|---|
| | | 0s | 1s | 2s | 3s | 4s |
| 0 | 0. 91 | 411 | 385 | 359 | 333 | 308 |
| 1 | | 308 | 282 | 257 | 231 | 205 |
| 2 | | 205 | 180 | 154 | 129 | 103 |
| 3 | | 103 | 077 | 052 | 026 | 001 |
| 4 | * | 001 | 976 | 950 | 924 | 899 |
| 5 | 0. 90 | 899 | 874 | 848 | 823 | 798 |
| 6 | | 797 | 772 | 747 | 722 | 696 |
| 7 | | 696 | 671 | 646 | 621 | 595 |
| 8 | | 595 | 570 | 545 | 520 | 494 |
| 9 | | 494 | 469 | 444 | 419 | 394 |
| 10 | 0. 90 | 394 | 369 | 344 | 319 | 293 |
| 11 | | 293 | 268 | 243 | 218 | 193 |
| 12 | | 193 | 168 | 143 | 118 | 093 |
| 13 | | 093 | 068 | 043 | 018 | 993 |
| 14 | * | 993 | 968 | 943 | 918 | 894 |
| 15 | 0. 89 | 894 | 870 | 845 | 820 | 795 |
| 16 | | 795 | 770 | 746 | 721 | 696 |
| 17 | | 696 | 671 | 647 | 622 | 598 |
| 18 | | 598 | 573 | 548 | 524 | 499 |
| 19 | | 499 | 474 | 450 | 425 | 401 |
| 20 | 0. 89 | 401 | 376 | 352 | 327 | 303 |
| 21 | | 303 | 278 | 254 | 229 | 205 |
| 22 | | 205 | 180 | 156 | 131 | 107 |
| 23 | | 107 | 083 | 059 | 034 | 010 |
| 24 | * | 010 | 986 | 961 | 937 | 913 |
| 25 | 0. 88 | 913 | 888 | 864 | 840 | 815 |
| 26 | | 815 | 792 | 767 | 743 | 719 |
| 27 | | 719 | 695 | 671 | 647 | 623 |
| 28 | | 623 | 599 | 575 | 551 | 527 |
| 29 | | 527 | 503 | 479 | 455 | 431 |
| 30 | 0. 88 | 430 | 406 | 382 | 358 | 334 |
| 31 | | 334 | 310 | 286 | 262 | 239 |
| 32 | | 239 | 215 | 191 | 167 | 143 |
| 33 | | 143 | 120 | 096 | 072 | 048 |
| 34 | * | 048 | 024 | 001 | 977 | 953 |
| 35 | 0. 87 | 953 | 929 | 906 | 882 | 858 |
| 36 | | 858 | 835 | 811 | 787 | 764 |
| 37 | | 764 | 740 | 717 | 693 | 669 |
| 38 | | 669 | 646 | 622 | 598 | 575 |
| 39 | | 575 | 552 | 528 | 505 | 481 |
| 40 | 0. 87 | 481 | 458 | 434 | 411 | 388 |
| 41 | | 388 | 364 | 341 | 317 | 294 |
| 42 | | 294 | 271 | 247 | 224 | 201 |
| 43 | | 201 | 177 | 154 | 131 | 108 |
| 44 | | 108 | 084 | 061 | 038 | 015 |
| 45 | * | 015 | 991 | 968 | 945 | 922 |
| 46 | 0. 86 | 922 | 899 | 876 | 853 | 829 |
| 47 | | 829 | 806 | 783 | 760 | 737 |
| 48 | | 737 | 714 | 691 | 668 | 645 |
| 49 | | 645 | 622 | 599 | 576 | 553 |
| 50 | 0. 86 | 553 | 530 | 507 | 484 | 461 |
| 51 | | 461 | 438 | 415 | 393 | 370 |
| 52 | | 370 | 347 | 324 | 301 | 278 |
| 53 | | 278 | 256 | 233 | 210 | 187 |
| 54 | | 187 | 164 | 142 | 119 | 096 |
| 55 | 0. 86 | 096 | 074 | 051 | 028 | 006 |
| 56 | | 006 | 983 | 960 | 938 | 915 |
| 57 | | 915 | 892 | 870 | 847 | 825 |
| 58 | | 825 | 802 | 780 | 757 | 734 |
| 59 | | 734 | 712 | 689 | 667 | 644 |

| 7° | 0h | Versed | | | | | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6h | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | Versed | | | | | | |
| ′ | m s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | | |
| | | 7.57 | | | | | 9.64 | | | | | 9.99 | | | | | 9.74 | | | | | | |
| 1 | 4 | | 341 | 393 | 444 | 496 | 547 | | 239 | 235 | 231 | 228 | 224 | | 837 | 837 | 837 | 836 | 836 | | 902 | 905 | 908 | 911 | 914 | 52 | 58 |
| 2 | 8 | | 547 | 599 | 650 | 701 | 752 | | 224 | 221 | 217 | 214 | 210 | | 836 | 836 | 836 | 836 | 836 | | 914 | 916 | 919 | 922 | 925 | 48 | 57 |
| 3 | 12 | | 752 | 804 | 855 | 906 | 957 | | 210 | 207 | 203 | 199 | 196 | | 836 | 835 | 835 | 835 | 835 | | 925 | 928 | 930 | 933 | 936 | 44 | 56 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 28. 20 | 7.58 | 162 | 213 | 264 | 315 | 366 | 9.64 | 181 | 178 | 174 | 171 | 167 | 9.99 | 834 | 834 | 834 | 833 | 833 | 9.74 | 947 | 950 | 953 | 955 | 958 | 36 | 54 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 44 | 7.59 | 378 | 428 | 478 | 529 | 579 | 9.64 | 096 | 092 | 088 | 085 | 081 | 9.99 | 829 | 829 | 829 | 829 | 828 | 9.75 | 014 | 017 | 020 | 022 | 025 | 12 | 48 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 52 | | 779 | 829 | 879 | 929 | 979 | | 067 | 063 | 060 | 056 | 053 | | 828 | 827 | 827 | 827 | 827 | | 036 | 039 | 042 | 045 | 047 | 4 | 46 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 29. 0 | 7.60 | 179 | 229 | 279 | 329 | 378 | 9.64 | 038 | 035 | 031 | 027 | 024 | 9.99 | 826 | 826 | 826 | 825 | 825 | 9.75 | 059 | 061 | 064 | 067 | 070 | 56 | 44 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 8 | | 577 | 627 | 676 | 726 | 775 | * | 010 | 006 | 002 | 999 | 995 | | 824 | 824 | 824 | 824 | 824 | | 081 | 084 | 086 | 089 | 092 | 48 | 42 |
| 18 | 12 | | 775 | 825 | 874 | 924 | 973 | 9.63 | 995 | 992 | 988 | 985 | 981 | | 824 | 823 | 823 | 823 | 823 | | 092 | 095 | 097 | 100 | 103 | 44 | 41 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7.61 | | | | | 9.63 | | | | | 9.99 | | | | | 9.76 | | | | | | |
| 22 | 24 | | 367 | 417 | 466 | 515 | 564 | | 952 | 949 | 945 | 941 | 938 | | 821 | 821 | 821 | 821 | 820 | | 125 | 128 | 131 | 133 | 136 | 32 | 38 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | 7.62 | | | | | 9.63 | | | | | 9.99 | | | | | 9.76 | | | | | | |
| | 44 | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | 52 | | 733 | 782 | 830 | 878 | 927 | | 851 | 848 | 844 | 841 | 837 | | 815 | 815 | 815 | 815 | 815 | | | | | | | | |
| 29 | 56 | * | 927 | 975 | 023 | 072 | 120 | | 837 | 833 | 830 | 826 | 823 | | 815 | 814 | 814 | 814 | 814 | | | | | | | | |
| | | 7.63 | | | | | 9.63 | | | | | 9.99 | | | | | 9.76 | | | | | | |
| | 4 | | | | | | | | | | | | | | | | | | | | | | |
| | 8 | | | | | | | | | | | | | | | | | | | | | | |
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| | | 7.64 | | | | | 9.63 | | | | | 9.99 | | | | | 9.76 | | | | | | |
| | 24 | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | |
| | 40 | 7.65 | | | | | 9.63 | 678 | 675 | 671 | 668 | 664 | 9.99 | 805 | 805 | 805 | 805 | 805 | 9.75 | 336 | 338 | 341 | 344 | 347 | 16 | 19 |
| | 44 | | | | | | | 664 | 660 | 657 | 653 | 649 | | 805 | 804 | 804 | 804 | 804 | | 347 | 349 | 352 | 355 | 358 | 12 | 18 |
| | | | | | | | | 649 | 646 | 642 | 639 | 635 | | 804 | 804 | 803 | 803 | 803 | | 358 | 361 | 363 | 366 | 369 | 8 | 17 |
| | | | | | | | | 635 | 631 | 628 | 624 | 621 | | 803 | 803 | 802 | 802 | 802 | | 369 | 372 | 374 | 377 | 380 | 4 | 16 |
| | | | | | | | | 621 | 617 | 613 | 610 | 606 | | 802 | 802 | 802 | 801 | 801 | | 380 | 383 | 385 | 388 | 391 | 29. 0 | 15 |
| | | 7.66 | | | | | 9.63 | 606 | 602 | 599 | 595 | 592 | 9.99 | 801 | 801 | 801 | 801 | 800 | 9.75 | 391 | 394 | 396 | 399 | 402 | 56 | 14 |
| | 4 | | | | | | | 592 | 588 | 584 | 581 | 577 | | 800 | 800 | 800 | 800 | 799 | | 402 | 405 | 407 | 410 | 413 | 52 | 13 |
| | | | | | | | | 577 | 574 | 570 | 566 | 563 | | 799 | 799 | 799 | 799 | 799 | | 413 | 416 | 418 | 421 | 424 | 48 | 12 |
| | | | | | | | | 563 | 559 | 555 | 552 | 548 | | 799 | 798 | 798 | 798 | 798 | | 424 | 427 | 429 | 432 | 435 | 44 | 11 |
| | | | | | | | | 548 | 545 | 541 | 537 | 534 | | 798 | 798 | 797 | 897 | 797 | | 435 | 438 | 440 | 443 | 446 | 28. 4c | 10 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | 24 | 7.67 | | | | | | | | | | | 9.99 | 797 | 797 | 796 | 796 | 796 | 9.75 | 446 | 449 | 451 | 454 | 457 | 36 | 9 |
| | | | | | | | | | | | | | | 796 | 796 | 796 | 795 | 795 | | 457 | 460 | 463 | 465 | 468 | 32 | 8 |
| | | | | | | | | | | | | | | 795 | 795 | 795 | 795 | 794 | | 468 | 471 | 474 | 476 | 479 | 28 | 7 |
| | | | | | | | | | | | | | | 794 | 794 | 794 | 794 | 793 | | 479 | 482 | 485 | 487 | 490 | 24 | 6 |
| | | | | | | | | 476 | | | | | | 793 | 793 | 793 | 793 | 793 | | 490 | 493 | 496 | 498 | 501 | 28. 2c | 5 |
| | 48 | | 800 | 854 | 900 | 946 | 991 | 9.63 | 461 | 458 | 454 | 450 | 447 | 9.99 | | | | | | 9.75 | | | | | | 16 | 4 |
| | 44 | * | 091 | 037 | 082 | 128 | 173 | | 447 | 443 | 439 | 436 | 432 | | | | | | | | | | | | | | |
| | | 7.68 | 173 | | | | | | 432 | 429 | 425 | 421 | 418 | | | | | | | | | | | | | | |
| | | | 355 | 400 | 445 | 491 | 536 | | 418 | 414 | 410 | 407 | 403 | | | | | | | | | | | | | | |
| | | | 536 | 581 | 627 | 672 | 717 | | 403 | 399 | 396 | 392 | 389 | | | | | | | | | | | | | | |
| | | | 4s 45″ | 3s 30″ | 2s 15″ | 1s 0″ | 0s | 4 | 3 | 2 | 1 | | | 4 | | | | | | | | | | | | | |
| | | Suversed Coversed | | | | | Coversed Versed | | | | | Versed Sucoversed | | | | | Suversed | | | | | 5h | 82 |

| 8° | 0h | Sine | Cosine | Secant | Cosecant | | |
|---|---|---|---|---|---|---|---|
| 98° | 6h | Cosine | Sine | Cosecant | Secant | | |
| ′ | m s | ″ 0° | 15 1° | 30 2° | 45 3° | 60 4° |
| 0 | 32. 0 | 9.14 | 35 | 377 | 421 | 445 |
| 1 | 4 | | 445 | 468 | 490 | 513 | 535 |
| 2 | 8 | | 535 | 557 | 580 | 602 | 624 |
| 3 | 12 | | 624 | 647 | 669 | 691 | 713 |
| 4 | 16 | | 714 | 736 | 758 | 780 | 802 |
| 5 | 20. 0 | 9.14 | 802 | 824 | 846 | 868 | 890 |
| 6 | 24 | | 891 | 913 | 935 | 957 | 979 |
| 7 | 28 | * | 980 | 002 | 024 | 047 | 069 |
| 8 | 32 | 9.15 | 069 | 091 | 113 | 135 | 157 |
| 9 | 36 | | 157 | 179 | 202 | 224 | 246 |
| 10 | 40. 0 | 9.15 | 246 | 268 | 290 | 312 | 334 |
| 11 | 44 | | 333 | 355 | 377 | 399 | 421 |
| 12 | 48 | | 421 | 443 | 465 | 486 | 508 |
| 13 | 52 | | 508 | 530 | 552 | 574 | 596 |
| 14 | 56 | | 596 | 618 | 639 | 661 | 683 |
| 15 | 36. 0 | 9.15 | 683 | 705 | 727 | 748 | 770 |
| 16 | 4 | | 770 | 792 | 813 | 835 | 857 |
| 17 | 8 | | 857 | 879 | 900 | 922 | 944 |
| 18 | 12 | * | 944 | 965 | 987 | 009 | 031 |
| 19 | 16 | 9.16 | 031 | 053 | 075 | 096 | 118 |
| 20 | 20. 0 | 9.16 | 118 | 140 | 161 | 183 | 205 |
| 21 | 24 | | 205 | 226 | 248 | 270 | 292 |
| 22 | 28 | | 292 | 313 | 335 | 357 | 379 |
| 23 | 32 | | 379 | 401 | 422 | 444 | 466 |
| 24 | 36 | | 466 | 488 | 509 | 531 | 553 |
| 25 | 40. 0 | 9.16 | 553 | 575 | 597 | 618 | 640 |
| 26 | 44 | | 640 | 662 | 683 | 705 | 727 |
| 27 | 48 | | 716 | 737 | 758 | 780 | 801 |
| 28 | 52 | | 801 | 822 | 843 | 864 | 886 |
| 29 | 56 | | 886 | 907 | 929 | 950 | 971 |
| 30 | 44. 0 | * | 971 | 993 | 014 | 035 | 057 |
| 31 | 4 | 9.17 | 057 | 078 | 099 | 121 | 142 |
| 32 | 8 | | 142 | 163 | 184 | 206 | 227 |
| 33 | 12 | | 227 | 248 | 269 | 291 | 312 |
| 34 | 16 | | 312 | 333 | 354 | 376 | 397 |
| 35 | 48. 0 | 9.17 | 397 | 418 | 439 | 460 | 482 |
| 36 | 24 | | 482 | 503 | 524 | 545 | 566 |
| 37 | 28 | | 566 | 587 | 608 | 630 | 651 |
| 38 | 32 | | 651 | 672 | 693 | 714 | 735 |
| 39 | 36 | | 735 | 756 | 777 | 798 | 819 |
| 40 | 52. 0 | 9.17 | 819 | 840 | 861 | 882 | 903 |
| 41 | 44 | | 903 | 924 | 945 | 966 | 987 |
| 42 | 48 | * | 987 | 008 | 029 | 050 | 071 |
| 43 | 52 | 9.18 | 071 | 092 | 113 | 134 | 155 |
| 44 | 56 | | 155 | 176 | 197 | 218 | 239 |
| 45 | 56. 0 | 9.18 | 239 | 260 | 281 | 302 | 323 |
| 46 | 4 | | 323 | 344 | 365 | 386 | 407 |
| 47 | 8 | | 383 | 404 | 424 | 445 | 465 |
| 48 | 12 | | 465 | 486 | 507 | 528 | 549 |
| 49 | 16 | | 549 | 569 | 590 | 611 | 632 |
| 50 | 56. 0 | 9.18 | 632 | 653 | 673 | 694 | 715 |
| 51 | 24 | | 715 | 736 | 757 | 777 | 798 |
| 52 | 28 | | 798 | 819 | 839 | 860 | 881 |
| 53 | 32 | | 881 | 901 | 922 | 943 | 963 |
| 54 | 36 | | 963 | 984 | 005 | 025 | 046 |
| 55 | 52. 0 | 9.19 | 046 | 067 | 087 | 108 | 129 |
| 56 | 44 | | 113 | 133 | 153 | 173 | 193 |
| 57 | 48 | | 193 | 213 | 233 | 253 | 273 |
| 58 | 52 | | 273 | 293 | 313 | 333 | 353 |
| 59 | 56 | | 353 | 373 | 393 | 413 | 433 |

| 8° | Cosine | Sine | Secant | Cosecant | | |
|---|---|---|---|---|---|---|
| ′ | ″ 0° | 15 1° | 30 2° | 45 3° | 60 4° |
| 0 | 9.99 | 574 | 573 | 573 | 572 | 572 |
| 1 | | 572 | 571 | 571 | 570 | 570 |
| 2 | | 570 | 569 | 569 | 568 | 568 |
| 3 | | 568 | 567 | 567 | 566 | 566 |
| 4 | | 566 | 565 | 565 | 564 | 564 |
| 5 | 9.99 | 564 | 563 | 563 | 562 | 562 |
| 6 | | 562 | 561 | 561 | 560 | 560 |
| 7 | | 563 | 562 | 562 | 561 | 561 |
| 8 | | 561 | 560 | 560 | 559 | 559 |
| 9 | | 559 | 558 | 558 | 557 | 557 |
| 10 | 9.99 | 557 | 556 | 556 | 555 | 555 |
| 11 | | 556 | 555 | 555 | 554 | 554 |
| 12 | | 554 | 553 | 553 | 552 | 552 |
| 13 | | 552 | 551 | 551 | 551 | 550 |
| 14 | | 550 | 549 | 549 | 548 | 548 |
| 15 | 9.99 | 548 | 547 | 547 | 546 | 546 |
| 16 | | 546 | 546 | 545 | 545 | 545 |
| 17 | | 545 | 544 | 544 | 543 | 543 |
| 18 | | 543 | 542 | 542 | 541 | 541 |
| 19 | | 541 | 540 | 540 | 539 | 539 |
| 20 | 9.99 | 539 | 538 | 538 | 538 | 537 |
| 21 | | 537 | 537 | 536 | 536 | 535 |
| 22 | | 535 | 535 | 534 | 534 | 533 |
| 23 | | 533 | 533 | 533 | 532 | 532 |
| 24 | | 532 | 531 | 531 | 530 | 530 |
| 25 | 9.99 | 530 | 529 | 529 | 528 | 528 |
| 26 | | 528 | 527 | 527 | 526 | 526 |
| 27 | | 526 | 526 | 525 | 525 | 524 |
| 28 | | 524 | 524 | 523 | 523 | 522 |
| 29 | | 522 | 522 | 521 | 521 | 520 |
| 30 | 9.99 | 520 | 519 | 519 | 518 | 518 |
| 31 | | 518 | 518 | 517 | 517 | 516 |
| 32 | | 516 | 516 | 516 | 515 | 515 |
| 33 | | 515 | 514 | 514 | 513 | 513 |
| 34 | | 513 | 512 | 512 | 511 | 511 |
| 35 | 9.99 | 511 | 510 | 510 | 509 | 509 |
| 36 | | 509 | 508 | 508 | 507 | 507 |
| 37 | | 507 | 506 | 506 | 505 | 505 |
| 38 | | 505 | 504 | 504 | 503 | 503 |
| 39 | | 503 | 502 | 502 | 501 | 501 |
| 40 | 9.99 | 501 | 500 | 500 | 499 | 499 |
| 41 | | 499 | 498 | 498 | 497 | 497 |
| 42 | | 497 | 497 | 496 | 496 | 495 |
| 43 | | 495 | 495 | 494 | 494 | 493 |
| 44 | | 493 | 493 | 492 | 492 | 491 |
| 45 | 9.99 | 491 | 491 | 490 | 490 | 489 |
| 46 | | 489 | 489 | 488 | 488 | 487 |
| 47 | | 488 | 487 | 487 | 486 | 486 |
| 48 | | 486 | 485 | 485 | 484 | 484 |
| 49 | | 484 | 483 | 483 | 482 | 482 |
| 50 | 9.99 | 482 | 481 | 481 | 480 | 480 |
| 51 | | 480 | 479 | 479 | 478 | 478 |
| 52 | | 478 | 477 | 477 | 477 | 476 |
| 53 | | 476 | 476 | 475 | 475 | 474 |
| 54 | | 474 | 474 | 473 | 473 | 472 |
| 55 | 9.99 | 472 | 472 | 471 | 471 | 470 |
| 56 | | 470 | 469 | 469 | 468 | 468 |
| 57 | | 468 | 467 | 467 | 466 | 466 |
| 58 | | 466 | 465 | 465 | 464 | 464 |
| 59 | | 464 | 463 | 463 | 462 | 462 |

| 8° | Secant | Cosecant | | | | |
|---|---|---|---|---|---|---|
| ′ | Cosecant | Secant | | | | |
| ″ 0° | 15 1° | 30 2° | 45 3° | 60 4° |
| 0.00 | 428 | 427 | 427 | 428 | 428 |
| | 428 | 429 | 429 | 430 | 430 |
| | 431 | 431 | 432 | 432 | 433 |
| | 433 | 434 | 434 | 435 | 435 |
| | 436 | 436 | 437 | 437 | 438 |
| 0.00 | 438 | 439 | 439 | 440 | 440 |
| | 441 | 441 | 442 | 442 | 443 |
| | 443 | 444 | 444 | 445 | 445 |
| | 446 | 446 | 447 | 447 | 448 |
| | 448 | 449 | 449 | 450 | 450 |
| 0.00 | 451 | 451 | 452 | 452 | 453 |
| | 453 | 454 | 454 | 455 | 455 |
| | 455 | 456 | 456 | 457 | 457 |
| | 457 | 458 | 458 | 459 | 459 |
| | 460 | 460 | 461 | 461 | 462 |
| 0.00 | 462 | 463 | 463 | 464 | 464 |
| | 465 | 465 | 466 | 466 | 467 |
| | 467 | 468 | 468 | 469 | 469 |
| | 470 | 470 | 471 | 471 | 472 |
| | 472 | 473 | 473 | 474 | 474 |
| 0.00 | 475 | 475 | 476 | 476 | 477 |
| | 477 | 478 | 478 | 479 | 479 |
| | 480 | 480 | 481 | 481 | 482 |
| | 482 | 483 | 483 | 484 | 484 |
| | 485 | 485 | 486 | 486 | 487 |
| 0.00 | 487 | 488 | 488 | 489 | 489 |
| | 490 | 490 | 491 | 491 | 492 |
| | 492 | 493 | 493 | 494 | 494 |
| | 495 | 495 | 496 | 496 | 497 |
| | 497 | 498 | 498 | 499 | 499 |
| 0.00 | 500 | 501 | 501 | 502 | 502 |
| | 503 | 503 | 504 | 504 | 505 |
| | 505 | 506 | 506 | 507 | 507 |
| | 508 | 508 | 509 | 509 | 510 |
| | 510 | 511 | 511 | 512 | 513 |
| 0.00 | 513 | 514 | 514 | 515 | 515 |
| | 516 | 516 | 517 | 517 | 518 |
| | 518 | 519 | 519 | 520 | 520 |
| | 521 | 521 | 522 | 522 | 523 |
| | 523 | 524 | 524 | 525 | 525 |
| 0.00 | 526 | 526 | 527 | 527 | 528 |
| | 528 | 529 | 529 | 530 | 530 |
| | 531 | 531 | 532 | 532 | 533 |
| | 533 | 534 | 534 | 535 | 535 |
| | 536 | 536 | 537 | 537 | 538 |
| 0.00 | 538 | 539 | 539 | 540 | 540 |
| | 541 | 541 | 542 | 542 | 543 |
| | 543 | 544 | 544 | 545 | 545 |
| | 546 | 546 | 547 | 547 | 548 |
| | 548 | 549 | 549 | 550 | 550 |
| 0.00 | 551 | 551 | 552 | 552 | 553 |
| | 553 | 554 | 554 | 555 | 555 |
| | 556 | 556 | 557 | 557 | 558 |
| | 558 | 559 | 559 | 560 | 560 |
| | 561 | 561 | 562 | 562 | 563 |
| 0.00 | 563 | 564 | 564 | 565 | 565 |
| | 566 | 566 | 567 | 567 | 568 |
| | 568 | 569 | 569 | 570 | 570 |
| | 571 | 571 | 572 | 572 | 573 |
| | 573 | 574 | 574 | 575 | 575 |
| 0.00 | 576 | 576 | 577 | 577 | 578 |
| | 578 | 579 | 579 | 580 | 580 |
| | 581 | 581 | 582 | 582 | 583 |
| | 583 | 584 | 584 | 585 | 585 |
| | 586 | 586 | 587 | 587 | 588 |
| 0.00 | 588 | 589 | 589 | 590 | 590 |
| | 591 | 591 | 592 | 592 | 593 |
| | 593 | 594 | 594 | 595 | 595 |
| | 596 | 596 | 597 | 597 | 598 |
| | 598 | 599 | 599 | 600 | 600 |
| 0.00 | 601 | 601 | 602 | 602 | 603 |
| | 603 | 604 | 604 | 605 | 605 |
| | 606 | 606 | 607 | 607 | 608 |
| | 608 | 609 | 609 | 610 | 610 |
| | 611 | 611 | 612 | 612 | 613 |
| 0.00 | 613 | 614 | 614 | 615 | 615 |
| | 616 | 616 | 617 | 617 | 618 |
| | 618 | 619 | 619 | 620 | 620 |
| | 621 | 621 | 622 | 622 | 623 |
| | 623 | 624 | 624 | 625 | 625 |
| 0.00 | 626 | 626 | 627 | 627 | 628 |
| | 628 | 629 | 629 | 630 | 630 |
| | 631 | 631 | 632 | 632 | 633 |
| | 633 | 634 | 634 | 635 | 635 |
| | 636 | 636 | 637 | 637 | 638 |
| 0.00 | 638 | 639 | 639 | 640 | 640 |
| | 641 | 641 | 642 | 642 | 643 |
| | 643 | 644 | 644 | 645 | 645 |
| | 646 | 646 | 647 | 647 | 648 |
| | 648 | 649 | 649 | 650 | 650 |
| 0.00 | 651 | 651 | 652 | 652 | 653 |
| | 653 | 654 | 654 | 655 | 655 |
| | 656 | 656 | 657 | 657 | 658 |
| | 658 | 659 | 659 | 660 | 660 |
| | 661 | 661 | 662 | 662 | 663 |
| 0.00 | 663 | 664 | 664 | 665 | 665 |
| | 666 | 666 | 667 | 667 | 668 |
| | 668 | 669 | 669 | 670 | 670 |
| | 671 | 671 | 672 | 672 | 673 |
| | 673 | 674 | 674 | 675 | 675 |
| 0.00 | 676 | 676 | 677 | 677 | 678 |
| | 678 | 679 | 679 | 680 | 680 |
| | 681 | 681 | 682 | 682 | 683 |
| | 683 | 684 | 684 | 685 | 685 |
| | 686 | 686 | 687 | 687 | 688 |
| 0.00 | 688 | 689 | 689 | 690 | 690 |
| | 691 | 691 | 692 | 692 | 693 |
| | 693 | 694 | 694 | 695 | 695 |
| | 696 | 696 | 697 | 697 | 698 |
| | 698 | 699 | 699 | 700 | 700 |
| 0.00 | 701 | 701 | 702 | 702 | 703 |
| | 703 | 704 | 704 | 705 | 705 |
| | 706 | 706 | 707 | 707 | 708 |
| | 708 | 709 | 709 | 710 | 710 |
| | 711 | 711 | 712 | 712 | 713 |
| 0.00 | 713 | 714 | 714 | 715 | 715 |
| | 716 | 716 | 717 | 717 | 718 |
| | 718 | 719 | 719 | 720 | 720 |
| | 721 | 721 | 722 | 722 | 723 |
| | 723 | 724 | 724 | 725 | 725 |
| 0.00 | 726 | 726 | 727 | 727 | 728 |
| | 728 | 729 | 729 | 730 | 730 |
| | 731 | 731 | 732 | 732 | 733 |
| | 733 | 734 | 734 | 735 | 735 |
| | 736 | 736 | 737 | 737 | 738 |
| 0.00 | 738 | 739 | 739 | 740 | 740 |
| | 741 | 741 | 742 | 742 | 743 |
| | 743 | 744 | 744 | 745 | 745 |
| | 746 | 746 | 747 | 747 | 748 |
| | 748 | 749 | 749 | 750 | 750 |
| 0.00 | 751 | 751 | 752 | 752 | 753 |
| | 753 | 754 | 754 | 755 | 755 |
| | 756 | 756 | 757 | 757 | 758 |
| | 758 | 759 | 759 | 760 | 760 |
| | 761 | 761 | 762 | 762 | 763 |
| 0.00 | 763 | 764 | 764 | 765 | 765 |
| | 766 | 766 | 767 | 767 | 768 |
| | 768 | 769 | 769 | 770 | 770 |
| | 771 | 771 | 772 | 772 | 773 |
| | 773 | 774 | 774 | 775 | 775 |
| 0.00 | 776 | 776 | 777 | 777 | 778 |
| | 778 | 779 | 779 | 780 | 780 |
| | 781 | 781 | 782 | 782 | 783 |
| | 783 | 784 | 784 | 785 | 785 |
| | 786 | 786 | 787 | 787 | 788 |
| 0.00 | 788 | 789 | 789 | 790 | 790 |
| | 791 | 791 | 792 | 792 | 793 |
| | 793 | 794 | 794 | 795 | 795 |
| | 796 | 796 | 797 | 797 | 798 |
| | 798 | 799 | 799 | 800 | 800 |
| 0.00 | 801 | 801 | 802 | 802 | 803 |
| | 803 | 804 | 804 | 805 | 805 |
| | 806 | 806 | 807 | 807 | 808 |
| | 808 | 809 | 809 | 810 | 810 |
| | 811 | 811 | 812 | 812 | 813 |
| 0.00 | 813 | 814 | 814 | 815 | 815 |
| | 816 | 816 | 817 | 817 | 818 |
| | 818 | 819 | 819 | 820 | 820 |
| | 821 | 821 | 822 | 822 | 823 |
| | 823 | 824 | 824 | 825 | 825 |
| 0.00 | 826 | 826 | 827 | 827 | 828 |
| | 828 | 829 | 829 | 830 | 830 |
| | 831 | 831 | 832 | 832 | 833 |
| | 833 | 834 | 834 | 835 | 835 |
| | 836 | 836 | 837 | 837 | 838 |
| 0.00 | 838 | 839 | 839 | 840 | 840 |
| | 841 | 841 | 842 | 842 | 843 |
| | 843 | 844 | 844 | 845 | 845 |
| | 846 | 846 | 847 | 847 | 848 |
| | 848 | 849 | 849 | 850 | 850 |
| 0.00 | 851 | 851 | 852 | 852 | 853 |
| | 853 | 854 | 854 | 855 | 855 |
| | 856 | 856 | 857 | 857 | 858 |
| | 858 | 859 | 859 | 860 | 860 |
| | 861 | 861 | 862 | 862 | 863 |
| 0.00 | 863 | 864 | 864 | 865 | 865 |
| | 866 | 866 | 867 | 867 | 868 |
| | 868 | 869 | 869 | 870 | 870 |
| | 871 | 871 | 872 | 872 | 873 |
| | 873 | 874 | 874 | 875 | 875 |
| 0.00 | 876 | 876 | 877 | 877 | 878 |
| | 878 | 879 | 879 | 880 | 880 |
| | 881 | 881 | 882 | 882 | 883 |
| | 883 | 884 | 884 | 885 | 885 |
| | 886 | 886 | 887 | 887 | 888 |
| 0.00 | 888 | 889 | 889 | 890 | 890 |
| | 891 | 891 | 892 | 892 | 893 |
| | 893 | 894 | 894 | 895 | 895 |
| | 896 | 896 | 897 | 897 | 898 |
| | 898 | 899 | 899 | 900 | 900 |
| 0.00 | 901 | 901 | 902 | 902 | 903 |
| | 903 | 904 | 904 | 905 | 905 |
| | 906 | 906 | 907 | 907 | 908 |
| | 908 | 909 | 909 | 910 | 910 |
| | 911 | 911 | 912 | 912 | 913 |
| 0.00 | 913 | 914 | 914 | 915 | 915 |
| | 916 | 916 | 917 | 917 | 918 |
| | 918 | 919 | 919 | 920 | 920 |
| | 921 | 921 | 922 | 922 | 923 |
| | 923 | 924 | 924 | 925 | 925 |
| 0.00 | 926 | 926 | 927 | 927 | 928 |
| | 928 | 929 | 929 | 930 | 930 |
| | 931 | 931 | 932 | 932 | 933 |
| | 933 | 934 | 934 | 935 | 935 |
| | 936 | 936 | 937 | 937 | 938 |
| 0.00 | 938 | 939 | 939 | 940 | 940 |
| | 941 | 941 | 942 | 942 | 943 |
| | 943 | 944 | 944 | 945 | 945 |
| | 946 | 946 | 947 | 947 | 948 |
| | 948 | 949 | 949 | 950 | 950 |
| 0.00 | 951 | 951 | 952 | 952 | 953 |
| | 953 | 954 | 954 | 955 | 955 |
| | 956 | 956 | 957 | 957 | 958 |
| | 958 | 959 | 959 | 960 | 960 |
| | 961 | 961 | 962 | 962 | 963 |
| 0.00 | 963 | 964 | 964 | 965 | 965 |
| | 966 | 966 | 967 | 967 | 968 |
| | 968 | 969 | 969 | 970 | 970 |
| | 971 | 971 | 972 | 972 | 973 |
| | 973 | 974 | 974 | 975 | 975 |
| 0.00 | 976 | 976 | 977 | 977 | 978 |
| | 978 | 979 | 979 | 980 | 980 |
| | 981 | 981 | 982 | 982 | 983 |
| | 983 | 984 | 984 | 985 | 985 |
| | 986 | 986 | 987 | 987 | 988 |
| 0.00 | 988 | 989 | 989 | 990 | 990 |
| | 991 | 991 | 992 | 992 | 993 |
| | 993 | 994 | 994 | 995 | 995 |
| | 996 | 996 | 997 | 997 | 998 |
| | 998 | 999 | 999 | 000 | 000 |

| | | Sine | Cosine | Secant | Cosecant | | |
|---|---|---|---|---|---|---|---|
| | | Cosine | Sine | Cosecant | Secant | 11h | 171° |
| | | 60″ | 45″ 30″ 15″ 0″ | 60″ | 45″ 30″ 15″ 0″ | 60″ | 45″ 30″ 15″ 0″ | 5h | 86° |

| 8° | 0h | Versed | Coversed | Suversed | Sucoversed | | |
|---|---|---|---|---|---|---|---|
| 0° | 1m | Coversed | Suversed | Sucoversed | Versed | | |
| ′ | m ″ | 0 15 30 45 60 | 0′ 15′ 30′ 45′ 60′ | 0 15 30 45 60 | 0′ 15′ 30′ 45′ 60′ | | |
| | | 0° 1° 2° 3° 4° | 0° 1° 2° 3° 4° | 0° 1° 2° 3° 4° | 0° 1° 2° 3° 4° | | |
| 0 | 32. 0 | 7.68 717 760 805 852 900 | 9.63 328 325 321 317 313 | 9.99 788 788 788 787 787 | 9.78 810 809 808 807 806 | 0′ | 00 |
| 1 | 4 | * 805 851 897 944 992 | 309 305 301 297 293 | 787 787 787 787 787 | 806 805 804 803 802 | 1 | 00 |
| 2 | 8 | 7.69 077 122 167 211 257 | 289 285 281 277 273 | 786 786 786 786 786 | 801 800 799 798 797 | 2 | 01 |
| 3 | 12 | 257 302 347 392 437 | 269 265 261 257 253 | 785 785 785 785 785 | 796 795 794 793 792 | 3 | 01 |
| 4 | 16 | 437 481 526 571 616 | 249 245 241 237 233 | 784 784 784 784 784 | 791 790 789 788 787 | 4 | 02 |
| 5 | 32. 20 | 7.69 616 660 705 750 794 | 9.63 229 225 221 217 213 | 9.99 783 783 783 783 783 | 9.78 786 785 784 783 782 | 5′ | 02 |
| 6 | 24 | 794 839 883 928 972 | 209 205 201 197 193 | 782 782 782 782 782 | 781 780 779 778 777 | 6 | 03 |
| 7 | 28 | * 017 061 106 150 | 189 185 181 177 173 | 781 781 781 781 781 | 776 775 774 773 772 | 7 | 03 |
| 8 | 32 | 7.70 150 195 239 283 327 | 169 165 161 157 153 | 780 780 780 780 780 | 771 770 769 768 767 | 8 | 04 |
| 9 | 36 | 327 371 415 459 503 | 149 145 141 137 133 | 779 779 779 779 779 | 766 765 764 763 762 | 9 | 04 |
| 10 | 32. 40 | 7.70 503 546 590 634 677 | 9.63 129 125 121 117 113 | 9.99 778 778 778 778 778 | 9.78 761 760 759 758 757 | 10′ | 05 |
| 11 | 44 | 677 721 764 808 851 | 109 105 101 097 093 | 777 777 777 777 777 | 756 755 754 753 752 | 11 | 05 |
| 12 | 48 | * 894 937 980 023 | 089 085 081 077 073 | 776 776 776 776 776 | 751 750 749 748 747 | 12 | 06 |
| 13 | 52 | 7.71 023 066 109 152 195 | 069 065 061 057 053 | 775 775 775 775 775 | 746 745 744 743 742 | 13 | 06 |
| 14 | 56 | 195 238 281 324 367 | 049 045 041 037 033 | 774 774 774 774 774 | 741 740 739 738 737 | 14 | 07 |
| 15 | 33. 0 | 7.71 409 452 495 537 580 | 9.63 029 025 021 017 013 | 9.99 773 773 773 773 773 | 9.78 736 735 734 733 732 | 15′ | 07 |
| 16 | 4 | 580 622 665 707 749 | 009 005 001 9.62 997 993 | 772 772 772 772 772 | 731 730 729 728 727 | 16 | 08 |
| 17 | 8 | 749 792 834 876 918 | 989 985 981 977 973 | 771 771 771 771 771 | 726 725 724 723 722 | 17 | 08 |
| 18 | 12 | * 960 002 044 086 128 | 969 965 961 957 953 | 770 770 770 770 770 | 721 720 719 718 717 | 18 | 09 |
| 19 | 16 | 7.72 128 170 212 254 296 | 949 945 941 937 933 | 769 769 769 769 769 | 716 715 714 713 712 | 19 | 09 |
| 20 | 33. 20 | 7.72 337 379 421 463 505 | 9.62 929 925 921 917 913 | 9.99 768 768 768 768 768 | 9.78 711 710 709 708 707 | 20′ | 10 |
| 21 | 24 | 547 589 631 673 715 | 909 905 901 897 893 | 767 767 767 767 767 | 706 705 704 703 702 | 21 | 10 |
| 22 | 28 | 757 799 841 883 925 | 889 885 881 877 873 | 766 766 766 766 766 | 701 700 699 698 697 | 22 | 11 |
| 23 | 32 | 967 | 869 865 861 857 853 | 765 765 765 765 765 | 696 695 694 693 692 | 23 | 11 |
| 24 | 36 | * 9.73 009 051 093 135 | 849 845 841 837 833 | 764 764 764 764 764 | 691 690 689 688 687 | 24 | 12 |
| 25 | 33. 40 | 7.73 219 261 303 345 387 | 9.62 829 825 821 817 813 | 9.99 763 763 763 763 763 | 9.78 686 685 684 683 682 | 25′ | 12 |
| 26 | 44 | 429 471 513 555 597 | 809 805 801 797 793 | 762 762 762 762 762 | 681 680 679 678 677 | 26 | 13 |
| 27 | 48 | 639 681 723 765 807 | 789 785 781 777 773 | 761 761 761 761 761 | 676 675 674 673 672 | 27 | 13 |
| 28 | 52 | 849 891 933 975 | 769 765 761 757 753 | 760 760 760 760 760 | 671 670 669 668 667 | 28 | 14 |
| 29 | 56 | * 9.74 017 059 101 143 | 749 745 741 737 733 | 759 759 759 759 759 | 666 665 664 663 662 | 29 | 14 |
| 30 | 34. 0 | * 974 016 059 101 143 | 9.62 729 725 721 717 713 | 9.99 758 758 758 758 758 | 9.78 661 660 659 658 657 | 30′ | 15 |
| 31 | 4 | 7.74 143 186 228 271 313 | 709 705 701 697 693 | 757 757 757 757 757 | 656 655 654 653 652 | 31 | 15 |
| 32 | 8 | 313 355 398 440 482 | 689 685 681 677 673 | 756 756 756 756 756 | 651 650 649 648 647 | 32 | 16 |
| 33 | 12 | 482 524 567 609 651 | 669 665 661 657 653 | 755 755 755 755 755 | 646 645 644 643 642 | 33 | 16 |
| 34 | 16 | 651 693 735 777 819 | 649 645 641 637 633 | 754 754 754 754 754 | 641 640 639 638 637 | 34 | 17 |
| 35 | 34. 20 | 7.74 819 862 904 946 988 | 9.62 629 625 621 617 613 | 9.99 753 753 753 753 753 | 9.78 636 635 634 633 632 | 35′ | 17 |
| 36 | 24 | * 030 072 114 155 | 609 605 601 597 593 | 752 752 752 752 752 | 631 630 629 628 627 | 36 | 18 |
| 37 | 28 | 7.75 155 197 239 281 323 | 589 585 581 577 573 | 751 751 751 751 751 | 626 625 624 623 622 | 37 | 18 |
| 38 | 32 | 323 365 407 448 490 | 569 565 561 557 553 | 750 750 750 750 750 | 621 620 619 618 617 | 38 | 19 |
| 39 | 36 | 490 532 574 615 657 | 549 545 541 537 533 | 749 749 749 749 749 | 616 615 614 613 612 | 39 | 19 |
| 40 | 34. 40 | 7.75 657 699 740 782 824 | 9.62 529 525 521 517 513 | 9.99 748 748 748 748 748 | * 995 995 995 995 995 | 40′ | 20 |
| 41 | 44 | 824 865 907 948 990 | 509 505 501 497 493 | 747 747 747 747 747 | 9.76 004 006 009 011 014 | 41 | 20 |
| 42 | 48 | * 990 031 073 114 156 | 489 485 481 477 473 | 746 746 746 746 746 | 014 017 020 022 025 | 42 | 21 |
| 43 | 52 | 7.76 156 197 239 280 321 | 469 465 461 457 453 | 745 745 745 745 745 | 025 028 031 033 036 | 43 | 22 |
| 44 | 56 | 321 363 404 445 487 | 449 445 441 437 433 | 744 744 744 744 744 | 036 039 042 044 047 | 44 | 22 |
| 45 | 35. 0 | 7.76 487 528 569 611 652 | 9.62 429 425 421 417 413 | 9.99 743 743 743 743 743 | 9.76 047 050 053 055 058 | 45′ | 23 |
| 46 | 4 | 652 693 734 775 816 | 409 405 401 397 393 | 742 742 742 742 742 | 058 061 064 066 069 | 46 | 23 |
| 47 | 8 | 816 857 898 939 981 | 389 385 381 377 373 | 741 741 741 741 741 | 069 072 075 077 080 | 47 | 24 |
| 48 | 12 | * 981 022 063 104 145 | 369 365 361 357 353 | 740 740 740 740 740 | 080 083 086 088 091 | 48 | 24 |
| 49 | 16 | 7.77 145 186 227 268 309 | 349 345 341 337 333 | 739 739 739 739 739 | 091 094 097 099 102 | 49 | 25 |
| 50 | 35. 20 | 7.77 309 350 391 431 472 | 9.62 329 325 321 317 313 | 9.99 738 738 738 738 738 | 9.76 102 105 108 110 113 | 50′ | 25 |
| 51 | 24 | 472 513 553 594 635 | 309 305 301 297 293 | 737 737 737 737 737 | 113 116 119 121 124 | 51 | 26 |
| 52 | 28 | 635 676 717 757 798 | 289 285 281 277 273 | 736 736 736 736 736 | 124 127 130 132 135 | 52 | 26 |
| 53 | 32 | 798 839 879 920 960 | 269 265 261 257 253 | 735 735 735 735 735 | 135 138 141 143 146 | 53 | 27 |
| 54 | 36 | * 9.78 001 041 082 122 | 249 245 241 237 233 | 734 734 734 734 734 | 146 149 152 154 157 | 54 | 28 |
| 55 | 35. 40 | 7.78 163 203 244 284 325 | 9.62 229 225 221 217 213 | 9.99 733 733 733 733 733 | 9.76 157 160 163 165 168 | 55′ | 28 |
| 56 | 44 | 325 365 405 446 486 | 209 205 201 197 193 | 732 732 732 732 732 | 168 171 174 176 179 | 56 | 29 |
| 57 | 48 | 486 526 566 606 646 | 189 185 181 177 173 | 731 731 731 731 731 | 179 182 185 187 190 | 57 | 29 |
| 58 | 52 | 646 686 726 766 806 | 169 165 161 157 153 | 730 730 730 730 730 | 190 193 196 198 201 | 58 | 30 |
| 59 | 56 | 806 846 886 926 966 | 149 145 141 137 133 | 729 729 729 729 729 | 201 204 207 209 212 | 59 | 31 |
| | | 0′ 15′ 30′ 45′ 60″ | 0′ 15′ 30′ 45′ 60″ | 0′ 15′ 30′ 45′ 60″ | 0′ 15′ 30′ 45′ 60″ | m s | ′ |
| | | Suversed | Coversed | Versed | Sucoversed | 11h | 171° |
| | | Coversed | Versed | Suversed | Sucoversed | | 81° |

| 9° | 0h | Sine | | | | | | Cosine | | | | | | Secant | | | | | | Cosecant | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 99° | 6h | Cosine | | | | | | Sine | | | | | | Cosecant | | | | | | Secant | | | | | | | |
| ′ | m | s | 0″ | 15 | 30 | 45 | 60 | 0″ | 15 | 30 | 45 | 60 | | 0″ | 15 | 30 | 45 | 60 | | 0″ | 15 | 30 | 45 | 60 | | | |
| | | | 0° | 1° | 2° | 3° | 4° | 0° | 1° | 2° | 3° | 4° | | 0° | 1° | 2° | 3° | 4° | | 0° | 1° | 2° | 3° | 4° | | | |
| 0 | 36. 0 | | 9. 19 | 483 | 453 | 473 | 493 | 513 | 9. 99 | 452 | 451 | 451 | 450 | 449 | | 0. 00 | 548 | 549 | 549 | 550 | 551 | | 0. 80 | 567 | 547 | 527 | 507 | 487 | | 5′ | 60 |
| 1 | 4 | | | 513 | 533 | 553 | 573 | 593 | | 447 | 449 | 448 | 447 | 446 | | | 545 | 544 | 543 | 542 | 542 | | | 487 | 467 | 447 | 427 | 408 | | 5 | 59 |
| 2 | 8 | | | 592 | 612 | 632 | 652 | 672 | | 458 | 457 | 457 | 456 | 456 | | | 542 | 543 | 543 | 544 | 544 | | | 408 | 388 | 368 | 348 | 328 | | 4 | 58 |
| 3 | 12 | | | 672 | 692 | 712 | 731 | 751 | | 456 | 455 | 455 | 454 | 454 | | | 544 | 545 | 545 | 546 | 546 | | | 328 | 308 | 289 | 269 | 249 | | 4 | 57 |
| 4 | 16 | | | 751 | 771 | 791 | 811 | 831 | | 454 | 453 | 453 | 453 | 452 | | | 546 | 547 | 547 | 548 | 548 | | | 249 | 229 | 210 | 190 | 170 | 23. 4 | 3 | 56 |
| 5 | 36. 2 | | 9. 19 | 853 | 872 | 892 | 911 | 930 | 9. 99 | 452 | 451 | 451 | 450 | 449 | | 0. 00 | 548 | 549 | 549 | 550 | 551 | | 0. 80 | 170 | 150 | 130 | 111 | 091 | | 3′ | 54 |
| 6 | 24 | | | 949 | 969 | 988 | 008 | 027 | | 449 | 448 | 447 | 447 | 446 | | | 551 | 551 | 551 | 552 | 553 | | | 091 | 071 | 051 | 032 | 012 | | 3 | 53 |
| 7 | 28 | * | | 988 | 008 | 027 | 047 | 067 | | 448 | 447 | 447 | 446 | 446 | | | 552 | 553 | 553 | 554 | 554 | | * | 012 | 992 | 973 | 953 | 933 | | 28 | 52 |
| 8 | 32 | | 9. 20 | 067 | 086 | 106 | 125 | 145 | | 446 | 446 | 445 | 444 | 443 | | | 554 | 554 | 555 | 556 | 556 | | 0. 79 | 933 | 914 | 894 | 875 | 855 | | 24 | 51 |
| 9 | 36 | | | 145 | 164 | 184 | 204 | 223 | | 444 | 443 | 443 | 442 | 442 | | | 557 | 557 | 558 | 558 | 559 | | | 855 | 835 | 816 | 796 | 777 | 28. 2 | 2 | 50 |
| 10 | 36. 4 | | 9. 20 | 223 | 243 | 262 | 282 | 301 | 9. 99 | 442 | 441 | 441 | 440 | 439 | | 0. 00 | 559 | 560 | 560 | 561 | 561 | | 0. 79 | 777 | 757 | 737 | 718 | 698 | | 1′ | 49 |
| 11 | 44 | | | 302 | 321 | 341 | 360 | 380 | | 440 | 439 | 439 | 438 | 438 | | | 560 | 561 | 561 | 562 | 562 | | | 698 | 679 | 659 | 640 | 620 | | 12 | 48 |
| 12 | 48 | | | 380 | 399 | 419 | 438 | 458 | | 438 | 437 | 437 | 436 | 435 | | | 562 | 563 | 563 | 564 | 564 | | | 620 | 601 | 581 | 562 | 542 | | 0 | 47 |
| 13 | 52 | | | 458 | 477 | 497 | 516 | 535 | | 435 | 435 | 434 | 434 | 433 | | | 564 | 565 | 565 | 566 | 567 | | | 542 | 523 | 503 | 484 | 465 | | 0 | 46 |
| 14 | 56 | | | 535 | 554 | 573 | 593 | 612 | | 433 | 433 | 432 | 432 | 431 | | | 567 | 567 | 568 | 569 | 569 | | | 465 | 445 | 426 | 407 | 387 | 23. 4 | 3 | 45 |
| 15 | 37. 0 | | 9. 20 | 631 | 650 | 669 | 688 | 707 | 9. 99 | 431 | 430 | 430 | 429 | 428 | | 0. 00 | 570 | 570 | 571 | 572 | 572 | | 0. 79 | 387 | 368 | 348 | 329 | 309 | | 50 | 44 |
| 16 | 4 | | | 726 | 745 | 764 | 783 | 802 | | 428 | 427 | 426 | 425 | 425 | | | 573 | 573 | 574 | 575 | 575 | | | 309 | 290 | 271 | 251 | 232 | | 5 | 43 |
| 17 | 8 | | | 768 | 787 | 807 | 826 | 845 | | 427 | 427 | 426 | 426 | 425 | | | 573 | 573 | 574 | 574 | 575 | | | 232 | 213 | 193 | 174 | 155 | | 48 | 42 |
| 18 | 12 | | | 845 | 864 | 884 | 903 | 922 | | 425 | 425 | 424 | 424 | 423 | | | 575 | 575 | 576 | 576 | 577 | | | 155 | 136 | 116 | 097 | 078 | | 44 | 41 |
| 19 | 16 | | | 922 | 941 | 961 | 980 | 999 | | 423 | 423 | 422 | 422 | 421 | | | 577 | 577 | 577 | 578 | 579 | | | 078 | 059 | 039 | 020 | 001 | 22. 4 | 2 | 40 |
| 20 | 37. 20 | | * | 999 | 018 | 037 | 057 | 076 | 9. 99 | 421 | 421 | 420 | 420 | 419 | | 0. 00 | 579 | 579 | 580 | 580 | 581 | | * | 001 | 020 | 040 | 059 | 079 | | 36 | 39 |
| 21 | 24 | | 9. 21 | 076 | 095 | 114 | 133 | 153 | | 419 | 419 | 418 | 418 | 417 | | | 581 | 581 | 582 | 582 | 583 | | 0. 78 | 924 | 905 | 886 | 867 | 847 | | 32 | 38 |
| 22 | 28 | | | 153 | 172 | 191 | 210 | 229 | | 417 | 417 | 416 | 416 | 415 | | | 583 | 583 | 584 | 584 | 585 | | | 847 | 828 | 809 | 790 | 771 | | 28 | 37 |
| 23 | 32 | | | 229 | 248 | 267 | 286 | 306 | | 415 | 414 | 414 | 413 | 413 | | | 585 | 586 | 586 | 587 | 587 | | | 771 | 752 | 733 | 714 | 694 | | 24 | 36 |
| 24 | 36 | | | 306 | 325 | 344 | 363 | 382 | | 413 | 412 | 412 | 411 | 411 | | | 587 | 588 | 588 | 589 | 590 | | | 694 | 675 | 656 | 637 | 618 | 22. 20 | 20 | 35 |
| 25 | 37. 40 | | 9. 21 | 382 | 401 | 420 | 439 | 458 | 9. 99 | 411 | 410 | 410 | 409 | 408 | | 0. 00 | 590 | 590 | 591 | 591 | 592 | | 0. 78 | 618 | 599 | 580 | 561 | 542 | | 16 | 34 |
| 26 | 44 | | | 458 | 477 | 496 | 515 | 534 | | 409 | 408 | 408 | 407 | 407 | | | 591 | 592 | 592 | 593 | 593 | | | 542 | 523 | 504 | 485 | 466 | | 12 | 33 |
| 27 | 48 | | | 534 | 553 | 572 | 591 | 610 | | 407 | 406 | 406 | 405 | 404 | | | 593 | 594 | 594 | 595 | 596 | | | 466 | 447 | 428 | 409 | 390 | | 8 | 32 |
| 28 | 52 | | | 610 | 629 | 648 | 666 | 685 | | 404 | 404 | 403 | 403 | 402 | | | 596 | 596 | 597 | 597 | 598 | | | 390 | 371 | 352 | 334 | 315 | | 4 | 31 |
| 29 | 56 | | | 685 | 704 | 723 | 742 | 761 | | 402 | 402 | 401 | 401 | 400 | | | 598 | 598 | 599 | 599 | 600 | | | 315 | 296 | 277 | 258 | 239 | 22. 0 | 0 | 30 |
| 30 | 38. 0 | | 9. 21 | 761 | 780 | 799 | 818 | 837 | 9. 99 | 400 | 399 | 399 | 398 | 397 | | 0. 00 | 600 | 601 | 601 | 602 | 602 | | 0. 78 | 239 | 220 | 201 | 183 | 164 | | 56 | 29 |
| 31 | 4 | | | 818 | 856 | 875 | 894 | | | 397 | 396 | 396 | 395 | 394 | | | 602 | 603 | 604 | 604 | 605 | | | 164 | 145 | 126 | 107 | 088 | | 52 | 28 |
| 32 | 8 | | | 894 | 913 | 932 | 951 | 970 | | 394 | 393 | 393 | 392 | 391 | | | 605 | 606 | 606 | 607 | 608 | | | 088 | 069 | 050 | 031 | 012 | | 48 | 27 |
| 33 | 12 | * | | 970 | 989 | 008 | 027 | 046 | | 391 | 391 | 390 | 389 | 389 | | | 608 | 608 | 609 | 610 | 610 | | * | 012 | 993 | 974 | 955 | 936 | | 44 | 26 |
| 34 | 16 | | 9. 22 | 046 | 065 | 084 | 103 | 122 | | 388 | 387 | 387 | 386 | 385 | | | 611 | 612 | 612 | 613 | 614 | | 0. 77 | 936 | 917 | 898 | 879 | 860 | 21. 40 | 40 | 25 |
| 35 | 38. 20 | | 9. 22 | 141 | 160 | 179 | 198 | 217 | 9. 99 | 385 | 384 | 384 | 383 | 382 | | 0. 00 | 614 | 615 | 615 | 616 | 616 | | 0. 77 | 860 | 841 | 822 | 803 | 784 | | 36 | 24 |
| 36 | 24 | | | 211 | 230 | 249 | 267 | 286 | | 388 | 387 | 386 | 386 | 385 | | | 612 | 613 | 614 | 614 | 615 | | | 789 | 770 | 751 | 733 | 714 | | 32 | 23 |
| 37 | 28 | | | 286 | 305 | 323 | 342 | 361 | | 385 | 385 | 384 | 384 | 383 | | | 615 | 615 | 616 | 616 | 617 | | | 714 | 695 | 677 | 658 | 639 | | 28 | 22 |
| 38 | 32 | | | 361 | 380 | 398 | 416 | 435 | | 383 | 383 | 382 | 382 | 381 | | | 617 | 617 | 618 | 618 | 619 | | | 639 | 621 | 602 | 584 | 565 | | 24 | 21 |
| 39 | 36 | | | 435 | 454 | 472 | 491 | 509 | | 381 | 381 | 380 | 379 | 379 | | | 619 | 619 | 620 | 621 | 621 | | | 565 | 546 | 528 | 509 | 491 | 21. 20 | 20 | 20 |
| 40 | 38. 40 | | 9. 22 | 528 | 546 | 565 | 583 | 602 | 9. 99 | 379 | 378 | 378 | 377 | 377 | | 0. 00 | 621 | 622 | 622 | 623 | 623 | | 0. 77 | 491 | 472 | 454 | 435 | 417 | | 16 | 19 |
| 41 | 44 | | | 620 | 639 | 657 | 676 | 694 | | 377 | 376 | 376 | 375 | 375 | | | 623 | 624 | 624 | 625 | 625 | | | 417 | 398 | 380 | 361 | 343 | | 12 | 18 |
| 42 | 48 | | | 694 | 713 | 731 | 750 | 768 | | 375 | 374 | 374 | 373 | 372 | | | 625 | 626 | 626 | 627 | 628 | | | 343 | 324 | 306 | 287 | 269 | | 8 | 17 |
| 43 | 52 | | | 768 | 787 | 805 | 824 | 842 | | 372 | 372 | 371 | 371 | 370 | | | 628 | 628 | 629 | 629 | 630 | | | 269 | 250 | 232 | 214 | 195 | | 4 | 16 |
| 44 | 56 | | | 842 | 861 | 879 | 897 | 916 | | 370 | 370 | 369 | 369 | 368 | | | 630 | 630 | 631 | 631 | 632 | | | 195 | 177 | 158 | 140 | 122 | 21. 0 | 0 | 15 |
| 45 | | | 9. 22 | 916 | 934 | 952 | 971 | 989 | 9. 99 | 368 | 368 | 367 | 367 | 366 | | 0. 00 | 632 | 632 | 633 | 633 | 634 | | 0. 77 | 122 | 103 | 085 | 067 | 048 | | 56 | 14 |
| 46 | 4 | | | | | | | 025 | | 366 | 365 | 365 | 364 | 364 | | | 634 | 635 | 635 | 636 | 636 | | * | 048 | 030 | 011 | 993 | 975 | | 52 | 13 |
| 47 | 8 | | 9. 23 | | | | | | | | | | | | | | | | | | | | 0. 76 | 975 | | | | | | 48 | 12 |
| 48 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 44 | 11 |
| 49 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 40 | 10 |
| 50 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 36 | 9 |
| 51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 32 | 8 |
| 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 28 | 7 |
| 53 | 32 | | | 462 | 481 | 499 | 517 | 535 | | 351 | 350 | 350 | 349 | 348 | | | 649 | 650 | 650 | 651 | 652 | | | 538 | 519 | 501 | 483 | 465 | | 24 | 6 |
| 54 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 20 | 5 |
| 55 | | | 9. 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | 16 | 4 |
| 56 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 | 3 |
| 57 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8 | 2 |
| 58 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 1 |
| 59 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 |
| | | | | 0″ | 15 | 30 | 45 | 60 | | 0″ | 15 | 30 | 45 | 60 | | | 0″ | 15 | 30 | 45 | 60 | | | 0″ | 15 | 30 | 45 | 60 | | | |
| | | | | 0° | 1° | 2° | 3° | 4° | | 0° | 1° | 2° | 3° | 4° | | | 0° | 1° | 2° | 3° | 4° | | | 0° | 1° | 2° | 3° | 4° | | | |
| | | | | Sine | | | | | | Cosine | | | | | | | Secant | | | | | | | Cosecant | | | | | | 11h | 170 |
| | | | | Cosine | | | | | | Sine | | | | | | | Cosecant | | | | | | | Secant | | | | | | 59 | 60 |

| 9° | 0h | Versed | | | | | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | Versed | | | | | | |
| ′ | m s | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| 0 | 0. 0 | 7. [illegible] | [illegible] | [illegible] | [illegible] | 040 | 9. 62 | 500 | 495 | 491 | 487 | 484 | 9. 99 | 732 | 732 | 731 | 731 | 731 | 9. 76 | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 1 | 4 | 7. 79 | 089 | 129 | 169 | 209 | 249 | | 494 | 490 | 487 | 483 | 479 | | 731 | 731 | 730 | 730 | 730 | | 220 | 223 | 2[illegible] | | |
| 2 | 8 | | 249 | 289 | 329 | 369 | 409 | | 479 | 476 | 472 | 468 | 464 | | 730 | 730 | 729 | 729 | 729 | | 231 | 233 | 2[illegible] | | |
| 3 | 12 | | 409 | 449 | 489 | 529 | 568 | | 464 | 461 | 457 | 453 | 450 | | 729 | 729 | 728 | 728 | 728 | | 241 | 244 | 2[illegible] | | |
| 4 | 16 | | 568 | 608 | 648 | 688 | 728 | | 450 | 446 | 442 | 439 | 435 | | 728 | 728 | 727 | 727 | 727 | | 252 | 255 | 258 | 260 | 263 | 23. 40 | 5 |
| 5 | 20. 0 | 7. 79 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 62 | 43[illegible] | 431 | 427 | 424 | [illegible] | 9. 99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 76 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | 745 | | 42[illegible] | 41[illegible] | [illegible] | [illegible] | [illegible] | | 7[illegible] | 7[illegible] | 7[illegible] | 7[illegible] | 7[illegible] | | -74 | 87 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7 | [illegible] | 7. 80 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 725 | 725 | 724 | [illegible] | [illegible] | | 285 | 287 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 3[illegible] | | 2[illegible] | 24[illegible] | 2[illegible] | 32[illegible] | 3[illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | 37[illegible] | | 724 | 724 | 723 | 723 | [illegible] | | 297 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 3[illegible] | | [illegible] | 42[illegible] | [illegible] | [illegible] | 5[illegible] | | 37[illegible] | [illegible] | [illegible] | [illegible] | 3[illegible] | | 723 | 723 | 722 | 722 | 7[illegible] | | [illegible] | [illegible] | [illegible] | 31[illegible] | 317 | 23. 2[illegible] | [illegible] |
| 10 | 40. 0 | 7. 80 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 62 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 76 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 11 | 44 | | 677 | 716 | 755 | 794 | 834 | | 346 | 342 | 338 | 335 | 331 | | 721 | 721 | 720 | 720 | 720 | | 328 | 330 | 333 | 336 | 33[illegible] | | [illegible] |
| 12 | 48 | | 834 | 873 | 912 | 951 | 991 | | 331 | 327 | 324 | 320 | 316 | | 720 | 720 | 719 | 719 | 719 | | 338 | 341 | 344 | 346 | 349 | | [illegible] |
| 13 | 52 | * | 991 | 030 | 069 | 108 | 147 | | 316 | 313 | 309 | 305 | 301 | | 719 | 718 | 718 | 718 | 718 | | 349 | 352 | 3[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | 56 | 7. 81 | 147 | 186 | 225 | 264 | 303 | | 301 | 298 | 294 | 290 | 287 | | 718 | 717 | 717 | 717 | 717 | | 360 | 363 | 3[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | [illegible] | 7. 81 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 62 | 287 | 283 | 279 | 275 | 272 | 9. 99 | 717 | 716 | 716 | 716 | 716 | 9. 76 | 371 | 373 | 37[illegible] | [illegible] | 38[illegible] | [illegible] | [illegible] |
| 16 | 4 | | [illegible] | [illegible] | [illegible] | [illegible] | 6[illegible] | | 272 | 268 | 264 | 261 | 257 | | 716 | 715 | 715 | 715 | 715 | | 381 | 384 | 3[illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 17 | [illegible] | | 6[illegible] | [illegible] | [illegible] | 73[illegible] | 771 | | 257 | 253 | 249 | 246 | 242 | | 715 | 714 | 714 | 714 | 714 | | 392 | 395 | 3[illegible] | [illegible] | 4[illegible] | [illegible] | [illegible] |
| 18 | 12 | | 771 | [illegible] | [illegible] | [illegible] | [illegible] | | 242 | 238 | 234 | 231 | 227 | | 714 | 713 | 713 | 713 | 713 | | 403 | 405 | 408 | 411 | 414 | 44 | 41 |
| 19 | 16 | * | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 227 | 223 | 219 | 216 | 212 | | 713 | 712 | 712 | 712 | 712 | | 414 | 416 | 419 | 422 | 424 | 22. 4[illegible] | 40 |
| 20 | 37 [illegible] | 7. 82 | 081 | 119 | 158 | 197 | 235 | 9. 62 | 212 | 208 | 205 | 201 | 197 | 9. 99 | 712 | 711 | 711 | 711 | 711 | 9. 76 | 424 | 427 | 430 | 432 | 435 | 36 | 39 |
| 21 | 24 | | 235 | 274 | 313 | 351 | 390 | | 197 | 194 | 190 | 186 | 182 | | 711 | 710 | 710 | 710 | 709 | | 435 | 438 | 440 | 443 | 446 | 32 | 38 |
| 22 | 28 | | 390 | 428 | 467 | 505 | 544 | | 182 | 179 | 175 | 171 | 168 | | 709 | 709 | 709 | 709 | 708 | | 446 | 448 | 451 | 454 | 456 | 28 | 37 |
| 23 | 32 | | 544 | 582 | 621 | 659 | 698 | | 168 | 164 | 160 | 156 | 153 | | 708 | 708 | 708 | 708 | 707 | | 456 | 459 | 462 | 464 | 467 | 24 | 36 |
| 24 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 153 | 149 | 145 | 141 | 138 | | 707 | 707 | 707 | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 37. 40 | * | 851 | 889 | 928 | 966 | 004 | 9. 62 | 138 | 134 | 130 | 127 | 123 | 9. 99 | 706 | 706 | 706 | 706 | 705 | 9. 76 | 478 | 481 | 483 | 486 | 489 | 16 | 34 |
| 26 | 44 | 7. 83 | [illegible] | [illegible] | [illegible] | 119 | 157 | | [illegible] | [illegible] | 115 | [illegible] | [illegible] | | 706 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 48 | | 157 | 196 | 234 | 272 | 310 | | 108 | [illegible] | 92 | [illegible] | [illegible] | | 704 | [illegible] | [illegible] | [illegible] | [illegible] | | 4[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 28 | 52 | | 31[illegible] | 34[illegible] | 38[illegible] | 424 | 462 | | [illegible] | [illegible] | [illegible] | [illegible] | 7[illegible] | | 703 | [illegible] | [illegible] | [illegible] | [illegible] | | 51[illegible] | 513 | [illegible] | 51[illegible] | 541 | 4 | [illegible] |
| 29 | 56 | | 462 | 501 | 539 | 577 | 615 | | 078 | 074 | 071 | 067 | 063 | | 702 | 702 | 702 | 701 | 701 | | 521 | 523 | 526 | 529 | 531 | 22. 0 | 30 |
| 30 | 40. 0 | 7. 83 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 62 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 76 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | 4 | | 767 | 804 | 842 | 880 | 918 | | 048 | 045 | 041 | 037 | 033 | | 700 | 700 | 700 | 699 | 699 | | 542 | 545 | 547 | 550 | 553 | 52 | 28 |
| 32 | 8 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 033 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | 12 | 7. 84 | 070 | 107 | 145 | 183 | 221 | | 018 | 015 | 011 | 007 | 003 | | 698 | 698 | 697 | 697 | 697 | | 563 | 566 | 569 | 571 | 574 | 44 | 26 |
| 34 | 16 | | 221 | 258 | 296 | 334 | 372 | * | 003 | 000 | 996 | 992 | 988 | | 697 | 697 | 696 | 696 | 696 | | 574 | 577 | 579 | 582 | 585 | 21. 4[illegible] | 25 |
| 35 | 40. [illegible] | 7. 84 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 61 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 76 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 24 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 974 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 37 | 28 | | 672 | 710 | 747 | 785 | 822 | | 959 | 955 | 951 | 947 | 944 | | 694 | 694 | 693 | 693 | 693 | | 606 | 609 | 611 | 614 | 617 | 28 | 22 |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | * | 672 | [illegible] | [illegible] | [illegible] | [illegible] | | 6[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 21. [illegible] | [illegible] |
| 40 | 32. 4[illegible] | 7. 85 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 61 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 76 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | 44 | | 271 | 308 | 346 | 383 | 420 | | 899 | 895 | 891 | 886 | 884 | | 690 | 689 | 689 | 689 | 688 | | 649 | 651 | 654 | 657 | 659 | 12 | 18 |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | 754 | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 61 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 76 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 7. 85 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 50 | 39. 2[illegible] | 7. 86 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 61 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 76 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | 24 | | 75[illegible] | 786 | 823 | 860 | 896 | | 749 | 745 | 741 | 738 | 734 | | 679 | 678 | 678 | 678 | 678 | | 755 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | 32 | 7. 87 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 7. 87 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 61 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 76 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | | 4′ 60″ | 3′ 45″ | 2′ 30″ | 1′ 15″ | 0″ | 4′ 60″ | 3′ 45″ | 2′ 30″ | 1′ 15″ | 0″ | 4′ 60″ | 3′ 45″ | 2′ 30″ | 1′ 15″ | 0″ | 4′ 60″ | 3′ 45″ | 2′ 30″ | 1′ 15″ | 0″ | m s | ′ |
| | | Suversed | | | | | Versed | | | | | Versed | | | | | Suversed | | | | | 41[illegible] | 17[illegible] |
| | | Coversed | | | | | Versed | | | | | Sucoversed | | | | | Suversed | | | | | 5h | 80° |

| 10° | 0h | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100° | 0h | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | | |
| ′ | m s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | | |
| 0 | [illegible] | [illegible] | | | | | 9.99 | | | | | 0.00 | | | | | 0.76 | | | | | | |
| 1 | 4 | 9.24 | 039 | 056 | 074 | 092 | 110 | 333 | 332 | 332 | 331 | 331 | 667 | 668 | 668 | 669 | 669 | 0.75 | 961 | 944 | 926 | 908 | 890 | 52 | 58 |
| 2 | 8 | | 110 | 128 | 146 | 164 | 181 | 331 | 330 | 330 | 329 | 328 | 669 | 670 | 670 | 671 | 672 | | 890 | 873 | 855 | 837 | 819 | 48 | 57 |
| 3 | 12 | | 181 | 199 | 217 | 235 | 253 | 329 | 328 | 327 | 327 | 326 | 671 | 672 | 673 | 673 | 674 | | 819 | 801 | 783 | 765 | 747 | 44 | 56 |
| 4 | 16 | | 253 | 271 | 289 | 307 | 325 | 327 | 326 | 325 | 325 | 324 | 673 | 674 | 675 | 675 | 676 | | 747 | 729 | 711 | 693 | 676 | 40 | 55 |
| 5 | [illegible] | 9.24 | 324 | 342 | 360 | 377 | 395 | 324 | 323 | 323 | 322 | 322 | 676 | 677 | 677 | 678 | 678 | 0.75 | 676 | 658 | 641 | 623 | 605 | 36 | 54 |
| 6 | 24 | | 395 | 413 | 431 | 449 | 467 | 322 | 321 | 321 | 320 | 319 | 678 | 679 | 679 | 680 | 681 | | 605 | 587 | 569 | 552 | 534 | 32 | 53 |
| 7 | 28 | | 466 | 483 | 501 | 519 | 536 | 319 | 319 | 318 | 318 | 317 | 681 | 681 | 682 | 682 | 683 | | 534 | 517 | 499 | 481 | 464 | 28 | 52 |
| 8 | 32 | | 536 | 554 | 572 | 589 | 607 | 317 | 317 | 316 | 316 | 315 | 683 | 683 | 684 | 684 | 685 | | 464 | 446 | 428 | 411 | 393 | 24 | 51 |
| 9 | 36 | | 607 | 625 | 642 | 660 | 677 | 315 | 314 | 314 | 313 | 313 | 685 | 686 | 686 | 687 | 687 | | 393 | 375 | 358 | 340 | 323 | 20 | 50 |
| 10 | [illegible] | 9.24 | 677 | 695 | 713 | 730 | 748 | 313 | 312 | 312 | 311 | 311 | 687 | 688 | 688 | 689 | 690 | 0.75 | 323 | 305 | 287 | 270 | 252 | 16 | 49 |
| 11 | 44 | | 748 | 765 | 783 | 801 | 819 | 311 | 310 | 310 | 309 | 309 | 690 | 691 | 691 | 692 | 692 | | 252 | 235 | 217 | 199 | 181 | 12 | 48 |
| 12 | 48 | | 818 | 836 | 853 | 871 | 888 | 308 | 308 | 307 | 306 | 306 | 692 | 692 | 693 | 694 | 694 | | 181 | 164 | 147 | 129 | 112 | 8 | 47 |
| 13 | 52 | | 888 | 906 | 923 | 941 | 958 | 306 | 305 | 305 | 304 | 304 | 694 | 695 | 695 | 696 | 696 | | 112 | 094 | 077 | 059 | 042 | 4 | 46 |
| 14 | 56 | * | 958 | 976 | 993 | 011 | 028 | 304 | 303 | 303 | 302 | 301 | 696 | 697 | 697 | 698 | 699 | | 042 | 024 | 007 | 989 | 972 | 19. 0 | 45 |
| 15 | 41. 0 | 9.25 | 028 | 046 | 063 | 081 | 098 | 301 | 301 | 300 | 300 | 299 | 699 | 699 | 700 | 700 | 701 | 0.74 | 972 | 954 | 937 | 919 | 902 | 56 | 44 |
| 16 | 4 | | 098 | 115 | 133 | 150 | 168 | 299 | 298 | 298 | 297 | 297 | 701 | 702 | 702 | 703 | 703 | | 902 | 885 | 867 | 850 | 832 | 52 | 43 |
| 17 | 8 | | 168 | 185 | 203 | 220 | 237 | 297 | 296 | 296 | 295 | 294 | 703 | 704 | 704 | 705 | 706 | | 832 | 815 | 797 | 780 | 763 | 48 | 41 |
| 18 | 12 | | 237 | 255 | 272 | 289 | 307 | 294 | 294 | 293 | 293 | 292 | 706 | 706 | 707 | 707 | 708 | | 763 | 745 | 728 | 711 | 693 | 44 | 40 |
| 19 | 16 | | 307 | 324 | 341 | 359 | 376 | 292 | 292 | 291 | 290 | 290 | 708 | 708 | 709 | 710 | 710 | | 693 | 676 | 659 | 641 | 624 | 40 | 39 |
| 20 | 41. 20 | 9.25 | 376 | 393 | 411 | 428 | 445 | 290 | 289 | 289 | 288 | 288 | 710 | 711 | 711 | 712 | 712 | 0.74 | 624 | 607 | 589 | 572 | 555 | 36 | 38 |
| 21 | 24 | | 445 | 463 | 480 | 497 | 514 | 288 | 287 | 286 | 286 | 285 | 712 | 713 | 714 | 714 | 715 | | 555 | 537 | 520 | 503 | 486 | 32 | 37 |
| 22 | 28 | | 514 | 531 | 548 | 565 | 583 | 285 | 285 | 284 | 283 | 283 | 715 | 715 | 716 | 717 | 717 | | 486 | 469 | 451 | 434 | 417 | 28 | 36 |
| 23 | 32 | | 583 | 600 | 617 | 634 | 651 | 283 | 282 | 282 | 281 | 281 | 717 | 718 | 718 | 719 | 719 | | 417 | 400 | 383 | 366 | 349 | 24 | 35 |
| 24 | 36 | | 651 | 668 | 685 | 702 | 719 | 281 | 280 | 279 | 279 | 278 | 719 | 720 | 721 | 721 | 722 | | 349 | 332 | 315 | 298 | 281 | 20 | 34 |
| 25 | 41. 40 | 9.25 | 721 | 738 | 755 | 773 | 790 | 9.99 | 278 | 278 | 277 | 277 | 276 | 0.00 | 722 | 722 | 723 | 723 | 724 | 0.74 | 279 | 262 | 245 | 227 | 210 | 16 | 34 |
| 26 | 44 | | 790 | 807 | 824 | 841 | 858 | | 276 | 275 | 275 | 274 | 274 | | 724 | 725 | 725 | 726 | 726 | | 210 | 193 | 176 | 159 | 141 | 12 | 33 |
| 27 | 48 | | 858 | 875 | 893 | 910 | 927 | | 274 | 273 | 272 | 272 | 271 | | 726 | 727 | 728 | 728 | 729 | | 141 | 125 | 107 | 090 | 073 | 8 | 32 |
| 28 | 52 | | 927 | 944 | 961 | 978 | 995 | | 271 | 271 | 270 | 270 | 269 | | 729 | 729 | 730 | 730 | 731 | | 073 | 056 | 039 | 022 | 005 | 4 | 31 |
| 29 | 56 | * | 995 | 012 | 029 | 046 | 063 | | 269 | 268 | 268 | 267 | 267 | | 731 | 732 | 732 | 733 | 733 | * | 005 | 988 | 971 | 954 | 937 | 18. 0 | 30 |
| 30 | 42. 0 | 9.26 | 063 | 080 | 097 | 114 | 131 | 9.99 | 267 | 266 | 265 | 265 | 264 | 0.00 | 733 | 734 | 735 | 735 | 736 | 0.73 | 937 | 920 | 903 | 886 | 869 | 56 | 29 |
| 31 | 4 | | 131 | 148 | 165 | 182 | 199 | | 264 | 263 | 263 | 262 | 262 | | 737 | 737 | 737 | 737 | 738 | | 869 | 852 | 835 | 818 | 801 | 52 | 28 |
| 32 | 8 | | 199 | 216 | 233 | 250 | 267 | | 262 | 261 | 261 | 260 | 260 | | 738 | 739 | 739 | 740 | 740 | | 801 | 784 | 767 | 750 | 733 | 48 | 27 |
| 33 | 12 | | 267 | 284 | 301 | 318 | 335 | | 260 | 259 | 258 | 258 | 257 | | 740 | 741 | 742 | 742 | 743 | | 733 | 716 | 699 | 682 | 665 | 44 | 26 |
| 34 | 16 | | 335 | 352 | 369 | 386 | 403 | | 257 | 257 | 256 | 255 | 255 | | 743 | 743 | 744 | 745 | 745 | | 665 | 648 | 631 | 614 | 597 | 40 | 25 |
| 35 | 42. 20 | 9.26 | 403 | 420 | 437 | 453 | 470 | 9.99 | 255 | 254 | 254 | 253 | 253 | 0.00 | 745 | 746 | 746 | 747 | 747 | 0.73 | 597 | 580 | 563 | 547 | 530 | 36 | 24 |
| 36 | 24 | | 470 | 487 | 504 | 521 | 537 | | 253 | 252 | 251 | 251 | 250 | | 747 | 748 | 749 | 749 | 750 | | 530 | 513 | 496 | 479 | 463 | 32 | 23 |
| 37 | 28 | | 537 | 554 | 571 | 588 | 605 | | 250 | 249 | 249 | 248 | 248 | | 750 | 750 | 751 | 752 | 752 | | 463 | 446 | 429 | 412 | 395 | 28 | 22 |
| 38 | 32 | | 605 | 622 | 639 | 656 | 672 | | 248 | 247 | 247 | 246 | 245 | | 752 | 753 | 753 | 754 | 755 | | 395 | 378 | 361 | 344 | 328 | 24 | 21 |
| 39 | 36 | | 672 | 689 | 706 | 723 | 739 | | 245 | 245 | 244 | 244 | 243 | | 755 | 755 | 756 | 756 | 757 | | 328 | 311 | 294 | 277 | 261 | 20 | 20 |
| 40 | 42. 40 | 9.26 | 739 | 756 | 773 | 790 | [illegible] | 9.99 | 243 | 242 | 242 | 241 | 241 | 0.00 | 757 | 758 | 758 | 759 | 759 | 0.73 | 261 | 244 | 227 | 211 | 194 | 16 | 19 |
| 41 | 44 | | [illegible] | [illegible] | [illegible] | 857 | 873 | | 241 | 240 | 240 | 239 | 239 | | 759 | 760 | 761 | 761 | 762 | | 194 | 177 | 160 | 143 | 127 | 12 | 18 |
| 42 | 48 | | 873 | [illegible] | [illegible] | 924 | 941 | | 238 | 238 | 237 | 237 | 236 | | 762 | 762 | 763 | 764 | 764 | | 127 | 110 | 093 | 076 | 060 | 8 | 17 |
| 43 | 52 | | 941 | [illegible] | [illegible] | [illegible] | [illegible] | | 236 | 235 | 235 | 234 | 233 | | 764 | 765 | 765 | 766 | 767 | * | 060 | 043 | 026 | 010 | 993 | 4 | 16 |
| 44 | 56 | 9.27 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 233 | 232 | 232 | 231 | 231 | | 767 | 767 | 768 | 768 | 769 | 0.72 | 993 | 976 | 960 | 943 | 927 | 17. 0 | 15 |
| 45 | 43. 0 | 9.27 | 773 | [illegible] | [illegible] | 123 | 141 | 9.99 | 231 | 230 | 230 | 229 | 229 | 0.00 | 769 | 770 | 770 | 771 | 771 | 0.72 | 927 | [illegible] | [illegible] | 877 | [illegible] | 56 | 14 |
| 46 | 4 | | 141 | 157 | [illegible] | [illegible] | [illegible] | | 228 | 228 | 227 | 227 | 226 | | 771 | 772 | 772 | 773 | 774 | | [illegible] | [illegible] | 827 | 810 | 794 | 52 | 13 |
| 47 | 8 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 226 | 225 | 225 | 224 | 224 | | 774 | 774 | 775 | 775 | 776 | | 794 | 777 | [illegible] | 744 | 727 | 48 | 12 |
| 48 | 12 | | 273 | 289 | 306 | 322 | 339 | | 224 | 223 | 223 | 222 | 221 | | 776 | 777 | 777 | 778 | 779 | | 727 | 711 | [illegible] | [illegible] | [illegible] | 44 | 11 |
| 49 | 16 | | 339 | 355 | 372 | 388 | [illegible] | | 221 | 221 | [illegible] | [illegible] | [illegible] | | 779 | 779 | 780 | [illegible] | [illegible] | | 661 | [illegible] | [illegible] | [illegible] | [illegible] | 16. 4 | 10 |
| 50 | 43. 20 | 9.27 | 405 | 421 | 438 | 354 | 471 | 9.99 | 219 | 218 | 218 | 217 | 217 | 0.00 | 781 | 782 | 782 | 783 | 783 | 0.72 | 595 | 579 | 562 | 546 | 529 | 36 | 9 |
| 51 | 24 | | 471 | [illegible] | 504 | 520 | 537 | | 217 | 216 | 215 | 215 | 214 | | 783 | 784 | 785 | 785 | 786 | | 529 | 513 | 496 | 480 | 463 | 32 | 8 |
| 52 | 28 | | 537 | 553 | 570 | 586 | 602 | | 214 | 214 | 213 | 212 | 212 | | 786 | 786 | 787 | 788 | 788 | | 463 | 447 | 430 | 414 | 398 | 28 | 7 |
| 53 | 32 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 211 | 211 | 211 | 210 | [illegible] | | 788 | [illegible] | [illegible] | [illegible] | 791 | | 398 | [illegible] | [illegible] | [illegible] | [illegible] | 24 | 6 |
| 54 | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 791 | 791 | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 16. 2 | 5 |
| 55 | 43. 40 | 9.27 | 781 | [illegible] | [illegible] | [illegible] | [illegible] | 9.99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0.72 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 4 |
| 56 | 44 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 3 |
| 57 | 48 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2 |
| 58 | 52 | | 03[illegible] | 946 | 962 | 979 | 995 | | 200 | 199 | 198 | 198 | 197 | | 800 | 801 | 802 | 802 | 803 | | 070 | 054 | 038 | 021 | 005 | [illegible] | 1 |
| [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 16. [illegible] | |
| | | 4″ 60″ | 3″ 45 | 2″ 30 | 1″ 15 | 0″ 0 | 4″ 60″ | 3″ 45 | 2″ 30 | 1″ 15 | 0″ 0 | 4″ 60″ | 3″ 45 | 2″ 30 | 1″ 15 | 0″ 0 | 4″ 60″ | 3″ 45 | 2″ 30 | 1″ 15 | 0″ 0 | m | s |
| | | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | 11 | 15 |
| | | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | 5[illegible] | [illegible] |

| ′ | m s | Versed / Coversed | | | | | Coversed / Suversed | | | | | Suversed / Versed | | | | | Sucoversed / Sucoversed | | | | | ′ | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0° | 15′ 1s | 30′ 2s | 45′ 3s | 60′ 4s | 0° | 15′ 1s | 30′ 2s | 45′ 3s | 60′ 4s | 0° | 15′ 1s | 30′ 2s | 45′ 3s | 60′ 4s | 0° | 15′ 1s | 30′ 2s | 45′ 3s | 60′ 4s | | |
| 0 | 0 0 | 7.88 | 539 | 795 | 131 | 107 | 9.61 | 613 | 601 | 589 | 577 | 9.99 | 668 | 667 | 667 | 667 | 667 | 9.79 | 851 | 853 | 855 | 857 | 859 | 60 | 60 |
| 1 | 4 | | 203 | 240 | 276 | 312 | 348 | | 598 | 595 | 591 | 587 | 583 | | 668 | 667 | 667 | 667 | 667 | | 861 | 864 | 867 | 869 | 872 | 52 | 56 |
| 2 | 8 | | 348 | 384 | 419 | 455 | 491 | | 583 | 578 | 576 | 572 | 568 | | 666 | 666 | 666 | 666 | 666 | | 874 | 877 | 880 | 883 | 886 | 48 | 57 |
| 3 | 12 | | 491 | 527 | 563 | 599 | 635 | | 568 | 565 | 561 | 557 | 553 | | 666 | 666 | 666 | 666 | 666 | | 886 | 889 | 892 | 895 | 898 | 44 | 56 |
| 4 | 16 | | 635 | 671 | 707 | 742 | 778 | | 553 | 549 | 546 | 542 | 538 | | 666 | 666 | 666 | 666 | 666 | | 898 | 901 | 904 | 907 | 910 | 40 | 55 |
| 5 | 20 | 7.88 | 778 | 814 | 850 | 886 | 921 | 9.61 | 538 | 534 | 531 | 527 | 523 | 9.99 | 666 | 666 | 666 | 666 | 666 | 9.79 | 910 | 913 | 916 | 919 | 922 | 36 | 54 |
| 6 | 24 | | 921 | 957 | 993 | 028 | 064 | | 523 | 519 | 516 | 512 | 508 | | 666 | 666 | 666 | 666 | 666 | | 922 | 925 | 928 | 931 | 934 | 32 | 53 |
| 7 | 28 | 7.89 | 064 | 100 | 135 | 171 | 207 | | 508 | 504 | 501 | 497 | 493 | | 666 | 666 | 666 | 666 | 666 | | 934 | 937 | 940 | 943 | 946 | 28 | 52 |
| 8 | 32 | | 207 | 242 | 278 | 314 | 349 | | 493 | 489 | 485 | 482 | 478 | | 666 | 666 | 666 | 666 | 666 | | 946 | 949 | 952 | 955 | 958 | 24 | 51 |
| 9 | 36 | | 349 | 385 | 420 | 456 | 491 | | 478 | 474 | 470 | 466 | 463 | | 666 | 666 | 666 | 666 | 666 | | 958 | 961 | 964 | 967 | 970 | 20 | 50 |
| 10 | 40 | 7.89 | 491 | 527 | 562 | 598 | 633 | 9.61 | 463 | 459 | 455 | 451 | 448 | 9.99 | 666 | 666 | 666 | 666 | 666 | 9.79 | 970 | 973 | 976 | 979 | 982 | 16 | 49 |
| 11 | 44 | | 633 | 668 | 704 | 740 | 775 | | 448 | 444 | 440 | 436 | 433 | | 666 | 666 | 666 | 666 | 666 | | 982 | 985 | 988 | 991 | 994 | 12 | 48 |
| 12 | 48 | | 775 | 811 | 846 | 881 | 916 | | 433 | 429 | 425 | 421 | 417 | | 666 | 666 | 666 | 666 | 666 | | 994 | 997 | 1000 | 1003 | 1006 | 8 | 47 |
| 13 | 52 | | 916 | 952 | 987 | 022 | 057 | | 417 | 414 | 410 | 406 | 402 | | 666 | 666 | 666 | 666 | 666 | | 1006 | 1009 | 1012 | 1015 | 1018 | 4 | 46 |
| 14 | 56 | 7.90 | 057 | 093 | 128 | 163 | 198 | | 402 | 398 | 395 | 391 | 387 | | 666 | 666 | 666 | 666 | 666 | | 1018 | 1021 | 1024 | 1027 | 1030 | 0 | 45 |
| 15 | 60 | 7.90 | 198 | 234 | 269 | 304 | 339 | 9.61 | 387 | 383 | 379 | 375 | 372 | 9.99 | 666 | 666 | 666 | 666 | 666 | 9.77 | 030 | 033 | 036 | 039 | 042 | 60 | 44 |
| 16 | 4 | | 339 | 374 | 409 | 444 | 479 | | 372 | 368 | 364 | 361 | 357 | | 666 | 666 | 666 | 666 | 666 | | 042 | 045 | 048 | 051 | 054 | 56 | 43 |
| 17 | 8 | | 479 | 515 | 550 | 585 | 620 | | 357 | 353 | 349 | 346 | 342 | | 666 | 666 | 666 | 666 | 666 | | 054 | 057 | 060 | 063 | 066 | 52 | 42 |
| 18 | 12 | | 620 | 655 | 691 | 726 | 761 | | 342 | 338 | 334 | 330 | 327 | | 666 | 666 | 666 | 666 | 666 | | 066 | 069 | 072 | 075 | 078 | 48 | 41 |
| 19 | 16 | | 761 | 797 | 832 | 867 | 902 | | 327 | 323 | 319 | 315 | 311 | | 666 | 666 | 666 | 666 | 666 | | 078 | 081 | 084 | 087 | 090 | 44 | 40 |
| 20 | 20 | | 902 | 938 | 973 | 008 | 043 | 9.61 | 311 | 308 | 304 | 300 | 296 | 9.99 | 666 | 666 | 666 | 666 | 666 | 9.77 | 090 | 093 | 096 | 099 | 102 | 40 | 39 |
| 21 | 24 | 7.91 | 043 | 074 | 109 | 144 | 179 | | 296 | 293 | 289 | 285 | 281 | | 665 | 665 | 665 | 665 | 665 | | 102 | 105 | 108 | 111 | 114 | 36 | 38 |
| 22 | 28 | | 179 | 214 | 248 | 283 | 318 | | 281 | 277 | 274 | 270 | 266 | | 644 | 644 | 643 | 643 | 643 | | 083 | 086 | 089 | 091 | 094 | 28 | 37 |
| 23 | 32 | | 318 | 353 | 387 | 422 | 457 | | 266 | 262 | 258 | 255 | 251 | | 643 | 643 | 643 | 643 | 643 | | 094 | 097 | 100 | 103 | 106 | 24 | 36 |
| 24 | 36 | | 457 | 492 | 526 | 561 | 596 | | 251 | 247 | 243 | 240 | 236 | | 641 | 641 | 641 | 641 | 641 | | 106 | 109 | 112 | 115 | 118 | 20 | 35 |
| 25 | 40 | 7.91 | 596 | 631 | 665 | 699 | 734 | 9.61 | 236 | 232 | 228 | 224 | 221 | 9.99 | 641 | 641 | 641 | 641 | 641 | 9.77 | 118 | 121 | 124 | 127 | 130 | 16 | 34 |
| 26 | 44 | | 734 | 769 | 803 | 838 | 872 | | 221 | 217 | 213 | 209 | 205 | | 639 | 639 | 639 | 639 | 638 | | 130 | 133 | 136 | 139 | 141 | 12 | 33 |
| 27 | 48 | * | 872 | 907 | 941 | 976 | 010 | | 205 | 202 | 198 | 194 | 190 | | 638 | 638 | 638 | 637 | 637 | | 141 | 144 | 146 | 8 | 32 | | |
| 28 | 52 | 7.92 | 010 | 045 | 079 | 114 | 148 | | 190 | 186 | 183 | 179 | 175 | | 637 | 637 | 637 | 636 | 636 | | 146 | 149 | 152 | 4 | 31 | | |
| 29 | 56 | | 148 | 183 | 217 | 251 | 286 | | 175 | 171 | 167 | 164 | 160 | | 636 | 636 | 635 | 635 | 635 | | 152 | 155 | 158 | 0 | 30 | | |
| 30 | 60 | 7.92 | 286 | 320 | 354 | 389 | 423 | 9.61 | 160 | 156 | 152 | 148 | 145 | 9.99 | 635 | 634 | 634 | 634 | 633 | 9.77 | 158 | 161 | 164 | 167 | 170 | 60 | 29 |
| 31 | 4 | | 423 | 457 | 492 | 526 | 560 | | 145 | 141 | 137 | 133 | 129 | | 633 | 633 | 632 | 632 | 632 | | 170 | 173 | 176 | 179 | 182 | 56 | 28 |
| 32 | 8 | | 560 | 595 | 629 | 663 | 697 | | 129 | 126 | 122 | 118 | 114 | | 632 | 631 | 631 | 631 | 630 | | 182 | 185 | 188 | 191 | 194 | 52 | 27 |
| 33 | 12 | | 697 | 731 | 765 | 800 | 834 | | 114 | 110 | 106 | 102 | 098 | | 630 | 630 | 629 | 629 | 629 | | 194 | 197 | 200 | 203 | 206 | 48 | 26 |
| 34 | 16 | | 834 | 868 | 902 | 936 | 970 | | 098 | 094 | 090 | 086 | 082 | | 628 | 628 | 627 | 627 | 626 | | 206 | 209 | 212 | 215 | 218 | 44 | 25 |
| 35 | 20 | | 970 | 005 | 039 | 073 | 107 | 9.61 | 082 | 078 | 074 | 070 | 066 | 9.99 | 626 | 625 | 625 | 624 | 624 | 9.77 | 218 | 221 | 224 | 227 | 230 | 40 | 24 |
| 36 | 24 | 7.93 | 107 | 141 | 175 | 209 | 243 | | 069 | 065 | 061 | 057 | 053 | | 628 | 628 | 627 | 627 | 627 | | 230 | 233 | 236 | 238 | 241 | 32 | 23 |
| 37 | 28 | | 243 | 277 | 311 | 345 | 379 | | 053 | 050 | 046 | 042 | 038 | | 627 | 626 | 626 | 626 | 626 | | 241 | 243 | 246 | 249 | 251 | 28 | 22 |
| 38 | 32 | | 379 | 413 | 447 | 480 | 514 | | 038 | 034 | 031 | 027 | 023 | | 626 | 625 | 625 | 625 | 624 | | 251 | 254 | 257 | 259 | 262 | 24 | 21 |
| 39 | 36 | | 514 | 548 | 582 | 616 | 650 | | 023 | 019 | 015 | 011 | 008 | | 624 | 624 | 623 | 623 | 623 | | 262 | 265 | 268 | 270 | 273 | 20 | 20 |
| 40 | 40 | 7.93 | 650 | 684 | 717 | 751 | 785 | 9.61 | 008 | 004 | 000 | 996 | 992 | 9.99 | 623 | 622 | 622 | 622 | 621 | 9.77 | 273 | 276 | 278 | 281 | 284 | 16 | 19 |
| 41 | 44 | | 785 | 819 | 853 | 887 | 921 | | 992 | 988 | 984 | 980 | 977 | | 621 | 621 | 621 | 621 | 621 | | 284 | 287 | 289 | 292 | 295 | 12 | 18 |
| 42 | 48 | * | 921 | 954 | 987 | 021 | 055 | | 977 | 973 | 970 | 966 | 962 | | 621 | 620 | 620 | 620 | 620 | | 293 | 296 | 298 | 301 | 304 | 8 | 17 |
| 43 | 52 | 7.94 | 055 | 088 | 122 | 156 | 190 | | 962 | 958 | 954 | 951 | 947 | | 620 | 620 | 620 | 620 | 620 | | 304 | 306 | 309 | 312 | 315 | 4 | 16 |
| 44 | 56 | | 190 | 223 | 257 | 291 | 324 | | 947 | 943 | 939 | 935 | 932 | | 620 | 620 | 620 | 620 | 620 | | 315 | 317 | 320 | 323 | 326 | 0 | 15 |
| 45 | 60 | 7.94 | 324 | 357 | 391 | 424 | 458 | 9.61 | 932 | 928 | 924 | 920 | 916 | 9.99 | 620 | 620 | 620 | 620 | 620 | 9.77 | 326 | 329 | 331 | 334 | 337 | 60 | 14 |
| 46 | 4 | | 458 | 491 | 525 | 558 | 592 | | 916 | 913 | 909 | 905 | 901 | | 620 | 620 | 620 | 620 | 620 | | 337 | 340 | 343 | 345 | 348 | 56 | 13 |
| 47 | 8 | | 592 | 625 | 659 | 692 | 726 | | 901 | 897 | 893 | 889 | 886 | | 620 | 620 | 620 | 620 | 620 | | 348 | 351 | 353 | 356 | 359 | 52 | 12 |
| 48 | 12 | | 726 | 759 | 793 | 826 | 860 | | 886 | 882 | 878 | 874 | 870 | | 620 | 620 | 620 | 620 | 620 | | 359 | 362 | 364 | 367 | 370 | 48 | 11 |
| 49 | 16 | | 860 | 893 | 927 | 960 | 994 | | 870 | 867 | 863 | 859 | 855 | | 620 | 620 | 620 | 620 | 620 | | 370 | 373 | 376 | 378 | 381 | 44 | 10 |
| 50 | 20 | | 994 | 027 | 061 | 094 | 128 | | 855 | 851 | 847 | 843 | 839 | | 620 | 620 | 620 | 620 | 620 | | 381 | 384 | 387 | 389 | 392 | 40 | 9 |
| 51 | 24 | 7.95 | 128 | 161 | 194 | 227 | 261 | 9.61 | 840 | 836 | 832 | 828 | 825 | 9.99 | 620 | 620 | 620 | 620 | 620 | 9.77 | 392 | 395 | 398 | 400 | 403 | 36 | 8 |
| 52 | 28 | | 261 | 294 | 328 | 361 | 395 | | 825 | 821 | 817 | 813 | 809 | | 620 | 620 | 620 | 620 | 620 | | 403 | 406 | 409 | 411 | 414 | 32 | 7 |
| 53 | 32 | | 395 | 428 | 462 | 495 | 529 | | 809 | 805 | 802 | 798 | 794 | | 620 | 620 | 620 | 620 | 620 | | 414 | 417 | 420 | 423 | 425 | 28 | 6 |
| 54 | 36 | | 529 | 562 | 596 | 629 | 663 | | 794 | 790 | 786 | 782 | 779 | | 620 | 620 | 620 | 620 | 620 | | 425 | 428 | 431 | 434 | 436 | 24 | 5 |
| 55 | 40 | 7.96 | 663 | 696 | 730 | 763 | 797 | 9.61 | 779 | 775 | 771 | 767 | 763 | 9.99 | 620 | 620 | 620 | 620 | 620 | 9.77 | 436 | 439 | 442 | 445 | 447 | 20 | 4 |
| 56 | 44 | | 797 | 830 | 864 | 897 | 931 | | 763 | 759 | 755 | 752 | 748 | | 620 | 620 | 620 | 620 | 620 | | 447 | 450 | 453 | 456 | 458 | 16 | 3 |
| 57 | 48 | * | 931 | 964 | 998 | 031 | 065 | | 748 | 744 | 740 | 736 | 733 | | 620 | 620 | 620 | 620 | 620 | | 458 | 461 | 464 | 467 | 469 | 12 | 2 |
| 58 | 52 | 7.97 | 065 | 098 | 132 | 165 | 199 | | 733 | 729 | 725 | 721 | 717 | | 620 | 620 | 620 | 620 | 620 | | 469 | 472 | 475 | 478 | 480 | 8 | 1 |
| 59 | 56 | | 199 | 232 | 266 | 299 | 333 | | 717 | 713 | 709 | 706 | 702 | | 620 | 620 | 620 | 620 | 620 | | 480 | 483 | 486 | 489 | 491 | 4 | 0 |
| 60 | 60 | | 333 | 366 | 400 | 433 | 467 | | 702 | 698 | 694 | 690 | 686 | | 620 | 620 | 620 | 620 | 620 | | 491 | 494 | 497 | 500 | 502 | 0 | 0 |
| | | 60″ | 45″ | 30″ | 15″ | 0″ | 60″ | 45″ | 30″ | 15″ | 0″ | 60″ | 45″ | 30″ | 15″ | 0″ | 60″ | 45″ | 30″ | 15″ | 0″ | | |
| | | Suversed / Coversed | | | | | Coversed / Versed | | | | | Versed / Sucoversed | | | | | Sucoversed / Suversed | | | | | 11h | 169° |
| | | | | | | | | | | | | | | | | | | | | | | 5h | 79° |

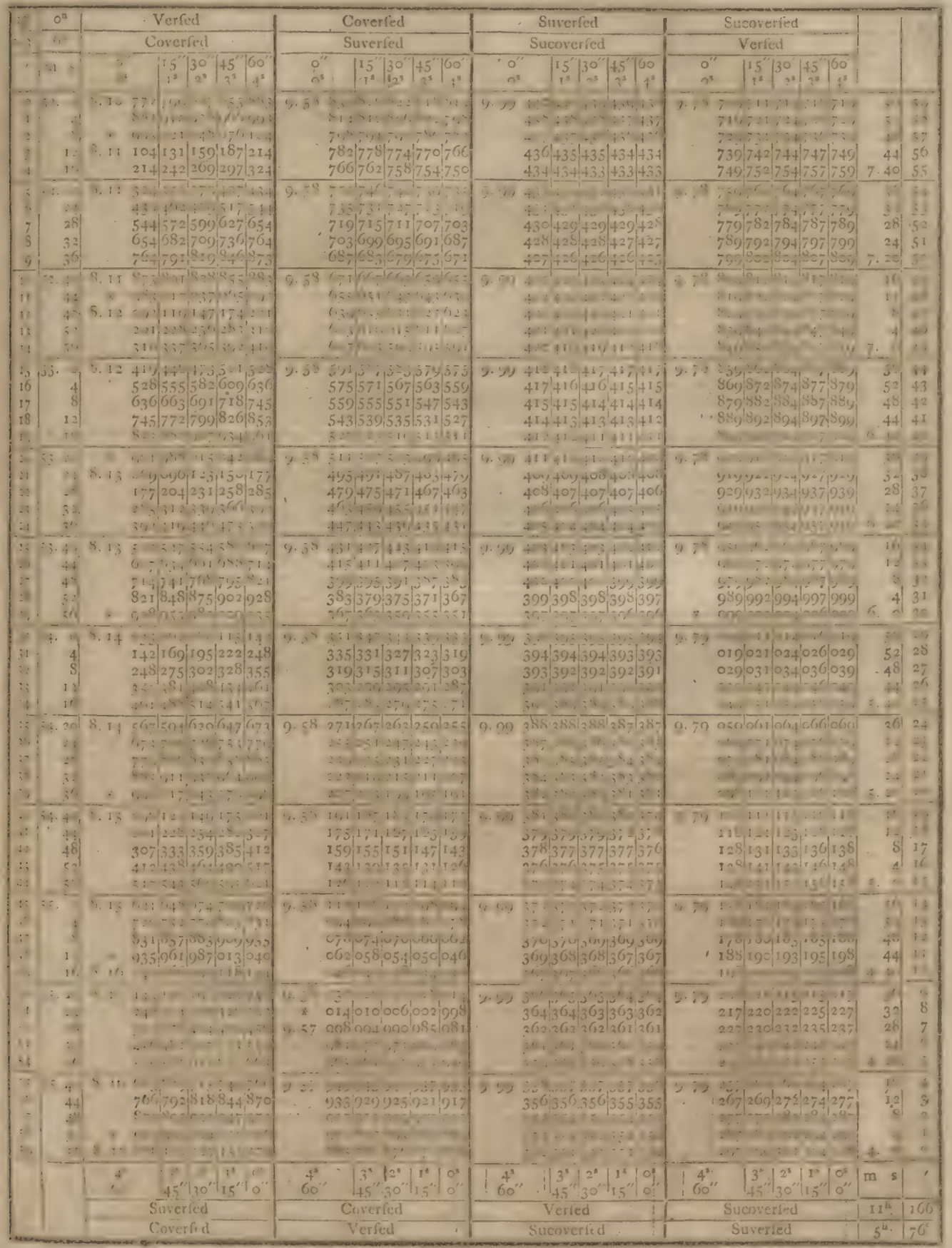
| ′ | m | Sine / Cosine | 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | Cosine / Sine | 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | Secant / Cosecant | 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | Cosecant / Secant | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 44. 0 | | 9. 28 060 | 076 | 092 | 109 | 125 | | 9. 99 195 | 194 | 193 | 193 | 192 | | 0. 00 805 | 806 | 807 | 807 | 808 | | 0. 71 | | | 59 |
| 1 | 4 | | | 125 | 141 | 157 | 173 | 190 | | 192 | 192 | 191 | 190 | 190 | | 808 | 808 | 809 | 810 | 810 | | 875 | 859 | 843 | 827 | | | 58 |
| 2 | 8 | | | 190 | 206 | 222 | 238 | 254 | | 190 | 189 | 189 | 188 | 187 | | 810 | 811 | 811 | 812 | 813 | | 010 | 794 | 778 | 762 | 74 | | 57 |
| 3 | 12 | | | 254 | 271 | 287 | 303 | 319 | | 187 | 187 | 186 | 185 | 185 | | 813 | 813 | 814 | 815 | 815 | | 746 | 729 | 713 | 697 | 68 | | 56 |
| 4 | 16 | | | 319 | 335 | 351 | 367 | 384 | | 185 | 184 | 184 | 183 | 182 | | 815 | 816 | 816 | 817 | 818 | | 681 | 665 | 649 | 633 | 61 | 15. 4 | 55 |
| 5 | 44. 20 | | 9. 28 | 384 | 400 | 416 | 432 | 448 | | 9. 99 182 | 182 | 181 | 180 | 180 | | 0. 00 818 | 818 | 819 | 820 | 820 | | 0. 71 | 61 | 60 | 584 | 568 | 45 | | 54 |
| 6 | 24 | | | 448 | 464 | 480 | 496 | 512 | | 180 | 179 | 179 | 178 | 177 | | 820 | 821 | 821 | 822 | 823 | | | 552 | 536 | 520 | 44 | | 53 |
| 7 | 28 | | | 512 | 528 | 545 | 561 | 577 | | 177 | 177 | 176 | 176 | 175 | | 823 | 823 | 824 | 824 | 825 | | 488 | 472 | 456 | 439 | 42 | | 52 |
| 8 | 32 | | | 577 | 593 | 609 | 625 | 641 | | 175 | 174 | 174 | 173 | 173 | | 825 | 826 | 826 | 827 | 827 | | 423 | 407 | 391 | 375 | 35 | | 51 |
| 9 | 36 | | | 641 | 657 | 673 | 689 | 705 | | 172 | 172 | 171 | 171 | 170 | | 828 | 828 | 829 | 829 | 830 | | 359 | 343 | 327 | 311 | 29 | 15. 2 | 50 |
| 10 | 44. 40 | | 9. 28 | 705 | 721 | 737 | 753 | 769 | | 9. 99 170 | 169 | 169 | 168 | 167 | | 0. 00 830 | 831 | 831 | 832 | 833 | | 0. 71 | 295 | 279 | 263 | 247 | 231 | | 49 |
| 11 | 44 | | | 769 | 785 | 801 | 817 | 833 | | 167 | 167 | 166 | 166 | 165 | | 833 | 833 | 834 | 834 | 835 | | 231 | 215 | 199 | 183 | 167 | | 48 |
| 12 | 48 | | | 833 | 849 | 864 | 880 | 896 | | 165 | 164 | 164 | 163 | 162 | | 836 | 836 | 837 | 837 | 838 | | 167 | 151 | 136 | 120 | 104 | | 47 |
| 13 | 52 | | | 896 | 912 | 928 | 944 | 960 | | 162 | 162 | 161 | 161 | 160 | | 838 | 838 | 839 | 839 | 840 | | 104 | 088 | 072 | 056 | 040 | | 46 |
| 14 | 56 | | | 960 | 976 | 992 | 008 | 024 | | 160 | 159 | 159 | 158 | 157 | | 840 | 841 | 841 | 842 | 843 | | 040 | 024 | 008 | 992 | 976 | 15. 0 | 45 |
| 15 | 45. 0 | | 9. 29 | 024 | 040 | 056 | 071 | 087 | | 9. 99 157 | 157 | 156 | 156 | 155 | | 0. 00 843 | 843 | 844 | 844 | 845 | | 0. 70 | 976 | 961 | 945 | 929 | 913 | | 44 |
| 16 | 4 | | | 087 | 103 | 119 | 135 | 151 | | 155 | 154 | 154 | 153 | 153 | | 845 | 846 | 847 | 847 | 848 | | 913 | 897 | 881 | 865 | 850 | | 43 |
| 17 | 8 | | | 150 | 166 | 182 | 198 | 214 | | 153 | 152 | 151 | 151 | 150 | | 850 | 850 | 851 | 852 | 853 | | 850 | 834 | 818 | 802 | 787 | | 42 |
| 18 | 12 | | | 214 | 229 | 245 | 261 | 277 | | 150 | 149 | 149 | 148 | 147 | | 853 | 853 | 854 | 855 | 855 | | 786 | 771 | 755 | 739 | 723 | | 41 |
| 19 | 16 | | | 277 | 293 | 309 | 324 | 340 | | 147 | 147 | 146 | 145 | 145 | | 856 | 856 | 857 | 858 | 858 | | 723 | 707 | 692 | 676 | 660 | 15. 4 | 40 |
| 20 | 45. 20 | | 9. 29 | 340 | 356 | 371 | 387 | 403 | | 9. 99 145 | 144 | 144 | 143 | 142 | | 0. 00 859 | 856 | 856 | 857 | 858 | | 0. 70 | 660 | 644 | 628 | 613 | 597 | | 39 |
| 21 | 24 | | | 403 | 419 | 434 | 450 | 466 | | 142 | 141 | 141 | 140 | 140 | | 858 | 858 | 859 | 860 | 860 | | 597 | 581 | 566 | 550 | 534 | | 38 |
| 22 | 28 | | | 466 | 482 | 497 | 513 | 529 | | 140 | 139 | 138 | 138 | 137 | | 860 | 861 | 862 | 862 | 863 | | 534 | 518 | 503 | 487 | 471 | | 37 |
| 23 | 32 | | | 529 | 544 | 560 | 576 | 591 | | 137 | 137 | 136 | 135 | 135 | | 863 | 863 | 864 | 865 | 865 | | 471 | 456 | 440 | 424 | 409 | | 36 |
| 24 | 36 | | | 591 | 607 | 623 | 638 | 654 | | 135 | 134 | 133 | 133 | 132 | | 866 | 866 | 867 | 867 | 868 | | 409 | 393 | 377 | 362 | 346 | 14. 2 | 35 |
| 25 | 45. 40 | | 9. 29 | 654 | 670 | 685 | 701 | 717 | | 9. 99 132 | 131 | 131 | 130 | 130 | | 0. 00 868 | 869 | 869 | 870 | 870 | | 0. 70 | 346 | 330 | 315 | 299 | 284 | | 34 |
| 26 | 44 | | | 717 | 732 | 748 | 764 | 779 | | 130 | 129 | 128 | 128 | 127 | | 870 | 871 | 872 | 872 | 873 | | 284 | 268 | 252 | 237 | 221 | | 33 |
| 27 | 48 | | | 779 | 794 | 810 | 826 | 841 | | 127 | 126 | 126 | 125 | 124 | | 873 | 874 | 874 | 875 | 876 | | 221 | 205 | 190 | 174 | 158 | | 32 |
| 28 | 52 | | | 841 | 857 | 872 | 888 | 903 | | 124 | 124 | 123 | 122 | 122 | | 876 | 876 | 877 | 878 | 878 | | 159 | 143 | 128 | 112 | 097 | | 31 |
| 29 | 56 | | | 903 | 918 | 934 | 950 | 966 | | 121 | 121 | 121 | 119 | 119 | | 878 | 879 | 879 | 880 | 881 | | 097 | 081 | 066 | 050 | 034 | 14. 0 | 30 |
| 30 | 46. 0 | | | 966 | 981 | 997 | 013 | 028 | | 9. 99 118 | 116 | 116 | 115 | 114 | | 0. 00 881 | 881 | 882 | 883 | 883 | | | 034 | 019 | 003 | 987 | 972 | | 29 |
| 31 | 4 | | 9. 30 | 028 | 044 | 059 | 074 | 090 | | 117 | 116 | 115 | 115 | 114 | | 883 | 884 | 885 | 885 | 886 | | 0. 69 | 972 | 957 | 941 | 926 | 910 | | 28 |
| 32 | 8 | | | 090 | 105 | 121 | 136 | 151 | | 114 | 113 | 113 | 112 | 111 | | 886 | 887 | 887 | 888 | 888 | | 910 | 895 | 880 | 864 | 849 | | 27 |
| 33 | 12 | | | 151 | 167 | 182 | 198 | 213 | | 111 | 111 | 110 | 110 | 109 | | 888 | 889 | 890 | 890 | 891 | | 849 | 833 | 818 | 802 | 787 | | 26 |
| 34 | 16 | | | 213 | 228 | 244 | 259 | 275 | | 109 | 108 | 108 | 107 | 106 | | 891 | 892 | 892 | 893 | 894 | | 787 | 771 | 756 | 741 | 725 | 13. 4 | 25 |
| 35 | 46. 20 | | 9. 30 | 275 | 290 | 306 | 321 | 337 | | 9. 99 106 | 105 | 104 | 104 | 103 | | 0. 00 894 | 894 | 895 | 896 | 896 | | 0. 69 | 725 | 710 | 694 | 679 | 664 | | 24 |
| 36 | 24 | | | 337 | 352 | 368 | 383 | 399 | | 103 | 102 | 101 | 101 | 100 | | 896 | 897 | 898 | 898 | 899 | | 664 | 648 | 633 | 617 | 602 | | 23 |
| 37 | 28 | | | 399 | 414 | 430 | 445 | 461 | | 100 | 099 | 099 | 098 | 097 | | 899 | 899 | 900 | 901 | 901 | | 602 | 587 | 571 | 556 | 541 | | 22 |
| 38 | 32 | | | 461 | 476 | 492 | 507 | 523 | | 097 | 096 | 095 | 095 | 094 | | 901 | 902 | 903 | 903 | 904 | | 541 | 525 | 510 | 495 | 479 | | 21 |
| 39 | 36 | | | 523 | 538 | 553 | 569 | 584 | | 093 | 093 | 092 | 091 | 091 | | 904 | 905 | 905 | 906 | 907 | | 479 | 464 | 449 | 433 | 418 | 13. 2 | 20 |
| 40 | 46. 40 | | 9. 30 | 584 | 600 | 615 | 630 | 646 | | 9. 99 090 | 089 | 088 | 088 | 087 | | 0. 00 907 | 907 | 908 | 909 | 909 | | 0. 69 | 418 | 403 | 388 | 372 | 357 | | 19 |
| 41 | 44 | | | 646 | 661 | 676 | 692 | 707 | | 087 | 086 | 085 | 085 | 084 | | 909 | 910 | 911 | 911 | 912 | | 357 | 342 | 326 | 311 | 296 | | 18 |
| 42 | 48 | | | 707 | 723 | 738 | 753 | 769 | | 084 | 083 | 083 | 082 | 081 | | 912 | 912 | 913 | 914 | 914 | | 296 | 280 | 265 | 250 | 235 | | 17 |
| 43 | 52 | | | 769 | 784 | 799 | 815 | 830 | | 081 | 080 | 080 | 079 | 078 | | 914 | 915 | 916 | 916 | 917 | | 235 | 219 | 204 | 189 | 174 | | 16 |
| 44 | 56 | | | 830 | 845 | 861 | 876 | 891 | | 078 | 077 | 077 | 076 | 075 | | 917 | 918 | 918 | 919 | 920 | | 174 | 159 | 144 | 129 | 113 | 12. 8 | 15 |
| 45 | 47. 0 | | 9. 30 | 891 | 907 | 922 | 937 | 953 | | 9. 99 075 | 074 | 074 | 073 | 072 | | 0. 00 920 | 920 | 921 | 922 | 922 | | 0. 69 | 113 | 098 | 083 | 068 | 053 | | 14 |
| 46 | 4 | | | 953 | 968 | 983 | 999 | 014 | | 072 | 071 | 071 | 070 | 069 | | 922 | 923 | 924 | 924 | 925 | | 053 | 037 | 022 | 007 | 992 | | 13 |
| 47 | 8 | | 9. 31 | 014 | 029 | 045 | 060 | 075 | | 069 | 068 | 067 | 067 | 066 | | 925 | 926 | 926 | 927 | 928 | | 992 | 977 | 962 | 947 | 932 | | 12 |
| 48 | 12 | | | 075 | 091 | 106 | 121 | 136 | | 065 | 065 | 064 | 063 | 063 | | 928 | 928 | 929 | 930 | 930 | | 932 | 916 | 901 | 886 | 871 | 11. 6 | 11 |
| 49 | 16 | | | 136 | 152 | 167 | 182 | 197 | | 062 | 061 | 061 | 060 | 059 | | 930 | 931 | 932 | 932 | 933 | | 871 | 856 | 841 | 826 | 811 | 12. 4 | 10 |
| 50 | 47. 20 | | 9. 31 | 197 | 213 | 228 | 243 | 258 | | 9. 99 058 | 057 | 057 | 056 | 055 | | 0. 00 933 | 934 | 934 | 935 | 936 | | 0. 68 | 811 | 796 | 781 | 766 | 751 | | 9 |
| 51 | 24 | | | 258 | 273 | 288 | 303 | 319 | | 055 | 054 | 053 | 053 | 052 | | 936 | 936 | 937 | 938 | 938 | | 751 | 736 | 721 | 706 | 691 | | 8 |
| 52 | 28 | | | 319 | 334 | 349 | 364 | 379 | | 051 | 051 | 050 | 049 | 049 | | 939 | 939 | 940 | 941 | 941 | | 691 | 676 | 661 | 646 | 631 | | 7 |
| 53 | 32 | | | 379 | 394 | 410 | 425 | 440 | | 048 | 047 | 047 | 046 | 045 | | 941 | 942 | 942 | 943 | 944 | | 631 | 616 | 601 | 586 | 571 | | 6 |
| 54 | 36 | | | 440 | 455 | 470 | 485 | 500 | | 045 | 044 | 044 | 043 | 042 | | 944 | 945 | 945 | 946 | 946 | | 570 | 555 | 540 | 525 | 510 | 11. 2 | 5 |
| 55 | 47. 40 | | 9. 31 | 500 | 515 | 530 | 545 | 560 | | 9. 99 042 | 041 | 040 | 040 | 039 | | 0. 00 947 | 947 | 948 | 948 | 949 | | 0. 68 | 510 | 495 | 480 | 465 | 450 | | 4 |
| 56 | 44 | | | 560 | 575 | 590 | 605 | 620 | | 038 | 037 | 037 | 036 | 035 | | 949 | 950 | 950 | 951 | 952 | | 450 | 435 | 420 | 405 | 390 | | 3 |
| 57 | 48 | | | 620 | 635 | 650 | 665 | 680 | | 034 | 034 | 033 | 032 | 032 | | 952 | 952 | 953 | 954 | 954 | | 390 | 375 | 361 | 346 | 331 | | 2 |
| 58 | 52 | | | 680 | 695 | 710 | 725 | 740 | | 031 | 030 | 030 | 029 | 028 | | 954 | 955 | 956 | 956 | 957 | | 331 | 316 | 301 | 286 | 272 | | 1 |
| 59 | 56 | | | 740 | 755 | 770 | 785 | 800 | | 028 | 027 | 026 | 026 | 025 | | 957 | 958 | 958 | 959 | 960 | | 272 | 257 | 242 | 227 | 212 | 10. 8 | 0 |
| | | | 4″ | 3″ | 2″ | 1″ | 0″ | | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ | | 4″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ | | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ | | |
| | | | Sine | | | | | | Cosine | | | | | | Secant | | | | | | Cosecant | | | | | | |
| | | | Cosine | | | | | | Sine | | | | | | Cosecant | | | | | | Secant | | | | | | |

| ′ | ° | Verſed / Coverſed | | | | | Coverſed / Suverſed | | | | | Suverſed / Sucoverſed | | | | | Sucoverſed / Verſed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 15″ | 30″ | 45″ | 60′ | | 15″ | 30″ | 45″ | 60′ | | | | | | | 15″ | 30″ | 45″ | | |
| | | | 1ª | 2ª | 3ª | 4ª | | 1ª | 2ª | 3ª | 4ª | | | | | | | 1ª | 2ª | 3ª | | |
| 0 | 0 | 7.96 | 315 | 347 | 380 | 413 | 446 | 9.60 | 702 | 698 | 694 | 691 | 687 | 9.99 | 599 | 599 | 599 | 598 | 598 | 9.77 | 481 | 484 | 488 | | | 59 |
| 1 | 4 | | 446 | 478 | 511 | 544 | 577 | | 687 | 683 | 679 | 675 | 671 | | 598 | 598 | 597 | 597 | 597 | | 492 | 496 | 499 | | | 58 |
| 2 | 8 | | 577 | 609 | 642 | 675 | 707 | | 671 | 668 | 664 | 660 | 656 | | 597 | 596 | 596 | 596 | 596 | | | | | | | 57 |
| 3 | 12 | | 707 | 740 | 773 | 805 | 838 | | 656 | 652 | 648 | 645 | 641 | | 596 | 595 | 595 | 595 | | | | | | | | 56 |
| 4 | 16 | | 838 | 870 | 903 | 936 | 968 | | 641 | 637 | 633 | 629 | 625 | | 594 | 594 | 594 | 593 | 593 | | | | | | | 55 |
| 5 | 20 | * | 998 | 001 | 033 | 066 | 098 | 9.60 | 625 | 622 | 618 | 614 | 610 | 9.99 | 593 | 593 | 592 | 592 | 592 | 9.77 | | | | | | 54 |
| 6 | 24 | 7.97 | 098 | 131 | 163 | 196 | 228 | | 610 | 606 | 602 | 599 | 595 | | 592 | 592 | 591 | 591 | 591 | | | | | | | 53 |
| 7 | 28 | | 228 | 261 | 293 | 325 | 358 | | 595 | 591 | 587 | 583 | 579 | | 591 | 590 | 590 | 590 | 589 | | | | | | | 52 |
| 8 | 32 | | 358 | 390 | 423 | 455 | 487 | | 579 | 576 | 572 | 568 | 564 | | 589 | 589 | 589 | 588 | 588 | | | | | | | 51 |
| 9 | 36 | | 487 | 520 | 552 | 584 | 617 | | 564 | 560 | 556 | 552 | 548 | | 588 | 588 | 588 | 587 | 587 | | | | | | | 50 |
| 10 | 44. 40 | 7.97 | 617 | 649 | 681 | 714 | 746 | 9.60 | 549 | 545 | 541 | 537 | 533 | 9.99 | 587 | 587 | 586 | 586 | 586 | 9.77 | | | | | | 49 |
| 11 | 44 | | 746 | 778 | 810 | 843 | 875 | | 533 | 529 | 526 | 522 | 518 | | 586 | 585 | 585 | 585 | 585 | | 590 | 593 | 597 | | | 48 |
| 12 | 48 | * | 875 | 907 | 939 | 971 | 003 | | 518 | 514 | 510 | 506 | 502 | | 584 | 584 | 584 | 584 | 584 | | 606 | 609 | 611 | | | 47 |
| 13 | 52 | 7.98 | 003 | 036 | 068 | 100 | 132 | | 502 | 499 | 495 | 491 | 487 | | 583 | 583 | 583 | 583 | 582 | | 616 | 619 | 622 | | | 46 |
| 14 | 56 | | 132 | 164 | 196 | 228 | 260 | | 487 | 483 | 479 | 476 | 472 | | 582 | 582 | 581 | 581 | 581 | | 627 | 629 | 632 | | | 45 |
| 15 | 45. 0 | 7.98 | 260 | 292 | 325 | 357 | 389 | 9.60 | 472 | 468 | 464 | 460 | 456 | 9.99 | 581 | 581 | 580 | 580 | 579 | 9.77 | 637 | 640 | 642 | 645 | 647 | 44 |
| 16 | 4 | | 389 | 421 | 453 | 485 | 517 | | 456 | 452 | 449 | 445 | 441 | | 579 | 579 | 579 | 578 | 578 | | 647 | 650 | 653 | 655 | 658 | 43 |
| 17 | 8 | | 517 | 549 | 580 | 612 | 644 | | 441 | 437 | 433 | 429 | 426 | | 578 | 578 | 578 | 577 | 577 | | 658 | 660 | 663 | 666 | 668 | 42 |
| 18 | 12 | | 644 | 676 | 708 | 740 | 772 | | 426 | 422 | 418 | 414 | 410 | | 577 | 577 | 576 | 576 | 576 | | 668 | 671 | 673 | 676 | 679 | 41 |
| 19 | 16 | | 772 | 804 | 836 | 868 | 899 | | 410 | 406 | 402 | 399 | 395 | | 576 | 575 | 575 | 575 | 574 | | 679 | 681 | 684 | 686 | 68 | 40 |
| 20 | 46. 0 | * | 899 | 931 | 963 | 995 | 027 | 9.60 | 395 | 391 | 387 | 383 | 379 | 9.99 | 574 | 574 | 574 | 574 | 573 | 9.77 | | | | | | 39 |
| 21 | 24 | 7.99 | 027 | 058 | 090 | 122 | 154 | | 379 | 375 | 372 | 368 | 364 | | 573 | 573 | 573 | 573 | 573 | | 699 | 702 | 704 | 707 | 710 | 38 |
| 22 | 28 | | 154 | 185 | 217 | 249 | 280 | | 364 | 360 | 356 | 352 | 348 | | 572 | 572 | 572 | 571 | 571 | | 710 | 712 | 715 | 717 | | 37 |
| 23 | 32 | | 280 | 312 | 344 | 375 | 407 | | 348 | 345 | 341 | 337 | 333 | | 571 | 571 | 571 | 570 | 570 | | 720 | 723 | 725 | 728 | 730 | 36 |
| 24 | 36 | | 407 | 438 | 470 | 501 | 534 | | 333 | 329 | 325 | 321 | 318 | | 570 | 570 | 569 | 569 | 569 | | 730 | 733 | 735 | 738 | 740 | 35 |
| 25 | 46. 40 | 7.99 | 534 | 565 | 597 | 628 | 660 | 9.60 | 318 | 314 | 310 | 306 | 302 | 9.99 | 568 | 568 | 568 | 567 | 567 | 9.77 | 741 | 743 | 746 | 748 | 751 | 34 |
| 26 | 44 | | 660 | 691 | 723 | 754 | 786 | | 302 | 298 | 294 | 291 | 287 | | 567 | 567 | 566 | 566 | 566 | | 751 | 753 | 756 | 758 | 761 | 33 |
| 27 | 48 | | 786 | 817 | 849 | 880 | 912 | | 287 | 283 | 279 | 275 | 271 | | 566 | 565 | 565 | 565 | 564 | | 761 | 764 | 766 | 769 | 771 | 32 |
| 28 | 52 | * | 912 | 943 | 975 | 006 | 038 | | 271 | 267 | 263 | 260 | 256 | | 564 | 564 | 564 | 563 | 563 | | 771 | 774 | 777 | 779 | 782 | 31 |
| 29 | 56 | 8.00 | 038 | 069 | 100 | 132 | 163 | | 256 | 252 | 248 | 244 | 240 | | 563 | 563 | 562 | 562 | 562 | | 782 | 784 | 787 | 790 | 792 | 30 |
| 30 | 47. 0 | 8.00 | 163 | 195 | 226 | 257 | 289 | 9.60 | 240 | 236 | 233 | 229 | 225 | 9.99 | 562 | 562 | 561 | 561 | 561 | 9.77 | 792 | 795 | 797 | 800 | 803 | 29 |
| 31 | 4 | | 289 | 320 | 351 | 382 | 414 | | 225 | 221 | 217 | 213 | 209 | | 561 | 560 | 560 | 560 | 559 | | 803 | 805 | 808 | 810 | 813 | 28 |
| 32 | 8 | | 414 | 445 | 476 | 508 | 539 | | 209 | 205 | 201 | 197 | 193 | | 559 | 559 | 559 | 558 | 558 | | 813 | 815 | 818 | 821 | 823 | 27 |
| 33 | 12 | | 539 | 570 | 601 | 632 | 664 | | 193 | 189 | 185 | 181 | 177 | | 558 | 558 | 557 | 557 | 557 | | 823 | 826 | 828 | 831 | 834 | 26 |
| 34 | 16 | | 664 | 695 | 726 | 757 | 788 | | 177 | 173 | 169 | 165 | 161 | | 557 | 556 | 556 | 556 | 555 | | 834 | 836 | 839 | 841 | 844 | 13. 40 |
| 35 | 47. 20 | 8.00 | 788 | 819 | 850 | 881 | 913 | 9.60 | 161 | 159 | 155 | 151 | 147 | 9.99 | 555 | 555 | 555 | 555 | 554 | 9.77 | 844 | 846 | 849 | 852 | 854 | 25 |
| 36 | 24 | * | 913 | 944 | 975 | 006 | 037 | | 147 | 143 | 140 | 136 | 132 | | 554 | 554 | 554 | 553 | 553 | | 854 | 857 | 859 | 862 | 864 | 24 |
| 37 | 28 | 8.01 | 037 | 068 | 099 | 130 | 161 | | 132 | 128 | 124 | 120 | 116 | | 553 | 553 | 552 | 552 | 552 | | 864 | 867 | 870 | 872 | 875 | 23 |
| 38 | 32 | | 161 | 192 | 223 | 254 | 285 | | 116 | 113 | 109 | 105 | 101 | | 552 | 551 | 551 | 551 | 551 | | 875 | 877 | 880 | 882 | 885 | 22 |
| 39 | 36 | | 285 | 316 | 347 | 378 | 409 | | 101 | 097 | 093 | 089 | 085 | | 551 | 550 | 550 | 550 | 549 | | 885 | 888 | 890 | 893 | 895 | 13. 20 |
| 40 | 47. 40 | 8.01 | 409 | 440 | 471 | 501 | 532 | 9.60 | 085 | 081 | 077 | 073 | 069 | 9.99 | 549 | 549 | 548 | 548 | 548 | 9.77 | 895 | 898 | 900 | 903 | 906 | 21 |
| 41 | 44 | | 532 | 563 | 594 | 625 | 656 | | 069 | 065 | 061 | 057 | 053 | | 548 | 547 | 547 | 547 | 547 | | 906 | 908 | 911 | 913 | 916 | 20 |
| 42 | 48 | | 656 | 686 | 717 | 748 | 779 | | 054 | 051 | 047 | 043 | 039 | | 547 | 546 | 546 | 546 | 545 | | 916 | 919 | 921 | 924 | 927 | 19 |
| 43 | 52 | | 779 | 810 | 840 | 871 | 902 | | 039 | 035 | 031 | 027 | 023 | | 545 | 545 | 545 | 544 | 544 | | 927 | 929 | 932 | 934 | 937 | 18 |
| 44 | 56 | * | 902 | 933 | 963 | 994 | 025 | | 023 | 019 | 015 | 011 | 007 | | 544 | 544 | 543 | 543 | 543 | | 936 | 939 | 942 | 944 | 947 | 13. 17 |
| 45 | 47. 0 | 8.02 | 025 | 055 | 086 | 117 | 147 | * | 008 | 004 | 000 | 996 | 992 | 9.99 | 543 | 542 | 542 | 542 | 541 | 9.77 | 947 | 949 | 952 | 954 | 957 | 16 |
| 46 | 4 | | 147 | 178 | 209 | 239 | 270 | 9.59 | 992 | 988 | 985 | 981 | 977 | | 541 | 541 | 541 | 540 | 540 | | 957 | 960 | 962 | 965 | 967 | 15 |
| 47 | 8 | | 270 | 301 | 331 | 362 | 392 | | 977 | 973 | 969 | 965 | 961 | | 540 | 540 | 539 | 539 | 539 | | 967 | 970 | 972 | 975 | 978 | 14 |
| 48 | 12 | | 392 | 423 | 453 | 484 | 514 | | 961 | 957 | 953 | 950 | 946 | | 539 | 538 | 538 | 538 | 537 | | 978 | 980 | 983 | 985 | 988 | 13 |
| 49 | 16 | | 514 | 545 | 575 | 606 | 636 | | 946 | 942 | 938 | 934 | 930 | | 537 | 537 | 537 | 536 | 536 | | 988 | 990 | 993 | 995 | 998 | 12 |
| 50 | 47. 20 | 8.02 | 636 | 667 | 697 | 728 | 758 | 9.59 | 930 | 926 | 922 | 918 | 914 | 9.99 | 536 | 535 | 535 | 535 | 534 | * | 998 | 001 | 003 | 006 | 008 | 11 |
| 51 | 24 | | 758 | 789 | 819 | 850 | 880 | | 914 | 910 | 907 | 903 | 899 | | 534 | 534 | 534 | 533 | 533 | 9.78 | 008 | 011 | 013 | 016 | 019 | 10 |
| 52 | 28 | * | 880 | 910 | 941 | 971 | 001 | | 899 | 895 | 891 | 887 | 883 | | 533 | 533 | 533 | 532 | 532 | | 019 | 021 | 024 | 026 | 029 | 9 |
| 53 | 32 | 8.03 | 001 | 032 | 062 | 092 | 123 | | 883 | 880 | 876 | 872 | 868 | | 532 | 532 | 531 | 531 | 531 | | 029 | 031 | 034 | 037 | 039 | 8 |
| 54 | 36 | | 123 | 153 | 183 | 214 | 244 | | 868 | 864 | 860 | 856 | 852 | | 531 | 530 | 530 | 530 | 529 | | 039 | 042 | 044 | 047 | 049 | 7 |
| 55 | 47. 40 | 8.03 | 244 | 274 | 304 | 335 | 365 | 9.59 | 852 | 848 | 845 | 841 | 837 | 9.99 | 529 | 529 | 528 | 528 | 528 | 9.78 | 049 | 052 | 054 | 057 | 060 | 6 |
| 56 | 44 | | 365 | 395 | 425 | 455 | 486 | | 837 | 833 | 829 | 825 | 821 | | 528 | 527 | 527 | 527 | 527 | | 060 | 062 | 065 | 067 | 070 | 5 |
| 57 | 48 | | 486 | 516 | 546 | 576 | 606 | | 821 | 817 | 813 | 809 | 806 | | 527 | 526 | 526 | 526 | 526 | | 070 | 072 | 075 | 077 | 080 | 4 |
| 58 | 52 | | 606 | 636 | 666 | 697 | 727 | | 806 | 802 | 798 | 794 | 790 | | 526 | 525 | 525 | 525 | 524 | | 080 | 083 | 085 | 088 | 090 | 3 |
| 59 | 56 | | 727 | 757 | 787 | 817 | 847 | | 790 | 786 | 782 | 778 | 774 | | 524 | 524 | 524 | 523 | 523 | | | | | | 101 | 12. 2 |
| | | | 45″ | 30″ | 15″ | 0″ | | | 45″ | 30″ | 15″ | 0″ | | | 45″ | 30″ | 15″ | 0″ | | | 45″ | 30″ | 15″ | 0″ | m s | |
| | | | Suverſed / Coverſed | | | | | | Coverſed / Verſed | | | | | | Verſed / Sucoverſed | | | | | | Sucoverſed / Suverſed | | | | | |

| ′ | Sine / Cosine | 0″ | 15″ | 30″ | 45″ | 60″ | Cosine / Sine | 0″ | 15″ | 30″ | 45″ | 60″ | Secant / Cosecant | 0″ | 15″ | 30″ | 45″ | 60″ | Cosecant / Secant | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | 9.81 | | | 818 | 832 | 847 | 9.99 | 040 | 040 | 039 | 038 | 038 | 0.00 | 960 | 960 | 961 | 962 | 962 | 0.68 | 212 | 197 | 182 | 168 | 153 | 56 | 59 |
| 1 | | | | | | | | | | | | | | | | | | | | 156 | 143 | 129 | 115 | 103 | 53 | 58 |
| 2 | | | | | | | | | | | | | | | | | | | | 103 | 90 | 78 | 66 | 54 | 50 | 57 |
| 3 | | | | | | | | | | | | | | | | | | | | 054 | 042 | 030 | 018 | 006 | 47 | 56 |
| 4 | | 9.32 | | | | | | | | | | | | | 972 | 971 | 972 | 972 | 973 | 0.67 | 975 | | | | 44 | 55 |
| 5 | | 9.32 | | | | | | 9.99 | | | 025 | 025 | 024 | 0.00 | 973 | 974 | 975 | 975 | 976 | 0.67 | 916 | 901 | 887 | 872 | 857 | 38 | 54 |
| 6 | | | | | | | | | | | 023 | 022 | 022 | | 976 | 976 | 977 | 978 | 978 | | 857 | 842 | 828 | 813 | 798 | 32 | 53 |
| 7 | | | | | | | | | | | 020 | 020 | 019 | | 978 | 979 | 980 | 980 | 981 | | 798 | 783 | 769 | 754 | 739 | 28 | 52 |
| 8 | | | | | | | | | | | 017 | 017 | 016 | | 981 | 982 | 983 | 983 | 984 | | 739 | 725 | 710 | 695 | 681 | 24 | 51 |
| 9 | | | | | | | | | | | 015 | 014 | 013 | | 984 | 985 | 985 | 986 | 987 | | 681 | 666 | 651 | 637 | 622 | 11. 2 | 50 |
| 10 | | 9.32 | | | | | | 9.99 | 013 | 013 | 012 | 011 | 011 | 0.00 | 987 | 987 | 988 | 989 | 989 | 0.67 | 622 | 607 | 593 | 578 | 563 | 1′ | |
| 11 | | | | | | | | | 011 | 010 | 009 | 009 | 008 | | 989 | 990 | 991 | 991 | 992 | | 563 | 549 | 534 | 520 | 505 | 1 | 49 |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | 48 |
| 13 | | | 553 | 568 | 583 | 597 | 612 | | 005 | 005 | 004 | 003 | 002 | | 995 | 995 | 996 | 997 | 998 | | 447 | 432 | 417 | 403 | 388 | 4 | 46 |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | | 11. 6 | 45 |
| 15 | | 9.32 | | | | | | | | | | | | 0.01 | | | | | | 0.67 | 330 | 315 | 301 | | 272 | 4′ | 44 |
| 16 | | | | | | | | | | | | | | | | | | | | | 272 | 257 | | | 214 | 5 | 43 |
| 17 | | | 786 | 801 | 815 | 830 | 844 | 9.98 | 994 | 994 | 993 | 992 | 991 | | 006 | 006 | 007 | 008 | 009 | | 214 | 199 | 185 | 170 | 156 | 48 | 42 |
| 18 | | | | | | | | | | | | | | | | | | | | | 156 | 141 | 127 | 112 | | 44 | 41 |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 40 |
| 20 | | | | | | | | | | | | | | 0.01 | | | | | | | | | | | | | 39 |
| 21 | | 9.33 | | | | | | 9.98 | | | | | | | 014 | 015 | 016 | 016 | 017 | | | | | | | 5′ | 38 |
| 22 | | | | | | | | | | | | | | | 017 | 017 | 018 | 019 | 020 | 0.66 | 082 | 068 | 054 | 039 | 025 | 52 | 37 |
| 23 | | | | | | | | | | | | | | | 021 | 021 | 021 | 022 | 022 | | 025 | 011 | 997 | 982 | 967 | 2 | 36 |
| 24 | | | 133 | 147 | 162 | 176 | 190 | | 975 | 975 | 974 | 974 | 973 | | 023 | 024 | 024 | 024 | 025 | | 867 | 853 | 838 | 824 | 810 | 2 | 35 |
| 25 | | 9.33 | 248 | 262 | 276 | 291 | 305 | 9.98 | 975 | 974 | 973 | 973 | 972 | | 025 | 026 | 027 | 027 | 028 | 0.66 | 810 | 795 | 781 | 767 | 752 | 10. 2 | 34 |
| 26 | | | 305 | 319 | 334 | 348 | 362 | | 969 | 969 | 968 | 967 | 967 | | 031 | 031 | 032 | 033 | 033 | | 695 | 681 | 666 | 652 | 638 | 1′ | 33 |
| 27 | | | 362 | 377 | 391 | 405 | 420 | | 967 | 966 | 965 | 964 | 964 | | 033 | 034 | 035 | 036 | 036 | | 638 | 623 | 609 | 595 | 580 | 12 | 32 |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | | 8 | 31 |
| 29 | | | 477 | 491 | | | | | | | 959 | 959 | 958 | | | | | | | | 523 | | | | | 4 | 30 |
| 30 | | 9.33 | 534 | 548 | 562 | 576 | 591 | 9.98 | 958 | 957 | 957 | 956 | 955 | 0.01 | 042 | 043 | 043 | 044 | 045 | 0.66 | 466 | 452 | 438 | 424 | 409 | 56′ | 29 |
| 31 | | | 591 | 605 | 619 | 633 | 647 | | 955 | 955 | 954 | 953 | 953 | | 045 | 045 | 046 | 047 | 047 | | 409 | 395 | 381 | 367 | 353 | 52 | 28 |
| 32 | | | | | | | | | | | | | | | | | | | | | | | | | | 48 | 27 |
| 33 | | | 704 | 718 | 733 | 747 | 761 | | 950 | 949 | 948 | 948 | 947 | | 050 | 051 | 052 | 052 | 053 | | 296 | 282 | | 253 | | 44 | 26 |
| 34 | | | | | | | | | | | | | | | | | | | | | | | | | | 9.4 | 25 |
| 35 | | 9.33 | | | | | | 9.98 | 944 | 943 | 942 | 942 | 941 | 0.01 | 050 | 057 | 058 | 058 | 059 | 0.66 | 182 | 168 | 154 | 140 | 126 | 36′ | 24 |
| 36 | | | | | | | | | 941 | 941 | 940 | 939 | 938 | | 059 | 059 | 060 | 061 | 062 | | 126 | 112 | 098 | 083 | 069 | 32 | 23 |
| 37 | | | | | | | | | 938 | 938 | 937 | 936 | 936 | | 062 | 062 | 063 | 064 | 064 | | 069 | 055 | 041 | 027 | 013 | 28 | 22 |
| 38 | | | | | | | | | | | | | | | | | | | | | | | | | | | 21 |
| 39 | | | | | | | | | | | | | | | | | | | | | | | | | | | 20 |
| 40 | | 9.34 | | | | | | 9.98 | | | | | | 0.01 | | | | | | | | | | | | 1′ | 19 |
| 41 | | | | | | | | | | | | | | | | | | | | | | | | | | 12 | 18 |
| 42 | | | | | | | | | | | | | | | 076 | 076 | 077 | 078 | 079 | | 788 | 774 | 760 | 746 | 732 | | 17 |
| 43 | | | | | | | | | | | | | | | 079 | 079 | 080 | 081 | 081 | | 732 | 718 | 704 | 690 | 676 | 4 | 16 |
| 44 | | | | | | | | | | | | | | | 081 | 082 | 083 | 084 | 084 | | 676 | 662 | 648 | 634 | 620 | 0. 8 | 15 |
| 45 | | 9.34 | | | | | | 9.98 | | | | | | 0.01 | 084 | 085 | 086 | 086 | 087 | 0.65 | 620 | 606 | 592 | 578 | 564 | 5′ | 14 |
| 46 | | | | | | | | | | | | | | | 087 | 088 | 089 | 089 | 090 | | 564 | 551 | 537 | 523 | 509 | 54 | 13 |
| 47 | | | | | | | | | | | | | | | 090 | 091 | 091 | 092 | 093 | | 509 | 495 | 481 | 467 | 453 | 48 | 12 |
| 48 | | | | | | | | | | | | | | | 093 | 094 | 094 | 095 | 096 | | 453 | 439 | 425 | 411 | 398 | 44 | 11 |
| 49 | | | | | | | | | | | | | | | | | | | | | 398 | 384 | 370 | 356 | 342 | 9. 2 | 10 |
| 50 | | 9.34 | | | | | | 9.98 | 901 | 901 | 900 | 899 | 898 | 0.01 | 099 | 099 | | | | 0.65 | | | | | | 5′ | 9 |
| 51 | | | | | | | | | | | | | | | | | | | | | | | | | | 54 | 8 |
| 52 | | | | | | | | | | | | | | | | | | | | | | | | | | 48 | 7 |
| 53 | | | | | | | | | | | | | | | | | | | | | | | | | | 44 | 6 |
| 54 | | | 879 | 893 | 907 | 921 | 934 | | 890 | 889 | 888 | 888 | 887 | | 110 | 111 | 112 | 112 | 113 | | | | | | | 9. 8 | 5 |
| 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 56 | | | | | 917 | 931 | 944 | | | | | | | | | | | | | | 011 | 997 | 983 | 969 | 955 | 1′ | 3 |
| 57 | | 9.35 | 044 | 058 | 072 | 086 | 099 | | 881 | 880 | 880 | 879 | 878 | | 119 | 120 | 120 | 121 | 122 | 0.64 | 956 | 942 | 928 | 915 | 901 | 52 | 2 |
| 58 | | | | | | | | | | | | | | | | | | | | | | | | | | 48 | 1 |
| 59 | | | | | | | | | | | | | | | | | | | | | | | | | | 44 | 0 |
| | | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | ′ | |
| | | | Cosine | | | | Sine | | Sine | | | | Cosine | | Cosecant | | | | Secant | | Secant | | | | Cosecant | | |

| ′ | Versed | Coversed | Suversed | Sucoversed | | |
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| | | | | | | |
| 0 | 9.99 | 9.99 | 9.99 | 9.78 | | 60 |
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| 27 | .06 850 829 850 907 910 | 9.59 383 379 375 371 367 | 9.99 409 409 408 408 408 | 9.78 | | 33 |
| 28 | * 916 945 974 003 032 | 367 363 359 355 351 | 488 487 487 487 486 | 365 368 371 | | 32 |
| 29 | 8.07 032 061 090 119 148 | 351 348 344 340 336 | 486 486 486 485 485 | 376 378 381 383 386 | 8 | 31 |
| 30 | 148 177 206 235 264 | 336 332 328 324 320 | 485 485 484 484 484 | 386 388 391 393 396 | 4 | 30 |
| 31 | 264 293 321 350 379 | 320 316 312 308 304 | 484 483 483 483 482 | 396 398 401 404 406 | 10. 0 | 29 |
| 32 | 8.07 | 9.40 | 9.99 482 482 481 481 481 | 9.78 406 409 411 414 416 | 56 | 28 |
| 33 | | | | 416 419 421 424 426 | 52 | 27 |
| 34 | | | | 426 429 431 434 436 | 48 | 26 |
| 35 | | | | | | 25 |
| 36 | | | | | | 24 |
| 37 | 8.08 | | 9.99 | 9.78 | | 23 |
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| 42 | | | 9.99 468 468 468 467 467 | 9.78 507 510 512 515 517 | 16 | 18 |
| 43 | 52 866 894 922 951 979 | 099 095 091 087 083 | | | | 17 |
| 44 | * 979 007 036 064 092 | 083 079 076 072 068 | | | | 16 |
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| 48 | 45 459 487 515 543 | 020 016 012 008 004 | 457 457 459 459 459 | 590 593 596 598 | 44 | 12 |
| 49 | 16 543 571 600 628 656 | * 004 000 996 992 988 | 456 455 455 455 454 | 598 601 603 606 608 | 8. 40 | 10 |
| 50 | | | | | | 10 |
| 51 | 24 765 796 824 852 880 | 973 969 965 961 957 | 9.99 454 454 453 453 453 | 9.78 608 611 613 616 618 | 36 | 9 |
| 52 | 28 880 908 936 964 992 | 957 953 949 945 941 | 453 452 452 452 451 | 618 621 623 626 628 | 32 | 8 |
| 53 | 32 | 941 937 933 929 925 | 451 451 451 450 450 | 628 631 633 636 638 | 28 | 7 |
| 54 | 36 8.10 104 132 160 188 216 | 925 921 917 913 909 | 450 450 449 449 449 | 638 641 643 646 649 | 24 | 6 |
| 55 | | | 448 448 448 447 447 | 649 651 654 656 659 | 8. 20 | 5 |
| 56 | 44 327 355 383 411 438 | 893 889 885 881 878 | 446 445 445 445 444 | 669 671 674 676 679 | 12 | 3 |
| 57 | 48 438 466 494 522 550 | 878 874 870 866 862 | 444 444 443 443 443 | 679 681 684 686 689 | 8 | 2 |
| | | | | | | |
| | Versed | Coversed | Suversed | Sucoversed | | |

| 13 | 6h | Sine | | | | | | Cosine | | | | | | Cosecant | | | | | | Secant | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 103° | 6h | Cosine | | | | | | Sine | | | | | | Cosecant | | | | | | Secant | | | | | | | |
| ′ | m | ″ | 0″ | 15″ | 30″ | 45″ | 60″ | ″ | 0″ | 15″ | 30″ | 45″ | 60″ | ″ | 0″ | 15″ | 30″ | 45″ | 60″ | ″ | 0″ | 15″ | 30″ | 45″ | 60″ | m | s |
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| 5 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 24 | 9.35 | 536 | 549 | 563 | 577 | 590 | | 855 | 854 | 853 | 853 | 852 | | 145 | 146 | 147 | 147 | 148 | | 464 | 451 | 437 | 424 | 410 | 32 | 53 |
| 7 | 28 | | 590 | 604 | 617 | 631 | 644 | | 852 | 851 | 850 | 850 | 849 | | 148 | 149 | 150 | 150 | 151 | | 410 | 396 | 383 | 369 | 356 | 28 | 52 |
| 8 | 32 | | 644 | 658 | 671 | 685 | 698 | | 849 | 848 | 847 | 847 | 846 | | 151 | 152 | 153 | 153 | 154 | | 356 | 342 | 329 | 315 | 302 | 24 | 51 |
| 9 | 36 | | 698 | 712 | 725 | 739 | 752 | | 846 | 845 | 845 | 844 | 843 | | 154 | 155 | 155 | 156 | 157 | | 302 | 288 | 275 | 261 | 248 | 7.20 | 50 |
| 10 | 40 | 9.35 | 7[illegible] | 766 | 779 | 793 | 806 | | | | | | | | | | | | | | | | | | | | |
| 11 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 60 | 9.36 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 4 | | 075 | 089 | 102 | 115 | 129 | | 825 | 824 | 824 | 823 | 822 | | 175 | 176 | 176 | 177 | 178 | | 925 | 911 | 898 | 885 | 871 | 52 | 48 |
| 17 | 8 | | 129 | 142 | 155 | 169 | 182 | | 822 | 821 | 821 | 820 | 819 | | 178 | 179 | 179 | 180 | 181 | | 871 | 858 | 845 | 831 | 818 | 48 | 47 |
| 18 | 12 | | 182 | 195 | 209 | 222 | 235 | | 819 | 818 | 817 | 817 | 816 | | 181 | 182 | 183 | 183 | 184 | | 818 | 805 | 791 | 778 | 765 | 44 | 46 |
| 19 | 16 | | 236 | 249 | 262 | 276 | 289 | | 816 | 816 | 815 | 814 | 813 | | 184 | 184 | 185 | 186 | 187 | | 764 | 751 | 738 | 724 | 711 | 6.40 | 45 |
| 20 | 20 | 9.36 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 40 | 9.36 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 60 | 9.37 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | 16 | 9.37 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 40 | 9.37 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | 52 | | 497 | 510 | 523 | 536 | 549 | | 743 | 743 | 742 | 741 | 740 | | 257 | 257 | 258 | 259 | 260 | | 503 | 490 | 477 | 464 | 451 | 4 | 16 |
| 44 | 56 | | 549 | 562 | 575 | 587 | 600 | | 740 | 740 | 739 | 738 | 737 | | 260 | 260 | 261 | 262 | 263 | | 451 | 438 | 425 | 413 | 400 | 5.0 | 15 |
| 45 | 60 | 9.37 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 46 | 4 | | 652 | 665 | 678 | 691 | 703 | | 734 | 733 | 733 | 732 | 731 | | 266 | 267 | 267 | 268 | 269 | | 348 | 335 | 322 | 309 | 297 | 52 | 13 |
| 47 | 8 | | 703 | 716 | 729 | 742 | 755 | | 731 | 730 | 729 | 729 | 728 | | 269 | 270 | 271 | 271 | 272 | | 297 | 284 | 271 | 258 | 245 | 48 | 12 |
| 48 | 12 | | 755 | 768 | 781 | 793 | 806 | | 728 | 727 | 726 | 726 | 725 | | 272 | 273 | 274 | 274 | 275 | | 245 | 232 | 219 | 207 | 194 | 44 | 11 |
| 49 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 20 | 9.37 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | 24 | | 909 | 922 | 935 | 947 | 960 | | 719 | 718 | 717 | 716 | 715 | | 281 | 282 | 283 | 284 | 285 | | 091 | 078 | 065 | 053 | 040 | 32 | 8 |
| 52 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 53 | 32 | 9.38 | 011 | 024 | 037 | 050 | 062 | | 712 | 712 | 711 | 710 | 709 | | 288 | 288 | 289 | 290 | 291 | 0.61 | 989 | 976 | 963 | 950 | 938 | 24 | 6 |
| 54 | 36 | | 062 | 075 | 088 | 101 | 113 | | 709 | 708 | 708 | 707 | 706 | | 291 | 292 | 292 | 293 | 294 | | 938 | 925 | 912 | 899 | 887 | 4.20 | 5 |
| 55 | 40 | 9.38 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 57 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 59 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | ′ | 60″ | 45″ | 30″ | 15″ | 0″ | ′ | 60″ | 45″ | 30″ | 15″ | 0″ | ′ | 60″ | 45″ | 30″ | 15″ | 0″ | ′ | 60″ | 45″ | 30″ | 15″ | 0″ | m | s |
| | | | Cosine | | | | | | Sine | | | | | | Cosecant | | | | | | Secant | | | | | 14′ | 56″ |
| | | | Cosine | | | | | | Sine | | | | | | Cosecant | | | | | | Secant | | | | | 5h | 76′ |



| ′ | 0h 0′ | Sine / Cosine | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | Cosine / Sine | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | Secant / Cosecant | 0s 0″ | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | Cosecant / Secant | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | | ′ |
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| 12 | 44 | | 921 | 934 | 946 | 959 | 971 | | 656 | 655 | 654 | 653 | 652 | | 344 | 345 | 346 | 347 | 348 | | 079 | 066 | 054 | 041 | 029 | 12 | 48 |
| 13 | 48 | * | 977 | 988 | 996 | 008 | 021 | | 650 | 650 | 651 | 650 | 649 | | 350 | 350 | 349 | 350 | 351 | * | 020 | 016 | 004 | 992 | 979 | 8 | 47 |
| 14 | 52 | 9.39 | 021 | 033 | 046 | 058 | 071 | | 649 | 648 | 648 | 647 | 646 | | 351 | 352 | 352 | 353 | 354 | 0.60 | 979 | 967 | 954 | 942 | 929 | 4 | 46 |
| 15 | 56 | | 071 | 083 | 096 | 108 | 121 | | 646 | 645 | 644 | 644 | 643 | | 354 | 355 | 356 | 356 | 357 | | 929 | 917 | 904 | 892 | 879 | 3. 0 | 45 |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 8 | | 220 | 232 | 245 | 257 | 270 | | 636 | 636 | 635 | 634 | 633 | | 364 | 364 | 365 | 366 | 367 | | 780 | 768 | 755 | 743 | 730 | 48 | 42 |
| 18 | 12 | | 270 | 282 | 294 | 307 | 319 | | 633 | 632 | 631 | 631 | 630 | | 367 | 368 | 369 | 369 | 370 | | 730 | 718 | 706 | 693 | 681 | 44 | 41 |
| 19 | 16 | | 319 | 331 | 344 | 356 | 369 | | 630 | 629 | 628 | 627 | 627 | | 370 | 371 | 372 | 373 | 373 | | 681 | 669 | 656 | 644 | 631 | 2. 40 | 40 |
| 20 | 57. 20 | 9.39 | 369 | 381 | 393 | 406 | 418 | | 627 | 626 | 625 | 624 | 623 | | 373 | 374 | 375 | 376 | 377 | 0.60 | 631 | 619 | 607 | 594 | 582 | 36 | 39 |
| 21 | 24 | | 418 | 430 | 443 | 455 | 467 | | 623 | 623 | 622 | 621 | 620 | | 377 | 377 | 378 | 379 | 380 | | 582 | 570 | 557 | 545 | 533 | 32 | 38 |
| 22 | 28 | | 467 | 480 | 492 | 504 | 517 | | 620 | 619 | 619 | 618 | 617 | | 380 | 381 | 381 | 382 | 383 | | 533 | 520 | 508 | 496 | 483 | 28 | 37 |
| 23 | 32 | | 517 | 529 | 541 | 554 | 566 | | 617 | 616 | 615 | 615 | 614 | | 383 | 384 | 385 | 385 | 386 | | 483 | 471 | 459 | 446 | 434 | 24 | 36 |
| 24 | | | | | | | | | 614 | 613 | 612 | 611 | 610 | | 386 | 387 | 388 | 389 | 390 | | 434 | 422 | 410 | 397 | 385 | 2. 20 | 35 |
| 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | | | | | | | | | 610 | 610 | 609 | 608 | 607 | | 390 | 390 | 391 | 392 | 393 | 0.60 | 385 | 373 | 360 | 348 | 336 | 16 | 34 |
| 27 | | | | | | | | | 607 | 606 | 606 | 605 | 604 | | 393 | 394 | 394 | 395 | 396 | | 336 | 324 | 311 | 299 | 287 | 12 | 33 |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 58. 0 | 9.30 | 860 | 872 | 884 | 897 | 909 | | 601 | 600 | 599 | 598 | 597 | | 399 | 400 | 401 | 402 | 403 | | 238 | 226 | 213 | 201 | 189 | 4 | 31 |
| 31 | 4 | | 909 | 921 | 933 | 945 | 958 | | 597 | 597 | 596 | 595 | 594 | | 403 | 403 | 404 | 405 | 406 | | 180 | 167 | 155 | 142 | 130 | 2. 0 | 30 |
| 32 | 8 | * | 958 | 970 | 982 | 994 | 006 | | 594 | 593 | 592 | 592 | 591 | | 406 | 407 | 408 | 408 | 409 | 0.60 | 130 | 118 | 106 | 094 | 082 | | |
| 33 | 12 | 9.40 | 006 | 018 | 031 | 043 | 055 | | 591 | 590 | 589 | 588 | 588 | | 409 | 410 | 411 | 412 | 412 | | 091 | 079 | 067 | 055 | 043 | | |
| 34 | 16 | | 055 | 067 | 079 | 091 | 103 | | 588 | 587 | 586 | 585 | 584 | | 412 | 413 | 414 | 415 | 416 | * | 042 | 030 | 018 | 006 | 994 | | |
| 35 | 58. 20 | 9.40 | 103 | 116 | 128 | 140 | 152 | | 584 | 584 | 583 | 582 | 581 | | 416 | 416 | 417 | 418 | | | | | | | | | |
| 36 | 24 | | 152 | 164 | 176 | 188 | 200 | | 581 | 580 | 579 | 578 | 578 | | 419 | 420 | 421 | 421 | | | | | | | | | |
| 37 | 28 | | 200 | 213 | 225 | 237 | 249 | | 578 | 577 | 576 | 575 | 574 | | 422 | 423 | 424 | 425 | 426 | 0.59 | 897 | 884 | 872 | 860 | 848 | | |
| 38 | 32 | | 249 | 261 | 273 | 285 | 297 | | 574 | 574 | 573 | 572 | 571 | | 426 | 426 | 427 | 428 | 429 | | 848 | 836 | 824 | 812 | 800 | 32 | 21 |
| 39 | | | | | | | | | 571 | 570 | 570 | 569 | 568 | | 429 | 430 | 430 | 431 | 432 | | 800 | 788 | | | | | |
| 40 | | | | | | | | | 568 | 567 | 566 | 565 | 565 | | 432 | 433 | 434 | 435 | 436 | | | | | | | | |
| 41 | | | | | | | | | 565 | 564 | 563 | 562 | 561 | | 435 | 436 | 437 | | | | | | | | | | |
| 42 | | | 346 | 358 | 370 | 382 | 394 | | 561 | 560 | 560 | 559 | 558 | | 439 | 440 | 440 | | | | | | | | | | |
| 43 | | | 406 | 418 | 430 | 442 | | | 558 | 557 | 556 | 556 | 555 | | 442 | 443 | 444 | | | | | | | | | | |
| 44 | | | 454 | 466 | 478 | 490 | | | 555 | 554 | 553 | 552 | 551 | | 445 | 446 | 447 | | | | | | | | | | |
| 45 | | | | | | | | | 551 | 551 | 550 | 549 | 548 | | 449 | 449 | 450 | | | | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | 545 | 544 | 5 | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | 541 | 541 | 5 | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | 538 | 537 | 5 | | | | | | | | | | | | | | | | |
| 50 | | | | | | | | | 535 | 534 | 5 | | | | | | | | | | | | | | | | |
| 51 | | | | | | | | | 531 | 531 | 5 | | | | | | | | | | | | | | | | |
| 52 | | | | | 7 | 849 | 861 | 873 | 528 | 527 | 526 | 526 | 525 | | 472 | 473 | 474 | 474 | 475 | 0.59 | 175 | 163 | 151 | 139 | 12 | | |
| 53 | | | | | 5 | 897 | 909 | 921 | 525 | 524 | 523 | 522 | 521 | | 475 | 476 | 477 | 478 | 479 | | 127 | 115 | 103 | 091 | 07 | | |
| 54 | | | 921 | 933 | 944 | 956 | 968 | | 521 | 520 | 520 | 519 | 518 | | 479 | 480 | 480 | 481 | 482 | | 079 | 067 | 056 | 044 | 032 | 28 | |
| 55 | | | | | | | | | 518 | 517 | 516 | 516 | 515 | | 482 | 483 | 484 | 484 | 485 | * | 032 | 020 | 008 | 996 | 984 | 24 | |
| 56 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ′ | m s | Versed / Coversed | | | | | |
|---|---|---|---|---|---|---|---|
| | ° | ° | 15′ | 30′ | 45′ | 60′ | |
| | ° | 0° | 1° | 2° | 3° | 4° | |
| 0 | 50. 0 | 8. 17 | 170 | 205 | 239 | 274 | 308 |
| 1 | 4 | | 282 | 307 | 333 | 359 | 384 |
| 2 | 8 | | 384 | 410 | 436 | 462 | 487 |
| 3 | 12 | | 487 | 513 | 538 | 564 | 589 |
| 4 | 16 | | 589 | 615 | 641 | 666 | 692 |
| 5 | 50. 20 | 8. 17 | 692 | 717 | 743 | 768 | 794 |
| 6 | 24 | | 794 | 820 | 845 | 871 | 896 |
| 7 | 28 | | 896 | 922 | 947 | 973 | 998 |
| 8 | 32 | * | 998 | 024 | 050 | 074 | 100 |
| 9 | 36 | 8. 18 | 100 | 125 | 151 | 176 | 202 |
| 10 | 56. 40 | 8. 18 | 202 | 227 | 252 | 278 | 303 |
| 11 | 44 | | 303 | 329 | 354 | 379 | 405 |
| 12 | 48 | | 405 | 430 | 455 | 481 | 506 |
| 13 | 52 | | 506 | 531 | 557 | 582 | 607 |
| 14 | 56 | | 607 | 633 | 658 | 683 | 708 |
| 15 | 57. 0 | 8. 18 | 708 | 734 | 759 | 784 | 809 |
| 16 | 4 | | 809 | 835 | 860 | 885 | 910 |
| 17 | 8 | * | 910 | 936 | 961 | 986 | 011 |
| 18 | 12 | 8. 19 | 011 | 036 | 061 | 087 | 112 |
| 19 | 16 | | 112 | 137 | 162 | 187 | 213 |
| 20 | 57. 20 | 8. 19 | 213 | 238 | 263 | 288 | 314 |
| 21 | 24 | | 313 | 338 | 363 | 388 | 413 |
| 22 | 28 | | 413 | 438 | 463 | 488 | 513 |
| 23 | 32 | | 513 | 538 | 563 | 588 | 613 |
| 24 | 36 | | 613 | 638 | 663 | 688 | 713 |
| 25 | 57. 40 | 8. 19 | 713 | 738 | 763 | 788 | 813 |
| 26 | 44 | | 813 | 838 | 863 | 888 | 913 |
| 27 | 48 | * | 913 | 938 | 963 | 987 | 012 |
| 28 | 52 | 8. 20 | 012 | 037 | 062 | 087 | 112 |
| 29 | 56 | | 112 | 137 | 161 | 186 | 211 |
| 30 | 58. 0 | 8. 20 | 211 | 236 | 261 | 286 | 311 |
| 31 | 4 | | 311 | 336 | 361 | 385 | 410 |
| 32 | 8 | | 410 | 435 | 460 | 484 | 509 |
| 33 | 12 | | 509 | 534 | 558 | 583 | 608 |
| 34 | 16 | | 608 | 632 | 657 | 682 | 706 |
| 35 | 58. 20 | 8. 20 | 706 | 731 | 756 | 780 | 805 |
| 36 | 24 | | 805 | 829 | 854 | 878 | 903 |
| 37 | 28 | * | 903 | 928 | 952 | 977 | 001 |
| 38 | 32 | 8. 21 | 001 | 026 | 050 | 074 | 099 |
| 39 | 36 | | 099 | 123 | 148 | 172 | 196 |
| 40 | 58. 40 | 8. 21 | 196 | 221 | 245 | 269 | 293 |
| 41 | 44 | | 293 | 317 | 342 | 366 | 390 |
| 42 | 48 | | 390 | 414 | 438 | 462 | 486 |
| 43 | 52 | | 486 | 510 | 534 | 558 | 582 |
| 44 | 56 | | 582 | 606 | 630 | 654 | 678 |
| 45 | 59. 0 | 8. 21 | 678 | 702 | 726 | 750 | 774 |
| 46 | 4 | | 774 | 797 | 821 | 845 | 869 |
| 47 | 8 | | 869 | 893 | 917 | 941 | 964 |
| 48 | 12 | * | 964 | 988 | 012 | 035 | 059 |
| 49 | 16 | 8. 22 | 059 | 083 | 106 | 130 | 154 |
| 50 | 59. 20 | 8. 22 | 154 | 177 | 201 | 224 | 248 |
| 51 | 24 | | 248 | 271 | 295 | 318 | 342 |
| 52 | 28 | | 342 | 365 | 389 | 412 | 435 |
| 53 | 32 | | 435 | 459 | 482 | 505 | 529 |
| 54 | 36 | | 529 | 552 | 575 | 598 | 622 |
| 55 | 59. 40 | 8. 22 | 622 | 645 | 668 | 691 | 715 |
| 56 | 44 | | 715 | 738 | 761 | 784 | 807 |
| 57 | 48 | | 807 | 830 | 853 | 876 | 899 |
| 58 | 52 | | 899 | 922 | 945 | 968 | 991 |
| 59 | 56 | 8. 23 | 991 | 014 | 037 | 060 | 083 |
| | | ° | 15′ | 30′ | 45′ | 60′ | |
| | | 0° | 1° | 2° | 3° | 4° | |
| | | Suversed / Coversed | | | | | |

| ′ | Coversed / Suversed | | | | | |
|---|---|---|---|---|---|---|
| | ° | 15′ | 30′ | 45′ | 60′ | |
| | 0° | 1° | 2° | 3° | 4° | |
| 0 | 9. 57 | 808 | 804 | 800 | 796 | 792 |
| 1 | | 792 | 788 | 784 | 780 | 776 |
| 2 | | 776 | 772 | 768 | 764 | 760 |
| 3 | | 820 | 816 | 812 | 808 | 804 |
| 4 | | 804 | 800 | 796 | 792 | 787 |
| 5 | 9. 57 | 787 | 783 | 779 | 775 | 771 |
| 6 | | 771 | 767 | 763 | 759 | 755 |
| 7 | | 755 | 751 | 747 | 743 | 739 |
| 8 | | 739 | 735 | 731 | 727 | 723 |
| 9 | | 723 | 719 | 715 | 711 | 706 |
| 10 | 9. 57 | 706 | 702 | 698 | 694 | 690 |
| 11 | | 690 | 686 | 682 | 678 | 674 |
| 12 | | 674 | 670 | 666 | 662 | 658 |
| 13 | | 658 | 654 | 650 | 646 | 642 |
| 14 | | 642 | 637 | 633 | 629 | 625 |
| 15 | 9. 57 | 625 | 621 | 617 | 613 | 609 |
| 16 | | 609 | 605 | 601 | 597 | 593 |
| 17 | | 593 | 589 | 585 | 581 | 577 |
| 18 | | 577 | 572 | 568 | 564 | 560 |
| 19 | | 560 | 556 | 552 | 548 | 544 |
| 20 | 9. 57 | 544 | 540 | 536 | 532 | 528 |
| 21 | | 528 | 524 | 520 | 516 | 511 |
| 22 | | 511 | 507 | 503 | 499 | 495 |
| 23 | | 495 | 491 | 487 | 483 | 479 |
| 24 | | 479 | 475 | 471 | 467 | 463 |
| 25 | 9. 57 | 463 | 459 | 454 | 450 | 446 |
| 26 | | 446 | 442 | 438 | 434 | 430 |
| 27 | | 430 | 426 | 422 | 418 | 414 |
| 28 | | 414 | 410 | 406 | 402 | 397 |
| 29 | | 397 | 393 | 389 | 385 | 381 |
| 30 | 9. 57 | 381 | 377 | 373 | 369 | 365 |
| 31 | | 365 | 361 | 357 | 353 | 349 |
| 32 | | 349 | 345 | 341 | 337 | 333 |
| 33 | | 333 | 329 | 325 | 321 | 316 |
| 34 | | 316 | 312 | 308 | 304 | 300 |
| 35 | 9. 57 | 300 | 296 | 292 | 288 | 284 |
| 36 | | 284 | 280 | 276 | 271 | 267 |
| 37 | | 267 | 263 | 259 | 255 | 250 |
| 38 | | 250 | 246 | 242 | 238 | 234 |
| 39 | | 234 | 230 | 226 | 222 | 218 |
| 40 | 9. 57 | 218 | 214 | 210 | 206 | 201 |
| 41 | | 201 | 197 | 193 | 189 | 185 |
| 42 | | 185 | 181 | 177 | 173 | 169 |
| 43 | | 169 | 164 | 160 | 156 | 152 |
| 44 | | 152 | 148 | 144 | 140 | 136 |
| 45 | 9. 57 | 136 | 132 | 128 | 124 | 119 |
| 46 | | 119 | 115 | 111 | 107 | 103 |
| 47 | | 103 | 099 | 095 | 091 | 087 |
| 48 | | 087 | 083 | 078 | 074 | 070 |
| 49 | | 070 | 066 | 062 | 058 | 054 |
| 50 | 9. 57 | 054 | 049 | 045 | 041 | 037 |
| 51 | | 037 | 033 | 029 | 025 | 021 |
| 52 | | 021 | 017 | 013 | 009 | 004 |
| 53 | | 004 | 000 | 996 | 992 | 988 |
| 54 | | 988 | 984 | 980 | 976 | 972 |
| 55 | 9. 57 | 972 | 968 | 964 | 960 | 955 |
| 56 | | 955 | 951 | 947 | 943 | 939 |
| 57 | | 939 | 935 | 931 | 927 | 923 |
| 58 | | 923 | 919 | 914 | 910 | 906 |
| 59 | | 906 | 902 | 898 | 894 | 890 |
| | ° | 15′ | 30′ | 45′ | 60′ | |
| | 0° | 1° | 2° | 3° | 4° | |
| | Coversed / Versed | | | | | |

| ′ | Suversed / Sucoversed | | | | | |
|---|---|---|---|---|---|---|
| | ° | 15′ | 30′ | 45′ | 60′ | |
| | 0° | 1° | 2° | 3° | 4° | |
| 0 | 9. 99 | 350 | 349 | 348 | 347 | 346 |
| 1 | | 346 | 345 | 344 | 343 | 342 |
| 2 | | 342 | 341 | 340 | 339 | 338 |
| 3 | | 345 | 345 | 345 | 344 | 344 |
| 4 | | 344 | 344 | 343 | 343 | 342 |
| 5 | 9. 99 | 342 | 342 | 342 | 341 | 341 |
| 6 | | 341 | 340 | 340 | 340 | 339 |
| 7 | | 339 | 339 | 338 | 338 | 338 |
| 8 | | 338 | 337 | 337 | 336 | 336 |
| 9 | | 336 | 336 | 335 | 335 | 335 |
| 10 | 9. 99 | 335 | 334 | 334 | 333 | 333 |
| 11 | | 333 | 332 | 332 | 331 | 331 |
| 12 | | 331 | 331 | 331 | 330 | 330 |
| 13 | | 330 | 329 | 329 | 329 | 328 |
| 14 | | 328 | 328 | 327 | 327 | 327 |
| 15 | 9. 99 | 327 | 326 | 326 | 326 | 325 |
| 16 | | 325 | 325 | 324 | 324 | 324 |
| 17 | | 323 | 323 | 323 | 322 | 322 |
| 18 | | 322 | 322 | 321 | 321 | 320 |
| 19 | | 320 | 320 | 320 | 319 | 319 |
| 20 | 9. 99 | 319 | 318 | 318 | 318 | 317 |
| 21 | | 317 | 317 | 316 | 316 | 316 |
| 22 | | 316 | 315 | 315 | 314 | 314 |
| 23 | | 314 | 314 | 313 | 313 | 312 |
| 24 | | 312 | 312 | 312 | 311 | 311 |
| 25 | 9. 99 | 311 | 310 | 310 | 310 | 309 |
| 26 | | 309 | 309 | 308 | 308 | 308 |
| 27 | | 308 | 307 | 307 | 306 | 306 |
| 28 | | 306 | 306 | 305 | 305 | 304 |
| 29 | | 304 | 304 | 304 | 303 | 303 |
| 30 | 9. 99 | 303 | 302 | 302 | 301 | 301 |
| 31 | | 301 | 301 | 300 | 300 | 299 |
| 32 | | 299 | 299 | 298 | 298 | 298 |
| 33 | | 298 | 297 | 297 | 296 | 296 |
| 34 | | 296 | 295 | 295 | 295 | 294 |
| 35 | 9. 99 | 294 | 294 | 293 | 293 | 293 |
| 36 | | 293 | 292 | 292 | 291 | 291 |
| 37 | | 291 | 291 | 290 | 290 | 289 |
| 38 | | 289 | 288 | 288 | 287 | 287 |
| 39 | | 287 | 286 | 286 | 285 | 285 |
| 40 | 9. 99 | 285 | 285 | 284 | 284 | 283 |
| 41 | | 283 | 283 | 283 | 282 | 282 |
| 42 | | 282 | 281 | 281 | 280 | 280 |
| 43 | | 280 | 279 | 279 | 278 | 278 |
| 44 | | 278 | 277 | 277 | 276 | 276 |
| 45 | 9. 99 | 276 | 275 | 275 | 275 | 274 |
| 46 | | 274 | 274 | 273 | 273 | 273 |
| 47 | | 273 | 272 | 272 | 271 | 271 |
| 48 | | 271 | 270 | 270 | 270 | 269 |
| 49 | | 269 | 269 | 268 | 268 | 268 |
| 50 | 9. 99 | 267 | 267 | 267 | 266 | 266 |
| 51 | | 266 | 265 | 265 | 265 | 264 |
| 52 | | 264 | 264 | 263 | 263 | 263 |
| 53 | | 265 | 265 | 264 | 264 | 264 |
| 54 | | 263 | 263 | 263 | 262 | 262 |
| 55 | 9. 99 | 262 | 262 | 261 | 261 | 261 |
| 56 | | 260 | 260 | 260 | 259 | 259 |
| 57 | | 259 | 258 | 258 | 257 | 257 |
| 58 | | 257 | 257 | 256 | 256 | 255 |
| 59 | | 255 | 254 | 254 | 253 | 253 |
| | ° | 15′ | 30′ | 45′ | 60′ | |
| | 0° | 1° | 2° | 3° | 4° | |
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| ′ | Sucoversed / Versed | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | ° | 15′ | 30′ | 45′ | 60′ | | | |
| | 0° | 1° | 2° | 3° | 4° | | | |
| 0 | 9. 79 | 307 | 308 | 311 | 314 | 316 | 3 | 51 |
| 1 | | 316 | 319 | 321 | 324 | 327 | 5 | 53 |
| 2 | | 327 | 329 | 331 | 334 | 337 | 5 | 55 |
| 3 | | 336 | 338 | 341 | 343 | 346 | 44 | 56 |
| 4 | | 346 | 348 | 351 | 353 | 356 | 3. 40 | 55 |
| 5 | 9. 79 | 356 | 358 | 361 | 363 | 366 | 36 | 54 |
| 6 | | 366 | 368 | 371 | 373 | 375 | 32 | 53 |
| 7 | | 375 | 378 | 380 | 383 | 385 | 28 | 52 |
| 8 | | 385 | 388 | 390 | 393 | 395 | 24 | 51 |
| 9 | | 395 | 398 | 400 | 403 | 405 | 3. 20 | 50 |
| 10 | 9. 79 | 405 | 407 | 410 | 412 | 415 | 16 | 49 |
| 11 | | 415 | 417 | 420 | 422 | 425 | 12 | 48 |
| 12 | | 425 | 427 | 430 | 432 | 434 | 8 | 47 |
| 13 | | 434 | 437 | 439 | 442 | 444 | 4 | 46 |
| 14 | | 444 | 447 | 449 | 452 | 454 | 3. 0 | 45 |
| 15 | 9. 79 | 454 | 457 | 459 | 462 | 464 | 56 | 44 |
| 16 | | 464 | 467 | 469 | 472 | 474 | 52 | 43 |
| 17 | | 474 | 476 | 479 | 481 | 484 | 48 | 42 |
| 18 | | 484 | 486 | 489 | 491 | 493 | 44 | 41 |
| 19 | | 493 | 496 | 498 | 501 | 503 | 2. 40 | 40 |
| 20 | 9. 79 | 503 | 506 | 508 | 511 | 513 | 36 | 39 |
| 21 | | 513 | 516 | 518 | 521 | 523 | 32 | 38 |
| 22 | | 523 | 526 | 528 | 531 | 533 | 28 | 37 |
| 23 | | 533 | 535 | 538 | 540 | 542 | 24 | 36 |
| 24 | | 542 | 545 | 547 | 550 | 552 | 2. 20 | 35 |
| 25 | 9. 79 | 552 | 555 | 557 | 560 | 562 | 16 | 34 |
| 26 | | 562 | 564 | 567 | 569 | 572 | 12 | 33 |
| 27 | | 572 | 574 | 577 | 579 | 582 | 8 | 32 |
| 28 | | 582 | 584 | 587 | 589 | 591 | 4 | 31 |
| 29 | | 591 | 594 | 596 | 599 | 601 | 1. 56 | 30 |
| 30 | 9. 79 | 601 | 604 | 606 | 608 | 611 | 52 | 29 |
| 31 | | 611 | 613 | 616 | 618 | 621 | 48 | 28 |
| 32 | | 621 | 623 | 626 | 628 | 631 | 44 | 27 |
| 33 | | 631 | 633 | 635 | 638 | 640 | 40 | 26 |
| 34 | | 640 | 643 | 645 | 648 | 650 | 1. 36 | 25 |
| 35 | 9. 79 | 650 | 653 | 655 | 657 | 660 | 32 | 24 |
| 36 | | 660 | 662 | 665 | 667 | 669 | 28 | 23 |
| 37 | | 669 | 672 | 674 | 677 | 679 | 24 | 22 |
| 38 | | 679 | 681 | 684 | 686 | 688 | 20 | 21 |
| 39 | | 688 | 691 | 693 | 695 | 698 | 1. 16 | 20 |
| 40 | 9. 79 | 698 | 700 | 702 | 705 | 707 | 12 | 19 |
| 41 | | 707 | 709 | 712 | 714 | 716 | 8 | 18 |
| 42 | | 716 | 719 | 721 | 723 | 726 | 4 | 17 |
| 43 | | 726 | 728 | 730 | 733 | 735 | 0. 56 | 16 |
| 44 | | 735 | 737 | 740 | 742 | 744 | 52 | 15 |
| 45 | 9. 79 | 744 | 747 | 749 | 751 | 753 | 48 | 14 |
| 46 | | 753 | 756 | 758 | 760 | 762 | 44 | 13 |
| 47 | | 762 | 765 | 767 | 769 | 771 | 40 | 12 |
| 48 | | 771 | 774 | 776 | 778 | 780 | 36 | 11 |
| 49 | | 780 | 783 | 785 | 787 | 789 | 32 | 10 |
| 50 | 9. 79 | 789 | 792 | 794 | 796 | 798 | 28 | 9 |
| 51 | | 798 | 801 | 803 | 805 | 807 | 24 | 8 |
| 52 | | 807 | 810 | 812 | 814 | 816 | 20 | 7 |
| 53 | | 816 | 818 | 821 | 823 | 825 | 16 | 6 |
| 54 | | 825 | 828 | 830 | 832 | 834 | 12 | 5 |
| 55 | 9. 79 | 834 | 837 | 839 | 841 | 843 | 8 | 4 |
| 56 | | 843 | 846 | 848 | 850 | 852 | 4 | 3 |
| 57 | | 852 | 855 | 857 | 859 | 861 | 0. 56 | 2 |
| 58 | | 861 | 864 | 866 | 868 | 870 | 52 | 1 |
| 59 | | 870 | 873 | 875 | 877 | 879 | 48 | 0 |
| | ° | 15′ | 30′ | 45′ | 60′ | | m | ′ |
| | 0° | 1° | 2° | 3° | 4° | | 11 | 0 |
| | Sucoversed / Suversed | | | | | | 5h | 75 |

| ′ | | Sine / Cosine | | | | | | Cosine / Sine′ | | | | | | Secant / Cosecant | | | | | | Cosecant / Secant | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7′ | | | 15″ 1″ | | 45″ 3″ | 60″ 4″ | 0″ 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | | 0″ 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | | 0″ 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | | | |
| 0 | | 9.41 | | | | | | 9.98 | | | | | | 0.01 | | | | | | 0.58 | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | 9.41 | | | | | | 9.98 | | | | | | 0.01 | | | | | | 0.58 | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 28 | | 628 | 640 | 652 | 663 | 675 | | 471 | 470 | 469 | 468 | 467 | | 529 | 530 | 531 | 532 | 533 | | 372 | 360 | 348 | 337 | 325 | 28 | 52 |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | 24 | 51 |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | | | 0. 20 | 50 |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 44 | | 815 | 827 | 838 | 850 | 861 | | 457 | 456 | 455 | 454 | 454 | | 543 | 544 | 545 | 546 | 546 | | 185 | 173 | 162 | 150 | 139 | 12 | 48 |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 52 | | 908 | 920 | 931 | 943 | 954 | | 450 | 449 | 448 | 447 | 447 | | 550 | 551 | 552 | 553 | 553 | | 092 | 080 | 069 | 057 | 046 | 4 | 46 |
| 14 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | 9.42 | | | | | | 9.98 | | | | | | 0.01 | | | | | | 0.57 | | | | | | | |
| 16 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | | 9.42 | | | | | | 9.98 | | | | | | 0.01 | | | | | | 0.57 | | | | | | | |
| 21 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | | 9.42 | | | | | | 9.98 | | | | | | 0.01 | | | | | | 0.57 | | | | | | | |
| 26 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | | 9.42 | | | | | | 9.98 | | | | | | 0.01 | | | | | | 0.57 | | | | | | | |
| 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | 24 | | 827 | 838 | 849 | 860 | 872 | | 381 | 380 | 379 | 378 | 377 | | 619 | 620 | 621 | 622 | 623 | | 174 | 162 | 151 | 140 | 128 | 44 | 26 |
| 34 | 16 | | 872 | 883 | 894 | 906 | 917 | | 377 | 376 | 375 | 374 | 373 | | 623 | 624 | 625 | 626 | 627 | | 128 | 117 | 106 | 094 | 083 | 57. 40 | 25 |
| 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | 28 | 9.43 | 008 | 019 | 030 | 041 | 053 | | 366 | 366 | 365 | 364 | 363 | | 634 | 634 | 635 | 636 | 637 | 0.56 | 993 | 981 | 970 | 959 | 947 | 28 | 22 |
| 38 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | | | | | | | | | | | | | | | | | | | | | | | | | | 57. | |
| 40 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | 3. 0 | 9.43 | 367 | 379 | 390 | 401 | 412 | 9.98 | 338 | 337 | 336 | 335 | 334 | 0.01 | 662 | 663 | 664 | 665 | 666 | 0.56 | 633 | 621 | 610 | 599 | 588 | 56 | 14 |
| 46 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | 5 | 15 |
| 47 | 8 | | 457 | 468 | 479 | 490 | 502 | | 331 | 330 | 329 | 328 | 327 | | 669 | 670 | 671 | 672 | 673 | | 443 | 532 | 521 | 510 | 498 | 4 | 11 |
| 48 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | 14 | 11 |
| 49 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | 5 | |
| 52 | 28 | | 680 | 691 | 702 | 713 | 724 | | 313 | 312 | 311 | 310 | 309 | | 687 | 688 | 689 | 690 | 691 | | 320 | 309 | 298 | 287 | 276 | 28 | |
| 53 | 32 | | 724 | 735 | 746 | 758 | 769 | | 309 | 309 | 308 | 307 | 306 | | 691 | 691 | 692 | 693 | 694 | | 276 | 265 | 254 | 242 | 231 | 24 | |
| 54 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56 | 44 | | 857 | 868 | 879 | 890 | 901 | | 299 | 298 | 297 | 296 | 295 | | 701 | 702 | 703 | 704 | 705 | | 143 | 132 | 121 | 110 | 099 | 12 | 3 |
| 57 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58 | 52 | | 946 | 957 | 968 | 979 | 990 | | 291 | 291 | 290 | 289 | 288 | | 709 | 709 | 710 | 711 | 712 | | 054 | 043 | 032 | 021 | 010 | 4 | 1 |
| 59 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 4″ 60″ | | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0″ | 60″ | | 45″ | 30″ | 15″ | 0″ | 60″ | | 45″ | 30″ | 15″ | 0″ | 60″ | | 45″ | 30″ | 15″ | 0″ | m | s |
| | | Cosine | | | | | | | | | | | | Secant / Cosecant | | | | | | Cosecant / Secant | | | | | | | |

| ′ | m s | Verſed / Coverſed 0° | 15′ 1s | 30′ 2s | 45′ 3s | 60′ 4s | Coverſed / Suverſed 0° | 15′ 1s | 30′ 2s | 45′ 3s | 60′ 4s | Suverſed / Sucoverſed 0° | 15′ 1s | 30′ 2s | 45′ 3s | 60′ 4s | Sucoverſed / Verſed 0° | 15′ 1s | 30′ 2s | 45′ 3s | 60′ 4s | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0. 0 | 8. 23 | 147 | 192 | 237 | 283 | 9. 56 | 880 | 835 | 791 | 747 | 703 | 9. 99 | 254 | 253 | 252 | 251 | 250 | 9. 79 | 903 | 905 | 907 | 909 | 911 | 0 | 00 |
| 1 | 4 | | 235 | 259 | 283 | 307 | | 872 | 827 | 783 | 739 | 695 | | 253 | 252 | 251 | 250 | 249 | | 908 | 910 | 913 | 915 | 917 | 0 | 58 |
| 2 | 8 | | 331 | 355 | 379 | 403 | | 856 | 852 | 848 | 844 | 840 | | 250 | 250 | 250 | 249 | 249 | | 913 | 915 | 918 | 920 | 922 | 48 | 57 |
| 3 | 12 | | 427 | 451 | 475 | 499 | | 848 | 844 | 840 | 836 | 832 | | 248 | 248 | 248 | 247 | 247 | | 917 | 920 | 922 | 924 | 926 | 44 | 56 |
| 4 | 16 | | 522 | 546 | 570 | 594 | | 832 | 828 | 824 | 820 | 816 | | 247 | 247 | 246 | 246 | 245 | | 921 | 924 | 926 | 928 | 930 | 40 | 55 |
| 5 | 0. 20 | 8. 23 | 618 | 642 | 666 | 690 | 9. 56 | 816 | 812 | 808 | 804 | 800 | 9. 99 | 245 | 245 | 244 | 244 | 244 | 9. 79 | 934 | 937 | 939 | 941 | 943 | 36 | 54 |
| 6 | 24 | | 713 | 737 | 761 | 785 | | 791 | 786 | 782 | 778 | 774 | | 244 | 243 | 243 | 242 | 242 | | 951 | 954 | 956 | 959 | 961 | 32 | 53 |
| 7 | 28 | | 809 | 832 | 856 | 880 | | 774 | 770 | 766 | 762 | 758 | | 243 | 242 | 241 | 241 | 240 | | 967 | 970 | 973 | 975 | 978 | 28 | 52 |
| 8 | 32 | | 904 | 928 | 951 | 975 | 999 | 758 | 753 | 749 | 745 | 741 | | 240 | 240 | 239 | 239 | 239 | | 971 | 973 | 976 | 978 | 980 | 24 | 51 |
| 9 | 36 | | 999 | 023 | 047 | 071 | 095 | 741 | 737 | 733 | 729 | 725 | | 239 | 238 | 238 | 237 | 237 | | 988 | 990 | 993 | 995 | 997 | 20 | 50 |
| 10 | 0. 40 | 8. 24 | 094 | 117 | 141 | 165 | 189 | 9. 56 | 725 | 720 | 716 | 712 | 708 | 9. 99 | 237 | 237 | 236 | 236 | 235 | * | 990 | 993 | 995 | 997 | 000 | 16 | 49 |
| 11 | 44 | | 189 | 212 | 236 | 260 | 283 | | 708 | 704 | 700 | 696 | 691 | | 235 | 235 | 234 | 234 | 234 | 9. 80 | 002 | 005 | 007 | 009 | 012 | 12 | 48 |
| 12 | 48 | | 283 | 307 | 331 | 354 | 378 | | 691 | 687 | 683 | 679 | 675 | | 234 | 233 | 233 | 232 | 232 | | 009 | 012 | 014 | 016 | 019 | 8 | 47 |
| 13 | 52 | | 378 | 402 | 425 | 449 | 472 | | 675 | 671 | 667 | 663 | 658 | | 233 | 232 | 231 | 231 | 230 | | 016 | 021 | 023 | 026 | 028 | 4 | 46 |
| 14 | 56 | | 472 | 496 | 520 | 543 | 567 | | 658 | 654 | 650 | 646 | 642 | | 230 | 230 | 229 | 229 | 229 | | 029 | 031 | 034 | 036 | 038 | 00. 40 | 45 |
| 15 | 1. 0 | 8. 24 | 567 | 590 | 614 | 638 | 661 | 9. 56 | 642 | 638 | 634 | 629 | 625 | 9. 99 | 229 | 228 | 228 | 227 | 227 | 9. 80 | 043 | 046 | 048 | 050 | 053 | 56 | 44 |
| 16 | 4 | | 661 | 685 | 708 | 732 | 755 | | 625 | 621 | 617 | 613 | 609 | | 227 | 226 | 226 | 226 | 225 | | 048 | 050 | 053 | 055 | 058 | 52 | 43 |
| 17 | 8 | | 755 | 779 | 802 | 826 | 850 | | 609 | 605 | 601 | 597 | 593 | | 225 | 225 | 224 | 224 | 223 | | 053 | 055 | 058 | 060 | 062 | 48 | 42 |
| 18 | 12 | | 850 | 873 | 897 | 921 | 944 | | 593 | 589 | 585 | 581 | 577 | | 223 | 223 | 222 | 222 | 221 | | 058 | 060 | 062 | 065 | 067 | 44 | 41 |
| 19 | 16 | * | 944 | 967 | 990 | 014 | 037 | | 576 | 571 | 567 | 563 | 559 | | 222 | 221 | 221 | 220 | 220 | | 077 | 079 | 082 | 084 | 087 | 58. 40 | 40 |
| 20 | 1. 20 | 8. 25 | 037 | 061 | 084 | 108 | 131 | 9. 56 | 559 | 555 | 551 | 547 | 543 | 9. 99 | 220 | 220 | 219 | 219 | 218 | 9. 80 | 087 | 090 | 091 | 094 | 096 | 36 | 39 |
| 21 | 24 | | 131 | 155 | 178 | 202 | 225 | | 543 | 538 | 534 | 530 | 526 | | 218 | 218 | 218 | 217 | 217 | | 096 | 099 | 101 | 103 | 106 | 32 | 38 |
| 22 | 28 | | 225 | 248 | 272 | 295 | 319 | | 526 | 522 | 518 | 514 | 510 | | 217 | 216 | 216 | 215 | 215 | | 106 | 108 | 111 | 113 | 116 | 28 | 37 |
| 23 | 32 | | 319 | 342 | 365 | 389 | 412 | | 509 | 505 | 501 | 497 | 493 | | 215 | 215 | 214 | 214 | 213 | | 116 | 118 | 120 | 123 | 125 | 24 | 36 |
| 24 | 36 | | 412 | 435 | 459 | 482 | 505 | | 493 | 489 | 485 | 481 | 477 | | 213 | 213 | 212 | 212 | 211 | | 125 | 128 | 130 | 132 | 135 | 20 | 35 |
| 25 | 1. 40 | 8. 25 | 505 | 529 | 552 | 575 | 599 | 9. 56 | 476 | 472 | 468 | 464 | 460 | 9. 99 | 212 | 211 | 211 | 210 | 210 | 9. 80 | 135 | 137 | 140 | 142 | 144 | 16 | 34 |
| 26 | 44 | | 599 | 622 | 645 | 669 | 692 | | 460 | 456 | 451 | 447 | 443 | | 210 | 209 | 209 | 209 | 208 | | 144 | 147 | 149 | 152 | 154 | 12 | 33 |
| 27 | 48 | | 692 | 715 | 738 | 762 | 785 | | 443 | 439 | 435 | 431 | 426 | | 208 | 208 | 207 | 207 | 206 | | 154 | 157 | 159 | 161 | 164 | 8 | 32 |
| 28 | 52 | | 785 | 808 | 832 | 855 | 878 | | 426 | 422 | 418 | 414 | 410 | | 206 | 205 | 205 | 204 | 204 | | 164 | 166 | 169 | 171 | 173 | 4 | 31 |
| 29 | 56 | | 878 | 901 | 924 | 948 | 971 | | 410 | 406 | 402 | 398 | 394 | | 203 | 203 | 202 | 202 | 201 | | 173 | 176 | 178 | 180 | 183 | 00. 44 | 30 |
| 30 | 2. 0 | * | 971 | 994 | 017 | 041 | 064 | 9. 56 | 394 | 389 | 385 | 381 | 377 | 9. 99 | 201 | 200 | 200 | 199 | 199 | 9. 80 | 183 | 185 | 188 | 190 | 192 | 56 | 29 |
| 31 | 4 | 8. 26 | 064 | 087 | 111 | 134 | 157 | | 377 | 373 | 369 | 365 | 361 | | 199 | 198 | 198 | 197 | 197 | | 192 | 195 | 197 | 200 | 202 | 52 | 28 |
| 32 | 8 | | 157 | 181 | 204 | 227 | 251 | | 361 | 357 | 353 | 349 | 345 | | 197 | 196 | 196 | 196 | 195 | | 202 | 204 | 207 | 209 | 212 | 48 | 27 |
| 33 | 12 | | 251 | 274 | 297 | 321 | 344 | | 345 | 341 | 337 | 333 | 329 | | 195 | 195 | 194 | 194 | 193 | | 212 | 214 | 216 | 219 | 221 | 44 | 26 |
| 34 | 16 | | 344 | 367 | 391 | 414 | 437 | | 329 | 325 | 321 | 317 | 313 | | 193 | 193 | 192 | 192 | 191 | | 221 | 224 | 226 | 228 | 231 | 40 | 25 |
| 35 | 2. 20 | 8. 26 | 437 | 460 | 484 | 507 | 530 | 9. 56 | 313 | 309 | 305 | 301 | 297 | 9. 99 | 191 | 191 | 190 | 190 | 189 | 9. 80 | 231 | 233 | 235 | 238 | 240 | 36 | 24 |
| 36 | 24 | | 530 | 553 | 577 | 600 | 623 | | 297 | 293 | 289 | 285 | 281 | | 189 | 188 | 188 | 187 | 187 | | 240 | 242 | 245 | 247 | 249 | 32 | 23 |
| 37 | 28 | | 623 | 646 | 670 | 693 | 716 | | 281 | 277 | 273 | 269 | 264 | | 187 | 186 | 186 | 185 | 185 | | 249 | 251 | 254 | 256 | 258 | 28 | 22 |
| 38 | 32 | | 716 | 739 | 763 | 786 | 809 | | 264 | 260 | 256 | 252 | 248 | | 184 | 184 | 183 | 183 | 182 | | 258 | 260 | 263 | 265 | 267 | 24 | 21 |
| 39 | 36 | | 809 | 832 | 856 | 879 | 902 | | 248 | 244 | 240 | 236 | 232 | | 182 | 181 | 181 | 180 | 180 | | 267 | 269 | 272 | 274 | 276 | 20 | 20 |
| 40 | 2. 40 | 8. 26 | 894 | 917 | 940 | 963 | 986 | 9. 56 | 232 | 227 | 223 | 219 | 215 | 9. 99 | 179 | 179 | 178 | 178 | 177 | 9. 80 | 276 | 278 | 281 | 283 | 285 | 16 | 19 |
| 41 | 44 | * | 986 | 009 | 032 | 055 | 077 | | 215 | 210 | 206 | 202 | 198 | | 177 | 176 | 176 | 175 | 175 | | 285 | 287 | 290 | 292 | 294 | 12 | 18 |
| 42 | 48 | 8. 27 | 077 | 100 | 123 | 146 | 169 | | 198 | 194 | 189 | 185 | 181 | | 174 | 174 | 173 | 173 | 172 | | 294 | 296 | 299 | 301 | 303 | 8 | 17 |
| 43 | 52 | | 169 | 192 | 215 | 238 | 261 | | 181 | 177 | 173 | 169 | 164 | | 172 | 171 | 171 | 170 | 170 | | 303 | 305 | 308 | 310 | 312 | 4 | 16 |
| 44 | 56 | | 261 | 284 | 307 | 330 | 353 | | 164 | 160 | 156 | 152 | 148 | | 169 | 169 | 168 | 168 | 167 | | 312 | 314 | 317 | 319 | 321 | 00. 48 | 15 |
| 45 | 3. 0 | 8. 27 | 353 | 376 | 399 | 422 | 445 | 9. 56 | 148 | 144 | 139 | 135 | 131 | 9. 99 | 167 | 167 | 166 | 166 | 165 | 9. 80 | 321 | 323 | 326 | 328 | 330 | 56 | 14 |
| 46 | 4 | | 445 | 468 | 491 | 514 | 537 | | 131 | 127 | 123 | 119 | 114 | | 165 | 165 | 164 | 164 | 163 | | 330 | 332 | 335 | 337 | 339 | 52 | 13 |
| 47 | 8 | | 537 | 560 | 583 | 606 | 629 | | 114 | 110 | 106 | 102 | 098 | | 163 | 163 | 162 | 162 | 161 | | 339 | 341 | 344 | 346 | 348 | 48 | 12 |
| 48 | 12 | | 629 | 648 | 671 | 694 | 716 | | 093 | 089 | 085 | 081 | 077 | | 161 | 161 | 160 | 160 | 159 | | 348 | 350 | 353 | 355 | 357 | 44 | 11 |
| 49 | 16 | | 716 | 739 | 762 | 785 | 807 | | 077 | 073 | 069 | 064 | 060 | | 159 | 159 | 158 | 158 | 157 | | 357 | 359 | 362 | 364 | 366 | 40 | 10 |
| 50 | 3. 20 | 8. 27 | 807 | 830 | 853 | 875 | 898 | 9. 56 | 060 | 056 | 052 | 048 | 044 | 9. 99 | 157 | 157 | 156 | 156 | 155 | 9. 80 | 366 | 368 | 371 | 373 | 375 | 36 | 9 |
| 51 | 24 | | 898 | 921 | 944 | 966 | 989 | | 044 | 040 | 035 | 031 | 027 | | 155 | 155 | 154 | 154 | 153 | | 375 | 377 | 380 | 382 | 384 | 32 | 8 |
| 52 | 28 | * | 989 | 012 | 034 | 057 | 079 | | 027 | 023 | 019 | 014 | 010 | | 153 | 153 | 152 | 152 | 151 | | 384 | 386 | 389 | 391 | 393 | 28 | 7 |
| 53 | 32 | 8. 28 | 079 | 102 | 125 | 147 | 170 | | 010 | 006 | 002 | 057 | 053 | | 151 | 151 | 150 | 150 | 149 | | 393 | 395 | 398 | 400 | 402 | 24 | 6 |
| 54 | 36 | | 170 | 193 | 215 | 238 | 260 | | 053 | 049 | 045 | 041 | 036 | | 149 | 149 | 148 | 148 | 147 | | 402 | 404 | 407 | 409 | 411 | 20 | 5 |
| 55 | 3. 40 | 8. 28 | 260 | 283 | 306 | 328 | 351 | 9. 55 | 970 | 972 | 966 | 964 | 959 | 9. 99 | 147 | 147 | 146 | 146 | 145 | 9. 80 | 411 | 413 | 416 | 418 | 420 | 16 | 4 |
| 56 | 44 | | 351 | 373 | 396 | 418 | 441 | | 960 | 955 | 951 | 947 | 943 | | 145 | 145 | 144 | 144 | 143 | | 420 | 422 | 425 | 427 | 429 | 12 | 3 |
| 57 | 48 | | 441 | 464 | 486 | 509 | 531 | | 943 | 939 | 934 | 930 | 926 | | 143 | 143 | 142 | 142 | 141 | | 429 | 431 | 434 | 436 | 438 | 8 | 2 |
| 58 | 52 | | 531 | 554 | 576 | 599 | 621 | | 926 | 922 | 918 | 914 | 909 | | 141 | 141 | 140 | 140 | 139 | | 438 | 440 | 443 | 445 | 447 | 4 | 1 |
| 59 | 56 | | 621 | 644 | 666 | 689 | 711 | | 909 | 905 | 901 | 897 | 893 | | 139 | 139 | 138 | 138 | 137 | | 447 | 449 | 452 | 454 | 456 | 00 | 0 |
| | | | 60″ | 45″ | 30″ | 15″ | 0″ | | | | | | | | | | | | | | | | |
| | | | Suverſed | | | | | Coverſed | | | | | Verſed | | | | | Sucoverſed | | | | | | |
| | | | Coverſed | | | | | Verſed | | | | | Sucoverſed | | | | | Verſed | | | | | | |

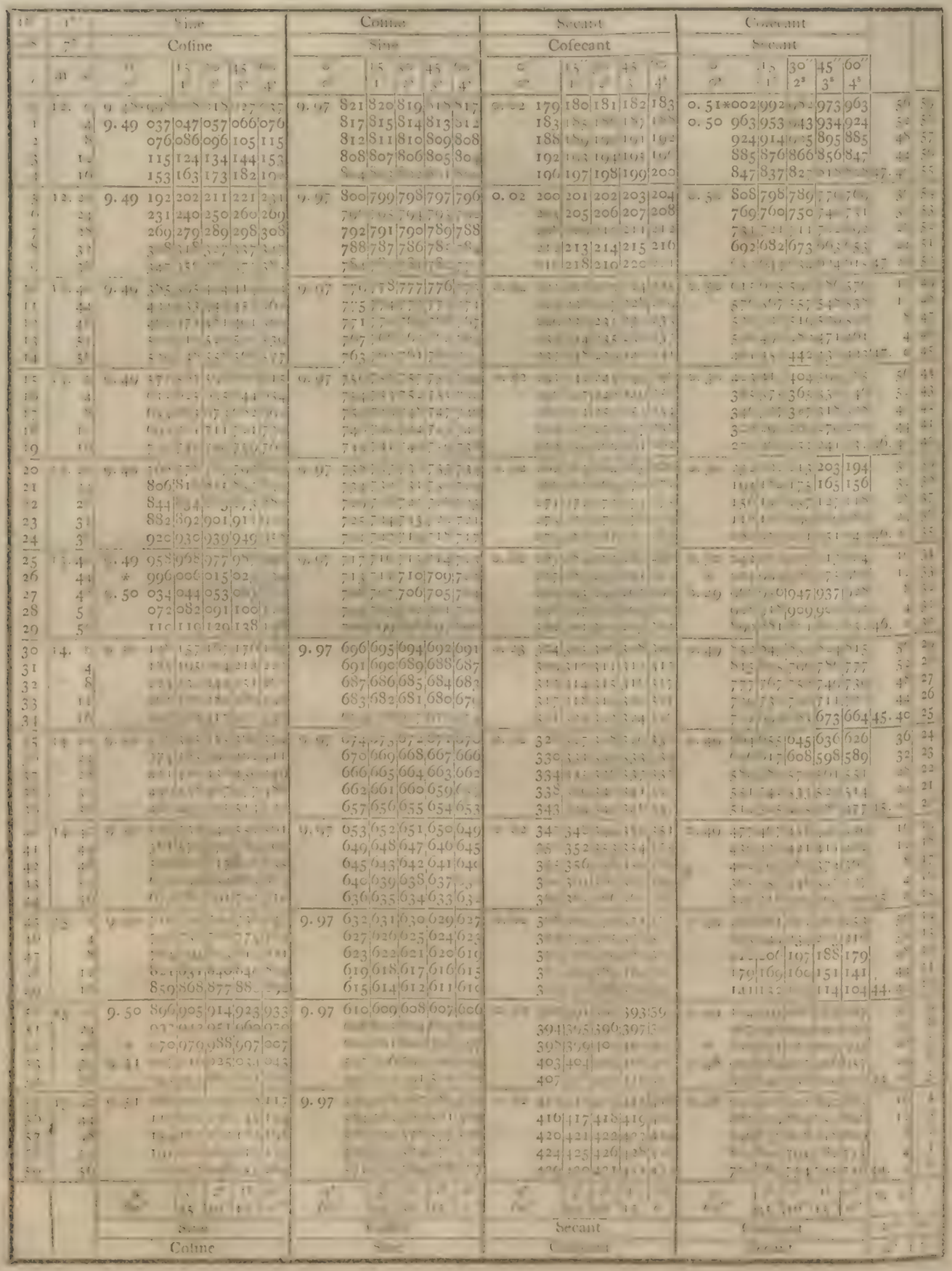
| 16° | 1h | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 180 | 7m | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | | |
| ′ | m s | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | | d | 1s | 2s | 3s | 4s | d | 1s | 2s | 3s | 4s | d | 1s | 2s | 3s | 4s | d | 1s | 2s | 3s | 4s | | |
| 0 | 4 0 | 9.44 | 034 | 045 | 056 | 067 | 078 | 9.98 | 284 | 283 | 282 | 281 | 281 | 0.01 | 716 | 717 | 718 | 719 | 719 | 0.55 | 960 | 955 | 944 | 933 | 922 | 5 | 59 |
| 1 | 4 | | 045 | 056 | 067 | 078 | 089 | | 281 | 280 | 279 | 278 | 277 | | 719 | 720 | 721 | 722 | 723 | | 922 | 911 | 900 | 889 | 878 | 5. | 58 |
| 2 | 8 | | 056 | 067 | 078 | 089 | 100 | | 277 | 276 | 275 | 274 | 273 | | 723 | 724 | 725 | 726 | 727 | | 878 | 867 | 856 | 845 | 834 | 4 | 57 |
| 3 | 12 | | 067 | 078 | 089 | 100 | 111 | | 273 | 272 | 271 | 271 | 270 | | 727 | 728 | 729 | 729 | 730 | | 834 | 823 | 812 | 801 | 790 | 4. | 56 |
| 4 | 16 | | 078 | 089 | 100 | 111 | 122 | | 270 | 269 | 268 | 267 | 266 | | 730 | 731 | 732 | 733 | 734 | | 790 | 779 | 768 | 757 | 746 | 3. | 55 |
| 5 | 4 20 | 9.44 | 089 | 100 | 111 | 122 | 133 | 9.98 | 266 | 265 | 264 | 263 | 262 | 0.01 | 734 | 735 | 736 | 737 | 738 | 0.55 | 746 | 735 | 725 | 714 | 703 | 3. | 54 |
| 6 | 24 | | 100 | 111 | 122 | 133 | 144 | | 262 | 261 | 261 | 260 | 259 | | 738 | 739 | 739 | 740 | 741 | | 703 | 692 | 681 | 671 | 660 | 3. | 53 |
| 7 | 28 | | 111 | 122 | 133 | 144 | 155 | | 259 | 258 | 257 | 256 | 255 | | 741 | 742 | 743 | 744 | 745 | | 660 | 650 | 639 | 628 | 618 | 2. | 52 |
| 8 | 32 | | 122 | 133 | 144 | 155 | 166 | | 255 | 254 | 253 | 252 | 251 | | 745 | 746 | 747 | 748 | 749 | | 618 | 607 | 597 | 586 | 576 | 2. | 51 |
| 9 | 36 | | 133 | 144 | 155 | 166 | 177 | | 251 | 250 | 249 | 248 | 248 | | 749 | 750 | 751 | 752 | 752 | | 576 | 565 | 555 | 545 | 534 | 55. | 50 |
| 10 | 4 40 | 9.44 | 144 | 155 | 166 | 177 | 188 | 9.98 | 247 | 246 | 245 | 244 | 243 | 0.01 | 753 | 754 | 755 | 756 | 757 | 0.55 | 534 | 524 | 514 | 504 | 494 | 1. | 49 |
| 11 | 44 | | 155 | 166 | 177 | 188 | 199 | | 243 | 242 | 241 | 240 | 239 | | 757 | 758 | 759 | 760 | 761 | | 494 | 484 | 474 | 464 | 454 | 1. | 48 |
| 12 | 48 | | 166 | 177 | 188 | 199 | 210 | | 239 | 238 | 237 | 236 | 235 | | 761 | 762 | 763 | 764 | 765 | | 454 | 444 | 434 | 424 | 414 | | 47 |
| 13 | 52 | | 177 | 188 | 199 | 210 | 221 | | 235 | 234 | 233 | 232 | 231 | | 765 | 766 | 767 | 768 | 769 | | 414 | 404 | 394 | 384 | 374 | | 46 |
| 14 | 56 | | 188 | 199 | 210 | 221 | 232 | | 231 | 230 | 229 | 228 | 227 | | 769 | 770 | 771 | 772 | 773 | | 374 | 364 | 354 | 344 | 334 | 55. | 45 |
| 15 | 5 0 | 9.44 | 199 | 210 | 221 | 232 | 243 | 9.98 | 227 | 226 | 225 | 224 | 223 | 0.01 | 773 | 774 | 775 | 776 | 777 | 0.55 | 334 | 324 | 314 | 304 | 294 | | 44 |
| 16 | 4 | | 210 | 221 | 232 | 243 | 254 | | 223 | 222 | 221 | 220 | 219 | | 777 | 778 | 779 | 780 | 781 | | 294 | 284 | 274 | 264 | 254 | 54. | 43 |
| 17 | 8 | | 221 | 232 | 243 | 254 | 265 | | 219 | 218 | 217 | 216 | 215 | | 781 | 782 | 783 | 784 | 785 | | 254 | 244 | 234 | 224 | 214 | 53. | 42 |
| 18 | 12 | | 232 | 243 | 254 | 265 | 276 | | 215 | 214 | 213 | 212 | 211 | | 785 | 786 | 787 | 788 | 789 | | 214 | 204 | 194 | 184 | 174 | 52. | 41 |
| 19 | 16 | | 243 | 254 | 265 | 276 | 287 | | 211 | 210 | 209 | 208 | 207 | | 789 | 790 | 791 | 792 | 793 | | 174 | 164 | 154 | 144 | 134 | 51. | 40 |
| 20 | 5 20 | 9.44 | 254 | 265 | 276 | 287 | 298 | 9.98 | 207 | 206 | 205 | 204 | 204 | 0.01 | 793 | 794 | 795 | 796 | 797 | 0.55 | 134 | 124 | 114 | 104 | 094 | 50. | 39 |
| 21 | 24 | | 265 | 276 | 287 | 298 | 309 | | 204 | 203 | 202 | 201 | 200 | | 797 | 798 | 799 | 800 | 801 | | 094 | 084 | 074 | 064 | 054 | 50. | 38 |
| 22 | 28 | | 276 | 287 | 298 | 309 | 320 | | 200 | 199 | 198 | 197 | 196 | | 801 | 802 | 803 | 804 | 805 | | 054 | 044 | 034 | 024 | 014 | 49. | 37 |
| 23 | 32 | 9.45 | 285 | 295 | 306 | 317 | 328 | | 196 | 195 | 194 | 193 | 192 | | 805 | 806 | 807 | 808 | 809 | 0.54 | 014 | 004 | 994 | 984 | 974 | 48. | 36 |
| 24 | 36 | | 295 | 306 | 317 | 328 | 339 | | 192 | 191 | 190 | 189 | 188 | | 809 | 810 | 811 | 812 | 813 | | 974 | 964 | 954 | 944 | 934 | 47. | 35 |
| 25 | 5 40 | 9.45 | 306 | 317 | 328 | 339 | 350 | 9.98 | 188 | 187 | 186 | 185 | 184 | 0.01 | 813 | 814 | 815 | 816 | 817 | 0.54 | 934 | 924 | 914 | 904 | 894 | 46. | 34 |
| 26 | 44 | | 317 | 328 | 339 | 350 | 361 | | 184 | 183 | 182 | 181 | 180 | | 817 | 818 | 819 | 820 | 821 | | 894 | 884 | 874 | 864 | 854 | 45. | 33 |
| 27 | 48 | | 328 | 339 | 350 | 361 | 372 | | 180 | 179 | 178 | 177 | 176 | | 821 | 822 | 823 | 824 | 825 | | 854 | 844 | 834 | 824 | 814 | 44. | 32 |
| 28 | 52 | | 339 | 350 | 361 | 372 | 383 | | 176 | 175 | 174 | 173 | 172 | | 825 | 826 | 827 | 828 | 829 | | 814 | 804 | 794 | 784 | 774 | 43. | 31 |
| 29 | 56 | | 350 | 361 | 372 | 383 | 394 | | 172 | 171 | 170 | 169 | 168 | | 829 | 830 | 831 | 832 | 833 | | 774 | 764 | 754 | 744 | 734 | 42. | 30 |
| 30 | 6 0 | 9.45 | 361 | 372 | 383 | 394 | 405 | 9.98 | 168 | 167 | 166 | 165 | 164 | 0.01 | 833 | 834 | 835 | 836 | 837 | 0.54 | 734 | 724 | 714 | 704 | 694 | 41. | 29 |
| 31 | 4 | | 372 | 383 | 394 | 405 | 416 | | 164 | 163 | 162 | 161 | 160 | | 837 | 838 | 839 | 840 | 841 | | 694 | 684 | 674 | 664 | 654 | 40. | 28 |
| 32 | 8 | | 383 | 394 | 405 | 416 | 427 | | 160 | 159 | 158 | 157 | 156 | | 841 | 842 | 843 | 844 | 845 | | 654 | 644 | 634 | 624 | 614 | 39. | 27 |
| 33 | 12 | | 394 | 405 | 416 | 427 | 438 | | 156 | 155 | 154 | 153 | 152 | | 845 | 846 | 847 | 848 | 849 | | 614 | 604 | 594 | 584 | 574 | 38. | 26 |
| 34 | 16 | | 405 | 416 | 427 | 438 | 449 | | 152 | 151 | 150 | 149 | 148 | | 849 | 850 | 851 | 852 | 853 | | 574 | 564 | 554 | 544 | 534 | 37. | 25 |
| 35 | 6 20 | 9.45 | 416 | 427 | 438 | 449 | 460 | 9.98 | 148 | 147 | 146 | 145 | 144 | 0.01 | 853 | 854 | 855 | 856 | 857 | 0.54 | 534 | 524 | 514 | 504 | 494 | 36. | 24 |
| 36 | 24 | | 427 | 438 | 449 | 460 | 471 | | 144 | 143 | 142 | 141 | 140 | | 857 | 858 | 859 | 860 | 861 | | 494 | 484 | 474 | 464 | 454 | 35. | 23 |
| 37 | 28 | | 438 | 449 | 460 | 471 | 482 | | 140 | 139 | 138 | 137 | 136 | | 861 | 862 | 863 | 864 | 865 | | 454 | 444 | 434 | 424 | 414 | 34. | 22 |
| 38 | 32 | | 449 | 460 | 471 | 482 | 493 | | 136 | 135 | 134 | 133 | 132 | | 865 | 866 | 867 | 868 | 869 | | 414 | 404 | 394 | 384 | 374 | 33. | 21 |
| 39 | 36 | | 460 | 471 | 482 | 493 | 504 | | 132 | 131 | 130 | 129 | 128 | | 869 | 870 | 871 | 872 | 873 | | 374 | 364 | 354 | 344 | 334 | 32. | 20 |
| 40 | 6 40 | 9.45 | 471 | 482 | 493 | 504 | 515 | 9.98 | 128 | 127 | 126 | 125 | 124 | 0.01 | 873 | 874 | 875 | 876 | 877 | 0.54 | 334 | 324 | 314 | 304 | 294 | 31. | 19 |
| 41 | 44 | | 482 | 493 | 504 | 515 | 526 | | 124 | 123 | 122 | 121 | 120 | | 877 | 878 | 879 | 880 | 881 | | 294 | 284 | 274 | 264 | 254 | 30. | 18 |
| 42 | 48 | | 493 | 504 | 515 | 526 | 537 | | 120 | 119 | 118 | 117 | 116 | | 881 | 882 | 883 | 884 | 885 | | 254 | 244 | 234 | 224 | 214 | 29. | 17 |
| 43 | 52 | | 504 | 515 | 526 | 537 | 548 | | 116 | 115 | 114 | 113 | 112 | | 885 | 886 | 887 | 888 | 889 | | 214 | 204 | 194 | 184 | 174 | 28. | 16 |
| 44 | 56 | | 515 | 526 | 537 | 548 | 559 | | 112 | 111 | 110 | 109 | 108 | | 889 | 890 | 891 | 892 | 893 | | 174 | 164 | 154 | 144 | 134 | 27. | 15 |
| 45 | 7 0 | 9.45 | 526 | 537 | 548 | 559 | 570 | 9.98 | 108 | 107 | 106 | 105 | 104 | 0.01 | 893 | 894 | 895 | 896 | 897 | 0.54 | 134 | 124 | 114 | 104 | 094 | 26. | 14 |
| 46 | 4 | | 537 | 548 | 559 | 570 | 581 | | 104 | 103 | 102 | 101 | 100 | | 897 | 898 | 899 | 900 | 901 | | 094 | 084 | 074 | 064 | 054 | 25. | 13 |
| 47 | 8 | | 548 | 559 | 570 | 581 | 592 | | 100 | 099 | 098 | 097 | 096 | | 901 | 902 | 903 | 904 | 905 | | 054 | 044 | 034 | 024 | 014 | 24. | 12 |
| 48 | 12 | | 559 | 570 | 581 | 592 | 603 | | 096 | 095 | 094 | 093 | 092 | | 905 | 906 | 907 | 908 | 909 | | 014 | 004 | 994 | 984 | 974 | 23. | 11 |
| 49 | 16 | | 570 | 581 | 592 | 603 | 614 | | 092 | 091 | 090 | 089 | 088 | | 909 | 910 | 911 | 912 | 913 | | 974 | 964 | 954 | 944 | 934 | 22. | 10 |
| 50 | 7 20 | 9.45 | 581 | 592 | 603 | 614 | 625 | 9.98 | 088 | 087 | 086 | 085 | 084 | 0.01 | 913 | 914 | 915 | 916 | 917 | 0.53 | 934 | 924 | 914 | 904 | 894 | 21. | 9 |
| 51 | 24 | | 592 | 603 | 614 | 625 | 636 | | 084 | 083 | 082 | 081 | 080 | | 917 | 918 | 919 | 920 | 921 | | 894 | 884 | 874 | 864 | 854 | 20. | 8 |
| 52 | 28 | | 603 | 614 | 625 | 636 | 647 | | 080 | 079 | 078 | 077 | 076 | | 921 | 922 | 923 | 924 | 925 | | 854 | 844 | 834 | 824 | 814 | 19. | 7 |
| 53 | 32 | | 614 | 625 | 636 | 647 | 658 | | 076 | 075 | 074 | 073 | 072 | | 925 | 926 | 927 | 928 | 929 | | 814 | 804 | 794 | 784 | 774 | 18. | 6 |
| 54 | 36 | | 625 | 636 | 647 | 658 | 669 | | 072 | 071 | 070 | 069 | 068 | | 929 | 930 | 931 | 932 | 933 | | 774 | 764 | 754 | 744 | 734 | 17. | 5 |
| 55 | 7 40 | 9.46 | 636 | 647 | 658 | 669 | 680 | 9.98 | 068 | 067 | 066 | 065 | 064 | 0.01 | 933 | 934 | 935 | 936 | 937 | 0.53 | 734 | 724 | 714 | 704 | 694 | 16. | 4 |
| 56 | 44 | | 647 | 658 | 669 | 680 | 691 | | 064 | 063 | 062 | 061 | 060 | | 937 | 938 | 939 | 940 | 941 | | 694 | 684 | 674 | 664 | 654 | 15. | 3 |
| 57 | 48 | | 658 | 669 | 680 | 691 | 702 | | 060 | 059 | 058 | 057 | 056 | | 941 | 942 | 943 | 944 | 945 | | 654 | 644 | 634 | 624 | 614 | 14. | 2 |
| 58 | 52 | | 669 | 680 | 691 | 702 | 713 | | 056 | 055 | 054 | 053 | 052 | | 945 | 946 | 947 | 948 | 949 | | 614 | 604 | 594 | 584 | 574 | 13. | 1 |
| 59 | 56 | | 680 | 691 | 702 | 713 | 724 | | 052 | 051 | 050 | 049 | 048 | | 949 | 950 | 951 | 952 | 953 | | 574 | 564 | 554 | 544 | 534 | 12. | 0 |
| | | d | 1s | 2s | 3s | 4s | d | 1s | 2s | 3s | 4s | d | 1s | 2s | 3s | 4s | d | 1s | 2s | 3s | 4s | m | ′ |
| | | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | 4h | 73′ |

| 16° | 1h | Verſed | | | | | | Coverſed | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 106° | 7h | Coverſed | | | | | | Suverſed | | | | | |
| | m s | 0′ 0° | 15′ 1° | 30′ 2° | 45′ 3° | 60′ 4° | | 0 0° | 15 1° | 30 2° | 45 3° | 60 4° | |
| 0 | 4. 0 | 8. 28 711 | 734 | 756 | 778 | 801 | | 9. 55 893 | 888 | 884 | 880 | 876 | |
| 1 | 4 | 801 | 823 | 846 | 868 | 891 | | 876 | 872 | 867 | 863 | 859 | |
| 2 | 8 | 891 | 913 | 935 | 958 | 980 | | 859 | 855 | 851 | 846 | 842 | |
| 3 | 12 | * 980 | 003 | 025 | 047 | 070 | | 842 | 838 | 834 | 830 | 825 | |
| 4 | 16 | 8. 29 070 | 092 | 115 | 137 | 159 | | 825 | 821 | 817 | 813 | 809 | |
| 5 | 4. 20 | 8. 29 159 | 182 | 204 | 226 | 249 | | 9. 55 809 | 805 | 800 | 796 | 792 | |
| 6 | 24 | 249 | 271 | 293 | 316 | 338 | | 792 | 788 | 784 | 779 | 775 | |
| 7 | 28 | 338 | 360 | 383 | 405 | 427 | | 775 | 771 | 767 | 763 | 758 | |
| 8 | 32 | 427 | 449 | 472 | [illegible] | [illegible] | | 758 | [illegible] | [illegible] | 746 | 742 | |
| 9 | 36 | 51[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 74[illegible] | 737 | 733 | 729 | 725 | |
| 10 | 4. 40 | 8. 29 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 9. 55 725 | 721 | 717 | 713 | 708 | |
| 11 | 44 | 694 | 716 | 739 | 761 | 783 | | 7[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 12 | 48 | 783 | 805 | 827 | 849 | 872 | | 691 | 687 | 683 | 678 | 674 | |
| 13 | 52 | 872 | 894 | 916 | 938 | 960 | | 674 | 670 | 666 | 662 | 657 | |
| 14 | 56 | * 960 | 982 | 005 | 027 | 049 | | 657 | 653 | 649 | 645 | 641 | |
| 15 | 5. 0 | 8. 30 049 | 071 | 093 | 115 | 137 | | 9. 55 641 | 636 | 632 | 628 | 624 | |
| 16 | 4 | 137 | 159 | 181 | 204 | 226 | | 624 | 619 | 615 | 611 | 607 | |
| 17 | 8 | 226 | 248 | 270 | 292 | 314 | | 607 | 603 | 598 | 594 | 590 | |
| 18 | 12 | 314 | 336 | 358 | 380 | 402 | | 590 | 586 | 582 | 577 | 573 | |
| 19 | 16 | 402 | 424 | 446 | 468 | 490 | | 573 | 569 | 565 | 561 | 556 | |
| 20 | 5. 20 | 8. 30 490 | 512 | 534 | 556 | 578 | | 9. 55 556 | 552 | 548 | 544 | 539 | |
| 21 | 24 | 578 | 600 | 622 | 644 | 666 | | 539 | 535 | 531 | 527 | 523 | |
| 22 | 28 | 666 | 688 | 710 | 732 | 754 | | 523 | 518 | 514 | 510 | 506 | |
| 23 | 32 | 754 | 776 | 798 | 820 | 842 | | 506 | 501 | 497 | 493 | 489 | |
| 24 | 36 | 842 | 863 | 885 | 907 | 929 | | 489 | 485 | 480 | 476 | 472 | |
| 25 | 5. 40 | * 929 | 951 | 973 | 995 | 017 | | 9. 55 472 | 467 | 463 | 459 | 455 | |
| 26 | 44 | 8. 31 017 | 039 | 060 | 082 | 104 | | 455 | 451 | 447 | 442 | 438 | |
| 27 | 48 | 104 | 126 | 148 | 170 | 191 | | 438 | 434 | 430 | 425 | 421 | |
| 28 | 52 | 191 | 213 | 235 | 257 | 279 | | 421 | 417 | 413 | 409 | 404 | |
| [illegible] | 56 | 279 | 301 | 322 | 344 | 366 | | 404 | 400 | 396 | 392 | 387 | |
| [illegible] | 6. [illegible] | 8. 31 366 | 388 | 409 | 431 | 453 | | 9. 55 387 | 383 | 379 | 375 | 370 | |
| 31 | 4 | 453 | 475 | 496 | 518 | 540 | | 370 | 366 | 362 | 358 | 354 | |
| 32 | 8 | 540 | 562 | 583 | 605 | 627 | | 354 | 349 | 345 | 341 | 337 | |
| 33 | 12 | 627 | 649 | 670 | 692 | 714 | | 337 | 332 | 328 | 324 | 320 | |
| 34 | 16 | 714 | 735 | 757 | 779 | 800 | | 320 | 315 | 311 | 307 | 303 | |
| 35 | 6. 20 | 8. 31 800 | 822 | 844 | 865 | 887 | | 9. 55 303 | [illegible] | [illegible] | [illegible] | [illegible] | |
| 36 | 24 | 887 | 909 | 930 | 952 | 974 | | 286 | 282 | 27[illegible] | [illegible] | [illegible] | |
| 37 | 28 | * 974 | 995 | 016 | 038 | 060 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 38 | 32 | 8. 32 060 | 082 | 103 | 125 | 146 | | 25[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 39 | 36 | 146 | 168 | 190 | 211 | 233 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | 6. [illegible] | 8. 32 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 9. 53 21[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 41 | 44 | 319 | 340 | 362 | 384 | 405 | | 201 | 197 | 192 | 188 | 184 | |
| 42 | 48 | 405 | 427 | 448 | 470 | 491 | | 184 | 180 | 175 | 171 | 167 | |
| 43 | 52 | 491 | 513 | 534 | 556 | 577 | | 167 | 163 | 159 | 154 | 150 | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 45 | 7. [illegible] | 8. 32 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 9. 53 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 46 | 4 | 749 | 770 | 792 | 813 | 834 | | 11[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 47 | 8 | 834 | 856 | 877 | 899 | 920 | | 099 | 095 | 091 | 086 | 082 | |
| 48 | 12 | * 920 | 941 | 963 | 984 | 005 | | 082 | 078 | 074 | 069 | 065 | |
| [illegible] | [illegible] | 8. 33 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 50 | 7. [illegible] | 8. 33 [illegible] | [illegible] | [illegible] | 155 | 176 | | 9. 53 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 51 | 24 | 176 | 198 | 219 | 240 | 261 | | 03[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 52 | 28 | 261 | 283 | 304 | 325 | 347 | | * 014 | 010 | 005 | 001 | 997 | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 9. 54 997 | 993 | 988 | 984 | 980 | |
| 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 980 | 976 | 971 | 967 | 963 | |
| 55 | 7. [illegible] | 8. 33 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 9. 54 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| 57 | 48 | 686 | 708 | 729 | 750 | 771 | | 929 | 924 | 920 | 916 | 912 | |
| 58 | 52 | 771 | 792 | 814 | 835 | 856 | | 912 | 907 | 903 | 899 | 895 | |
| 59 | 56 | 856 | 877 | 898 | 919 | 940 | | 895 | 890 | 886 | 882 | 878 | |
| | | 4s 60″ | 3s 45 | 2s 30 | 1s 15 | 0s 0″ | | 4s 60″ | 3s 45 | 2s 30 | 1s 15 | 0s 0″ | |
| | | Suverſed | | | | | | Coverſed | | | | | |
| | | Coverſed | | | | | | Verſed | | | | | |

| | Suverſed | | | | | | Sucoverſed | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Sucoverſed | | | | | | Suverſed | | | | | | | |
| | 0′ 0° | 15′ 1° | 30′ 2° | 45′ 3° | 60 4° | | 0 0° | 15 1° | 30 2° | 45 3° | 60 4° | | | |
| 0 | 9. 99 151 | 150 | 150 | 149 | 149 | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 1 | 149 | 148 | 148 | 147 | 147 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 2 | 147 | 147 | 146 | 146 | 145 | | 4[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 4[illegible] | [illegible] |
| 3 | 145 | 145 | 144 | 143 | 143 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 4 | 143 | 143 | 143 | 142 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 5 | 9. 99 142 | 141 | 141 | 140 | 140 | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 6 | 140 | 139 | 139 | 139 | 138 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 7 | 138 | 138 | 137 | 137 | 136 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 8 | 136 | 136 | 135 | 135 | 134 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 9 | 134 | 134 | 134 | 133 | 133 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 10 | 9. 99 133 | 132 | 132 | 131 | 131 | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 11 | 131 | 130 | 130 | 130 | 129 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 12 | 129 | 129 | 128 | 128 | 127 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 13 | 127 | 127 | 126 | 126 | 125 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 14 | 125 | 125 | 125 | 124 | 124 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 15 | 9. 99 123 | 123 | 122 | 122 | 122 | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 16 | 122 | 121 | 121 | 121 | 120 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 17 | 120 | 120 | 119 | 119 | 119 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 18 | 118 | 118 | 117 | 117 | 116 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 19 | 116 | 116 | 116 | 115 | 115 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 20 | 9. 99 115 | 114 | 114 | 113 | [illegible] | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 21 | 113 | 112 | 112 | 111 | 111 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 22 | 111 | 111 | 110 | 110 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 23 | 109 | 109 | 108 | 108 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 24 | 107 | 107 | 106 | 106 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 25 | 9. 99 106 | 105 | 105 | 104 | [illegible] | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 26 | 104 | 103 | 103 | 102 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 27 | 102 | 101 | 101 | 101 | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 28 | 100 | 100 | 099 | 099 | 098 | | 735 | 73[illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| [illegible] | 098 | 098 | 097 | 097 | 096 | | 745 | 74[illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| [illegible] | 9. 99 096 | 096 | 096 | 095 | 095 | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 31 | 095 | 094 | 094 | 093 | 093 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 32 | 093 | 092 | 092 | 091 | 091 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 33 | 091 | 090 | 090 | 090 | 089 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 34 | 089 | 089 | 088 | 088 | 087 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 35 | 9. 99 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| [illegible] | 9. 99 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 41 | 076 | 076 | 075 | 075 | 074 | | 858 | 860 | 862 | 865 | 867 | | [illegible] | [illegible] |
| 42 | 074 | 074 | 073 | 073 | 072 | | 867 | 869 | 872 | 874 | [illegible] | | [illegible] | [illegible] |
| 43 | 072 | 072 | 072 | 071 | 071 | | 876 | 879 | 881 | 88[illegible] | [illegible] | | 4 | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 45 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 46 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 47 | 065 | 065 | 064 | 064 | 063 | | 914 | 916 | 919 | 921 | 923 | | [illegible] | [illegible] |
| 48 | 063 | 063 | 062 | 062 | 061 | | 923 | 926 | 928 | 930 | 933 | | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 52 | 056 | 055 | 055 | 054 | 054 | | 961 | 963 | 966 | 968 | 970 | | [illegible] | [illegible] |
| [illegible] | 054 | 053 | 053 | 052 | 052 | | 970 | 973 | 975 | 977 | 980 | | [illegible] | [illegible] |
| 54 | 052 | 051 | 051 | 051 | 050 | | 980 | 982 | 984 | 987 | 989 | | [illegible] | [illegible] |
| 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 9. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] |
| 57 | 046 | 046 | 045 | 045 | 044 | | 9. 81 008 | 010 | 012 | 01[illegible] | [illegible] | | [illegible] | [illegible] |
| 58 | 044 | 044 | 043 | 043 | 043 | | 017 | 019 | 022 | [illegible] | [illegible] | | [illegible] | [illegible] |
| 59 | 043 | 042 | 042 | 041 | 041 | | 026 | 029 | 031 | 033 | 036 | | 52. 0 | 0 |
| | 4s 60″ | 3s 45 | 2s 30 | 1s 15 | 0s 0″ | | 4s 60″ | 3s 45 | 2s 30 | 1s 15 | 0s 0″ | | | |
| | Verſed | | | | | | Sucoverſed | | | | | | 10h | 163° |
| | Sucoverſed | | | | | | Suverſed | | | | | | 4h | 73 |

| 17 | 1h | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 107 | 7h | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | | |
| ′ | m s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | | |
| 0 | 8. 0 | 9.46 | 594 | 704 | 814 | 925 | 9.98 | 906 | 859 | 855 | 857 | 856 | 0.01 | 940 | 941 | 942 | 943 | 944 | 0.53 | 406 | 394 | 386 | 377 | 365 | |
| 1 | 4 | | 035 | 045 | 055 | 066 | | 054 | 055 | 054 | 053 | 052 | | 944 | 945 | 946 | 947 | 948 | | 365 | 358 | 345 | 334 | 324 | |
| 2 | 8 | | 676 | 686 | 697 | 707 | 717 | 052 | 051 | 050 | 049 | 048 | | 948 | 949 | 950 | 951 | 952 | | 324 | 314 | 303 | 293 | 283 | |
| 3 | 12 | | 717 | 728 | 738 | 748 | 758 | 048 | 047 | 046 | 045 | 044 | | 952 | 953 | 954 | 955 | 956 | | 283 | 272 | 262 | 252 | 242 | |
| 4 | 16 | | 758 | 769 | 779 | 789 | 800 | 044 | 043 | 042 | 041 | 040 | | 956 | 957 | 958 | 959 | 960 | | 242 | 231 | 221 | 211 | 200 | |
| 5 | 8. 20 | 9.46 | 800 | 810 | 820 | 830 | 841 | 9.98 | 040 | 039 | 038 | 037 | 036 | 0.01 | 960 | 961 | 962 | 963 | 964 | 0.53 | 200 | 190 | 180 | 170 | 159 | |
| 6 | 24 | | 841 | 851 | 861 | 871 | 882 | | 036 | 035 | 034 | 033 | 032 | | 964 | 965 | 966 | 967 | 968 | | 159 | 149 | 139 | 129 | 118 | |
| 7 | 28 | | 882 | 892 | 902 | 912 | 923 | | 032 | 032 | 031 | 030 | 029 | | 968 | 968 | 969 | 970 | 971 | | 118 | 108 | 098 | 088 | 077 | |
| 8 | 32 | | 923 | 933 | 943 | 953 | 964 | | 029 | 028 | 027 | 026 | 025 | | 971 | 972 | 973 | 974 | 975 | | 077 | 067 | 057 | 047 | 036 | |
| 9 | 36 | * | 964 | 974 | 984 | 994 | 005 | | 025 | 024 | 023 | 022 | 021 | | 975 | 976 | 977 | 978 | 979 | * | 036 | 026 | 016 | 006 | 995 | |
| 10 | 8. 40 | 9.47 | 005 | 015 | 025 | 035 | 045 | 9.98 | 021 | 020 | 019 | 018 | 017 | 0.01 | 979 | 980 | 981 | 982 | 983 | 0.52 | 995 | 985 | 975 | 965 | 955 | |
| 11 | 44 | | 045 | 056 | 066 | 076 | 086 | | 017 | 016 | 015 | 014 | 013 | | 983 | 984 | 985 | 986 | 987 | | 955 | 944 | 934 | 924 | 914 | |
| 12 | 48 | | 086 | 097 | 107 | 117 | 127 | | 013 | 012 | 011 | 010 | 009 | | 987 | 988 | 989 | 990 | 991 | | 914 | 905 | 893 | 883 | 873 | |
| 13 | 52 | | 127 | 137 | 147 | 158 | 168 | | 009 | 008 | 007 | 006 | 005 | | 991 | 992 | 993 | 994 | 995 | | 873 | 863 | 853 | 842 | 832 | |
| 14 | 56 | | 168 | 178 | 188 | 198 | 209 | | 005 | 004 | 003 | 002 | 001 | | 995 | 996 | 997 | 998 | 999 | | 832 | 822 | 812 | 802 | 791 | |
| 15 | 9. 0 | 9.47 | 209 | 219 | 229 | 239 | 249 | * | 001 | 000 | 999 | 998 | 997 | * | 999 | 000 | 001 | 002 | 003 | 0.52 | 791 | 781 | 771 | 761 | 751 | |
| 16 | 4 | | 249 | 259 | 270 | 280 | 290 | 9.97 | 997 | 996 | 995 | 994 | 993 | 0.02 | 003 | 004 | 005 | 006 | 007 | | 751 | 741 | 730 | 720 | 710 | |
| 17 | 8 | | 290 | 300 | 310 | 320 | 330 | | 993 | 992 | 991 | 990 | 989 | | 007 | 008 | 009 | 010 | 011 | | 710 | 700 | 690 | 680 | 670 | |
| 18 | 12 | | 330 | 341 | 351 | 361 | 371 | | 989 | 988 | 987 | 987 | 986 | | 011 | 012 | 013 | 013 | 014 | | 670 | 659 | 649 | 639 | 629 | |
| 19 | 16 | | 371 | 381 | 391 | 401 | 411 | | 986 | 985 | 984 | 983 | 982 | | 014 | 015 | 016 | 017 | 018 | | 629 | 618 | 608 | 598 | 588 | |
| 20 | 9. 20 | 9.47 | 411 | 422 | 432 | 442 | 452 | 9.97 | 982 | 981 | 980 | 979 | 978 | 0.02 | 018 | 019 | 020 | 021 | 022 | 0.52 | 588 | 578 | 568 | 558 | 548 | |
| 21 | 24 | | 452 | 462 | 472 | 482 | 492 | | 978 | 977 | 976 | 975 | 974 | | 022 | 023 | 024 | 025 | 026 | | 548 | 538 | 528 | 518 | 508 | |
| 22 | 28 | | 492 | 502 | 513 | 523 | 533 | | 974 | 973 | 972 | 971 | 970 | | 026 | 027 | 028 | 029 | 030 | | 508 | 498 | 487 | 477 | 467 | |
| 23 | 32 | | 533 | 543 | 553 | 563 | 573 | | 970 | 969 | 968 | 967 | 966 | | 030 | 031 | 032 | 033 | 034 | | 467 | 457 | 447 | 437 | 427 | |
| 24 | 36 | | 573 | 583 | 593 | 603 | 613 | | 966 | 965 | 964 | 963 | 962 | | 034 | 035 | 036 | 037 | 038 | | 427 | 417 | 407 | 397 | 387 | |
| 25 | 9. 40 | 9.47 | 613 | 623 | 633 | 644 | 654 | 9.97 | 962 | 961 | 960 | 959 | 958 | 0.02 | 038 | 039 | 040 | 041 | 042 | 0.52 | 387 | 377 | 367 | 356 | 346 | |
| 26 | 44 | | 654 | 664 | 674 | 684 | 694 | | 958 | 957 | 956 | 955 | 954 | | 042 | 043 | 044 | 045 | 046 | | 346 | 336 | 326 | 316 | 306 | |
| 27 | 48 | | 694 | 704 | 714 | 724 | 734 | | 954 | 953 | 952 | 951 | 950 | | 046 | 047 | 048 | 049 | 050 | | 306 | 296 | 286 | 276 | 266 | |
| 28 | 52 | | 734 | 744 | 754 | 764 | 774 | | 950 | 949 | 948 | 947 | 946 | | 050 | 051 | 052 | 053 | 054 | | 266 | 256 | 246 | 236 | 226 | |
| 29 | 56 | | 774 | 784 | 794 | 804 | 814 | | 946 | 945 | 944 | 943 | 942 | | 054 | 055 | 056 | 057 | 058 | | 226 | 216 | 206 | 196 | 185 | |
| 30 | 10. 0 | 9.47 | 814 | 824 | 834 | 844 | 854 | 9.97 | 942 | 941 | 940 | 939 | 938 | 0.02 | 058 | 059 | 060 | 061 | 062 | 0.52 | 185 | 175 | 165 | 154 | 144 | |
| 31 | 4 | | 854 | 864 | 874 | 884 | 894 | | 938 | 937 | 936 | 935 | 934 | | 062 | 063 | 064 | 065 | 066 | | 144 | 134 | 124 | 113 | 103 | |
| 32 | 8 | | 894 | 904 | 914 | 924 | 934 | | 934 | 933 | 932 | 931 | 930 | | 066 | 067 | 068 | 069 | 070 | | 103 | 093 | 083 | 072 | 062 | |
| 33 | 12 | | 934 | 944 | 954 | 964 | 974 | | 930 | 929 | 928 | 927 | 926 | | 070 | 071 | 072 | 073 | 074 | | 062 | 052 | 041 | 031 | 021 | |
| 34 | 16 | * | 974 | 984 | 994 | 004 | 014 | | 926 | 925 | 924 | 923 | 922 | | 074 | 075 | 076 | 077 | 078 | * | 021 | 010 | 000 | 990 | 980 | |
| 35 | 10. 20 | 9.48 | 014 | 024 | 034 | 044 | 054 | 9.97 | 922 | 921 | 920 | 919 | 918 | 0.02 | 078 | 079 | 080 | 081 | 082 | 0.51 | 980 | 970 | 960 | 950 | 940 | |
| 36 | 24 | | 054 | 064 | 074 | 084 | 094 | | 918 | 917 | 916 | 915 | 914 | | 082 | 083 | 084 | 085 | 086 | | 940 | 930 | 920 | 910 | 900 | |
| 37 | 28 | | 094 | 104 | 114 | 123 | 133 | | 914 | 913 | 912 | 911 | 910 | | 086 | 087 | 088 | 089 | 090 | | 900 | 890 | 880 | 870 | 860 | |
| 38 | 32 | | 133 | 143 | 153 | 163 | 173 | | 910 | 909 | 908 | 907 | 906 | | 090 | 091 | 092 | 093 | 094 | | 860 | 850 | 840 | 830 | 820 | |
| 39 | 36 | | 173 | 183 | 193 | 203 | 213 | | 906 | 905 | 904 | 903 | 902 | | 094 | 095 | 096 | 097 | 098 | | 820 | 810 | 800 | 790 | 780 | |
| 40 | 10. 40 | 9.48 | 213 | 223 | 233 | 243 | 252 | 9.97 | 902 | 901 | 900 | 899 | 898 | 0.02 | 098 | 099 | 100 | 101 | 102 | 0.51 | 780 | 770 | 760 | 750 | 740 | |
| 41 | 44 | | 252 | 262 | 272 | 282 | 292 | | 898 | 897 | 896 | 895 | 894 | | 102 | 103 | 104 | 105 | 106 | | 740 | 730 | 720 | 710 | 700 | |
| 42 | 48 | | 292 | 302 | 312 | 322 | 332 | | 894 | 893 | 892 | 891 | 890 | | 106 | 107 | 108 | 109 | 110 | | 700 | 690 | 680 | 670 | 660 | |
| 43 | 52 | | 332 | 340 | 351 | 361 | 371 | | 890 | 889 | 888 | 887 | 886 | | 110 | 111 | 112 | 113 | 114 | | 660 | 650 | 640 | 630 | 620 | |
| 44 | 56 | | 371 | 381 | 391 | 401 | 411 | | 886 | 885 | 884 | 883 | 882 | | 114 | 115 | 116 | 117 | 118 | | 620 | 610 | 600 | 590 | 580 | |
| 45 | 11. 0 | 9.48 | 411 | 421 | 431 | 441 | 451 | 9.97 | 882 | 881 | 880 | 879 | 878 | 0.02 | 118 | 119 | 120 | 121 | 122 | 0.51 | 580 | 570 | 560 | 550 | 540 | |
| 46 | 4 | | 450 | 460 | 470 | 480 | 490 | | 878 | 877 | 876 | 875 | 874 | | 122 | 123 | 124 | 125 | 126 | | 540 | 530 | 520 | 510 | 500 | |
| 47 | 8 | | 490 | 499 | 509 | 519 | 529 | | 874 | 873 | 872 | 871 | 870 | | 126 | 127 | 128 | 129 | 130 | | 500 | 491 | 481 | 471 | 461 | |
| 48 | 12 | | 529 | 539 | 549 | 558 | 568 | | 870 | 869 | 868 | 867 | 866 | | 130 | 131 | 132 | 133 | 134 | | 461 | 451 | 442 | 432 | 422 | |
| 49 | 16 | | 568 | 578 | 588 | 598 | 607 | | 866 | 865 | 864 | 863 | 861 | | 134 | 135 | 136 | 137 | 139 | | 422 | 412 | 403 | 393 | 383 | |
| 50 | 11. 20 | 9.48 | 607 | 617 | 627 | 637 | 647 | 9.97 | 861 | 860 | 859 | 858 | 857 | 0.02 | 139 | 140 | 141 | 142 | 143 | 0.51 | 383 | 373 | 363 | 353 | 343 | |
| 51 | 24 | | 647 | 657 | 666 | 676 | 686 | | 857 | 856 | 855 | 854 | 853 | | 143 | 144 | 145 | 146 | 147 | | 343 | 333 | 324 | 314 | 304 | |
| 52 | 28 | | 686 | 696 | 706 | 715 | 725 | | 853 | 852 | 851 | 850 | 849 | | 147 | 148 | 149 | 150 | 151 | | 304 | 294 | 284 | 275 | 265 | |
| 53 | 32 | | 725 | 735 | 745 | 754 | 764 | | 849 | 848 | 847 | 846 | 845 | | 151 | 152 | 153 | 154 | 155 | | 265 | 255 | 245 | 235 | 225 | |
| 54 | 36 | | 764 | 774 | 784 | 794 | 803 | | 845 | 844 | 843 | 842 | 841 | | 155 | 156 | 157 | 158 | 159 | | 225 | 216 | 206 | 196 | 186 | |
| 55 | 11. 40 | 9.48 | 803 | 813 | 823 | 833 | 842 | 9.97 | 841 | 840 | 839 | 838 | 837 | 0.02 | 159 | 160 | 161 | 162 | 163 | 0.51 | 186 | 177 | 167 | 157 | 147 | |
| 56 | 44 | | 842 | 852 | 862 | 872 | 881 | | 837 | 836 | 835 | 834 | 833 | | 163 | 164 | 165 | 166 | 167 | | 147 | 138 | 128 | 118 | 108 | |
| 57 | 48 | | 881 | 891 | 901 | 911 | 920 | | 833 | 832 | 831 | 830 | 829 | | 167 | 168 | 169 | 170 | 171 | | 108 | 099 | 089 | 079 | 069 | |
| 58 | 52 | | 920 | 930 | 940 | 950 | 959 | | 829 | 828 | 827 | 826 | 825 | | 171 | 172 | 173 | 174 | 175 | | 069 | 060 | 050 | 040 | 031 | |
| 59 | 56 | | 959 | 969 | 978 | 988 | 997 | | 825 | 824 | 823 | 822 | 821 | | 175 | 176 | 177 | 178 | 179 | | 031 | 021 | 011 | 001 | 991 | |
| | | 4 60″ | 3 45″ | 2 30″ | 1 15″ | 0 0″ | 4 60″ | 3 45″ | 2 30″ | 1 15″ | 0 0″ | 4 60″ | 3 45″ | 2 30″ | 1 15″ | 0 0″ | 4 60″ | 3 45″ | 2 30″ | 1 15″ | 0 0″ | m s | |
| | | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | 10h | 162 |
| | | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | 4 | 75 |

| ′ | ° | Versed / Coversed | | | | | Coversed / Suversed | | | | | Suversed / Sucoversed | | | | | Sucoversed / Versed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | | |
| 0 | | S. 0 | S. 33 | 942 | 962 | 983 | 004 | 025 | 9.54 | 878 | 873 | 869 | 865 | 860 | 9.99 | 041 | 040 | 040 | 039 | 039 | 9.81 | 036 | 038 | 041 | 043 | 045 | 50′ | 59 |
| 1 | | 4 | S. 34 | 025 | 046 | 067 | 088 | 109 | | | | | | 843 | | 039 | 038 | 038 | 037 | 037 | | 045 | 047 | 050 | 052 | 054 | 51 | 58 |
| 2 | | 8 | | 109 | 130 | 151 | 173 | 194 | | | | | | | | | | | | | | | | | | 42 | 57 |
| 3 | | 12 | | 194 | 215 | 236 | 257 | 278 | | | | | | | | | | | | | | | | | | 44 | 56 |
| 4 | | 16 | | 278 | 299 | 320 | 341 | 362 | | | | | | | | | | | | | | | | | | 46 | 55 |
| 5 | | S. 20 | S. 34 | 362 | 383 | 404 | 425 | 447 | 9.54 | 794 | 788 | 784 | 779 | 775 | 9.99 | 031 | 031 | | | | 9.81 | | | | | | 54′ | 54 |
| 6 | | 24 | | 447 | 467 | 488 | 509 | 531 | | 775 | 771 | 766 | 762 | 758 | | | | | | | | | | | | | 56 | 53 |
| 7 | | 28 | | 530 | 551 | 572 | 593 | 614 | | 758 | 754 | 749 | 745 | 741 | | 027 | 027 | | | | | | | | | | 58 | 52 |
| 8 | | 32 | | 614 | 635 | 656 | 677 | 698 | | 741 | 736 | 732 | 728 | 724 | | 025 | 025 | | | | | | | | | | 58 | 51 |
| 9 | | 36 | | 698 | 719 | 740 | 761 | 782 | | 724 | 719 | 715 | 711 | 707 | | 024 | 023 | | | | | | | | | | 59 | 50 |
| 10 | | S. 40 | S. 34 | 782 | 803 | 823 | 844 | 865 | 9.54 | 707 | 702 | 698 | 694 | 690 | 9.99 | 022 | 021 | 021 | | | 9.81 | 129 | 131 | 134 | | | 1° | 49 |
| 11 | | 44 | | 865 | 886 | 907 | 928 | 949 | | 690 | 685 | 681 | 677 | 672 | | 020 | 019 | 019 | 018 | 018 | | 135 | 141 | 143 | 145 | 147 | 1 | 48 |
| 12 | | 48 | | 949 | 970 | 991 | 011 | 032 | | 672 | 668 | 664 | 659 | 655 | | 018 | 017 | 017 | 016 | 016 | | 148 | 150 | 152 | 155 | 157 | 8 | 47 |
| 13 | | 52 | S. 35 | 032 | 053 | 074 | 095 | 116 | | 655 | 651 | 647 | 642 | 638 | | 016 | 015 | 015 | 014 | 014 | | 157 | 159 | 201 | 203 | 206 | 4 | 46 |
| 14 | | 56 | | 116 | 137 | 157 | 178 | 199 | | 638 | 634 | 630 | 625 | 621 | | 014 | 014 | 013 | 013 | 013 | | 206 | 208 | 211 | 213 | 216 | 2° | 45 |
| 15 | | 9. 0 | S. 35 | 199 | 220 | 241 | 261 | 282 | 9.54 | 621 | 617 | 612 | 608 | 604 | 9.99 | 012 | 012 | 011 | 011 | 011 | 9.81 | 176 | 178 | 181 | 183 | 185 | 58′ | 44 |
| 16 | | 4 | | 282 | 303 | 324 | 345 | 365 | | 604 | 599 | 595 | 591 | 587 | | 011 | 010 | | | | | 185 | 187 | 190 | 192 | 194 | 56 | 43 |
| 17 | | 8 | | 365 | 386 | 407 | 428 | 448 | | 587 | 582 | 578 | 574 | 569 | | | | | | | | 194 | 197 | 199 | 201 | 204 | 54 | 42 |
| 18 | | 12 | | 448 | 469 | 490 | 511 | 531 | | 569 | 565 | 561 | 556 | 552 | | | | | | | | 204 | 206 | 208 | 211 | 213 | 52 | 41 |
| 19 | | 16 | | 531 | 552 | 573 | 594 | 614 | | 552 | 548 | 544 | 539 | 535 | | | | | | | | 213 | 215 | 217 | 220 | 222 | 50 | 40 |
| 20 | | 9. 20 | S. 35 | 614 | 635 | 656 | 677 | 697 | 9.54 | 535 | 531 | 527 | 522 | 518 | 9.99 | 003 | 003 | 002 | 002 | 001 | 9.81 | 222 | 224 | 227 | 229 | 231 | 48′ | 39 |
| 21 | | 24 | | 697 | 718 | 739 | 759 | 780 | | 518 | 514 | 509 | 505 | 501 | | 001 | | | | | | 231 | 234 | 236 | 238 | 241 | 46 | 38 |
| 22 | | 28 | | 780 | 801 | 821 | 842 | 863 | | 501 | 496 | 492 | 488 | 483 | 9.98 | 999 | 998 | 998 | 997 | 997 | | 241 | 243 | 245 | 248 | 250 | 44 | 37 |
| 23 | | 32 | | 863 | 883 | 904 | 925 | 945 | | 483 | 479 | 475 | 471 | 466 | | 997 | 996 | 996 | 995 | 995 | | 250 | 252 | 254 | 257 | 259 | 42 | 36 |
| 24 | | 36 | | 945 | 966 | 987 | 007 | 028 | | 466 | 462 | 458 | 453 | 449 | | 995 | 994 | 994 | 993 | 993 | | 259 | 301 | 303 | 305 | 308 | 40 | 35 |
| 25 | | 9. 40 | S. 36 | 028 | 048 | 069 | 090 | 111 | 9.54 | 449 | 445 | 441 | 436 | 432 | 9.98 | 993 | 992 | 992 | 991 | 991 | 9.81 | 308 | 310 | 312 | 315 | 317 | 10′ | 34 |
| 26 | | 44 | | 111 | 131 | 152 | 173 | 193 | | 432 | 428 | 423 | 419 | 415 | | 991 | 990 | 990 | 989 | 989 | | 317 | 319 | 321 | 324 | 326 | 12 | 33 |
| 27 | | 48 | | 193 | 214 | 234 | 254 | 275 | | 415 | 411 | 406 | 402 | 397 | | 989 | 988 | 988 | 987 | 987 | | 326 | 328 | 330 | 333 | 335 | 8 | 32 |
| 28 | | 52 | | 275 | 295 | 316 | 337 | 357 | | 397 | 393 | 389 | 385 | 380 | | 987 | 986 | 986 | 985 | 985 | | 335 | 337 | 339 | 342 | 344 | 4 | 31 |
| 29 | | 56 | | 357 | 378 | 398 | 419 | 439 | | 380 | 376 | 372 | 367 | 363 | | 985 | 984 | 984 | 983 | 983 | | 344 | 346 | 348 | 351 | 353 | 2° | 30 |
| 30 | | 10. 0 | S. 36 | 439 | 460 | 480 | 501 | 521 | 9.54 | 363 | 359 | 354 | 350 | 346 | 9.98 | 983 | 982 | 982 | 981 | 981 | 9.81 | 353 | 355 | 357 | 400 | 402 | 50′ | 29 |
| 31 | | 4 | | 521 | 542 | 562 | 583 | 603 | | 346 | 341 | 337 | 333 | 329 | | 981 | 981 | 980 | 979 | 979 | | 402 | 404 | 406 | 409 | 411 | 48 | 28 |
| 32 | | 8 | | 603 | 624 | 644 | 665 | 685 | | 329 | 324 | 320 | 316 | 311 | | 979 | 978 | 978 | 977 | 977 | | 411 | 413 | 415 | 418 | 420 | 46 | 27 |
| 33 | | 12 | | 685 | 706 | 726 | 746 | 767 | | 311 | 307 | 303 | 298 | 294 | | 977 | 977 | 976 | 976 | 975 | | 420 | 422 | 424 | 427 | 429 | 44 | 26 |
| 34 | | 16 | | 767 | 787 | 808 | 828 | 849 | | 294 | 290 | 285 | 281 | 277 | | 975 | 975 | 974 | 974 | 973 | | 429 | 431 | 433 | 436 | 438 | 42 | 25 |
| 35 | | 10. 20 | S. 36 | 849 | 869 | 890 | 910 | 931 | 9.54 | 277 | 272 | 268 | 264 | 260 | 9.98 | 973 | 973 | 972 | 972 | 971 | 9.81 | 438 | 440 | 442 | 445 | 447 | 40′ | 24 |
| 36 | | 24 | | 931 | 951 | 971 | 991 | 011 | | 260 | 255 | 251 | 247 | 243 | | 971 | 971 | 970 | 970 | 969 | | 447 | 449 | 451 | 454 | 456 | 38 | 23 |
| 37 | | 28 | S. 37 | 011 | 032 | 052 | 072 | 093 | | 243 | 238 | 234 | 230 | 226 | | 969 | 968 | 968 | 967 | 967 | | 456 | 458 | 500 | 503 | 505 | 36 | 22 |
| 38 | | 32 | | 093 | 114 | 134 | 154 | 175 | | 226 | 221 | 217 | 213 | 209 | | 967 | 966 | 966 | 965 | 965 | | 505 | 507 | 509 | 512 | 514 | 34 | 21 |
| 39 | | 36 | | 175 | 195 | 215 | 236 | 256 | | 209 | 205 | 200 | 196 | 192 | | 965 | 964 | 964 | 963 | 963 | | 514 | 516 | 518 | 521 | 523 | 32 | 20 |
| 40 | | 10. 40 | S. 37 | 256 | 276 | 297 | 317 | 337 | 9.54 | 192 | 188 | 183 | 179 | 175 | 9.98 | 962 | 961 | 961 | 960 | 960 | 9.81 | 523 | 525 | 527 | 530 | 532 | 30′ | 19 |
| 41 | | 44 | | 337 | 358 | 378 | 398 | 418 | | 175 | 171 | 167 | 162 | 158 | | 960 | 959 | 959 | 958 | 958 | | 532 | 534 | 536 | 539 | 541 | 28 | 18 |
| 42 | | 48 | | 418 | 439 | 459 | 479 | 500 | | 158 | 154 | 150 | 145 | 141 | | 958 | 957 | 957 | 956 | 956 | | 541 | 543 | 545 | 548 | 550 | 26 | 17 |
| 43 | | 52 | | 500 | 520 | 540 | 561 | 581 | | 141 | 137 | 133 | 128 | 124 | | 956 | 955 | 955 | 954 | 954 | | 550 | 552 | 554 | 557 | 559 | 24 | 16 |
| 44 | | 56 | | 581 | 601 | 621 | 641 | 662 | | 124 | 120 | 116 | 111 | 107 | | 954 | 953 | 953 | 952 | 952 | | 559 | 601 | 603 | 606 | 608 | 22 | 15 |
| 45 | | 11. 0 | S. 37 | 662 | 682 | 702 | 722 | 742 | 9.54 | 107 | 103 | 099 | 094 | 090 | 9.98 | 951 | 951 | 950 | 950 | 949 | 9.81 | 608 | 610 | 613 | 615 | 617 | 20′ | 14 |
| 46 | | 4 | | 742 | 763 | 783 | 803 | 823 | | 090 | 086 | 082 | 077 | 073 | | 949 | 948 | 948 | 947 | 947 | | 617 | 620 | 622 | 624 | 626 | 18 | 13 |
| 47 | | 8 | | 823 | 843 | 864 | 884 | 904 | | 073 | 069 | 065 | 060 | 056 | | 947 | 946 | 946 | 945 | 945 | | 626 | 629 | 631 | 633 | 635 | 16 | 12 |
| 48 | | 12 | | 904 | 924 | 944 | 964 | 985 | | 056 | 052 | 048 | 043 | 039 | | 945 | 944 | 944 | 943 | 943 | | 635 | 638 | 640 | 642 | 644 | 14 | 11 |
| 49 | | 16 | | 985 | 005 | 025 | 045 | 065 | | 039 | 035 | 031 | 026 | 022 | | 943 | 942 | 942 | 941 | 941 | | 644 | 647 | 649 | 651 | 653 | 12 | 10 |
| 50 | | 11. 20 | S. 38 | 065 | 085 | 105 | 125 | 145 | 9.54 | 017 | 013 | | | | 9.98 | 940 | 940 | 939 | 939 | 938 | 9.81 | | | | | | 10′ | 9 |
| 51 | | 24 | | 145 | 165 | | | | | | | | | | | 938 | 937 | 937 | 936 | 936 | | | | | | | 8 | 8 |
| 52 | | 28 | | 224 | 244 | | | | 9.53 | 983 | | | | | | 935 | 935 | 934 | 934 | 933 | | | | | | | 6 | 7 |
| 53 | | 32 | | 303 | 323 | 343 | | | | | | | | | | 933 | 932 | 932 | 931 | 931 | | | | | | | 4 | 6 |
| 54 | | 36 | | 382 | 402 | 422 | 442 | 462 | | | | | | | | 930 | 930 | 929 | 929 | 928 | | | | | | | 2 | 5 |
| 55 | | 11. 40 | S. 38 | 462 | 482 | 502 | 522 | 542 | 9.53 | 981 | | | | | 9.98 | 928 | 927 | 927 | 926 | 926 | | | | | | | 0′ | 4 |
| 56 | | 44 | | 542 | 562 | 582 | 602 | 622 | | 941 | | | | | | 925 | 925 | 924 | 924 | 923 | | | | | | | 58 | 3 |
| 57 | | 48 | | 622 | 642 | 662 | 682 | 702 | | 901 | | | | | | 923 | 922 | 922 | 921 | 921 | | | | | | | 56 | 2 |
| 58 | | 52 | | 702 | 722 | 742 | 762 | 782 | | 861 | | | | | | 920 | 920 | 919 | 919 | 918 | | | | | | | 54 | 1 |
| 59 | | 56 | | 782 | 802 | 822 | 842 | 862 | | 821 | | | | | | 918 | 917 | 917 | 916 | 916 | | | | | | | 52 | 0 |
| | | | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | m | m |
| | | | Suversed / Coversed | | | | | Coversed / Versed | | | | | Versed / Suversed | | | | | Suversed / Sucoversed | | | | | 4″ | 72 |



| ′ | 1° | Verſed / Coverſed | | | | | Coverſed / Suverſed | | | | | Suv.ſed / Sucoverſed | | | | | Sucoverſed / Verſed | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 59′ | | | | | | | | | | | | | | | | | | |
| | m s | 0 / 0° | 15 / 1° | 30 / 2° | 45 / 3° | 60 / 4° | 0′ / 0° | 15 / 1° | 30 / 2° | 45 / 3° | 60 / 4° | 0 / 0° | 15 / 1° | 30 / 2° | 45 / 3° | 60 / 4° | 0′ / 0° | 15 / 1° | 30 / 2° | 45 / 3° | 60 / 4° | | |
| 0 | 12. 0 | 8. 38 | 840 | 880 | 920 | 960 | 9. 53 | 544 | 539 | 535 | 531 | 527 | 9. 98 | 924 | 923 | 923 | 922 | 921 | 9. 81 | 592 | 594 | 596 | 598 | 601 | | | 60 | |
| 1 | 4 | * | 941 | 986 | 8. 31 | 076 | | 826 | 822 | 818 | 813 | 809 | | 921 | 921 | 921 | 920 | 920 | | 601 | 603 | 605 | 608 | 610 | | 5′ | 59 | |
| 2 | 8 | 8. 39 | 026 | 040 | 060 | 080 | 100 | | 809 | 805 | 800 | 796 | 792 | | 920 | 919 | 919 | 918 | 918 | | 611 | 612 | 614 | 617 | 619 | | 4′ | 58 | |
| 3 | 12 | | 135 | 125 | 145 | 165 | 185 | | 792 | 787 | 783 | 778 | 774 | | 918 | 917 | 917 | 916 | 916 | | 619 | 621 | 624 | 626 | 628 | | 3′ | 57 | |
| 4 | 16 | | 185 | 205 | 225 | 245 | 264 | | 774 | 770 | 765 | 761 | 757 | | 916 | 915 | 915 | 914 | 914 | | 628 | 631 | 633 | 635 | 637 | 17. 1 | 2′ | 56 | |
| 5 | 12. 20 | 8. 39 | 264 | 284 | 304 | 324 | 344 | 9. 53 | 757 | 754 | 748 | 744 | 739 | 9. 98 | 914 | 913 | 913 | 912 | 912 | 9. 81 | 637 | 640 | 644 | 647 | | | 1′ | 55 | |
| 6 | 24 | | 344 | 364 | 383 | 403 | 423 | | 739 | 735 | 731 | 726 | 722 | | 912 | 911 | 911 | 910 | 910 | | 647 | 650 | 653 | 656 | | | 0′ | 54 | |
| 7 | 28 | | 423 | 443 | 463 | 482 | 502 | | 722 | 718 | 713 | 709 | 704 | | 910 | 909 | 909 | 908 | 908 | | 659 | 662 | 665 | 668 | | | 59″ | 53 | |
| 8 | 32 | | 502 | 522 | 542 | 562 | 581 | | 704 | 700 | 696 | 691 | 687 | | 907 | 907 | 907 | 906 | 906 | | 665 | 667 | 670 | 673 | | | 58″ | 52 | |
| 9 | 36 | | 581 | 601 | 621 | 641 | 661 | | 687 | 683 | 678 | 674 | 670 | | 905 | 905 | 904 | 904 | 903 | | 674 | 676 | 679 | 682 | | 17. 2 | 57″ | 51 | |
| 10 | 12. 40 | 8. 39 | 660 | 680 | 700 | 720 | 739 | 9. 53 | 670 | 665 | 661 | 657 | 652 | 9. 98 | 902 | 902 | 901 | 901 | 900 | 9. 81 | 683 | 685 | 688 | 691 | | | 56″ | 50 | |
| 11 | 44 | | 739 | 759 | 779 | 799 | 818 | | 652 | 648 | 643 | 639 | 635 | | 900 | 899 | 899 | 898 | 898 | | 694 | 697 | 699 | 702 | | | 52″ | 48 | |
| 12 | 48 | | 818 | 838 | 858 | 877 | 897 | | 635 | 630 | 626 | 622 | 617 | | 897 | 896 | 896 | 895 | 895 | | 705 | 708 | 711 | 714 | | | 48″ | 47 | |
| 13 | 52 | | 897 | 917 | 936 | 956 | 976 | | 617 | 613 | 609 | 604 | 600 | | 894 | 893 | 893 | 892 | 892 | | 716 | 719 | 722 | 725 | | | 44″ | 46 | |
| 14 | 56 | * | 976 | 996 | 015 | 035 | 55 | | 600 | 595 | 591 | 587 | 582 | | 892 | 891 | 890 | 890 | 889 | | 728 | 731 | 734 | 737 | 740 | 17. 3 | 40″ | 45 | |
| 15 | 13. 0 | 8. 40 | 055 | 075 | 094 | 114 | 133 | 9. 53 | 582 | 578 | 574 | 569 | 565 | 9. 98 | 889 | 888 | 888 | 887 | 887 | 9. 81 | 743 | 746 | 749 | 752 | 755 | | 36″ | 44 | |
| 16 | 4 | | 133 | 153 | 172 | 192 | 211 | | 565 | 560 | 556 | 552 | 547 | | 887 | 886 | 886 | 885 | 885 | | 758 | 761 | 764 | 767 | 770 | | 32″ | 43 | |
| 17 | 8 | | 212 | 231 | 251 | 271 | 290 | | 547 | 543 | 539 | 534 | 530 | | 885 | 884 | 884 | 883 | 883 | | 773 | 776 | 779 | 782 | 785 | | 28″ | 42 | |
| 18 | 12 | | 290 | 310 | 329 | 349 | 369 | | 530 | 526 | 521 | 517 | 512 | | 883 | 882 | 882 | 881 | 881 | | 788 | 791 | 794 | 797 | 800 | | 24″ | 41 | |
| 19 | 16 | | 369 | 388 | 408 | 427 | 447 | | 512 | 508 | 504 | 499 | 495 | | 881 | 880 | 880 | 879 | 879 | | 803 | 806 | 809 | 812 | 815 | 17. 4 | 20″ | 40 | |
| 20 | 13. 20 | 8. 40 | 447 | 467 | 486 | 506 | 525 | 9. 53 | 495 | 490 | 486 | 482 | 477 | 9. 98 | 884 | 883 | 883 | 882 | 882 | 9. 81 | 775 | 777 | 779 | 781 | 784 | | 16″ | 39 | |
| 21 | 24 | | 525 | 545 | 564 | 584 | 603 | | 477 | 473 | 469 | 464 | 460 | | 882 | 881 | 881 | 880 | 880 | | 784 | 787 | 790 | 793 | 796 | | 12″ | 38 | |
| 22 | 28 | | 603 | 623 | 642 | 662 | 681 | | 460 | 456 | 451 | 447 | 443 | | 880 | 879 | 878 | 878 | 877 | | 799 | 802 | 805 | 808 | 811 | | 8″ | 37 | |
| 23 | 32 | | 681 | 701 | 720 | 740 | 759 | | 443 | 438 | 434 | 430 | 426 | | 877 | 877 | 876 | 876 | 875 | | 814 | 817 | 820 | 823 | 826 | | 4″ | 36 | |
| 24 | 36 | | 759 | 779 | 798 | 818 | 837 | | 425 | 421 | 416 | 412 | 407 | | 875 | 875 | 874 | 874 | 873 | | 829 | 832 | 835 | 838 | 841 | 16. 2 | 0″ | 35 | |
| 25 | 13. 40 | 8. 40 | 837 | 857 | 876 | 896 | 915 | 9. 53 | 407 | 403 | 399 | 394 | 390 | 9. 98 | 873 | 873 | 872 | 872 | 871 | 9. 81 | 820 | 822 | 825 | 827 | 830 | | 14′ | 34 | |
| 26 | 44 | | 915 | 935 | 954 | 974 | 993 | | 390 | 385 | 381 | 377 | 372 | | 871 | 871 | 870 | 870 | 869 | | 830 | 833 | 836 | 838 | 841 | | 12′ | 33 | |
| 27 | 48 | * | 993 | 013 | 033 | 051 | 071 | | 372 | 367 | 363 | 359 | 355 | | 869 | 869 | 868 | 868 | 867 | | 841 | 844 | 847 | 849 | 852 | | 8′ | 32 | |
| 28 | 52 | 8. 41 | 071 | 090 | 110 | 129 | 149 | | 355 | 351 | 347 | 342 | 337 | | 867 | 867 | 866 | 866 | 865 | | 847 | 850 | 853 | 854 | 856 | | 4′ | 31 | |
| 29 | 56 | | 149 | 168 | 187 | 207 | 226 | | 337 | 333 | 328 | 324 | 320 | | 865 | 865 | 864 | 864 | 863 | | 856 | 859 | 861 | 863 | 866 | 46. 0 | 0′ | 30 | |
| 30 | 14. 0 | 8. 41 | 226 | 245 | 265 | 284 | 304 | 9. 53 | 320 | 315 | 311 | 307 | 302 | 9. 98 | 863 | 863 | 862 | 862 | 861 | 9. 81 | 866 | 868 | 870 | 872 | 875 | | 56 | 29 | |
| 31 | 4 | | 304 | 323 | 342 | 362 | 381 | | 302 | 298 | 293 | 289 | 285 | | 861 | 861 | 860 | 860 | 859 | | 875 | 877 | 879 | 881 | 884 | | 52 | 28 | |
| 32 | 8 | | 381 | 401 | 420 | 439 | 458 | | 285 | 280 | 276 | 271 | 267 | | 859 | 858 | 858 | 857 | 857 | | 884 | 886 | 888 | 891 | 893 | | 48 | 27 | |
| 33 | 12 | | 458 | 477 | 497 | 517 | 536 | | 267 | 262 | 258 | 254 | 249 | | 857 | 856 | 856 | 855 | 855 | | 893 | 895 | 897 | 900 | 902 | | 44 | 26 | |
| 34 | 16 | | 536 | 555 | 575 | 594 | 613 | | 249 | 245 | 241 | 236 | 232 | | 855 | 854 | 854 | 853 | 853 | | 902 | 904 | 907 | 909 | 911 | 45. 4 | 40 | 25 | |
| 35 | 14. 20 | 8. 41 | 613 | 632 | 652 | 671 | 690 | 9. 53 | 232 | 227 | 223 | 219 | 214 | 9. 98 | 853 | 852 | 852 | 851 | 851 | 9. 81 | 911 | 913 | 916 | 918 | 920 | | 56 | 24 | |
| 36 | 24 | | 690 | 710 | 729 | 748 | 767 | | 214 | 210 | 206 | 201 | 197 | | 851 | 850 | 850 | 849 | 849 | | 920 | 922 | 925 | 927 | 929 | | 52 | 23 | |
| 37 | 28 | | 767 | 787 | 806 | 825 | 844 | | 197 | 193 | 188 | 184 | 179 | | 849 | 848 | 848 | 847 | 847 | | 929 | 931 | 934 | 936 | 938 | | 48 | 22 | |
| 38 | 32 | | 844 | 863 | 882 | 901 | 921 | | 179 | 175 | 170 | 166 | 162 | | 847 | 846 | 846 | 845 | 845 | | 938 | 941 | 943 | 945 | 947 | | 44 | 21 | |
| 39 | 36 | | 921 | 941 | 960 | 979 | 998 | | 162 | 157 | 153 | 148 | 144 | | 845 | 844 | 843 | 843 | 842 | | 947 | 950 | 952 | 954 | 956 | 45. 20 | 40 | 20 | |
| 40 | 14. 40 | * | 998 | 017 | 037 | 056 | 75 | 9. 53 | 144 | 140 | 135 | 131 | 127 | 9. 98 | 842 | 842 | 841 | 841 | 840 | 9. 81 | 956 | 958 | 961 | 963 | 965 | | 16 | 19 | |
| 41 | 44 | 8. 42 | 075 | 094 | 114 | 133 | 152 | | 127 | 122 | 118 | 113 | 109 | | 840 | 840 | 839 | 839 | 838 | | 965 | 967 | 970 | 972 | 974 | | 12 | 18 | |
| 42 | 48 | | 152 | 171 | 191 | 210 | 229 | | 109 | 104 | 100 | 095 | 091 | | 838 | 837 | 837 | 836 | 836 | | 974 | 976 | 979 | 981 | 983 | | 8 | 17 | |
| 43 | 52 | | 229 | 248 | 267 | 287 | 306 | | 091 | 086 | 082 | 078 | 073 | | 836 | 835 | 835 | 834 | 834 | | 983 | 985 | 988 | 990 | 992 | | 4 | 16 | |
| 44 | 56 | | 306 | 324 | 344 | 363 | 382 | | 073 | 069 | 065 | 060 | 056 | | 834 | 833 | 833 | 832 | 832 | | 992 | 994 | 997 | 999 | 001 | 45. 0 | 0 | 15 | |
| 45 | 15. 0 | 8. 42 | 401 | 420 | 439 | 458 | | 9. 53 | 056 | 052 | 047 | | | 9. 98 | 832 | 831 | 831 | 830 | 830 | 9. 82 | 003 | 006 | 008 | 011 | | | 56″ | 14 | |
| 46 | 4 | | 458 | 477 | 496 | 516 | 535 | | 035 | 031 | 026 | | | | 830 | 829 | 829 | 828 | 828 | | 013 | 015 | 018 | 020 | | | 52″ | 13 | |
| 47 | 8 | | 535 | 554 | 573 | 592 | 611 | | 014 | 010 | 005 | | | | 828 | 827 | 827 | 826 | 826 | | 022 | 025 | 027 | 029 | | | 48″ | 12 | |
| 48 | 12 | | 611 | 630 | 649 | 668 | 687 | * | 993 | 989 | 984 | | | | 826 | 825 | 825 | 824 | 824 | | 032 | 034 | 036 | 039 | | | 44″ | 11 | |
| 49 | 16 | | 687 | 706 | 725 | 744 | 764 | 9. 52 | 973 | 968 | 963 | | | | 824 | 823 | 823 | 822 | 822 | | 041 | 043 | 045 | 048 | 050 | 45. 40 | 40″ | 10 | |
| 50 | 15. 20 | 8. 42 | 764 | 783 | 802 | 821 | 840 | 9. 52 | 952 | 947 | 942 | | | 9. 98 | 821 | 821 | 820 | 820 | 819 | 9. 82 | 047 | 049 | 051 | 054 | 056 | | 36″ | 9 | |
| 51 | 24 | | 840 | 859 | 878 | 897 | 916 | | 931 | 926 | 921 | | | | 819 | 818 | 818 | 817 | 817 | | 058 | 060 | 063 | 065 | | | 32″ | 8 | |
| 52 | 28 | | 916 | 935 | 954 | 973 | 992 | | 910 | 905 | 900 | | | | 817 | 816 | 816 | 815 | 815 | | 067 | 069 | 072 | 074 | | | 28″ | 7 | |
| 53 | 32 | * | 992 | 011 | 030 | 049 | 068 | | 889 | 884 | 879 | | | | 815 | 814 | 814 | 813 | 813 | | 074 | 076 | 079 | 081 | 083 | | 24″ | 6 | |
| 54 | 36 | 8. 43 | 068 | 087 | 106 | 125 | 144 | | 868 | 863 | 858 | | | | 813 | 812 | 812 | 811 | 811 | | 083 | 085 | 088 | 090 | 092 | 44. 40 | 20″ | 5 | |
| 55 | 15. 40 | 8. 43 | 144 | 163 | 181 | 200 | 219 | 9. 52 | 847 | 842 | 837 | | | 9. 98 | 811 | 811 | 810 | 809 | 809 | 9. | | 94 | 097 | 099 | 101 | | 16″ | 4 | |
| 56 | 44 | | 219 | 238 | 257 | 276 | 295 | | 862 | 857 | 853 | 848 | 844 | | 809 | 808 | 808 | 807 | 807 | | 101 | 103 | 106 | 108 | 110 | | 12″ | 3 | |
| 57 | 48 | | 295 | 314 | 333 | 352 | 371 | | 841 | 836 | 832 | | | | 807 | 806 | 806 | 805 | 805 | | 113 | 115 | 117 | 119 | | | 8″ | 2 | |
| 58 | 52 | | 371 | 390 | 409 | 428 | 447 | | 820 | 815 | 811 | | | | 805 | 804 | 804 | 803 | 803 | | 119 | 121 | 124 | 126 | 128 | | 4″ | 1 | |
| 59 | 56 | | 447 | 466 | 485 | 504 | 523 | | 799 | 794 | 790 | | | | 803 | 802 | 802 | 801 | 801 | | 128 | 130 | 133 | 135 | 137 | 44. 40 | 0″ | 0 | |
| | | 4′ / 60″ | 3′ / 45″ | 2′ / 30″ | 1′ / 15″ | 0 | 4′ / 60″ | 3′ / 45″ | 2′ / 30″ | 1′ / 15″ | 0 | 4′ / 60″ | 3′ / 45″ | 2′ / 30″ | 1′ / 15″ | 0 | 4′ / 60″ | 3′ / 45″ | 2′ / 30″ | 1′ / 15″ | 0 | m s | ′ |
| | | Suverſed / Coverſed | | | | | Coverſed / Verſed | | | | | Verſed / Sucoverſed | | | | | Sucoverſed / Suverſed | | | | | $10^5$ | 161° |
| | | | | | | | | | | | | | | | | | | | | | | $4^h$ | $71°$ |

| ′ | 1″ | Sine | | | | | Cosine | | | | | Cosecant | | | | | Secant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 109″ | 7ᵇ | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | | |
| | m | 0ˢ | 15″ 1ˢ | 30″ 2ˢ | 45″ 3ˢ | 60″ 4ˢ | 0ˢ | 15″ 1ˢ | 30″ 2ˢ | 45″ 3ˢ | 60″ 4ˢ | 0″ | 15″ 1ˢ | 30″ 2ˢ | 45″ 3ˢ | 60″ 4ˢ | 0ˢ | 15″ 1ˢ | 30″ 2ˢ | 45″ 3ˢ | 60″ 4ˢ | | |
| 0 | 0. | 9. 53 | [illegible] | | | | 9. 97 | [illegible] | | | | 0. 02 | [illegible] | | | | 0. 47 | [illegible] | | | | | |
| 1 | 4 | | 301 | 310 | 319 | 328 | 338 | 563 | 562 | 560 | 559 | 558 | 437 | 438 | 440 | 441 | 442 | 699 | 690 | 681 | 672 | 662 | 52 | 58 |
| 2 | 8 | | 338 | 347 | 356 | 365 | 374 | 558 | 557 | 556 | 555 | 554 | 442 | 443 | 444 | 445 | 446 | 662 | 653 | 644 | 635 | 626 | 45 | 57 |
| 3 | 12 | | 374 | 383 | 392 | 401 | 411 | 554 | 553 | 552 | 551 | 550 | 446 | 447 | 448 | 449 | 450 | 626 | 617 | 608 | 598 | 589 | 44 | 51 |
| 4 | [illegible] | | [illegible] | | | | [illegible] | 55[illegible] | [illegible] | | | [illegible] | 45[illegible] | [illegible] | | | [illegible] | 5[illegible] | [illegible] | 571 | 562 | 553 | 43. 47 | 55 |
| 5 | 16. 20 | 9. 51 | 447 | 456 | 465 | 475 | 484 | 9. 97 | 545 | 544 | 543 | 542 | 541 | 0. 02 | 455 | 456 | 457 | 458 | 459 | 0. 48 | 553 | 544 | 535 | 525 | 516 | 51 | 54 |
| 6 | 20 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 54 | 53 |
| 7 | 24 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 28 | 50 |
| 8 | 28 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 24 | 51 |
| 9 | 32 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | 43. 26 | 50 |
| 10 | 36. 40 | 9. 51 | [illegible] | | | | [illegible] | 9. 97 | [illegible] | | | [illegible] | [illegible] | 0. 02 | [illegible] | | | 0. 48 | [illegible] | | | | | 1′ 49 | 49 |
| 11 | 44 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 1′ 48 | 48 |
| 12 | 48 | | 702 | 711 | 720 | 729 | 738 | 515 | 513 | 512 | 511 | 510 | 485 | 487 | 488 | 489 | 490 | 298 | 289 | 280 | 271 | 262 | | 47 |
| 13 | [illegible] | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 46 |
| 14 | 56 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | 43. 6 | 45 |
| 15 | 17. [illegible] | 9. 51 | [illegible] | | | | [illegible] | 9. 97 | [illegible] | | | [illegible] | [illegible] | 0. 02 | [illegible] | | | 0. 48 | [illegible] | | | | | 1′ 44 |
| 16 | 4 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 1′ 43 |
| 17 | 8 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 1′ 42 |
| 18 | 12 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 41 |
| 19 | 16 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | 42. 4 | 40 |
| 20 | 17. 20 | [illegible] | | | | | [illegible] | 9. 97 | [illegible] | | | [illegible] | [illegible] | 0. 02 | [illegible] | | | [illegible] | | | | | | 1′ 39 |
| 21 | 24 | 9. 52 | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | 0. 47 | [illegible] | | | | | 1′ 38 |
| 22 | 28 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 1′ 37 |
| 23 | 32 | | 099 | 108 | 117 | 126 | 135 | 466 | 465 | 464 | 463 | 461 | 534 | 535 | 536 | 537 | 539 | 901 | 892 | 883 | 874 | 865 | | 24 |
| 24 | 36 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | 42. 2 | 35 |
| 25 | 17. 40 | 9. 52 | [illegible] | | | | [illegible] | 9. 97 | [illegible] | | | [illegible] | [illegible] | 0. 02 | [illegible] | | | 0. 47 | [illegible] | | | | | 1′ 34 |
| 26 | 44 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 1′ 33 |
| 27 | 48 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 1′ 32 |
| 28 | 52 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 1′ 31 |
| 29 | 56 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | 42. [illegible] | 30 |
| 30 | 18. [illegible] | 9. 52 | [illegible] | | | | [illegible] | 9. 97 | [illegible] | | | [illegible] | [illegible] | 0. 02 | [illegible] | | | 0. 47 | [illegible] | | | | | 1′ 29 |
| 31 | 4 | | 385 | 394 | 403 | 412 | 421 | 430 | 429 | 428 | 427 | 426 | 570 | 571 | 572 | 573 | 574 | 615 | 606 | 597 | 588 | 579 | | 28 |
| 32 | [illegible] | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 1′ 27 |
| 33 | 12 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 1′ 26 |
| 34 | 16 | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | 41. 4 | 25 |
| 35 | 18. 20 | 9. 52 | [illegible] | | | | [illegible] | 9. 97 | [illegible] | | | [illegible] | [illegible] | 0. 02 | [illegible] | | | 0. 47 | [illegible] | | | | | 1′ 24 |
| 36 | [illegible] | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 1′ 23 |
| 37 | [illegible] | | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | | 1′ 22 |
| 38 | 32 | | [illegible] | | | | [illegible] | 399 | 398 | 396 | 395 | 394 | 606 | 607 | 608 | 609 | 610 | 331 | 322 | 313 | 304 | 295 | 41. 20 | 20 |
| 39 | 36 | | [illegible] | | | | 7 | 394 | 393 | 392 | 391 | 39 | [illegible] | | | | | [illegible] | | | | | | |
| 40 | 18. 40 | 9. 52 | 705 | 713 | 722 | 731 | 740 | 9. 97 | 390 | 389 | 387 | 386 | 385 | 0. 02 | 610 | 611 | 613 | 614 | 615 | 0. 47 | 295 | 287 | 278 | 269 | 260 | | 1′ 19 |
| 41 | 44 | | 740 | 749 | 758 | 766 | 775 | 385 | 384 | 383 | 382 | 381 | 615 | 616 | 617 | 618 | 619 | 260 | 251 | 242 | 234 | 225 | | 18 |
| 42 | 48 | | 775 | 784 | 793 | 802 | 811 | 381 | 380 | 378 | 377 | 376 | 619 | 620 | 622 | 623 | 624 | 225 | 216 | 207 | 198 | 189 | | 17 |
| 43 | 52 | | [illegible] | | | | [illegible] | 376 | 375 | 374 | 373 | 372 | [illegible] | | | | | 189 | 181 | 172 | 163 | 154 | | 16 |
| 44 | 56 | | [illegible] | | | | [illegible] | 37[illegible] | [illegible] | | | [illegible] | [illegible] | | | | | 154 | 145 | 137 | 128 | 119 | 41. | 15 |
| 45 | [illegible] | [illegible] | | | | | [illegible] | [illegible] | | | | [illegible] | 0. 02 | 633 | 634 | 635 | 636 | 637 | 0. 47 | 119 | 110 | 101 | 093 | 084 | | 14 |
| 46 | 4 | [illegible] | | | | | [illegible] | [illegible] | | | | [illegible] | | 637 | 639 | 640 | 641 | 642 | | 084 | 075 | 066 | 058 | 049 | | 13 |
| 47 | 8 | [illegible] | | | | | [illegible] | [illegible] | | | | [illegible] | | [illegible] | | | | | | [illegible] | | | | | 47 | 12 |
| 48 | 12 | [illegible] | | | | | [illegible] | [illegible] | | | | [illegible] | | [illegible] | | | | | | [illegible] | | | | | 46 | 11 |
| 49 | 16 | [illegible] | | | | | [illegible] | [illegible] | | | | [illegible] | | 65[illegible] | [illegible] | | | | | [illegible] | | | | | 45 | 10 |
| 50 | 20 | [illegible] | | | | | [illegible] | [illegible] | | | | [illegible] | | 654 | 655 | 656 | 657 | | 0. 46 | 979 | 970 | 961 | 952 | 943 | 40. 40 | 9 |
| 51 | [illegible] | [illegible] | | | | | [illegible] | 9. 97 | 344 | 342 | 341 | 339 | | [illegible] | | | | | | | | | | | | |
| 52 | 24 | [illegible] | 092 | 100 | 109 | 118 | 127 | 340 | 339 | 338 | 336 | 335 | | 656 | 657 | 658 | 659 | 660 | 0. 46 | 943 | 935 | 926 | 917 | 908 | | 36 |
| 53 | 28 | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | | 660 | 661 | 662 | 664 | 665 | | 908 | 900 | 891 | 882 | 874 | | 32 |
| 54 | 32 | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | | 665 | 666 | 667 | 668 | 669 | | [illegible] | 865 | 856 | 847 | 839 | | 7 |
| 55 | 36 | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | | 669 | 670 | 672 | [illegible] | | | [illegible] | [illegible] | 821 | 812 | 804 | | 6 |
| 56 | 40 | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | | 674 | 675 | 676 | 677 | 678 | | 804 | 795 | 786 | 777 | 769 | 40. | 5 |
| 57 | 19. 44 | 9. 53 | [illegible] | | | | [illegible] | 9. 97 | [illegible] | | | [illegible] | [illegible] | 0. 02 | 678 | 680 | 681 | 682 | 683 | 0. 46 | 769 | 760 | 751 | 743 | 734 | | 4 |
| 58 | 48 | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | | | 683 | 684 | 685 | 686 | 688 | | 734 | 725 | 717 | 708 | 699 | | 3 |
| 59 | 52 | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | | | 688 | 689 | 690 | 691 | 692 | | 699 | 690 | 682 | 673 | 664 | | 2 |
| 60 | 56 | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | | | 692 | 693 | 694 | 696 | 697 | | 664 | 656 | 647 | 638 | 630 | | 1 |
| | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | | | 697 | 698 | 699 | 700 | [illegible] | | 630 | 621 | 612 | 604 | 595 | 40. | 0 |
| | | [illegible] | [illegible] | | | | [illegible] | [illegible] | | | | [illegible] | | | [illegible] | 3ˢ 45″ | 2ˢ 30″ | [illegible] 15″ | [illegible] | | 4ˢ 60″ | 3ˢ 45″ | 2ˢ 30″ | 1ˢ 15″ | 0ˢ 0″ | m | |
| | | [illegible] | | | | | [illegible] | | | | | [illegible] | | | | | | | | | | | | | 1′ | |
| | | Sine | | | | | Cosine | | | | | Cosecant | | | | | Secant | | | | | | |
| | | Cosine | | | | | Sine | | | | | Secant | | | | | Cosecant | | | | | | |

| ′ | ″ | Versed | | | | | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 59′ | 7″ | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | Versed | | | | | | |
| ′ | m s | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | | ° | 1ˢ | 2ˢ | 3ˢ | 4ˢ | ° | 1ˢ | 2ˢ | 3ˢ | 4ˢ | ° | 1ˢ | 2ˢ | 3ˢ | 4ˢ | ° | 1ˢ | 2ˢ | 3ˢ | 4ˢ | | |
| 0 | 18. 0 | 8. 43 | 52 | 541 | 56 | 57 | 597 | 9. 52 | 741 | 787 | 782 | 778 | 773 | 9. 98 | 851 | [illegible] | | | | 9. 82 | 137 | 139 | 142 | 144 | 146 | 57 | 59 |
| 1 | 4 | | 507 | 616 | 635 | 654 | 673 | | 773 | 767 | 764 | 760 | 755 | | 799 | 798 | 797 | 797 | 797 | | 140 | 141 | 143 | 145 | 147 | 56 | 58 |
| 2 | 8 | | 673 | 692 | 711 | 729 | 748 | | 755 | 751 | 747 | 742 | 738 | | 796 | 795 | 795 | 794 | 794 | | 142 | 144 | 146 | 148 | 150 | 55 | 57 |
| 3 | 12 | | 748 | 767 | 786 | 804 | 823 | | 738 | 735 | 729 | 724 | 720 | | 794 | 794 | 793 | 793 | 793 | | 144 | 146 | 148 | 150 | 152 | 54 | 56 |
| 4 | 16 | | 823 | 842 | 861 | 880 | 899 | | 720 | 715 | 711 | 707 | 702 | | 792 | 792 | 791 | 791 | 790 | | 146 | 148 | 150 | 152 | 154 | 53 | 55 |
| 5 | 19. 20 | 8. 43 | 898 | 917 | 936 | 955 | 974 | 9. 52 | 702 | 698 | 693 | 689 | 684 | 9. 98 | 790 | 790 | 789 | 789 | 788 | 9. 82 | 148 | 150 | 152 | 154 | 156 | 52 | 54 |
| 6 | 24 | * | 974 | 992 | 011 | 030 | 049 | | 684 | 680 | 676 | 671 | 667 | | 788 | 787 | 787 | 786 | 786 | | 150 | 152 | 154 | 156 | 158 | 51 | 53 |
| 7 | 28 | 8. 44 | 049 | 067 | 086 | 105 | 124 | | 667 | 662 | 658 | 653 | 649 | | 785 | 785 | 785 | 784 | 784 | | 152 | 154 | 156 | 158 | 160 | 50 | 52 |
| 8 | 32 | | 124 | 142 | 161 | 180 | 199 | | 646 | 645 | 640 | 635 | 631 | | 784 | 783 | 783 | 782 | 781 | | 154 | 156 | 158 | 160 | 162 | 49 | 51 |
| 9 | 36 | | 199 | 217 | 236 | 255 | 274 | | 631 | 627 | 622 | 618 | 613 | | 781 | 781 | 780 | 779 | 779 | | 156 | 158 | 160 | 162 | 164 | 48 | 50 |
| 10 | 19. 40 | 8. 44 | 273 | 292 | 311 | 330 | 349 | 9. 52 | 613 | 608 | 604 | 599 | 594 | 9. 98 | 779 | 778 | 778 | 777 | 777 | 9. 82 | 158 | 160 | 162 | 164 | 166 | 47 | 49 |
| 11 | 44 | | 348 | 367 | 386 | 404 | 423 | | 590 | 591 | 587 | 582 | 577 | | 777 | 776 | 776 | 775 | 775 | | 160 | 162 | 164 | 166 | 168 | 46 | 48 |
| 12 | 48 | | 423 | 442 | 460 | 479 | 498 | | 578 | 573 | 569 | 565 | 560 | | 775 | 774 | 774 | 773 | 773 | | 245 | 247 | 250 | 252 | 254 | 8 | 47 |
| 13 | 52 | | 498 | 516 | 535 | 554 | 572 | | 560 | 556 | 551 | 547 | 542 | | 773 | 772 | 772 | 771 | 771 | | 254 | 256 | 259 | 261 | 263 | 4 | 46 |
| 14 | 56 | | 572 | 591 | [illegible] | [illegible] | [illegible] | | 542 | 538 | 533 | [illegible] | [illegible] | | 771 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | 272 | [illegible] | [illegible] | [illegible] |
| 15 | 20. 0 | 8. 44 | 647 | 665 | 684 | 703 | 721 | 9. 52 | 525 | 520 | 516 | 511 | 507 | 9. 98 | 769 | 769 | 768 | 768 | 767 | 9. 82 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | 4 | | 721 | 740 | 758 | 777 | 795 | | 507 | 503 | 498 | 494 | 489 | | 767 | 767 | 766 | 765 | 765 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 17 | 8 | | 795 | 814 | 833 | 851 | 870 | | 485 | 480 | 476 | 471 | 467 | | 764 | 764 | 763 | 763 | 762 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18 | 12 | | 870 | 888 | [illegible] | [illegible] | [illegible] | | 471 | 467 | 462 | 458 | 453 | | 762 | 761 | 761 | 760 | 760 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19 | 16 | * | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 453 | 448 | 444 | 439 | 435 | | 759 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 20. 20 | 8. 45 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 52 | 435 | 430 | [illegible] | [illegible] | [illegible] | 9. 98 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 82 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 21 | 24 | | 092 | 111 | 129 | 148 | 167 | | 418 | 413 | 409 | 404 | 400 | | 756 | 755 | 755 | 754 | 754 | | 326 | 328 | 330 | [illegible] | [illegible] | [illegible] | [illegible] |
| 22 | 28 | | 167 | 185 | 204 | 222 | 241 | | 400 | 395 | 391 | 386 | 382 | | 754 | 753 | 752 | 752 | 751 | | 335 | 337 | 339 | [illegible] | [illegible] | [illegible] | [illegible] |
| 23 | 32 | | 241 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 751 | 751 | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | 36 | | 314 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 20. 40 | 8. 45 | 388 | 407 | 425 | 444 | 462 | 9. 52 | 346 | 342 | 337 | 333 | 328 | 9. 98 | 747 | 747 | 746 | 745 | 745 | 9. 82 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | 44 | | 462 | 481 | 499 | 518 | 536 | | 328 | 324 | 320 | 315 | 311 | | 745 | 744 | 744 | 743 | 743 | | 371 | 373 | 375 | 377 | 380 | 12 | 33 |
| 27 | 48 | | 536 | 554 | 573 | 591 | 610 | | 311 | 306 | 302 | 297 | 293 | | 743 | 742 | 742 | 741 | 741 | | 380 | 382 | 384 | 386 | 388 | 8 | [illegible] |
| 28 | 52 | | 610 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 741 | 740 | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | 56 | | 683 | 702 | 720 | 738 | 757 | | 275 | 270 | 266 | 261 | 257 | | 738 | 738 | 737 | 737 | 736 | | 397 | 400 | 402 | 404 | 406 | 42. 0 | 30 |
| 30 | 21. 0 | 8. 45 | 757 | 776 | [illegible] | [illegible] | [illegible] | 9. 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 98 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 82 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | 4 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 230 | 225 | [illegible] | [illegible] | [illegible] | | 734 | 734 | [illegible] | [illegible] | [illegible] | | 415 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 32 | 8 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 221 | 217 | [illegible] | [illegible] | [illegible] | | 733 | 731 | [illegible] | [illegible] | [illegible] | | 419 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | 12 | * | 977 | 995 | 014 | 032 | 050 | | 203 | 199 | 195 | 190 | 186 | | 730 | 729 | 729 | 728 | 728 | | 433 | 435 | 438 | 440 | 442 | 44 | 26 |
| 34 | 16 | 8. 46 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 186 | 181 | 177 | 172 | 168 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | 442 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | 18. [illegible] | 8. 46 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 98 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 82 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | 24 | | 197 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 37 | 28 | | 270 | 288 | 306 | 325 | 343 | | 132 | 127 | 123 | 118 | 114 | | 721 | 720 | 720 | 719 | 719 | | 469 | 471 | 473 | 475 | 478 | 28 | 22 |
| 38 | 32 | | 343 | 361 | [illegible] | [illegible] | [illegible] | | 114 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 39 | 36 | | 416 | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | 21. 40 | 8. 46 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 98 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 82 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | 44 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 42 | 48 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 43 | 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 44 | 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 45 | 19. 0 | 8. 46 | 852 | 871 | 889 | 907 | 925 | 9. 51 | 988 | 984 | 979 | 975 | 970 | 9. 98 | 703 | 703 | 702 | 702 | 701 | 9. 82 | 540 | 542 | 544 | 547 | 549 | 56 | 14 |
| 46 | 4 | | 925 | 943 | 961 | 979 | 997 | | 970 | 966 | 961 | 957 | 952 | | 701 | 701 | 700 | 700 | 699 | | 549 | 551 | 553 | [illegible] | [illegible] | [illegible] | [illegible] |
| 47 | 8 | * | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | 12 | 8. 47 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 49 | 16 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 50 | 20. 0 | 8. 47 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 98 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 82 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | 24 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 52 | 28 | | 359 | 377 | 395 | 413 | 431 | | 862 | 858 | 853 | 849 | 844 | | 688 | 687 | 687 | 686 | 686 | | 602 | 604 | 606 | 609 | 611 | 28 | 7 |
| 53 | 32 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | 21. 40 | 8. 47 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 98 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9. 82 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 56 | 44 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | 48 | | 719 | 737 | 755 | 773 | 791 | | 772 | 768 | 763 | 759 | 754 | | 677 | 676 | 676 | 675 | 675 | | 646 | 649 | 651 | 653 | 655 | 8 | 2 |
| 58 | 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | 56 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | | Suversed | | | | | Coversed | | | | | Versed | | | | | Sucoversed | | | | | Suversed | | 4ʰ | 70° |
| | | Coversed | | | | | Versed | | | | | Sucoversed | | | | | Suversed | | | | | | | | |

| ′ | m s | Sine / Cosine 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | Cosine / Sine 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | Secant / Cosecant 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | Cosecant / Secant 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 20. 0 | 9·53 | 406 | 411 | 423 | 431 | 439 | 9·97 | 294 | 293 | 292 | 291 | 290 | 0·02 | 701 | 703 | 704 | 705 | 707 | 0·46 | 595 | 586 | 577 | 569 | 560 | 50 | 59 |
| 1 | 4 | | 440 | 449 | 457 | 466 | 475 | | 291 | 290 | 289 | 288 | 287 | | 706 | 707 | 708 | 709 | 711 | | 560 | 551 | 543 | 534 | 525 | 51 | 58 |
| 2 | 8 | | 475 | 483 | 492 | 500 | 509 | | 289 | 288 | 287 | 286 | 285 | | 711 | 712 | 713 | 714 | 715 | | 525 | 517 | 508 | 499 | 491 | 48 | 57 |
| 3 | 12 | | 509 | 518 | 526 | 535 | 544 | | 285 | 284 | 282 | 281 | 280 | | 715 | 716 | 718 | 719 | 720 | | 491 | 482 | 474 | 465 | 456 | 44 | 56 |
| 4 | 16 | | 544 | 552 | 561 | 570 | 578 | | 280 | 279 | 278 | 277 | 276 | | 720 | 721 | 722 | 723 | 724 | | 456 | 448 | 439 | 430 | 422 | 39. 40 | 55 |
| 5 | 20. 20 | 9·53 | 578 | 587 | 596 | 604 | 613 | 9·97 | 276 | 274 | 273 | 272 | 271 | 0·02 | 724 | 726 | 727 | 728 | 729 | 0·46 | 422 | 413 | 404 | 396 | 387 | 36 | 54 |
| 6 | 24 | | 613 | 621 | 630 | 639 | 647 | | 271 | 270 | 269 | 267 | 266 | | 729 | 730 | 731 | 733 | 734 | | 387 | 379 | 370 | 361 | 353 | 32 | 53 |
| 7 | 28 | | 647 | 656 | 665 | 673 | 682 | | 266 | 265 | 264 | 263 | 262 | | 734 | 735 | 736 | 737 | 738 | | 353 | 344 | 335 | 327 | 318 | 28 | 52 |
| 8 | 32 | | 682 | 690 | 699 | 708 | 716 | | 262 | 261 | 259 | 258 | 257 | | 738 | 739 | 741 | 742 | 743 | | 318 | 310 | 301 | 292 | 284 | 24 | 51 |
| 9 | 36 | | 716 | 725 | 733 | 742 | 751 | | 257 | 256 | 255 | 254 | 252 | | 743 | 744 | 745 | 746 | 748 | | 284 | 275 | 266 | 258 | 249 | 20. 20 | 50 |
| 10 | 20. 40 | 9·53 | 751 | 759 | 768 | 776 | 785 | 9·97 | 252 | 251 | 250 | 249 | 248 | 0·02 | 748 | 749 | 750 | 751 | 752 | 0·46 | 249 | 241 | 232 | 224 | 215 | 16 | 49 |
| 11 | 44 | | 785 | 794 | 802 | 811 | 819 | | 248 | 247 | 245 | 244 | 243 | | 752 | 753 | 755 | 756 | 757 | | 215 | 206 | 198 | 189 | 181 | 12 | 48 |
| 12 | 48 | | 819 | 828 | 837 | 845 | 854 | | 243 | 242 | 241 | 240 | 238 | | 757 | 758 | 759 | 760 | 762 | | 181 | 172 | 163 | 155 | 146 | 8 | 47 |
| 13 | 52 | | 854 | 862 | 871 | 879 | 888 | | 238 | 237 | 236 | 235 | 234 | | 762 | 763 | 764 | 765 | 766 | | 146 | 138 | 129 | 121 | 112 | 4 | 46 |
| 14 | 56 | | 888 | 897 | 905 | 914 | 922 | | 234 | 233 | 231 | 230 | 229 | | 766 | 767 | 769 | 770 | 771 | | 112 | 103 | 095 | 086 | 078 | 39. 0 | 45 |
| 15 | 21. 0 | 9·53 | 922 | 931 | 939 | 948 | 957 | 9·97 | 229 | 228 | 227 | 226 | 224 | 0·02 | 771 | 772 | 773 | 774 | 776 | 0·46 | 078 | 069 | 061 | 052 | 043 | 5 | 44 |
| 16 | 4 | | 957 | 965 | 974 | 982 | 991 | | 224 | 223 | 222 | 221 | 220 | | 776 | 777 | 778 | 779 | 780 | | 043 | 035 | 026 | 018 | 009 | 52 | 43 |
| 17 | 8 | * | 991 | 000 | 008 | 016 | 025 | | 220 | 219 | 217 | 216 | 215 | | 780 | 781 | 783 | 784 | 785 | * | 009 | 001 | 992 | 984 | 975 | 4 | 42 |
| 18 | 12 | 9·54 | 025 | 033 | 042 | 050 | 059 | | 215 | 214 | 213 | 212 | 210 | | 785 | 786 | 787 | 788 | 790 | 0·45 | 975 | 967 | 958 | 950 | 941 | 44 | 41 |
| 19 | 16 | | 059 | 068 | 076 | 085 | 093 | | 210 | 209 | 208 | 207 | 206 | | 790 | 791 | 792 | 793 | 794 | | 941 | 932 | 924 | 915 | 907 | 38. 40 | 40 |
| 20 | 21. 20 | 9·54 | 093 | 102 | 110 | 119 | 127 | 9·97 | 205 | 203 | 202 | 201 | 199 | 0·02 | 794 | 795 | 797 | 798 | 799 | 0·45 | 907 | 898 | 890 | 881 | 873 | 3 | 39 |
| 21 | 24 | | 127 | 136 | 144 | 153 | 161 | | 198 | 197 | 196 | 194 | 193 | | 799 | 800 | 801 | 803 | 804 | | 873 | 864 | 856 | 847 | 839 | 32 | 38 |
| 22 | 28 | | 161 | 170 | 178 | 187 | 195 | | 196 | 195 | 194 | 193 | 192 | | 804 | 805 | 806 | 807 | 808 | | 839 | 830 | 822 | 813 | 805 | 28 | 37 |
| 23 | 32 | | 195 | 204 | 212 | 221 | 229 | | 192 | 191 | 189 | 188 | 187 | | 808 | 809 | 811 | 812 | 813 | | 805 | 796 | 788 | 779 | 771 | 24 | 36 |
| 24 | 36 | | 229 | 238 | 246 | 255 | 263 | | 187 | 186 | 185 | 183 | 182 | | 813 | 814 | 815 | 816 | 818 | | 771 | 762 | 754 | 745 | 737 | 38. 20 | 35 |
| 25 | 21. 40 | 9·54 | 263 | 272 | 280 | 289 | 297 | 9·97 | 182 | 181 | 180 | 179 | 177 | 0·02 | 818 | 819 | 820 | 821 | 823 | 0·45 | 737 | 728 | 720 | 711 | 703 | 16 | 34 |
| 26 | 44 | | 297 | 306 | 314 | 323 | 331 | | 178 | 176 | 175 | 174 | 173 | | 823 | 824 | 825 | 826 | 827 | | 703 | 694 | 686 | 677 | 669 | 12 | 33 |
| 27 | 48 | | 331 | 340 | 348 | 356 | 365 | | 173 | 172 | 171 | 169 | 168 | | 827 | 828 | 829 | 831 | 832 | | 669 | 660 | 652 | 644 | 635 | 8 | 32 |
| 28 | 52 | | 365 | 373 | 382 | 390 | 399 | | 168 | 167 | 166 | 165 | 163 | | 832 | 833 | 834 | 835 | 837 | | 635 | 627 | 618 | 610 | 601 | 4 | 31 |
| 29 | 56 | | 399 | 407 | 416 | 424 | 433 | | 163 | 162 | 161 | 160 | 159 | | 837 | 838 | 839 | 840 | 841 | | 601 | 593 | 584 | 576 | 567 | 38. 0 | 30 |
| 30 | 22. 0 | 9·54 | 433 | 441 | 449 | 458 | 467 | 9·97 | 159 | 158 | 156 | 155 | 154 | 0·02 | 841 | 842 | 844 | 845 | 846 | 0·45 | 567 | 559 | 551 | 542 | 534 | 5 | 29 |
| 31 | 4 | | 467 | 475 | 483 | 492 | 500 | | 154 | 153 | 152 | 151 | 149 | | 846 | 847 | 848 | 850 | 851 | | 534 | 525 | 517 | 508 | 500 | 52 | 28 |
| 32 | 8 | | 500 | 508 | 517 | 525 | 534 | | 149 | 148 | 147 | 146 | 145 | | 851 | 852 | 853 | 854 | 855 | | 500 | 492 | 483 | 475 | 466 | 48 | 27 |
| 33 | 12 | | 534 | 542 | 551 | 559 | 567 | | 145 | 143 | 142 | 141 | 140 | | 855 | 857 | 858 | 859 | 860 | | 466 | 458 | 449 | 441 | 433 | 44 | 26 |
| 34 | 16 | | 567 | 576 | 584 | 593 | 601 | | 140 | 139 | 137 | 136 | 135 | | 860 | 861 | 863 | 864 | 865 | | 433 | 424 | 416 | 407 | 399 | 37. 4 | 25 |
| 35 | 22. 20 | 9·54 | 601 | 610 | 618 | 626 | 635 | 9·97 | 135 | 134 | 133 | 132 | 130 | 0·02 | 865 | 867 | 868 | 869 | 870 | 0·45 | 399 | 390 | 382 | 374 | 365 | 3 | 24 |
| 36 | 24 | | 635 | 643 | 652 | 660 | 668 | | 130 | 129 | 128 | 127 | 126 | | 870 | 871 | 872 | 873 | 874 | | 365 | 357 | 348 | 340 | 332 | 32 | 23 |
| 37 | 28 | | 668 | 677 | 685 | 693 | 702 | | 126 | 124 | 123 | 122 | 121 | | 874 | 876 | 877 | 878 | 879 | | 332 | 323 | 315 | 306 | 298 | 28 | 22 |
| 38 | 32 | | 702 | 710 | 718 | 727 | 735 | | 121 | 120 | 118 | 117 | 116 | | 879 | 880 | 882 | 883 | 884 | | 298 | 290 | 281 | 273 | 265 | 24 | 21 |
| 39 | 36 | | 735 | 743 | 752 | 760 | 768 | | 116 | 115 | 114 | 113 | 111 | | 884 | 885 | 887 | 888 | 890 | | 265 | 256 | 248 | 240 | 231 | 37. 20 | 20 |
| 40 | 22. 40 | 9·54 | 768 | 777 | 785 | 794 | 802 | 9·97 | 111 | 110 | 109 | 108 | 107 | 0·02 | 890 | 891 | 893 | 894 | 895 | 0·45 | 231 | 223 | 214 | 206 | 198 | 1 | 19 |
| 41 | 44 | | 802 | 811 | 819 | 827 | 836 | | 107 | 106 | 104 | 103 | 102 | | 895 | 896 | 898 | 899 | 901 | | 198 | 189 | 181 | 173 | 164 | 12 | 18 |
| 42 | 48 | | 836 | 844 | 853 | 861 | 869 | | 102 | 101 | 099 | 098 | 097 | | 901 | 902 | 904 | 905 | 907 | | 164 | 156 | 147 | 139 | 131 | 8 | 17 |
| 43 | 52 | | 869 | 878 | 886 | 894 | 903 | | 097 | 096 | 095 | 093 | 092 | | 907 | 908 | 909 | 911 | 912 | | 131 | 122 | 114 | 106 | 097 | 4 | 16 |
| 44 | 56 | | 903 | 911 | 920 | 928 | 936 | | 092 | 091 | 089 | 088 | 087 | | 912 | 913 | 915 | 916 | 918 | | 097 | 088 | 081 | 072 | 064 | 37. 0 | 15 |
| 45 | 23. 0 | 9·54 | 936 | 944 | 953 | 961 | 969 | 9·97 | 087 | 086 | 085 | 084 | 083 | 0·02 | 913 | 914 | 915 | 916 | 917 | 0·45 | 064 | 055 | 047 | 039 | 031 | 5 | 14 |
| 46 | 4 | * | 969 | 978 | 986 | 994 | 003 | | 083 | 081 | 080 | 079 | 078 | | 917 | 919 | 920 | 921 | 922 | * | 031 | 022 | 014 | 006 | 997 | 52 | 13 |
| 47 | 8 | 9·55 | 003 | 011 | 020 | 028 | 037 | | 078 | 077 | 075 | 074 | 073 | | 922 | 924 | 925 | 926 | 927 | 0·44 | 997 | 989 | 981 | 973 | 964 | 4 | 12 |
| 48 | 12 | | 036 | 044 | 053 | 061 | 069 | | 073 | 072 | 071 | 069 | 068 | | 927 | 928 | 929 | 931 | 932 | | 964 | 956 | 947 | 939 | 931 | 44 | 11 |
| 49 | 16 | | 069 | 078 | 086 | 094 | 103 | | 068 | 066 | 065 | 064 | 063 | | 932 | 933 | 934 | 935 | 937 | | 931 | 923 | 914 | 906 | 898 | 36. 4 | 10 |
| 50 | 23. 20 | 9·55 | 103 | 111 | 119 | 128 | 136 | 9·97 | 063 | 062 | 061 | 059 | 058 | 0·02 | 937 | 938 | 939 | 940 | 942 | 0·44 | 898 | 889 | 881 | 873 | 864 | 3 | 9 |
| 51 | 24 | | 136 | 144 | 153 | 161 | 169 | | 058 | 057 | 055 | 054 | 053 | | 942 | 943 | 944 | 945 | 946 | | 864 | 856 | 847 | 839 | 831 | 32 | 8 |
| 52 | 28 | | 169 | 177 | 186 | 194 | 202 | | 053 | 051 | 050 | 049 | 048 | | 946 | 948 | 949 | 950 | 951 | | 831 | 823 | 814 | 806 | 798 | 28 | 7 |
| 53 | 32 | | 202 | 211 | 219 | 227 | 235 | | 048 | 046 | 045 | 044 | 043 | | 951 | 953 | 954 | 955 | 956 | | 798 | 790 | 781 | 773 | 765 | 24 | 6 |
| 54 | 36 | | 235 | 244 | 252 | 260 | 268 | | 043 | 041 | 040 | 039 | 038 | | 956 | 958 | 959 | 960 | 961 | | 765 | 757 | 748 | 740 | 732 | 36. 30 | 5 |
| 55 | 23. 40 | 9·55 | 268 | 276 | 285 | 293 | 301 | 9·97 | 038 | 036 | 035 | 034 | 033 | 0·02 | 961 | 963 | 964 | 965 | 967 | 0·44 | 732 | 723 | 715 | 707 | 698 | 1 | 4 |
| 56 | 44 | | 301 | 309 | 318 | 326 | 334 | | 033 | 031 | 030 | 029 | 028 | | 967 | 968 | 969 | 971 | 972 | | 698 | 690 | 682 | 674 | 665 | 12 | 3 |
| 57 | 48 | | 334 | 342 | 351 | 359 | 367 | | 028 | 026 | 025 | 024 | 023 | | 972 | 973 | 975 | 976 | 977 | | 665 | 657 | 649 | 641 | 633 | 8 | 2 |
| 58 | 52 | | 367 | 375 | 384 | 392 | 400 | | 023 | 021 | 020 | 019 | 018 | | 977 | 979 | 980 | 981 | 983 | | 633 | 625 | 616 | 608 | 600 | 4 | 1 |
| 59 | 56 | | 400 | 408 | 417 | 425 | 433 | | 018 | 016 | 015 | 014 | 013 | | 983 | 984 | 985 | 987 | 988 | | 600 | 592 | 584 | 576 | 567 | 36. 0 | 0 |
| | | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0″ | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0″ | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0″ | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0′ | m s | |
| | | Sine / Cosine | | | | | Cosine / Sine | | | | | Secant / Cosecant | | | | | Cosecant / Secant | | | | | 10h 4h | 150° 60′ |

| ′ | m s | Verfed / Coverfed | | | | | Coverfed / Suverfed | | | | | Suverfed / Sucoverfed | | | | | Versed / Vercoversed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0° 0′ | 15 1° | 30 2° | 45 3° | 60 4° | 0′ 0″ | 15 1° | 30 2° | 45 3° | 60 4° | 0′ 0″ | 15 1° | 30 2° | 45 3° | 60 4° | 0′ 0″ | 15 1° | 30 2° | 45 3° | 60 4° | | |
| 0 | 0 0 | 8.47*934 | 952 | 970 | 988 | 006 | 9.51 718 | 714 | 709 | 705 | 700 | 9.98 670 | 670 | 669 | 669 | 668 | 9.82 [illegible] | | | | | 0′ | 0 |
| 1 | 4 | 8.48 [illegible] | | | | | [illegible] | | | | | [illegible] | | | | | [illegible] | | | | | 1′ | 58 |
| 2 | 8 | | 077 | 095 | 113 | 131 | [illegible] | | | | | [illegible] | | | | | [illegible] | | | | | 3′ | 57 |
| 3 | 12 | | 140 | 167 | 184 | 202 | [illegible] | | | | | [illegible] | | | | | [illegible] | | | | | 4′ | 56 |
| 4 | 16 | | 220 | 238 | 256 | 274 | 641 | 642 | 637 | 633 | 628 | [illegible] | | | | | 7[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 30 5′ | 55 |
| 5 | 20. 27 | 8.48 | 292 | 310 | 327 | 345 | 363 | 9.51 625 | [illegible] | [illegible] | [illegible] | [illegible] | 9.98 [illegible] | | | | | 9.82 [illegible] | | | | | 6′ | 54 |
| 6 | 24 | | 363 | 381 | 398 | 416 | 434 | [illegible] | | | | | [illegible] | | | | | [illegible] | | | | | 7′ | 53 |
| 7 | 28 | | 434 | 452 | 470 | 487 | 505 | 593 | 587 | 582 | 577 | 571 | [illegible] | | | | | [illegible] | | | | | 8′ | 52 |
| 8 | 32 | | 505 | 523 | 541 | 558 | 576 | 574 | 569 | 565 | 560 | 555 | [illegible] | | | | | [illegible] | | | | | 9′ | 51 |
| 9 | 36 | | 576 | 594 | [illegible] | 630 | 647 | 555 | 551 | 547 | 542 | 538 | [illegible] | | | | | [illegible] | | | | | 10′ | 50 |
| 10 | 20. 45 | 8.48 | 647 | [illegible] | [illegible] | 701 | 718 | 9.51 538 | 533 | 529 | 524 | 519 | 9.98 [illegible] | | | | | 9.82 [illegible] | | | | | 11′ | 49 |
| 11 | 44 | | 718 | 736 | 754 | 772 | 789 | 519 | 515 | 510 | 506 | 501 | 646 | 645 | 645 | 644 | 643 | 770 | 772 | 774 | 777 | [illegible] | 12′ | 48 |
| 12 | 48 | | 789 | 807 | 825 | 843 | 860 | 501 | 497 | 492 | 488 | 483 | 643 | 643 | 642 | 642 | 641 | 779 | 781 | 783 | 786 | [illegible] | 13′ | 47 |
| 13 | 52 | | 860 | 878 | 896 | 913 | 931 | 483 | 479 | 474 | 470 | 465 | 641 | 641 | 640 | 639 | 639 | 788 | 790 | 792 | 794 | [illegible] | 14′ | 46 |
| 14 | 56 | * | 931 | 949 | 967 | 984 | 002 | 465 | 461 | 456 | 452 | 447 | 639 | 638 | 638 | 637 | 637 | 796 | [illegible] | [illegible] | [illegible] | 30 | 15′ | 45 |
| 15 | 21. 0 | 8.49 | 002 | 020 | 037 | 055 | 073 | 9.51 447 | 442 | 438 | 433 | 429 | 9.98 637 | 636 | 636 | 635 | 634 | 9.82 805 | 807 | 810 | 812 | 814 | 16′ | 44 |
| 16 | 4 | | 073 | [illegible] | [illegible] | [illegible] | 143 | [illegible] | | | | | [illegible] | | | | | [illegible] | | | | | 17′ | 43 |
| 17 | 8 | | 143 | 161 | 179 | 196 | 214 | 411 | 406 | 402 | 397 | 393 | 632 | 632 | 631 | 630 | 630 | 823 | 825 | 827 | [illegible] | [illegible] | 18′ | 42 |
| 18 | 12 | | 214 | 232 | 249 | 267 | 284 | 393 | 388 | 384 | 379 | 374 | 630 | 629 | 629 | 628 | 628 | [illegible] | | | | | 19′ | 41 |
| 19 | 16 | | 284 | 302 | 320 | 337 | 355 | 374 | 370 | 365 | 361 | 356 | 628 | 627 | 626 | 626 | 625 | [illegible] | | | | 40 | 20′ | 40 |
| 20 | 21. 20 | 8.49 | 355 | 373 | 390 | 408 | 425 | 9.51 356 | 352 | 347 | 343 | 338 | 9.98 625 | 625 | 624 | 624 | 623 | 9.82 849 | 851 | 854 | 856 | 858 | 21′ | 39 |
| 21 | 24 | | 425 | 443 | 461 | 478 | 496 | 33[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | | | | [illegible] | | | | | 22′ | 38 |
| 22 | 28 | | 496 | 513 | 531 | 548 | 566 | 320 | 315 | 311 | 306 | 302 | 621 | 620 | 620 | 619 | 619 | 867 | 869 | 871 | 873 | 876 | 23′ | 37 |
| 23 | 32 | | 566 | 584 | 601 | 619 | 636 | 302 | 297 | 293 | 288 | 284 | 619 | 618 | 617 | 617 | 616 | 876 | 878 | 880 | 882 | 884 | 24′ | 36 |
| 24 | 36 | | 636 | 654 | 671 | 689 | 706 | 284 | 279 | 275 | 270 | 265 | 616 | 616 | 615 | 615 | 614 | 884 | 887 | 889 | 891 | 893 | 38 25′ | 35 |
| 25 | 21. 40 | 8.49 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.51 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.98 [illegible] | | | | | 9.82 [illegible] | | | | | 26′ | 34 |
| 26 | 44 | | 777 | 794 | 812 | 829 | 847 | 247 | 243 | 238 | 234 | 229 | 612 | 611 | 611 | 610 | 609 | 902 | 904 | 906 | 909 | 911 | 27′ | 33 |
| 27 | 48 | | 847 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 28′ | 32 |
| 28 | 52 | | 917 | 934 | 952 | 969 | 987 | 211 | 206 | 202 | 197 | 193 | 607 | 607 | 606 | 605 | 605 | 920 | 922 | 924 | 926 | 928 | 29′ | 31 |
| 29 | 56 | * | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 28 30′ | 30 |
| 30 | 22. 0 | 8.50 | 058 | [illegible] | [illegible] | [illegible] | [illegible] | 9.51 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.98 [illegible] | | | | | 9.82 [illegible] | | | | | 31′ | 29 |
| 31 | 4 | | 126 | 144 | 161 | 179 | 196 | 156 | 152 | 147 | 143 | 138 | 600 | 600 | 599 | 599 | 598 | 946 | 948 | 950 | 952 | 955 | 32′ | 28 |
| 32 | 8 | | 196 | 213 | 231 | 248 | 266 | 138 | 133 | 129 | 124 | 120 | 598 | 597 | 597 | 596 | 596 | 955 | 957 | 959 | 961 | 963 | 33′ | 27 |
| 33 | 12 | | 266 | 283 | 301 | 318 | 335 | 120 | 115 | 111 | 106 | 102 | 596 | 595 | 595 | 594 | 593 | 963 | 965 | 968 | 970 | 972 | 34′ | 26 |
| 34 | 16 | | 335 | 353 | 370 | [illegible] | [illegible] | 102 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 35′ | 25 |
| 35 | 22. 24 | 8.50 | 405 | [illegible] | [illegible] | [illegible] | [illegible] | 9.51 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.98 [illegible] | | | | | 9.82 [illegible] | | | | | 36′ | 24 |
| 36 | 24 | | 475 | 492 | 509 | 527 | 544 | 065 | 060 | 056 | 051 | 047 | 589 | 588 | 588 | 587 | 587 | 990 | 992 | 994 | 996 | 998 | 37′ | 23 |
| 37 | 28 | | 544 | 561 | 579 | 596 | 613 | 047 | 042 | 038 | 033 | 028 | 587 | 586 | 585 | 585 | 584 | * 998 | 001 | 003 | 005 | 007 | 38′ | 22 |
| 38 | 32 | | 613 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.82 [illegible] | | | | | 39′ | 21 |
| 39 | 36 | | 683 | 700 | 718 | 735 | 752 | * 010 | 006 | 001 | 997 | 992 | 582 | 581 | 581 | 580 | 580 | 016 | 018 | 020 | 022 | 025 | 40′ 37 | 20 |
| 40 | 22. 47 | 8.50 | 752 | [illegible] | [illegible] | [illegible] | [illegible] | 9.50 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.98 [illegible] | | | | | 9.83 [illegible] | | | | | 41′ | 19 |
| 41 | 44 | | 821 | [illegible] | [illegible] | [illegible] | [illegible] | 974 | 969 | 965 | 960 | 956 | 577 | 577 | 576 | 576 | 575 | 033 | 035 | 038 | [illegible] | [illegible] | 42′ | 18 |
| 42 | 48 | | 891 | [illegible] | [illegible] | [illegible] | [illegible] | 956 | 951 | 946 | 942 | 937 | 575 | 574 | 574 | 573 | 573 | 042 | 044 | 047 | [illegible] | [illegible] | 43′ | 17 |
| 43 | 52 | * | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 937 | 933 | 928 | 924 | 919 | 573 | 572 | 572 | 571 | 570 | 051 | 053 | 055 | [illegible] | [illegible] | 44′ | 16 |
| 44 | 56 | 8.51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 915 | 914 | 910 | 905 | 901 | 570 | 570 | 569 | 569 | 568 | 059 | 062 | 064 | [illegible] | [illegible] 37 | 45′ | 15 |
| 45 | 23. 3 | 8.51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.50 901 | 896 | 892 | 887 | 882 | 9.98 568 | 568 | 567 | 566 | 566 | 9.83 068 | 070 | 073 | 075 | 077 | 46′ | 14 |
| 46 | 8 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 882 | 878 | 873 | 869 | 864 | 566 | 565 | 565 | 564 | 563 | 077 | 079 | 081 | 083 | 086 | 47′ | 13 |
| 47 | 12 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 864 | 859 | 855 | 850 | 846 | 563 | 563 | 562 | 562 | 561 | 086 | 088 | 090 | 092 | 094 | 48′ | 12 |
| 48 | 16 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 846 | 841 | 837 | 832 | 827 | 561 | 561 | 560 | 559 | 559 | 094 | 097 | 099 | 101 | 103 | 49′ | 11 |
| 49 | 20 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 50′ | 10 |
| 50 | 23. 25 | 8.51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.50 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.98 [illegible] | | | | | 9.83 [illegible] | | | | | 51′ | 9 |
| 51 | 24 | | 511 | 528 | 545 | 562 | 580 | 791 | 786 | 782 | 777 | 772 | 554 | 554 | 553 | 552 | 552 | 120 | 123 | 125 | 127 | 129 | 52′ | 8 |
| 52 | 28 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 53′ | 7 |
| 53 | 32 | | 648 | 665 | 682 | 699 | 717 | 754 | 750 | 745 | 740 | 736 | 550 | 549 | 548 | 548 | 547 | 138 | 140 | 142 | 144 | 147 | 54′ | 6 |
| 54 | 36 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 55′ | 5 |
| 55 | 23. 44 | 8.51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.50 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 9.98 [illegible] | | | | | 9.83 [illegible] | | | | | 56′ | 4 |
| 56 | 48 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 57′ | 3 |
| 57 | 52 | | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 58′ | 2 |
| 58 | 56 | * | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 59′ | 1 |
| 59 | 56 | 8.52 | 058 | 075 | 093 | 110 | 127 | 644 | 639 | 635 | 630 | 626 | 536 | 535 | 534 | 534 | 533 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | m s | ′ |
| | | 4′ 60″ | 3′ 45″ | 2′ 30″ | 1′ 15″ | 0′ 0″ | 4′ 60″ | 3′ 45″ | 2′ 30″ | 1′ 15″ | 0′ 0″ | 4′ 0″ | 3′ 45″ | 2′ 30″ | 1′ 15″ | 0′ 0″ | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 23h 56m | 1440′ |
| | | Suverfed / Coverfed | | | | | Coverfed / Verfed | | | | | Verfed / Sucoverfed | | | | | [illegible] | | | | | 4m | 4′ |

| ′ | m | s | Sine / Cosine | 0″ | 15″ | 30″ | 45″ | ″ |
|---|---|---|---|---|---|---|---|---|
| 0 | 24 | 0 | 9.55 | 433 | 441 | 449 | 457 | 465 |
| 1 | 24 | 0 | | 466 | 474 | 482 | 490 | 499 |
| 2 | 24 | 0 | | 499 | 507 | 515 | 523 | 532 |
| 3 | 24 | 1 | | 532 | 540 | 548 | 556 | 564 |
| 4 | 24 | 1 | | 564 | 573 | 581 | 589 | 597 |
| 5 | 24 | 2 | 9.55 | 597 | 605 | 613 | 622 | 630 |
| 6 | 24 | 2 | | 630 | 638 | 646 | 654 | 663 |
| 7 | 24 | 2 | | 663 | 671 | 679 | 687 | 695 |
| 8 | 24 | 3 | | 695 | 704 | 712 | 720 | 728 |
| 9 | 24 | 3 | | 728 | 736 | 744 | 753 | 761 |
| 10 | 24 | 4 | 9.55 | 761 | 769 | 777 | 785 | 793 |
| 11 | 24 | 4 | | 793 | 802 | 810 | 818 | 826 |
| 12 | 24 | 4 | | 826 | 834 | 842 | 850 | 858 |
| 13 | 24 | 5 | | 858 | 867 | 875 | 883 | 891 |
| 14 | 24 | 5 | | 891 | 899 | 907 | 915 | 923 |
| 15 | 24 | 6 | 9.55 | 923 | 932 | 940 | 948 | 956 |
| 16 | 24 | 6 | | 956 | 964 | 972 | 980 | 988 |
| 17 | 24 | 6 | | 988 | 997 | 005 | 013 | 021 |
| 18 | 24 | 7 | | 9.56 | 021 | 029 | 037 | 045 |
| 19 | 24 | 7 | | 054 | 062 | 070 | 078 | 086 |
| 20 | 24 | 8 | 9.56 | 086 | 094 | 102 | 110 | 118 |
| 21 | 24 | 8 | | 118 | 126 | 134 | 142 | 150 |
| 22 | 24 | 8 | | 150 | 158 | 166 | 174 | 182 |
| 23 | 24 | 9 | | 182 | 190 | 198 | 206 | 214 |
| 24 | 24 | 9 | | 214 | 223 | 231 | 239 | 247 |
| 25 | 24 | 10 | 9.56 | 247 | 255 | 263 | 271 | 279 |
| 26 | 24 | 10 | | 279 | 287 | 295 | 303 | 311 |
| 27 | 24 | 10 | | 311 | 319 | 327 | 335 | 343 |
| 28 | 24 | 11 | | 343 | 351 | 359 | 367 | 375 |
| 29 | 24 | 11 | | 375 | 383 | 391 | 399 | 408 |
| 30 | 24 | 12 | 9.56 | 408 | 416 | 424 | 432 | 440 |
| 31 | 24 | 12 | | 440 | 448 | 456 | 464 | 472 |
| 32 | 24 | 12 | | 472 | 480 | 488 | 496 | 504 |
| 33 | 24 | 13 | | 504 | 513 | 521 | 529 | 537 |
| 34 | 24 | 13 | | 537 | 545 | 553 | 561 | 569 |
| 35 | 24 | 14 | 9.56 | 569 | 577 | 585 | 593 | 601 |
| 36 | 24 | 14 | | 601 | 609 | 617 | 625 | 633 |
| 37 | 24 | 14 | | 633 | 641 | 649 | 657 | 665 |
| 38 | 24 | 15 | | 665 | 673 | 681 | 689 | 697 |
| 39 | 24 | 15 | | 697 | 705 | 713 | 721 | 729 |
| 40 | 24 | 16 | 9.56 | 729 | 737 | 745 | 753 | 761 |
| 41 | 24 | 16 | | 761 | 769 | 777 | 785 | 793 |
| 42 | 24 | 16 | | 793 | 801 | 809 | 817 | 825 |
| 43 | 24 | 17 | | 825 | 833 | 841 | 849 | 857 |
| 44 | 24 | 17 | | 857 | 865 | 873 | 882 | 890 |
| 45 | 24 | 18 | 9.56 | 890 | 898 | 906 | 914 | 922 |
| 46 | 24 | 18 | | 922 | 930 | 938 | 946 | 954 |
| 47 | 24 | 18 | | 954 | 962 | 970 | 978 | 986 |
| 48 | 24 | 19 | | 986 | 994 | 002 | 010 | 018 |
| 49 | 24 | 19 | | 9.57 | 026 | 034 | 042 | 050 |
| 50 | 24 | 20 | 9.57 | 043 | 051 | 059 | 067 | 075 |
| 51 | 24 | 20 | | 075 | 083 | 091 | 099 | 107 |
| 52 | 24 | 20 | | 107 | 115 | 123 | 131 | 139 |
| 53 | 24 | 21 | | 139 | 147 | 154 | 162 | 170 |
| 54 | 24 | 21 | | 170 | 178 | 186 | 194 | 202 |
| 55 | 24 | 22 | 9.57 | 202 | 210 | 218 | 226 | 234 |
| 56 | 24 | 22 | | 234 | 242 | 250 | 258 | 266 |
| 57 | 24 | 22 | | 266 | 274 | 282 | 290 | 298 |
| 58 | 24 | 23 | | 298 | 306 | 314 | 322 | 330 |
| 59 | 24 | 23 | | 330 | 338 | 346 | 354 | 362 |
| 60 | 24 | 24 | 9.57 | 362 | 370 | 378 | 386 | 394 |

| ′ | Cosine / Sine | 0″ | 15″ | 30″ | 45″ | ″ |
|---|---|---|---|---|---|---|
| 0 | 9.97 | 315 | 314 | 313 | 312 | 311 |
| 1 | | 010 | 009 | 008 | 007 | 005 |
| 2 | | 005 | 004 | 003 | 002 | 001 |
| 3 | * | 001 | 999 | 998 | 997 | 996 |
| 4 | | 996 | 995 | 994 | 993 | 992 |
| 5 | 9.96 | 991 | 990 | 988 | 987 | 986 |
| 6 | | 986 | 985 | 984 | 982 | 981 |
| 7 | | 981 | 980 | 979 | 977 | 976 |
| 8 | | 976 | 975 | 974 | 973 | 971 |
| 9 | | 971 | 970 | 969 | 968 | 967 |
| 10 | 9.96 | 967 | 965 | 964 | 963 | 962 |
| 11 | | 962 | 961 | 960 | 958 | 957 |
| 12 | | 957 | 956 | 955 | 954 | 952 |
| 13 | | 952 | 951 | 950 | 949 | 947 |
| 14 | | 947 | 946 | 945 | 944 | 942 |
| 15 | 9.96 | 942 | 941 | 940 | 939 | 937 |
| 16 | | 937 | 936 | 935 | 933 | 932 |
| 17 | | 932 | 931 | 930 | 928 | 927 |
| 18 | | 927 | 926 | 925 | 923 | 922 |
| 19 | | 922 | 921 | 920 | 919 | 917 |
| 20 | 9.96 | 917 | 916 | 915 | 914 | 912 |
| 21 | | 912 | 911 | 910 | 909 | 907 |
| 22 | | 907 | 906 | 905 | 904 | 903 |
| 23 | | 903 | 901 | 900 | 899 | 898 |
| 24 | | 898 | 896 | 895 | 894 | 893 |
| 25 | 9.96 | 893 | 891 | 890 | 889 | 888 |
| 26 | | 888 | 886 | 885 | 884 | 883 |
| 27 | | 883 | 881 | 880 | 879 | 878 |
| 28 | | 878 | 876 | 875 | 874 | 873 |
| 29 | | 873 | 871 | 870 | 869 | 868 |
| 30 | 9.96 | 868 | 866 | 865 | 864 | 863 |
| 31 | | 863 | 861 | 860 | 859 | 858 |
| 32 | | 858 | 857 | 855 | 854 | 853 |
| 33 | | 853 | 852 | 850 | 849 | 848 |
| 34 | | 848 | 847 | 845 | 844 | 843 |
| 35 | 9.96 | 843 | 842 | 840 | 839 | 838 |
| 36 | | 838 | 837 | 835 | 834 | 833 |
| 37 | | 833 | 832 | 830 | 829 | 828 |
| 38 | | 828 | 827 | 825 | 824 | 823 |
| 39 | | 823 | 822 | 820 | 819 | 818 |
| 40 | 9.96 | 818 | 817 | 815 | 814 | 813 |
| 41 | | 813 | 812 | 810 | 809 | 808 |
| 42 | | 808 | 807 | 805 | 804 | 803 |
| 43 | | 803 | 801 | 800 | 799 | 798 |
| 44 | | 798 | 796 | 795 | 794 | 793 |
| 45 | 9.96 | 793 | 791 | 790 | 789 | 787 |
| 46 | | 787 | 786 | 785 | 784 | 782 |
| 47 | | 782 | 781 | 780 | 778 | 777 |
| 48 | | 777 | 776 | 775 | 773 | 772 |
| 49 | | 772 | 771 | 770 | 768 | 767 |
| 50 | 9.96 | 767 | 766 | 765 | 764 | 762 |
| 51 | | 762 | 761 | 760 | 758 | 757 |
| 52 | | 757 | 756 | 755 | 753 | 752 |
| 53 | | 752 | 751 | 750 | 748 | 747 |
| 54 | | 747 | 746 | 745 | 743 | 742 |
| 55 | 9.96 | 742 | 741 | 740 | 738 | 737 |
| 56 | | 737 | 736 | 735 | 733 | 732 |
| 57 | | 732 | 731 | 730 | 728 | 727 |
| 58 | | 727 | 726 | 724 | 723 | 722 |
| 59 | | 722 | 720 | 719 | 718 | 717 |
| 60 | 9.96 | 717 | 716 | 715 | 713 | 712 |

| ′ | Secant / Cosecant | 0″ | 15″ | 30″ | 45″ | ″ |
|---|---|---|---|---|---|---|
| 0 | 0.02 | 685 | 686 | 687 | 688 | 689 |
| 1 | | 689 | 690 | 691 | 692 | 694 |
| 2 | | 694 | 695 | 696 | 697 | 698 |
| 3 | * | 999 | 001 | 002 | 003 | 004 |
| 4 | | 004 | 005 | 006 | 007 | 008 |
| 5 | 0.03 | 009 | 010 | 012 | 013 | 014 |
| 6 | | 014 | 015 | 016 | 018 | 019 |
| 7 | | 019 | 020 | 021 | 023 | 024 |
| 8 | | 024 | 025 | 027 | 028 | 029 |
| 9 | | 029 | 031 | 032 | 033 | 034 |
| 10 | 0.03 | 034 | 036 | 037 | 038 | 039 |
| 11 | | 039 | 041 | 042 | 043 | 045 |
| 12 | | 045 | 046 | 047 | 048 | 049 |
| 13 | | 049 | 051 | 052 | 053 | 054 |
| 14 | | 054 | 056 | 057 | 058 | 059 |
| 15 | 0.03 | 059 | 061 | 062 | 063 | 064 |
| 16 | | 064 | 065 | 067 | 068 | 069 |
| 17 | | 069 | 070 | 072 | 073 | 074 |
| 18 | | 074 | 075 | 077 | 078 | 079 |
| 19 | | 079 | 080 | 081 | 083 | 084 |
| 20 | 0.03 | 084 | 085 | 086 | 088 | 089 |
| 21 | | 089 | 090 | 091 | 093 | 094 |
| 22 | | 094 | 095 | 096 | 097 | 099 |
| 23 | | 099 | 100 | 101 | 102 | 103 |
| 24 | | 103 | 104 | 105 | 107 | 108 |
| 25 | 0.03 | 108 | 109 | 110 | 111 | 112 |
| 26 | | 112 | 113 | 115 | 116 | 117 |
| 27 | | 117 | 118 | 119 | 120 | 121 |
| 28 | | 121 | 122 | 124 | 125 | 126 |
| 29 | | 126 | 127 | 128 | 129 | 130 |
| 30 | 0.03 | 130 | 131 | 133 | 134 | 135 |
| 31 | | 135 | 136 | 137 | 138 | 139 |
| 32 | | 139 | 140 | 141 | 142 | 143 |
| 33 | | 143 | 145 | 146 | 147 | 148 |
| 34 | | 148 | 149 | 150 | 151 | 152 |
| 35 | 0.03 | 152 | 153 | 155 | 156 | 157 |
| 36 | | 157 | 158 | 159 | 160 | 161 |
| 37 | | 161 | 162 | 163 | 165 | 166 |
| 38 | | 166 | 167 | 168 | 169 | 170 |
| 39 | | 170 | 171 | 172 | 173 | 175 |
| 40 | 0.03 | 175 | 176 | 177 | 178 | 179 |
| 41 | | 179 | 180 | 181 | 182 | 183 |
| 42 | | 183 | 185 | 186 | 187 | 188 |
| 43 | | 188 | 189 | 190 | 191 | 192 |
| 44 | | 192 | 193 | 195 | 196 | 197 |
| 45 | 0.03 | 197 | 199 | 200 | 201 | 202 |
| 46 | | 202 | 203 | 204 | 205 | 206 |
| 47 | | 206 | 207 | 208 | 209 | 210 |
| 48 | | 210 | 211 | 212 | 213 | 214 |
| 49 | | 214 | 215 | 216 | 217 | 218 |
| 50 | 0.03 | 218 | 219 | 220 | 221 | 222 |
| 51 | | 222 | 223 | 224 | 225 | 226 |
| 52 | | 226 | 227 | 228 | 229 | 230 |
| 53 | | 230 | 231 | 232 | 233 | 234 |
| 54 | | 234 | 235 | 236 | 237 | 238 |
| 55 | 0.03 | 238 | 239 | 240 | 241 | 242 |
| 56 | | 242 | 243 | 244 | 245 | 246 |
| 57 | | 246 | 247 | 248 | 249 | 250 |
| 58 | | 250 | 251 | 252 | 253 | 254 |
| 59 | | 254 | 255 | 256 | 257 | 258 |
| 60 | 0.03 | 258 | 259 | 260 | 261 | 262 |

| ′ | Cosecant / Secant | 0″ | 15″ | 30″ | 45″ | ″ |
|---|---|---|---|---|---|---|
| 0 | 0.44 | 507 | 506 | 505 | 504 | 503 |
| 1 | | 503 | 502 | 501 | 500 | 499 |
| 2 | | 499 | 498 | 497 | 496 | 495 |
| 3 | | 495 | 494 | 493 | 492 | 491 |
| 4 | | 491 | 490 | 489 | 488 | 487 |
| 5 | 0.44 | 487 | 486 | 485 | 484 | 483 |
| 6 | | 483 | 482 | 481 | 480 | 479 |
| 7 | | 479 | 478 | 477 | 476 | 475 |
| 8 | | 475 | 474 | 473 | 472 | 471 |
| 9 | | 471 | 470 | 469 | 468 | 467 |
| 10 | 0.44 | 467 | 466 | 465 | 464 | 463 |
| 11 | | 463 | 462 | 461 | 460 | 459 |
| 12 | | 459 | 458 | 457 | 456 | 455 |
| 13 | | 455 | 454 | 453 | 452 | 451 |
| 14 | | 451 | 450 | 449 | 448 | 447 |
| 15 | 0.44 | 447 | 446 | 445 | 444 | 443 |
| 16 | | 443 | 442 | 441 | 440 | 439 |
| 17 | | 439 | 438 | 437 | 436 | 435 |
| 18 | | 435 | 434 | 433 | 432 | 431 |
| 19 | | 431 | 430 | 429 | 428 | 427 |
| 20 | 0.44 | 427 | 426 | 425 | 424 | 423 |
| 21 | | 423 | 422 | 421 | 420 | 419 |
| 22 | | 419 | 418 | 417 | 416 | 415 |
| 23 | | 415 | 414 | 413 | 412 | 411 |
| 24 | | 411 | 410 | 409 | 408 | 407 |
| 25 | 0.44 | 407 | 406 | 405 | 404 | 403 |
| 26 | | 403 | 402 | 401 | 400 | 399 |
| 27 | | 399 | 398 | 397 | 396 | 395 |
| 28 | | 395 | 394 | 393 | 392 | 391 |
| 29 | | 391 | 390 | 389 | 388 | 387 |
| 30 | 0.44 | 387 | 386 | 385 | 384 | 383 |
| 31 | | 383 | 382 | 381 | 380 | 379 |
| 32 | | 379 | 378 | 377 | 376 | 375 |
| 33 | | 375 | 374 | 373 | 372 | 371 |
| 34 | | 371 | 370 | 369 | 368 | 367 |
| 35 | 0.44 | 367 | 366 | 365 | 364 | 363 |
| 36 | | 363 | 362 | 361 | 360 | 359 |
| 37 | | 359 | 358 | 357 | 356 | 355 |
| 38 | | 355 | 354 | 353 | 352 | 351 |
| 39 | | 351 | 350 | 349 | 348 | 347 |
| 40 | 0.44 | 347 | 346 | 345 | 344 | 343 |
| 41 | | 343 | 342 | 341 | 340 | 339 |
| 42 | | 339 | 338 | 337 | 336 | 335 |
| 43 | | 335 | 334 | 333 | 332 | 331 |
| 44 | | 331 | 330 | 329 | 328 | 327 |
| 45 | 0.44 | 327 | 326 | 325 | 324 | 323 |
| 46 | | 323 | 322 | 321 | 320 | 319 |
| 47 | | 319 | 318 | 317 | 316 | 315 |
| 48 | | 315 | 314 | 313 | 312 | 311 |
| 49 | | 311 | 310 | 309 | 308 | 307 |
| 50 | 0.44 | 307 | 306 | 305 | 304 | 303 |
| 51 | | 303 | 302 | 301 | 300 | 299 |
| 52 | | 299 | 298 | 297 | 296 | 295 |
| 53 | | 295 | 294 | 293 | 292 | 291 |
| 54 | | 291 | 290 | 289 | 288 | 287 |
| 55 | 0.44 | 287 | 286 | 285 | 284 | 283 |
| 56 | | 283 | 282 | 281 | 280 | 279 |
| 57 | | 279 | 278 | 277 | 276 | 275 |
| 58 | | 275 | 274 | 273 | 272 | 271 |
| 59 | | 271 | 270 | 269 | 268 | 267 |
| 60 | 0.44 | 267 | 266 | 265 | 264 | 263 |

| | Sine / Cosine | 0′ | 15′ | 30′ | 45′ | m′ |
|---|---|---|---|---|---|---|
| | | 0″ | 15″ | 30″ | 45″ | s″ |

| | Cosine / Sine | 0′ | 15′ | 30′ | 45′ | m′ |
|---|---|---|---|---|---|---|
| | | 0″ | 15″ | 30″ | 45″ | s″ |

| | Secant / Cosecant | 0′ | 15′ | 30′ | 45′ | m′ |
|---|---|---|---|---|---|---|
| | | 0″ | 15″ | 30″ | 45″ | s″ |

| | Cosecant / Secant | 0′ | 15′ | 30′ | 45′ | m′ |
|---|---|---|---|---|---|---|
| | | 0″ | 15″ | 30″ | 45″ | s″ |

| ′ | ″ | Versed / Coversed | | | | | | Coversed / Versed | | | | | | Suversed / Sucoversed | | | | | | Sucoversed / Suversed | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m | 0″ | 15 | 30 | 45 | 60 | | 0″ | 15 | 30 | 45 | 60 | | 0″ | 15 | 30 | 45 | 60 | | 0″ | 15 | 30 | 45 | 60 | |
| | | | 0° | 1° | 2° | 3° | 4° | | 4° | 3° | 2° | 1° | 0° | | 4′ | 3′ | 2′ | 1′ | 0′ | | 0′ | 15″ | 30″ | 45″ | 60″ | |
| 0 | 24. 0 | | 8. 52 | 127 | 144 | 161 | 178 | 195 | 9. 50 | 626 | 621 | 616 | 612 | 607 | 9. 98 | 533 | 533 | 532 | 531 | 531 | 9. 83 | 199 | | | | 50 | 59 |
| 1 | 4 | | | 195 | 212 | 229 | 246 | 263 | | 607 | 603 | 598 | 593 | 589 | | 531 | 530 | 530 | 529 | 529 | | 207 | 210 | 212 | 214 | 216 | 52 | 58 |
| 2 | 8 | | | 263 | 280 | 297 | 314 | 331 | | 589 | 584 | 580 | 575 | 570 | | 529 | 528 | 527 | 527 | 526 | | 216 | 218 | 220 | 223 | 225 | 48 | 57 |
| 3 | 12 | | | 331 | 348 | 365 | 382 | 399 | | 570 | 566 | 561 | 557 | 552 | | 526 | 526 | 525 | 524 | 524 | | 233 | 236 | 238 | 240 | 242 | 44 | 56 |
| 4 | 16 | | | 399 | 416 | 433 | 450 | 467 | | 552 | 547 | 543 | 538 | 534 | | 524 | 523 | 523 | 522 | 521 | | 233 | 236 | 238 | 240 | 242 | 35. 40 | 55 |
| 5 | 24. 20 | | 8. 52 | 487 | 504 | 521 | 538 | 555 | 9. 50 | 534 | 529 | 525 | 520 | 516 | 9. 98 | 521 | 521 | 520 | 519 | 519 | 9. 83 | 242 | 245 | 247 | 249 | 251 | 37 | 54 |
| 6 | 24 | | | 555 | 572 | 589 | 606 | 623 | | 516 | 511 | 507 | 502 | 497 | | 519 | 518 | 517 | 516 | 516 | | 251 | 253 | 255 | 257 | 259 | 34 | 53 |
| 7 | 28 | | | 623 | 640 | 657 | 674 | 691 | | 497 | 492 | 488 | 483 | 478 | | 517 | 516 | 515 | 513 | 513 | | 259 | 261 | 263 | 265 | 267 | 31 | 52 |
| 8 | 32 | | | 691 | 708 | 725 | 742 | 759 | | 478 | 474 | 469 | 465 | 460 | | 514 | 514 | 513 | 513 | 512 | | 268 | 270 | 272 | 275 | 277 | 24 | 51 |
| 9 | 36 | | | 758 | 775 | 792 | 809 | 826 | | 460 | 455 | 451 | 446 | 441 | | 512 | 511 | 511 | 510 | | | 277 | | | | | 55. | |
| 10 | 24. 40 | | 8. 54 | | | | | 843 | 9. 50 | 441 | 437 | 432 | 428 | 423 | 9. 98 | 510 | 509 | 509 | 508 | | 9. 83 | | | | | | | |
| 11 | 44 | | | 877 | 894 | 911 | 928 | 945 | | 423 | 418 | 414 | 409 | 405 | | 507 | 507 | 506 | 5 | | | | | | | | | |
| 12 | 48 | | | 945 | 962 | 979 | 996 | 013 | | 405 | 400 | 395 | 391 | 386 | | 505 | 504 | 504 | 503 | 503 | | 303 | 305 | 307 | 309 | 311 | 8 | 47 |
| 13 | 52 | | 8. 55 | 030 | 047 | 064 | 081 | 098 | | 386 | 382 | 377 | 372 | 368 | | 502 | 502 | 501 | 501 | 500 | | 311 | 314 | 316 | 318 | 320 | 4 | 46 |
| 14 | 56 | | | 098 | 115 | 132 | 149 | 166 | | 368 | 363 | 358 | 354 | 349 | | 500 | 499 | 499 | 498 | 498 | | 320 | 322 | 324 | 326 | 328 | 43 | |
| 15 | 25. 0 | | 8. 55 | 166 | 183 | 200 | 217 | 234 | 9. 50 | 349 | 345 | 340 | 336 | 331 | 9. 98 | 497 | 497 | 497 | 496 | 496 | 9. 83 | 328 | 330 | 332 | 334 | 336 | 41 | 44 |
| 16 | 4 | | | 234 | 251 | 268 | 285 | 302 | | 331 | 326 | 322 | 317 | 313 | | 496 | 495 | 495 | 494 | 494 | | 336 | 338 | 340 | 342 | 344 | 38 | 43 |
| 17 | 8 | | | 302 | 319 | 336 | 353 | 370 | | 313 | 308 | 303 | 298 | 294 | | 493 | 493 | 492 | 491 | 491 | | 344 | 346 | 348 | 350 | 352 | 35 | 42 |
| 18 | 12 | | | 370 | 387 | 404 | 421 | 438 | | 294 | 289 | 285 | 280 | 275 | | 491 | 490 | 490 | 489 | 488 | | 352 | 354 | 356 | 358 | 360 | 32 | 41 |
| 19 | 16 | | | 438 | 455 | 472 | 489 | 506 | | 275 | 271 | 266 | 261 | 257 | | 488 | 488 | 487 | 487 | 486 | | 360 | 362 | 364 | 366 | 368 | 29. 40 | 40 |
| 20 | 25. 20 | | 8. 53 | 506 | 523 | 540 | 557 | 574 | 9. 50 | 257 | 252 | 248 | 243 | 238 | 9. 98 | 486 | 485 | 485 | 484 | 484 | 9. 83 | 368 | 370 | 372 | 374 | 376 | 37 | 39 |
| 21 | | | | 574 | 591 | 608 | 625 | 642 | | 238 | 233 | 229 | 224 | 219 | | 483 | 483 | 482 | 482 | 481 | | 376 | 378 | 380 | 382 | 384 | | |
| 22 | | | | 642 | 659 | 676 | 693 | 710 | | 219 | 215 | 210 | 205 | 200 | | 481 | 481 | 480 | 479 | 479 | | 384 | 386 | 388 | 390 | 392 | 33 | 38 |
| 23 | | | | 710 | 727 | 744 | 761 | 778 | | 200 | 196 | 191 | 186 | 181 | | 479 | 478 | 478 | 477 | 477 | | 392 | 394 | 396 | 398 | 400 | | |
| 24 | | | | 778 | 795 | 812 | 829 | 846 | | 181 | 177 | 172 | 167 | 162 | | 477 | 476 | 476 | 475 | 475 | | 400 | 402 | 404 | 406 | 408 | 30. 40 | 37 |
| 25 | 25. 40 | | 8. 53 | 846 | 863 | 880 | 897 | 914 | 9. 50 | 162 | 158 | 153 | 148 | 144 | 9. 98 | 474 | 474 | 473 | 473 | 472 | 9. 83 | 408 | 410 | 412 | 414 | 416 | | 36 |
| 26 | | | | 914 | 931 | 948 | 965 | 982 | | 144 | 139 | 134 | 130 | 125 | | 472 | 471 | 471 | 470 | 470 | | 416 | 418 | 420 | 422 | 424 | | |
| 27 | | | | 982 | 999 | 016 | 033 | 050 | | 125 | 120 | 116 | 111 | 107 | | 469 | 469 | 468 | 468 | 467 | | 424 | 426 | 428 | 430 | 432 | 27 | 35 |
| 28 | 52 | | 8. 54 | 050 | 067 | 084 | 101 | 118 | | 107 | 102 | 098 | 093 | 089 | | 467 | 466 | 466 | 465 | 465 | | 432 | 434 | 436 | 438 | 440 | 24. 40 | 34 |
| 29 | 56 | | | 118 | 135 | 152 | 169 | 186 | | 089 | 084 | 080 | 075 | 071 | | 464 | 463 | 463 | 462 | 462 | | 440 | 442 | 444 | 446 | 448 | | |
| 30 | 26. 0 | | 8. 54 | 186 | 203 | 220 | 237 | 254 | 9. 50 | 071 | 066 | 062 | 057 | 053 | 9. 98 | 461 | 460 | 460 | 459 | 459 | 9. 83 | 448 | 450 | 452 | 454 | 456 | 33 | 33 |
| 31 | 4 | | | 254 | 271 | 288 | 305 | 322 | | 053 | 048 | 044 | 039 | 035 | | 458 | 457 | 457 | 456 | 456 | | 456 | 458 | 460 | 462 | 464 | | |
| 32 | 8 | | | 322 | 339 | 356 | 373 | 390 | | 035 | 030 | 026 | 021 | 017 | | 455 | 455 | 454 | 454 | 453 | | 464 | 466 | 468 | 470 | 472 | 30 | 32 |
| 33 | 12 | | | 390 | 407 | 424 | 441 | 458 | | 017 | 012 | 008 | 003 | 9. 49 | | 453 | 452 | 452 | 451 | 451 | | 472 | 474 | 476 | 478 | 480 | 27 | 31 |
| 34 | 16 | | | 458 | 475 | 492 | 509 | 526 | | 9. 49 | 003 | 999 | 994 | 990 | | 450 | 450 | 449 | 449 | 448 | | 480 | 482 | 484 | 486 | 488 | 24. 40 | 30 |
| 35 | 26. 20 | | 8. 54 | 526 | 543 | 560 | 577 | 594 | 9. 49 | 990 | 985 | 981 | 976 | 972 | 9. 98 | 448 | 447 | 447 | 446 | 446 | 9. 83 | 488 | 490 | 492 | 494 | 496 | | 29 |
| 36 | 4 | | | 594 | 611 | 628 | 645 | 662 | | 972 | 967 | 963 | 958 | 954 | | 445 | 445 | 444 | 444 | 443 | | 496 | 498 | 500 | 502 | 504 | 21. 40 | |
| 37 | 8 | | | 662 | 679 | 696 | 713 | 730 | | 954 | 949 | 945 | 940 | 936 | | 443 | 442 | 442 | 441 | 441 | | 504 | 506 | 508 | 510 | 512 | | 28 |
| 38 | 12 | | | 730 | 747 | 764 | 781 | 798 | | 936 | 931 | 927 | 922 | 918 | | 440 | 440 | 439 | 439 | 438 | | 512 | 514 | 516 | 518 | 520 | 18. 40 | 27 |
| 39 | 16 | | | 798 | 815 | 832 | 849 | 866 | | 918 | 913 | 909 | 904 | 900 | | 438 | 437 | 437 | 436 | 436 | | 520 | 522 | 524 | 526 | 528 | | |
| 40 | 26. 40 | | 8. 54 | 866 | 883 | 900 | 917 | 934 | 9. 49 | 900 | 895 | 891 | 886 | 882 | 9. 98 | 435 | 434 | 434 | 433 | 433 | 9. 83 | 528 | 530 | 532 | 534 | 536 | 15. 40 | 26 |
| 41 | 44 | | | 934 | 951 | 968 | 985 | 002 | | 882 | 877 | 873 | 868 | 864 | | 432 | 431 | 431 | 430 | 430 | | 536 | 538 | 540 | 542 | 544 | | |
| 42 | 48 | | | 002 | 019 | 036 | 053 | 070 | | 864 | 859 | 855 | 850 | 846 | | 429 | 429 | 428 | 428 | 427 | | 544 | 546 | 548 | 550 | 552 | 12. 40 | 25 |
| 43 | 52 | | 8. 55 | 070 | 087 | 104 | 121 | 138 | | 846 | 841 | 837 | 832 | 828 | | 427 | 426 | 426 | 425 | 425 | | 552 | 554 | 556 | 558 | 560 | | |
| 44 | 56 | | | 138 | 155 | 172 | 189 | 206 | | 828 | 823 | 819 | 814 | 810 | | 424 | 424 | 423 | 423 | 422 | | 560 | 562 | 564 | 566 | 568 | 9. 40 | 24 |
| 45 | 27. 0 | | 8. 55 | 206 | 223 | 240 | 257 | 274 | 9. 49 | 810 | 805 | 801 | 796 | 792 | 9. 98 | 422 | 421 | 421 | 420 | 420 | 9. 83 | 568 | 570 | 572 | 574 | 576 | | 23 |
| 46 | 4 | | | 274 | 291 | 308 | 325 | 342 | | 792 | 787 | 783 | 778 | 774 | | 419 | 419 | 418 | 418 | 417 | | 576 | 578 | 580 | 582 | 584 | 6. 40 | |
| 47 | 8 | | | 342 | 359 | 376 | 393 | 410 | | 774 | 769 | 765 | 760 | 756 | | 417 | 416 | 416 | 415 | 415 | | 584 | 586 | 588 | 590 | 592 | | 22 |
| 48 | 12 | | | 410 | 427 | 444 | 461 | 478 | | 756 | 751 | 747 | 742 | 738 | | 414 | 414 | 413 | 413 | 412 | | 592 | 594 | 596 | 598 | 600 | 3. 40 | 21 |
| 49 | 16 | | | 478 | 495 | 512 | 529 | 546 | | 738 | 733 | 729 | 724 | 720 | | 412 | 411 | 411 | 410 | 410 | | 600 | 602 | 604 | 606 | 608 | | |
| 50 | 27. 20 | | 8. 55 | 546 | 563 | 580 | 597 | 614 | 9. 49 | 720 | 715 | 711 | 706 | 702 | 9. 98 | 409 | 409 | 408 | 408 | 407 | 9. 83 | 608 | 610 | 612 | 614 | 616 | 0. 40 | 20 |
| 51 | 4 | | | 614 | 631 | 648 | 665 | 682 | | 702 | 697 | 693 | 688 | 684 | | 407 | 406 | 406 | 405 | 405 | | 616 | 618 | 620 | 622 | 624 | | |
| 52 | 8 | | | 682 | 699 | 716 | 733 | 750 | | 684 | 679 | 675 | 670 | 666 | | 404 | 404 | 403 | 403 | 402 | | 624 | 626 | 628 | 630 | 632 | | 19 |
| 53 | 12 | | | 750 | 767 | 784 | 801 | 818 | | 666 | 661 | 657 | 652 | 648 | | 402 | 401 | 400 | 400 | 399 | | 632 | 634 | 636 | 638 | 640 | | |
| 54 | 16 | | 8. 56 | 818 | 835 | 852 | 869 | 886 | 9. 49 | 648 | 643 | 639 | 634 | 630 | 9. 98 | 397 | 396 | 395 | 395 | 394 | 9. 83 | 640 | 642 | 644 | 646 | 648 | | 18 |
| 55 | 27. 40 | | | 886 | 903 | 920 | 937 | 954 | | 630 | 625 | 621 | 616 | 612 | | 394 | 393 | 392 | 392 | 391 | | 648 | 650 | 652 | 654 | 656 | | |
| 56 | 44 | | | 954 | 971 | 988 | 005 | 022 | | 612 | 607 | 603 | 598 | 594 | | 391 | 390 | 389 | 389 | 388 | | 656 | 658 | 660 | 662 | 664 | | 17 |
| 57 | 48 | | | 022 | 039 | 056 | 073 | 090 | | 594 | 589 | 585 | 580 | 576 | | 388 | 387 | 387 | 386 | 386 | | 664 | 666 | 668 | 670 | 672 | | |
| 58 | 52 | | | 090 | 107 | 124 | 141 | 158 | | 576 | 571 | 567 | 562 | 558 | | 385 | 385 | 384 | 384 | 383 | | 672 | 674 | 676 | 678 | 680 | | 16 |
| 59 | 56 | | | 158 | 175 | 192 | 209 | 226 | | 558 | 553 | 549 | 544 | 540 | | 383 | 382 | 382 | 381 | 381 | | 680 | 682 | 684 | 686 | 688 | | |
| | | | 8. 56 | 055 | 071 | 088 | 105 | 122 | 9. 49 | 540 | 535 | 531 | 526 | 522 | 9. 98 | 380 | 379 | 379 | 378 | 378 | 9. 83 | 688 | 690 | 692 | 694 | 696 | | 15 |
| | | | 4° | 3° | 2° | 1° | 0° | | 4′ | 3′ | 2′ | 1′ | 0′ | | 4′ | 3′ | 2′ | 1′ | 0′ | | 0′ | 15″ | 30″ | 45″ | 60″ | | |
| | | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | | | Suversed | | | | | | Coversed | | | | | | Suversed | | | | | | Sucoversed | | | | | | |
| | | | Coversed | | | | | | Versed | | | | | | Sucoversed | | | | | | Suversed | | | | | | |

| 22° | 1h | Sine | | | | | | Cosine | | | | | | Secant | | | | | | Cosecant | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 112 | 7h | Cosine | | | | | | Sine | | | | | | Cosecant | | | | | | Secant | | | | | | | |
| ′ | m s | 0″ | 15″ | 30″ | 45″ | 60″ | | 0″ | 15″ | 30″ | 45″ | 60″ | | 0″ | 15″ | 30″ | 45″ | 60″ | | 0″ | 15″ | 30″ | 45″ | 60″ | | | |
| 0 | 28. 0 | 9.57 | 383 | 387 | 391 | 395 | 399 | 9.96 | 713 | 711 | 709 | 707 | 705 | 0.03 | 287 | 289 | 291 | 293 | 295 | 0.42 | 713 | 711 | 709 | 707 | 705 | 59 | 60 |
| 1 | | | 387 | 391 | 395 | 399 | 403 | | 711 | 709 | 707 | 705 | 703 | | 289 | 291 | 293 | 295 | 297 | | 711 | 709 | 707 | 705 | 703 | 58 | 59 |
| 2 | | | 391 | 395 | 399 | 403 | 407 | | 709 | 707 | 705 | 703 | 701 | | 291 | 293 | 295 | 297 | 299 | | 709 | 707 | 705 | 703 | 701 | 57 | 58 |
| 3 | 1 | | 451 | 459 | 467 | 475 | 482 | | 701 | 700 | 699 | 697 | 696 | | 299 | 300 | 301 | 303 | 304 | | 549 | 541 | 533 | 525 | 518 | 44 | |
| 4 | 1 | | 483 | | | | | | | | | | | | | | | | | | | | | | | 31. 42 | 55 |
| 5 | 28. 2 | 9.57 | 514 | 521 | 528 | 535 | 542 | 9.96 | 691 | 690 | 688 | 687 | 685 | 0.03 | 309 | 310 | 312 | 313 | 314 | 0.42 | 491 | 479 | 468 | 457 | 446 | 54 | 54 |
| 6 | 2 | | 545 | 553 | 561 | 569 | 576 | | 685 | 683 | 682 | 680 | 678 | | 314 | 315 | 317 | 318 | 320 | | 435 | 424 | 413 | 403 | 393 | 53 | 53 |
| 7 | 2 | | 577 | 585 | 593 | 601 | 609 | | 678 | 676 | 675 | 673 | 671 | | 318 | 321 | 323 | 325 | 327 | | 389 | 380 | 371 | 362 | 353 | 52 | 52 |
| 8 | 3 | | 609 | 617 | 625 | 633 | 641 | | 671 | 669 | 667 | 665 | 663 | | 324 | 326 | 328 | 330 | 332 | | 345 | 337 | 329 | 321 | 313 | 51 | 51 |
| 9 | 3 | | 641 | | | | | | 663 | | | | | | 332 | 334 | 336 | 338 | 340 | | | | | | | 31. 2 | 50 |
| 10 | 28. 4 | 9.57 | 673 | 681 | 689 | 697 | 705 | 9.96 | 656 | 654 | 652 | 650 | 648 | 0.03 | 340 | 342 | 344 | 346 | 348 | 0.42 | 306 | 299 | 292 | 285 | 278 | 49 | 49 |
| 11 | 4 | | 705 | 713 | 721 | 729 | 737 | | 648 | 646 | 644 | 642 | 640 | | 348 | 350 | 352 | 354 | 356 | | 272 | 265 | 259 | 253 | 247 | 48 | 48 |
| 12 | 4 | | 737 | 745 | 753 | 761 | 769 | | 640 | 638 | 636 | 634 | 632 | | 356 | 358 | 360 | 362 | 364 | | 241 | 235 | 229 | 224 | 219 | 47 | 47 |
| 13 | 5 | | 769 | 777 | 785 | 793 | 801 | | 632 | 630 | 628 | 626 | 624 | | 364 | 366 | 368 | 370 | 372 | | 214 | 209 | 204 | 199 | 194 | 46 | 46 |
| 14 | 5 | | 801 | | | | | | 624 | | | | | | 372 | 374 | 376 | 378 | 380 | | | | | | | 31. 0 | 45 |
| 15 | 28. 6 | 9.57 | 833 | 841 | 849 | 857 | 865 | 9.96 | 616 | 614 | 612 | 610 | 608 | 0.03 | 380 | 382 | 384 | 386 | 388 | 0.42 | 190 | 185 | 181 | 176 | 172 | 44 | 44 |
| 16 | 6 | | 865 | 873 | 881 | 889 | 897 | | 608 | 606 | 604 | 602 | 600 | | 388 | 390 | 392 | 394 | 396 | | 168 | 164 | 160 | 156 | 152 | 43 | 43 |
| 17 | 6 | | 897 | 905 | 913 | 921 | 929 | | 600 | 598 | 596 | 594 | 592 | | 396 | 398 | 400 | 402 | 404 | | 148 | 144 | 140 | 136 | 133 | 42 | 42 |
| 18 | 7 | | 929 | 937 | 945 | 953 | 961 | | 592 | 590 | 588 | 586 | 584 | | 404 | 406 | 408 | 410 | 412 | | 129 | 126 | 122 | 119 | 116 | 41 | 41 |
| 19 | 7 | | 961 | | | | | | 584 | | | | | | 412 | 414 | 416 | 418 | 420 | | | | | | | 30. 59 | 40 |
| 20 | 28. 8 | 9.57 | 993 | 001 | 009 | 017 | 025 | 9.96 | 576 | 574 | 572 | 570 | 568 | 0.03 | 420 | 422 | 424 | 426 | 428 | 0.42 | 113 | 110 | 107 | 104 | 101 | 39 | 39 |
| 21 | 8 | | 025 | 033 | 041 | 049 | 057 | | 568 | 566 | 564 | 562 | 560 | | 428 | 430 | 432 | 434 | 436 | | 098 | 095 | 093 | 090 | 087 | 38 | 38 |
| 22 | 8 | | 057 | 065 | 073 | 081 | 089 | | 560 | 558 | 556 | 554 | 552 | | 436 | 438 | 440 | 442 | 444 | | 084 | 081 | 079 | 076 | 074 | 37 | 37 |
| 23 | 9 | | 089 | 097 | 105 | 113 | 121 | | 552 | 550 | 548 | 546 | 544 | | 444 | 446 | 448 | 450 | 452 | | 071 | 069 | 066 | 064 | 062 | 36 | 36 |
| 24 | 9 | | 121 | | | | | | 544 | | | | | | 452 | 454 | 456 | 458 | 460 | | | | | | | 30. 59 | 35 |
| 25 | 28. 10 | 9.57 | 153 | 161 | 169 | 177 | 185 | 9.96 | 536 | 534 | 532 | 530 | 528 | 0.03 | 460 | 462 | 464 | 466 | 468 | 0.42 | 047 | 045 | 043 | 041 | 039 | 34 | 34 |
| 26 | 10 | | 185 | 193 | 201 | 209 | 217 | | 528 | 526 | 524 | 522 | 520 | | 468 | 470 | 472 | 474 | 476 | | 037 | 035 | 033 | 031 | 029 | 33 | 33 |
| 27 | 10 | | 217 | 225 | 233 | 241 | 249 | | 520 | 518 | 516 | 514 | 512 | | 476 | 478 | 480 | 482 | 484 | | 027 | 025 | 023 | 021 | 019 | 32 | 32 |
| 28 | 11 | | 249 | 257 | 265 | 273 | 281 | | 512 | 510 | 508 | 506 | 504 | | 484 | 486 | 488 | 490 | 492 | | 017 | 015 | 013 | 011 | 009 | 31 | 31 |
| 29 | 11 | | 281 | | | | | | 504 | | | | | | 492 | 494 | 496 | 498 | 500 | | | | | | | 30. 59 | 30 |
| 30 | 28. 12 | 9.57 | 313 | 321 | 329 | 337 | 345 | 9.96 | 496 | 494 | 492 | 490 | 488 | 0.03 | 500 | 502 | 504 | 506 | 508 | 0.42 | 007 | 005 | 003 | 001 | 000 | 29 | 29 |
| 31 | 12 | | 345 | 353 | 361 | 369 | 377 | | 488 | 486 | 484 | 482 | 480 | | 508 | 510 | 512 | 514 | 516 | | 998 | 996 | 994 | 992 | 990 | 28 | 28 |
| 32 | 12 | | 377 | 385 | 393 | 401 | 409 | | 480 | 478 | 476 | 474 | 472 | | 516 | 518 | 520 | 522 | 524 | | 988 | 986 | 984 | 982 | 980 | 27 | 27 |
| 33 | 13 | | 409 | 417 | 425 | 433 | 441 | | 472 | 470 | 468 | 466 | 464 | | 524 | 526 | 528 | 530 | 532 | | 978 | 976 | 974 | 972 | 970 | 26 | 26 |
| 34 | 13 | | 441 | | | | | | 464 | | | | | | 532 | 534 | 536 | 538 | 540 | | | | | | | 30. 59 | 25 |
| 35 | 28. 14 | 9.57 | 473 | 481 | 489 | 497 | 505 | 9.96 | 456 | 454 | 452 | 450 | 448 | 0.03 | 540 | 542 | 544 | 546 | 548 | 0.42 | 959 | 957 | 955 | 953 | 951 | 24 | 24 |
| 36 | 14 | | 505 | 513 | 521 | 529 | 537 | | 448 | 446 | 444 | 442 | 440 | | 548 | 550 | 552 | 554 | 556 | | 949 | 947 | 945 | 943 | 941 | 23 | 23 |
| 37 | 14 | | 537 | 545 | 553 | 561 | 569 | | 440 | 438 | 436 | 434 | 432 | | 556 | 558 | 560 | 562 | 564 | | 939 | 937 | 935 | 933 | 931 | 22 | 22 |
| 38 | 15 | | 569 | 577 | 585 | 593 | 601 | | 432 | 430 | 428 | 426 | 424 | | 564 | 566 | 568 | 570 | 572 | | 929 | 927 | 925 | 923 | 921 | 21 | 21 |
| 39 | 15 | | 601 | | | | | | 424 | | | | | | 572 | 574 | 576 | 578 | 580 | | | | | | | 30. 59 | 20 |
| 40 | 28. 16 | 9.57 | 633 | 641 | 649 | 657 | 665 | 9.96 | 416 | 414 | 412 | 410 | 408 | 0.03 | 580 | 582 | 584 | 586 | 588 | 0.42 | 899 | 897 | 895 | 893 | 891 | 19 | 19 |
| 41 | 16 | | 665 | 673 | 681 | 689 | 697 | | 408 | 406 | 404 | 402 | 400 | | 588 | 590 | 592 | 594 | 596 | | 889 | 887 | 885 | 883 | 881 | 18 | 18 |
| 42 | 16 | | 697 | 705 | 713 | 721 | 729 | | 400 | 398 | 396 | 394 | 392 | | 596 | 598 | 600 | 602 | 604 | | 879 | 877 | 875 | 873 | 871 | 17 | 17 |
| 43 | 17 | | 729 | 737 | 745 | 753 | 761 | | 392 | 390 | 388 | 386 | 384 | | 604 | 606 | 608 | 610 | 612 | | 869 | 867 | 865 | 863 | 861 | 16 | 16 |
| 44 | 17 | | 761 | | | | | | 384 | | | | | | 612 | 614 | 616 | 618 | 620 | | | | | | | 30. 59 | 15 |
| 45 | 28. 18 | 9.57 | 793 | 801 | 809 | 817 | 825 | 9.96 | 376 | 374 | 372 | 370 | 368 | 0.03 | 620 | 622 | 624 | 626 | 628 | 0.42 | 859 | 857 | 855 | 853 | 851 | 14 | 14 |
| 46 | 18 | | 825 | 833 | 841 | 849 | 857 | | 368 | 366 | 364 | 362 | 360 | | 628 | 630 | 632 | 634 | 636 | | 849 | 847 | 845 | 843 | 841 | 13 | 13 |
| 47 | 18 | | 857 | 865 | 873 | 881 | 889 | | 360 | 358 | 356 | 354 | 352 | | 636 | 638 | 640 | 642 | 644 | | 839 | 837 | 835 | 833 | 831 | 12 | 12 |
| 48 | 19 | | 889 | 897 | 905 | 913 | 921 | | 352 | 350 | 348 | 346 | 344 | | 644 | 646 | 648 | 650 | 652 | | 829 | 827 | 825 | 823 | 821 | 11 | 11 |
| 49 | 19 | | 921 | | | | | | 344 | | | | | | 652 | 654 | 656 | 658 | 660 | | | | | | | 30. 59 | 10 |
| 50 | 28. 20 | 9.57 | 953 | 961 | 969 | 977 | 985 | 9.96 | 336 | 334 | 332 | 330 | 328 | 0.03 | 660 | 662 | 664 | 666 | 668 | 0.42 | 819 | 817 | 815 | 813 | 811 | 9 | 9 |
| 51 | 20 | | 985 | 993 | 001 | 009 | 017 | | 328 | 326 | 324 | 322 | 320 | | 668 | 670 | 672 | 674 | 676 | | 809 | 807 | 805 | 803 | 801 | 8 | 8 |
| 52 | 20 | | 017 | 025 | 033 | 041 | 049 | | 320 | 318 | 316 | 314 | 312 | | 676 | 678 | 680 | 682 | 684 | | 799 | 797 | 795 | 793 | 791 | 7 | 7 |
| 53 | 21 | | 049 | 057 | 065 | 073 | 081 | | 312 | 310 | 308 | 306 | 304 | | 684 | 686 | 688 | 690 | 692 | | 789 | 787 | 785 | 783 | 781 | 6 | 6 |
| 54 | 21 | | 081 | | | | | | 304 | | | | | | 692 | 694 | 696 | 698 | 700 | | | | | | | 30. 59 | 5 |
| 55 | 28. 22 | 9.57 | 113 | 121 | 129 | 137 | 145 | 9.96 | 296 | 294 | 292 | 290 | 288 | 0.03 | 700 | 702 | 704 | 706 | 708 | 0.42 | 779 | 777 | 775 | 773 | 771 | 4 | 4 |
| 56 | 22 | | 145 | 153 | 161 | 169 | 177 | | 288 | 286 | 284 | 282 | 280 | | 708 | 710 | 712 | 714 | 716 | | 769 | 767 | 765 | 763 | 761 | 3 | 3 |
| 57 | 22 | | 177 | 185 | 193 | 201 | 209 | | 280 | 278 | 276 | 274 | 272 | | 716 | 718 | 720 | 722 | 724 | | 759 | 757 | 755 | 753 | 751 | 2 | 2 |
| 58 | 23 | | 209 | 217 | 225 | 233 | 241 | | 272 | 270 | 268 | 266 | 264 | | 724 | 726 | 728 | 730 | 732 | | 749 | 747 | 745 | 743 | 741 | 1 | 1 |
| 59 | 23 | | 241 | | | | | | 264 | | | | | | 732 | 734 | 736 | 738 | 740 | | | | | | | 30. 59 | 0 |
| | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | | |
| | | Sine | | | | | | Cosine | | | | | | Secant | | | | | | Cosecant | | | | | | | |
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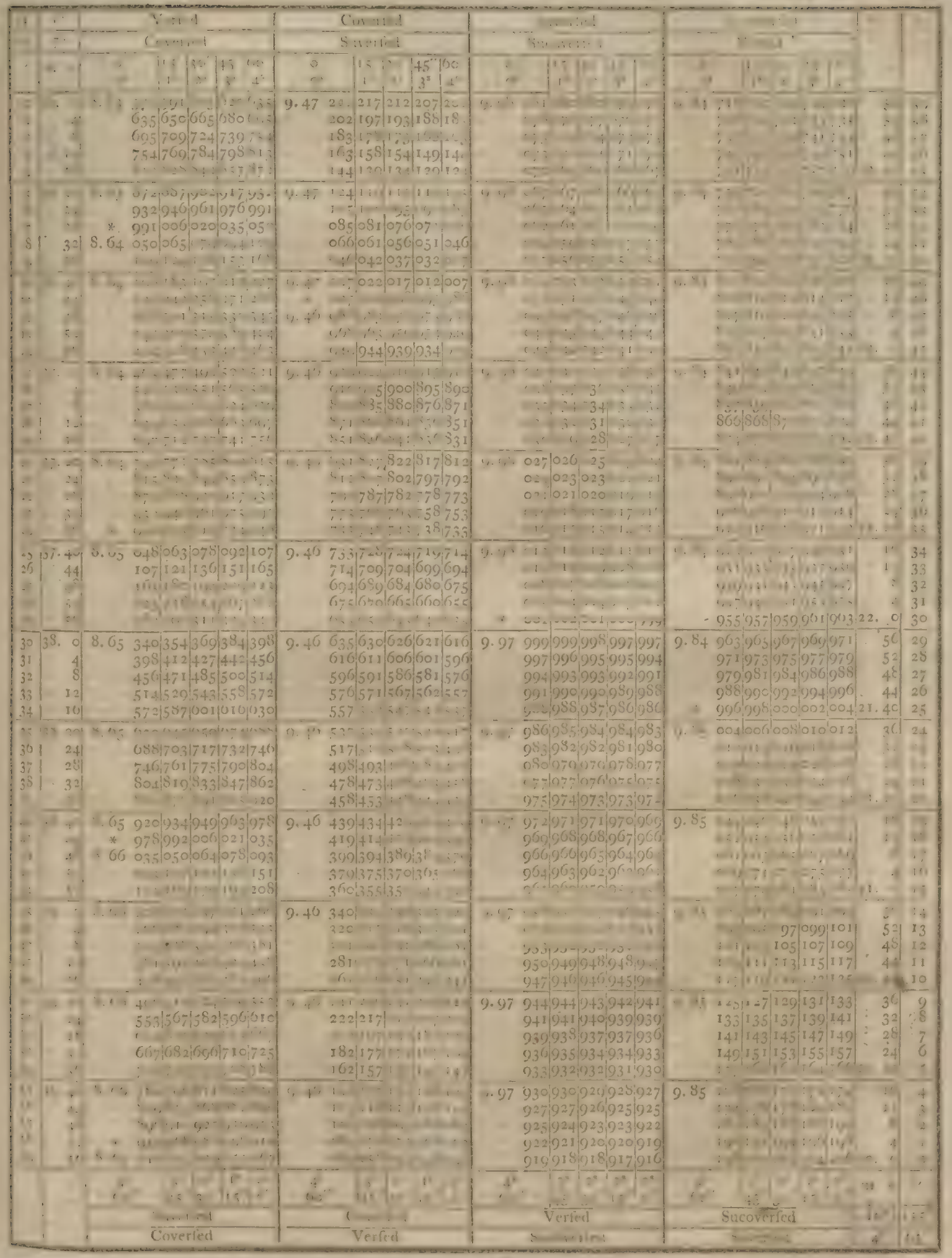


| ′ | ″ | Sine | | | | | | Cosine | | | | | | Secant | | | | | | Cosecant | | | | | | | |
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| 32 | 8 | | | 128 | 135 | 143 | 150 | 157 | | | | 229 | 227 | 226 | 225 | 223 | | | | 771 | 773 | 774 | 775 | 777 | | | | |
| 33 | 12 | | | 157 | 164 | 172 | 179 | 186 | | | | 223 | 222 | 221 | 219 | 218 | | | | 777 | 778 | 779 | 781 | 782 | | | | |
| 34 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 34. 20 | 9. 60 | | 215 | 222 | 229 | 237 | 244 | 9. 96 | | | 212 | 211 | 209 | 208 | 207 | 0. 03 | | | 788 | 789 | 790 | 792 | 793 | 0. 39 | | | |
| 36 | 24 | | | 244 | 251 | 258 | 266 | 273 | | | | 207 | 205 | 204 | 203 | 201 | | | | 793 | 795 | 796 | 797 | 799 | | | | |
| 37 | 28 | | | 273 | 280 | 287 | 294 | 302 | | | | 201 | 200 | 198 | 197 | 196 | | | | 799 | 800 | 802 | 803 | 804 | | | | |
| 38 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 14. 40 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | 48 | | | | | | | | | | | 174 | 172 | 171 | 169 | 168 | | | | | | | | | | | |
| 43 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44 | 56 | | | | | | | | | | | 162 | 161 | 16 | | | | | | | | | | | | | |
| 45 | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 46 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 49 | 16 | | | | | | | | | | | 135 | 133 | 132 | 130 | | | | | | | | | | | | |
| 50 | 35. 20 | 9. 60 | | 646 | 654 | | | | 9. 96 | | | 129 | 128 | 126 | 125 | 123 | | | | | | | | | | | |
| 51 | 24 | | | 675 | 682 | 689 | 696 | 704 | | | | 123 | 122 | 121 | 119 | 118 | | | | | | | | | | | |
| 52 | 28 | | | 704 | 711 | 718 | 725 | 732 | | | | 118 | 116 | 115 | 114 | 112 | | | | | | | | | | | |
| 53 | 32 | | | 732 | 739 | | | | | | | | | | | | | | | | | | | | | | |
| 54 | 36 | | | 761 | 768 | 775 | | | | | | | | | | | | | | | | | | | | | |
| 55 | 15. 40 | 9 60 | | 789 | 796 | 803 | 811 | 8 | | | | | | | | | | | | | | | | | | | |
| 56 | 44 | | | 818 | 825 | 832 | 839 | 846 | | | | 005 | 004 | 003 | 001 | 00 | | | | | | | | | | | |
| 57 | 48 | | | 846 | 853 | 860 | 867 | 875 | | | | 090 | 088 | 087 | 086 | 08 | | | | | | | | | | | |
| 58 | 52 | | | 875 | | | | | | | | | | | | 7 | | | | | | | | | | | |
| 59 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| ° | ′ | Versed / Coversed | | | | | | Coversed / Suversed | | | | | | Suversed / Sucoversed | | | | | | Sucoversed / Versed | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ′ | 0 | 15 | 30 | 45 | 60 | ′ | 0 | 15 | 30 | 45 | 60 | ′ | 0 | 15 | 30 | 45 | 60 | ′ | 0 | 15 | 30 | 45 | 60 | | |
| 0 | 0. | 0 | 8.59 | 931 | 947 | 962 | 978 | 993 | 0 | 9.48 | 378 | 373 | 368 | 363 | 358 | 0 | 9.99 | | | | | | 0 | 9.84 | | | | | | | |
| | | 4 | * | 993 | 009 | 024 | 040 | 055 | | | 359 | 354 | 349 | 344 | 339 | | | | | | | | | | | | | 5 | 41 |
| 2 | | 8 | 8.60 | 055 | 071 | 086 | 102 | 117 | | | 340 | 335 | 330 | 325 | 321 | | | | | | | | | | | | | 4 | 37 |
| 3 | | 12 | | 117 | 133 | 148 | 164 | 179 | | | 321 | 316 | 311 | 306 | 301 | | | | | | | | | | | | | 44 | 33 |
| 4 | | 16 | | 179 | 195 | 210 | 225 | 241 | | | 301 | 297 | 292 | 287 | 282 | | | | | | | | | | | | | 40 | 29 |
| 5 | 0. | 20 | 8.60 | 241 | 256 | 272 | 287 | 303 | | 9.48 | 282 | | | | | | 9.98 | | | | | | | 9.84 | | | | | 36 | 24 |
| 6 | | 24 | | 303 | 318 | 334 | 349 | 365 | | | 263 | 258 | 254 | 249 | 244 | | | | | | | | | | | | | 32 | 23 |
| 7 | | 28 | | 365 | 380 | 395 | 411 | 426 | | | 244 | 239 | 235 | 230 | 225 | | | | | | | | | | | | | 28 | 22 |
| 8 | | 32 | | 426 | 442 | 457 | 473 | 488 | | | 225 | 220 | 215 | 211 | 206 | | | 218 | 217 | 217 | 216 | 215 | | | | | | | 24 | 21 |
| 9 | | 36 | | 488 | 503 | 519 | 534 | 550 | | | 206 | 201 | 196 | 192 | 187 | | | 215 | 215 | 214 | 213 | 213 | | | | | | | 20 | 20 |
| 10 | 0. | 40 | 8.60 | 550 | 565 | 581 | 596 | 611 | | 9.48 | 187 | 182 | 177 | 172 | 168 | | 9.98 | 213 | 212 | 211 | 211 | 210 | | 9.84 | | | | | 16 | 19 |
| 11 | | 44 | | 611 | 627 | 642 | 657 | 673 | | | 168 | 163 | 158 | 153 | 148 | | | 210 | 209 | 209 | 208 | 208 | | | | | | | 12 | 18 |
| 12 | | 48 | | 673 | 688 | 704 | 719 | 734 | | | 148 | 144 | 139 | 134 | 129 | | | 208 | 207 | 206 | 206 | 205 | | | 321 | 324 | 326 | 328 | 330 | 8 | 17 |
| 13 | | 52 | | 734 | 750 | 765 | 781 | 796 | | | 129 | 124 | 120 | 115 | 110 | | | 205 | 204 | 204 | 203 | 202 | | | 332 | 333 | 334 | 336 | 338 | 4 | 16 |
| 14 | | 56 | | 796 | 811 | 827 | 842 | 857 | | | 110 | | | | | | | | | | | | | | 341 | | | | 0 | 15 |
| 15 | 0. | 0 | 8.60 | | | | | | | 9.48 | 091 | 086 | 081 | 077 | 072 | | 9.98 | 200 | 199 | 198 | 198 | 197 | | 9.84 | 340 | 349 | 351 | 353 | 355 | 56 | 14 |
| 16 | | 4 | | 919 | 934 | 949 | 965 | 980 | | | 072 | 067 | 062 | 057 | 053 | | | 197 | 197 | 196 | 195 | 195 | | | 355 | 357 | 359 | 361 | 363 | 52 | 13 |
| 17 | | 8 | * | 980 | 995 | 011 | 026 | 041 | | | 053 | 048 | 043 | 038 | 033 | | | 195 | 194 | 193 | 193 | 192 | | | 363 | 365 | 367 | 369 | 371 | 48 | 12 |
| 18 | | 12 | 8.61 | 041 | 057 | 072 | | | | | | | | | | | | 192 | 191 | 191 | 190 | 189 | | | | | | | | 44 | 11 |
| 19 | | 16 | | 103 | 118 | 133 | 149 | | | | | | | | | | | 189 | 189 | 188 | 187 | 187 | | | | | | | | 40 | 10 |
| 20 | 0. | 20 | 8.61 | | | | | | | 9.47 | | | | | | | 9.98 | | | | | | | 9.84 | | | | | | 36 | 9 |
| 21 | | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 32 | 8 |
| 22 | | 28 | | 286 | 301 | 317 | 332 | 347 | | | 957 | 952 | 947 | 942 | 937 | | | 182 | 181 | 180 | 180 | 179 | | | | | | | | 28 | 7 |
| 23 | | 32 | | 347 | 362 | 378 | 393 | 408 | | | 937 | 933 | 928 | 923 | 918 | | | 179 | 178 | 178 | 177 | | | | | | | | | 24 | 6 |
| 24 | | 36 | | 408 | 423 | 439 | 454 | 469 | | | 918 | 913 | 908 | 904 | 899 | | | 176 | 176 | 175 | 174 | 174 | | | | | | | | 20 | 5 |
| 25 | 0. | 40 | 8.61 | 469 | 484 | 500 | 515 | 530 | | 9.47 | 899 | 894 | 889 | 884 | 880 | | 9.98 | 174 | 173 | 172 | 172 | 171 | | 9.84 | | | | | | 16 | 4 |
| 26 | | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 | 3 |
| 27 | | 48 | | 591 | 606 | 621 | 637 | 652 | | | 860 | 856 | 851 | 846 | 841 | | | 168 | 168 | 167 | | | | | | | | | | 8 | 2 |
| 28 | | 52 | | 652 | 667 | 682 | 697 | 713 | | | 841 | 836 | 831 | 827 | 822 | | | 166 | 165 | 165 | 164 | | | | | | | | | 4 | 1 |
| 29 | | 56 | | 713 | 728 | 743 | 758 | 773 | | | 822 | 817 | 812 | 807 | 803 | | | 163 | 163 | 162 | 161 | 161 | | | | | | | | 0 | 0 |
| 30 | 0. | 0 | 8.61 | 773 | 788 | 804 | 819 | 834 | | 9.47 | 803 | 798 | 793 | 788 | 783 | | 9.98 | 161 | 160 | 159 | 159 | 158 | | 9.84 | 471 | 473 | 475 | 477 | 479 | 50 | 4 |
| 31 | | 4 | | 834 | 849 | 864 | 880 | 895 | | | 778 | 773 | 768 | 763 | 758 | | | | | | | | | | 479 | 481 | 483 | 485 | 488 | 52 | 3 |
| 32 | | 8 | | 895 | 910 | 925 | 940 | 955 | | | 758 | 753 | 748 | 743 | 738 | | | | | | | | | | 488 | 490 | 492 | 494 | 496 | 48 | 2 |
| 33 | | 12 | | 955 | 971 | 986 | 001 | 016 | | | 738 | 733 | 728 | 723 | 718 | | | | | | | | | | 496 | 498 | 500 | | | | 1 |
| 34 | | 16 | 8.62 | | 031 | 046 | 061 | 076 | | | 718 | 713 | 708 | 703 | 698 | | | | | | | | | | | | | | | | 0 |
| 35 | 0. | 20 | 8.62 | 076 | 092 | 107 | 122 | 137 | | 9.47 | 706 | 701 | 696 | 692 | 687 | | 9.98 | 147 | 147 | 146 | 145 | 145 | | 9.84 | 512 | 514 | 516 | 519 | 521 | 36 | 24 |
| 36 | | 24 | | 137 | 152 | 167 | 182 | 197 | | | 687 | 682 | 677 | 672 | 668 | | | 145 | 144 | 143 | 143 | 142 | | | 521 | 523 | 525 | 527 | 529 | 32 | 23 |
| 37 | | 28 | | 197 | 213 | 228 | 243 | 258 | | | 668 | 663 | 658 | 653 | 648 | | | 142 | 141 | 141 | 140 | 139 | | | 529 | 531 | 533 | 535 | 537 | 28 | 22 |
| 38 | | 32 | | 258 | 273 | 288 | 303 | 318 | | | 648 | 643 | 639 | 634 | 629 | | | 139 | 139 | 138 | 138 | 137 | | | 537 | 539 | 541 | 543 | 545 | 24 | 21 |
| 39 | | 36 | | 318 | 333 | 348 | 363 | 379 | | | 629 | | | | | | | | | | | | | | | | | | | 20 | 20 |
| 40 | 0. | 40 | 8.62 | 379 | 394 | 409 | 424 | 439 | | 9.47 | | | | | | | 9.98 | | | | | | | 9.84 | | | | | | 16 | 19 |
| 41 | | 44 | | 439 | 454 | 469 | 484 | 499 | | | | | | | | | | | | | | | | | | | | | | 12 | 18 |
| 42 | | 48 | | 499 | 514 | 529 | 544 | 559 | | | | | | | | | | | | | | | | | | | | | | 8 | 17 |
| 43 | | 52 | | 559 | 574 | 589 | 604 | 619 | | | | | | | | | | | | | | | | | | | | | | 4 | 16 |
| 44 | | 56 | | 619 | 634 | 649 | 664 | 679 | | | | | | | | | | | | | | | | | | | | | | 0 | 15 |
| 45 | 0. | 0 | 8.62 | 679 | 694 | 709 | 724 | 740 | | 9.47 | | | | | | | 9.98 | | | | | | | 9.84 | | | | | | 56 | 14 |
| 46 | | 4 | | 740 | 755 | 770 | 785 | 800 | | | 493 | 489 | 484 | 479 | 474 | | | 118 | 118 | 117 | 116 | 116 | | | 603 | 605 | 607 | 609 | 611 | 52 | 13 |
| 47 | | 8 | | 800 | 815 | 830 | 844 | 859 | | | 474 | 469 | 464 | 460 | 455 | | | 116 | 115 | 114 | 114 | 113 | | | 611 | 613 | 616 | 618 | 620 | 48 | 12 |
| 48 | | 12 | | 859 | 874 | 889 | 904 | 919 | | | 455 | 450 | 445 | 440 | 435 | | | 113 | 112 | 112 | 111 | 110 | | | 620 | 622 | 624 | 626 | 628 | 44 | 11 |
| 49 | | 16 | | | | | | | | | 435 | | | | | | | | | | | | | | | | | | | 40 | 10 |
| 50 | 0. | 20 | 8.62 | | | | | | | 9.47 | | | | | | | 9.98 | | | | | | | 9.84 | | | | | | 36 | 9 |
| 51 | | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 32 | 8 |
| 52 | | 28 | | 099 | 114 | 129 | 144 | 159 | | | 377 | 372 | 367 | 363 | 358 | | | 102 | 102 | 101 | 100 | 100 | | | 653 | 655 | 657 | 659 | 661 | 28 | 7 |
| 53 | | 32 | | 159 | 174 | 189 | 203 | 218 | | | 358 | 353 | 348 | 343 | 339 | | | 100 | 099 | 098 | 098 | 097 | | | 661 | 663 | 665 | 667 | 669 | 24 | 6 |
| 54 | | 36 | | 218 | 233 | 248 | 263 | 278 | | | 339 | 334 | 329 | 324 | 319 | | | 097 | 096 | 096 | 095 | 094 | | | 669 | 671 | 673 | 675 | 677 | 24. 20 | 5 |
| 55 | 0. | 40 | 8.62 | | | | | | | 9.47 | 319 | | | | | | | | | | | | | | | | | | | 16 | 4 |
| 56 | | 44 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 | 3 |
| 57 | | 48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 8 | 2 |
| 58 | | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 1 |
| 59 | | 56 | | 458 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 0 |

Suversed / Coversed — Versed / Coversed





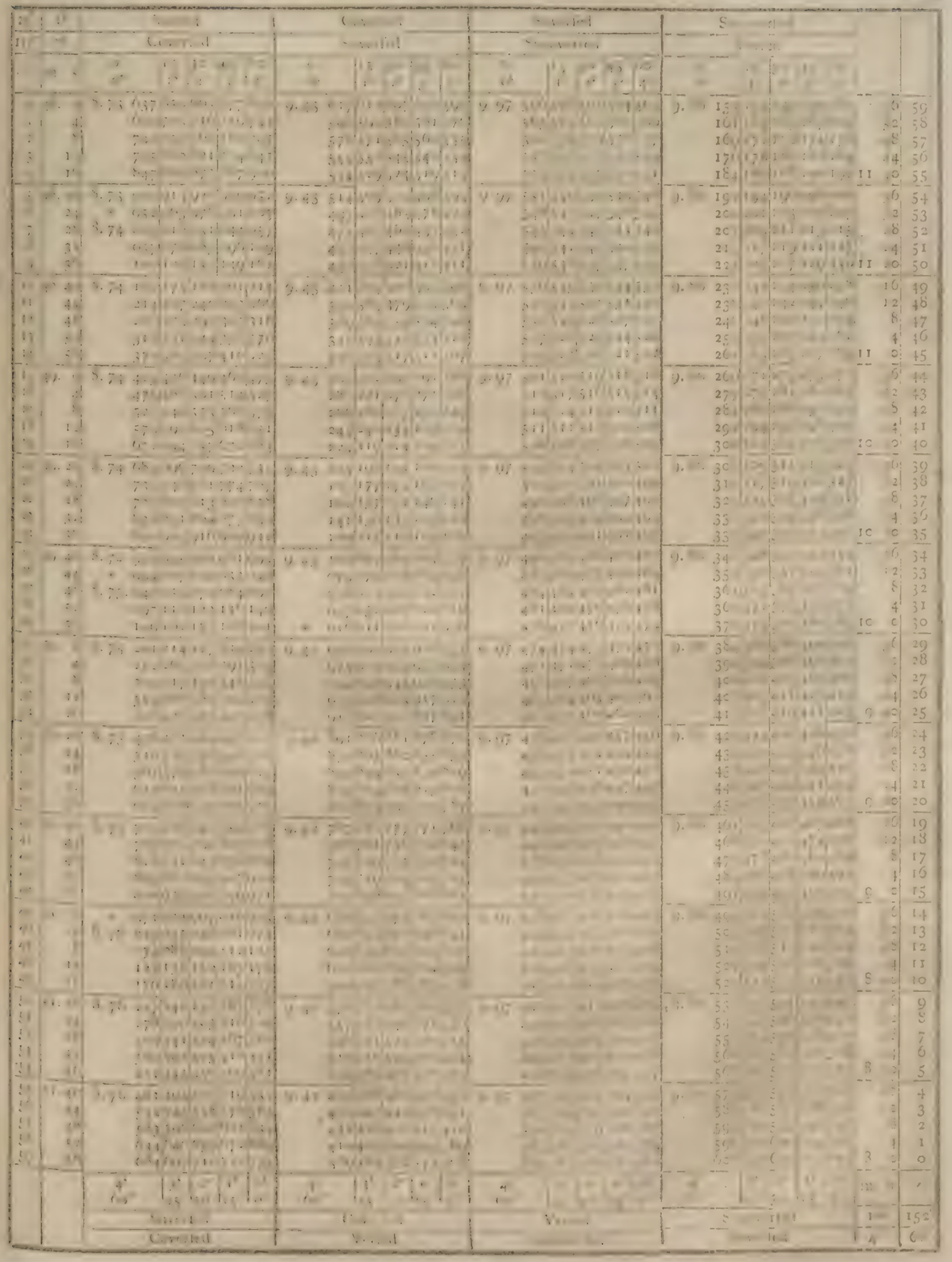
| 25° | 1h | Sine | Cosine | Secant | Cosecant | | |
|---|---|---|---|---|---|---|---|
| 115° | 7h | Cosine | Sine | Cosecant | Secant | | |
| ′ | m s | 0° 15′ 30′ 45′ 60′ | 0° 15′ 30′ 45′ 60′ | 0° 15′ 30′ 45′ 60′ | 0° 15′ 30′ 45′ 60′ | | |
| 0 | 40. 0 | 9.62 [illegible] | 9.95 728 727 725 723 722 | 0.04 273 274 275 277 278 | 0.37 [illegible] | 60 | 60 |
| 1 | 4 | 622 621 619 617 616 | 722 720 719 717 716 | 278 279 280 282 283 | [illegible] | 59 | 59 |
| 2 | 8 | 640 [illegible] | 716 714 713 711 710 | 284 285 287 288 290 | [illegible] | 58 | 58 |
| 3 | 12 | [illegible] | 710 708 707 705 704 | 290 291 293 294 296 | [illegible] | 57 | 57 |
| 4 | 16 | [illegible] | [illegible] | [illegible] | [illegible] | 56 | 56 |
| 5 | [illegible] | 9.62 [illegible] | 9.95 [illegible] | 0.04 302 303 305 306 308 | 0.37 [illegible] | 55 | 55 |
| 6 | 24 | [illegible] | [illegible] | 308 310 311 313 314 | [illegible] | 54 | 54 |
| 7 | 28 | [illegible] | [illegible] | 314 316 317 319 320 | [illegible] | 53 | 53 |
| 8 | 32 | [illegible] | [illegible] | 320 322 323 325 326 | [illegible] | 52 | 52 |
| 9 | 36 | [illegible] | [illegible] | 326 328 329 331 332 | [illegible] | 51 | 51 |
| 10 | [illegible] | 9.62 [illegible] | 9.95 [illegible] | 0.04 333 335 336 338 339 | 0.37 [illegible] | 50 | 50 |
| 11 | 44 | [illegible] | [illegible] | 339 341 342 344 345 | [illegible] | 49 | 49 |
| 12 | 48 | [illegible] | [illegible] | 345 347 348 350 351 | [illegible] | 48 | 48 |
| 13 | 52 | [illegible] | [illegible] | 351 353 354 356 357 | [illegible] | 47 | 47 |
| 14 | 56 | [illegible] | [illegible] | 357 359 360 362 363 | [illegible] | 46 | 46 |
| 15 | 41. 0 | [illegible] | 9.95 [illegible] | 0.04 363 365 366 368 369 | [illegible] | 45 | 45 |
| 16 | 4 | 9.63 026 032 039 046 052 | 633 631 630 628 627 | 367 369 370 372 373 | 0.36 974 968 961 954 948 | 52 | 44 |
| 17 | 8 | 052 059 066 072 079 | 627 625 624 622 621 | 373 375 376 378 379 | 948 941 934 928 921 | 48 | 43 |
| 18 | 12 | [illegible] | [illegible] | [illegible] | [illegible] | 44 | 42 |
| 19 | 16 | [illegible] | [illegible] | [illegible] | [illegible] | 40 | 41 |
| 20 | 41. [illegible] | 9.63 [illegible] | 9.95 [illegible] | 0.04 391 393 394 396 397 | 0.36 [illegible] | 36 | 40 |
| 21 | 24 | 159 166 173 179 186 | 603 601 600 598 597 | 397 399 400 402 403 | 841 834 827 821 814 | 32 | 39 |
| 22 | 28 | [illegible] | [illegible] | [illegible] | [illegible] | 28 | 38 |
| 23 | 32 | [illegible] | [illegible] | [illegible] | [illegible] | 24 | 37 |
| 24 | 36 | 239 246 252 259 266 | 585 583 582 580 579 | 415 417 418 420 421 | 761 754 748 741 734 | 18. 20 | 36 |
| 25 | [illegible] | 9.63 266 272 279 286 292 | 9.95 579 577 576 574 573 | 0.04 421 423 424 426 427 | 0.36 734 728 721 714 708 | 16 | 35 |
| 26 | 4 | [illegible] | [illegible] | [illegible] | [illegible] | 12 | 34 |
| 27 | 8 | [illegible] | [illegible] | [illegible] | [illegible] | 8 | 33 |
| 28 | 12 | [illegible] | [illegible] | [illegible] | [illegible] | 4 | 32 |
| 29 | 16 | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 31 |
| 30 | [illegible] | [illegible] | 9.95 547 546 544 543 | 0.04 451 453 454 456 457 | 0.36 602 595 588 582 575 | 56 | 30 |
| 31 | 4 | [illegible] | 543 541 540 538 537 | 457 459 460 462 463 | 575 568 562 555 549 | 52 | 29 |
| 32 | 8 | [illegible] | 537 535 534 532 531 | [illegible] | 549 542 535 529 522 | 48 | 28 |
| 33 | 12 | [illegible] | 531 529 528 526 525 | 469 471 472 474 475 | 522 516 509 502 496 | 44 | 27 |
| 34 | 16 | [illegible] | [illegible] | [illegible] | [illegible] | 40 | 26 |
| 35 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 36 | 25 |
| 36 | 24 | [illegible] | [illegible] | [illegible] | [illegible] | 32 | 24 |
| 37 | 28 | [illegible] | [illegible] | [illegible] | [illegible] | 28 | 23 |
| 38 | 32 | [illegible] | [illegible] | [illegible] | [illegible] | 24 | 22 |
| 39 | 36 | [illegible] | [illegible] | [illegible] | [illegible] | 20 | 21 |
| 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 16 | 20 |
| 41 | 44 | [illegible] | [illegible] | [illegible] | [illegible] | 12 | 19 |
| 42 | 48 | [illegible] | [illegible] | [illegible] | [illegible] | 8 | 18 |
| 43 | 52 | [illegible] | 470 469 467 466 464 | 530 531 533 534 536 | 259 252 246 239 233 | 4 | 17 |
| 44 | 56 | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 16 |
| 45 | [illegible] | 9.63 794 800 807 813 820 | 9.95 458 456 455 453 452 | 0.04 542 544 545 547 548 | 0.36 206 200 193 187 180 | 56 | 15 |
| 46 | 4 | 820 826 833 839 846 | 452 450 449 447 446 | 548 550 551 553 554 | 180 174 167 161 154 | 52 | 14 |
| 47 | 8 | [illegible] | [illegible] | [illegible] | [illegible] | 48 | 13 |
| 48 | 12 | [illegible] | [illegible] | [illegible] | [illegible] | 44 | 12 |
| 49 | 16 | [illegible] | [illegible] | [illegible] | [illegible] | 40 | 11 |
| 50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 36 | 10 |
| 51 | 24 | [illegible] | [illegible] | [illegible] | [illegible] | 32 | 9 |
| 52 | 28 | [illegible] | [illegible] | [illegible] | [illegible] | 28 | 8 |
| 53 | 32 | [illegible] | [illegible] | [illegible] | [illegible] | 24 | 7 |
| 54 | 36 | 9.64 002 009 015 022 028 | 409 408 406 404 403 | 591 592 594 596 597 | 0.35 998 991 985 978 972 | 20 | 6 |
| 55 | [illegible] | [illegible] | 403 401 400 398 397 | 597 599 600 602 603 | 972 965 959 952 946 | 16. 20 | 5 |
| 56 | 44 | 080 087 093 100 106 | 391 389 388 386 384 | 609 611 612 614 616 | 920 913 907 900 894 | 12 | 4 |
| 57 | 48 | [illegible] | [illegible] | [illegible] | [illegible] | 8 | 3 |
| 58 | 52 | 132 139 145 152 158 | 378 377 375 374 372 | 622 623 625 626 628 | 868 861 855 848 842 | 4 | 2 |
| 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0 | 1 |
| | | ′ 45 30 15 0 | ′ 45 30 15 0 | ′ 45 30 15 0 | ′ 45 30 15 0 | 10h | 154° |
| | | Sine | Cosine | Secant | Cosecant | | |
| | | Cosine | Sine | Cosecant | Secant | | |

| ° | ′ | Versed / Coversed | | | | | Coversed / Suversed | | | | | Suversed / Sucoversed | | | | | Sucoversed / Versed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | m | s | 0ˢ | 1ˢ | 2ˢ | 3ˢ | 4ˢ | 0ˢ | 1ˢ | 2ˢ | 3ˢ | 4ˢ | 0ˢ | 1ˢ | 2ˢ | 3ˢ | 4ˢ | 0ˢ | 1ˢ | 2ˢ | 3ˢ | 4ˢ | | |
| 0 | 00 | 0 | 8.67 | | | | | 9.45 | | | 035 | 028 | 023 | 9.97 | 916 | 916 | 915 | 914 | 913 | 9.85 | 206 | 208 | 210 | 212 | 214 | 56 | 59 |
| 1 | | 4 | | | | | | | | 18 | 014 | 009 | 004 | | 913 | 913 | 912 | 911 | 911 | | 214 | 216 | 218 | 220 | 222 | 52 | 58 |
| 2 | | 8 | | | | | | | | | | | | | | | | | | | | | | | | 48 | 57 |
| 3 | | 12 | | | | | | | 9.45 | 084 | 079 | 074 | 069 | 064 | | 908 | 907 | 906 | 906 | 905 | 230 | 232 | 234 | 236 | 238 | 44 | 56 |
| 4 | | 16 | | | | | | | | 904 | 959 | 954 | 949 | 944 | | 905 | 904 | 904 | 903 | 902 | 235 | 240 | 242 | 244 | 246 | 9.40 | 53 |
| 5 | 00 | 20 | 8.67 | | | | | 9.45 | | | | | | 9.97 | | | | | | 9.85 | | | | | | 36 | 54 |
| 6 | | 24 | | | | | | | | | | | | | | | | | | | | | | | | 32 | 53 |
| 7 | | 28 | | | | | | | | | | | | | | | | | | | | | | | | 28 | 52 |
| 8 | | 32 | | | | | | | | | | | | | | | | | | | | | | | | 24 | 51 |
| 9 | | 36 | | | | | | | | | | | | | | | | | | | | | | | | 20 | 50 |
| 10 | | 40 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | 44 | 8.67 | | | | | 9.45 | | | | | 5 | 9.97 | 888 | 887 | 88 | | | 9.85 | | | | | | 16 | 49 |
| 12 | | 48 | | | | | | | | | | | | | | | | | | | | | | | | 12 | 48 |
| 13 | | 52 | | | | | | | | | | | | | | | | | | | | | | | | 8 | 47 |
| 14 | | 56 | | 748 | 762 | 777 | 791 | 805 | | | | | | | | | | | | | | | | | | 4 | 46 |
| 15 | 01 | 00 | | 805 | 819 | 833 | 847 | 861 | | | | | 77 | | | | | | | | 31 | 112 | 31 | | 1 | | |
| 16 | | 4 | | 861 | 875 | 890 | 904 | 918 | | | | | | | | | | | | | | | | | | 16 | 45 |
| 17 | | 8 | 8.67 | 918 | 932 | | | | 9.45 | | | | | 9.97 | | | | | | 9.85 | | | | | | 12 | 44 |
| 18 | | 12 | | | 974 | 988 | | | | | | | | | | | | | | | | | | | | 8 | 43 |
| 19 | | 16 | 8.68 | 030 | 045 | 059 | 073 | 087 | | 705 | 700 | 695 | 690 | 685 | | 868 | 868 | 867 | 866 | 866 | 342 | 344 | 346 | 348 | 350 | 4 | 42 |
| 20 | | 20 | | | | | | | | | | | | | | | | | | | | | | | | 0 | 41 |
| 21 | | 24 | | 143 | 157 | 171 | 185 | 199 | | | | | | | | | | | | | | | | | | 16 | 40 |
| 22 | 01 | 28 | 8.68 | | | | | | 9.45 | 645 | 640 | 635 | 630 | 625 | 9.97 | 860 | 859 | 858 | 858 | 857 | 9.85 | 366 | 368 | 370 | 372 | 374 | 36 | 39 |
| 23 | | 32 | | | | | | | | 625 | 620 | 615 | 610 | 605 | | 857 | 856 | 856 | 855 | 854 | | 374 | 376 | 378 | 380 | 382 | 32 | 38 |
| 24 | | 36 | | | | | | | | 605 | 600 | 595 | 590 | 586 | | 854 | 854 | 853 | 852 | 851 | | 382 | 384 | 386 | 388 | 390 | 28 | 37 |
| 25 | | 40 | | | | | | | | 586 | 581 | 576 | 571 | 566 | | 851 | 851 | 850 | 849 | 849 | | 390 | 392 | 394 | 396 | 398 | 24 | 36 |
| 26 | | 44 | | | | | | | | | | | | | | | | | | | | | | | | | 35 |
| 27 | 01 | 48 | 8.68 | | | | | | 9.45 | 546 | 541 | 536 | 531 | 526 | 9.97 | 846 | 845 | 844 | 844 | 843 | 9.85 | | | | | | 0 | 34 |
| 28 | | 52 | | | | | | | | 526 | 521 | 516 | 511 | 506 | | 843 | 842 | 841 | 841 | 840 | | 414 | 416 | 418 | 420 | 422 | 12 | 33 |
| 29 | | 56 | | | | | | | | 506 | 501 | 496 | 491 | 486 | | 840 | 839 | 839 | 838 | 837 | | 422 | 424 | 426 | 428 | 430 | 8 | 32 |
| 30 | 02 | 00 | | | | | | | | 486 | 481 | 476 | 471 | 466 | | 837 | 836 | 836 | 835 | 834 | | 430 | 432 | 434 | 436 | 438 | 4 | 31 |
| 31 | | 4 | | | | | | | | | | | | | | 834 | 834 | 833 | 832 | 831 | | 438 | 440 | 442 | 444 | 446 | 0 | 30 |
| 32 | | 8 | 8.68 | | | | | | 9.45 | | | | | | 9.97 | | | | | | 9.85 | | | | | | 56 | 29 |
| 33 | | 12 | | | | | | | | | | | | | | | | | | | | | | | | | 52 | 28 |
| 34 | | 16 | | | | | | | | | | | | | | | | | | | | | | | | | 48 | 27 |
| 35 | | 20 | | | | | | | | | | | | | | | | | | | | | | | | | 44 | 26 |
| 36 | | 24 | | | | | | | | | | | | | | | | | | | | | | | | | 40 | 25 |
| 37 | 02 | 28 | 8.69 | 038 | 052 | 066 | 080 | 094 | 9.45 | 345 | 340 | 335 | 330 | 325 | 9.97 | 817 | 816 | 816 | 815 | 814 | 9.85 | 486 | 488 | 490 | 492 | 494 | 36 | 24 |
| 38 | | 32 | | 094 | 108 | 122 | 135 | 149 | | 325 | 320 | 315 | 310 | 305 | | 814 | 814 | 813 | 812 | 811 | | 494 | 496 | 498 | 500 | 502 | 32 | 23 |
| 39 | | 36 | | | | | | | | | | | | | | | | | | | | | | | | | 28 | 22 |
| 40 | | 40 | | 205 | 219 | 233 | 247 | 260 | | 285 | 280 | 275 | 270 | 265 | | 808 | 808 | 807 | 806 | 806 | | 510 | 512 | 514 | 516 | 518 | 24 | 21 |
| 41 | | 44 | | | | | | | | | | | | | | | | | | | | | | | | 17. 20 | 20 |
| 42 | | 48 | | | | | | | | | | | | | | | | | | | | | | | | | 19 |
| 43 | 02 | 52 | 8.69 | 317 | 331 | 344 | 357 | 371 | 9.45 | 248 | 243 | 238 | 233 | 228 | 9.97 | 803 | 802 | 801 | 800 | 799 | 9.85 | 524 | 526 | 528 | 530 | 532 | 16 | 18 |
| 44 | | 56 | | 371 | 385 | 399 | 413 | 427 | | 225 | 220 | 215 | 210 | 205 | | 800 | 799 | 798 | 798 | 797 | | 534 | 536 | 538 | 540 | 542 | 12 | 17 |
| 45 | 03 | 00 | | | | | | | | | | | | | | 797 | 796 | 795 | 794 | 794 | | 542 | 544 | 546 | 548 | 550 | 8 | 16 |
| 46 | | 4 | | 482 | 496 | 510 | 524 | 537 | | 185 | 180 | 175 | 170 | 165 | | 794 | 793 | 793 | 792 | 791 | | 550 | 552 | 553 | 555 | 557 | 4 | 16 |
| 47 | | 8 | | 537 | 551 | 565 | 579 | 593 | | 165 | 160 | 155 | 149 | 144 | | 791 | 790 | 790 | 789 | 788 | | 557 | 559 | 561 | 563 | 565 | 17. 0 | 15 |
| 48 | | 12 | 8.69 | | | | | | 9.45 | 144 | 139 | 134 | 129 | 124 | 9.97 | 788 | 788 | 787 | 786 | 785 | 9.85 | 565 | 567 | 569 | 571 | 573 | 56 | 14 |
| 49 | | 16 | | | | | | | | 124 | 119 | 114 | 109 | 104 | | 785 | 785 | 784 | 783 | 783 | | 573 | 575 | 577 | 579 | 581 | 52 | 13 |
| 50 | | 20 | | | | | | | | 104 | 099 | 094 | 089 | 084 | | 783 | 782 | 781 | 780 | 780 | | 581 | 583 | 585 | 587 | 589 | 48 | 12 |
| 51 | | 24 | | | | | | | | 084 | 079 | 074 | 069 | 064 | | 780 | 779 | 778 | 777 | 777 | | 589 | 591 | 593 | 595 | 597 | 44 | 11 |
| 52 | | 28 | | | | | | | | | | | 049 | 044 | | 777 | 776 | 775 | 775 | 774 | | 597 | 599 | 601 | 603 | 605 | 16. 40 | 10 |
| 53 | | 32 | 8.70 | 034 | 047 | 061 | 075 | 089 | 9.44 | 983 | 978 | 973 | 968 | 963 | 9.97 | 774 | 773 | 772 | 772 | 771 | 9.85 | 605 | 607 | 609 | 611 | 613 | 36 | 9 |
| 54 | | 36 | | | | | | | | | 019 | 014 | 008 | 003 | | 771 | 770 | 769 | 769 | 768 | | 613 | 615 | 617 | 619 | 621 | 32 | 8 |
| 55 | | 40 | | | | | | | | | | | 993 | 988 | | 768 | 767 | 767 | 766 | 765 | | 621 | 623 | 625 | 627 | 629 | 28 | 7 |
| 56 | | 44 | | | | | | | 9.44 | 983 | 978 | 973 | 968 | 963 | | 765 | 764 | 764 | 763 | 762 | | 629 | 631 | 633 | 635 | 637 | 24 | 6 |
| 57 | | 48 | | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 58 | | 52 | | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 59 | | 56 | 8.70 | 144 | 157 | 171 | 185 | 198 | 9.44 | 943 | 938 | 933 | 928 | 923 | 9.97 | 759 | 759 | 758 | 757 | 756 | 9.85 | 645 | 647 | 649 | 651 | 653 | | 4 |
| 60 | | 60 | | | | | | | | 923 | 918 | 913 | 908 | 903 | | 756 | 756 | 755 | 754 | 754 | | 652 | 654 | 656 | 658 | 660 | 12 | 3 |
| 61 | | 64 | | | | | | | | 903 | 898 | 892 | 887 | 882 | | 754 | 753 | 752 | 751 | 751 | | 660 | 662 | 664 | 666 | 668 | 8 | 2 |
| 62 | | 68 | | | | | | | | 882 | 877 | 872 | 867 | 862 | | 751 | 750 | 749 | 748 | 748 | | 668 | 670 | 672 | 674 | 676 | 4 | 1 |
| 63 | | 72 | | | | | | | | | 57 | 852 | 847 | 842 | | 748 | 747 | 746 | 746 | 745 | | 676 | 678 | 680 | 682 | 684 | 16. 0 | 0 |
| | | | 0ˢ | 1ˢ | 2ˢ | 3ˢ | 4ˢ | 0ˢ | 1ˢ | 2ˢ | 3ˢ | 4ˢ | 0ˢ | 1ˢ | 2ˢ | 3ˢ | 4ˢ | 0ˢ | 1ˢ | 2ˢ | 3ˢ | 4ˢ | | |
| | | | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | | | Coversed | | | | | Versed | | | | | Sucoverse | | | | | Suversed | | | | | 4ʰ | 64′ |

| ′ | ″ | Sine | | | | | | Cosine | | | | | | Secant | | | | | | Cosecant | | | | | | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | 0 | 15 | 30 | 45 | 60 | ″ | 0 | 15 | 30 | 45 | 60 | ″ | 0 | 15 | 30 | 45 | 60 | ″ | 0 | 15 | 30 | 45 | 60 | |
| 0 | 44. 0 | | 9.64 | 184 | 191 | 197 | 204 | 210 | 9.95 | | | | | | | 634 | 636 | 637 | 639 | 640 | 0.35 | 81 | | | | | 60 |
| 1 | | | | 210 | 217 | 223 | 229 | 236 | | | | | | | | 640 | 642 | 643 | 645 | 646 | | 79 | | | | | 59 |
| 2 | | | | | | | | | | | | | | | | 646 | 648 | 649 | 651 | 652 | | 78 | | | | | 58 |
| 3 | | | | | | | | | | | | | | | | 652 | 654 | 656 | 657 | 659 | | 76 | | | | | 57 |
| 4 | | | | | | | | | | | | | | | | 659 | 662 | 662 | 664 | 665 | | 74 | | | | | 56 |
| 5 | 44. 20 | | 9.64 | 313 | 320 | 326 | 333 | 339 | 9.95 | 335 | 334 | 332 | 331 | 329 | 0.04 | 665 | 666 | 668 | 669 | | 0.35 | 73 | | | | | 55 |
| 6 | | 24 | | 339 | 346 | 352 | 359 | 365 | | 329 | 327 | 326 | 324 | 323 | | 671 | 673 | 674 | 676 | | | 71 | | | | | 54 |
| 7 | | 28 | | 365 | 371 | 378 | 384 | 391 | | 323 | 321 | 320 | 318 | 317 | | 677 | 679 | 680 | 682 | 683 | | 69 | | | | | 53 |
| 8 | | 32 | | 391 | 397 | 404 | 410 | 417 | | 317 | 315 | 313 | 312 | 310 | | 683 | 685 | 687 | 688 | 690 | | 609 | 603 | 596 | 590 | 583 | 24 | 52 |
| 9 | | 36 | | 417 | 423 | 429 | 436 | 442 | | 310 | 309 | 307 | 306 | 304 | | 690 | 691 | 693 | 694 | 696 | | 58 | | | | | | 51 |
| 10 | 44. 40 | | 9.64 | 442 | 448 | 455 | 461 | 468 | 9.95 | | | | | | 0.04 | 696 | 697 | 699 | 700 | | 0.35 | 55 | | | | | 50 |
| 11 | | 44 | | 468 | 474 | 481 | 487 | 494 | | 298 | 296 | 295 | 293 | 292 | | 702 | 704 | 705 | 707 | 708 | | 532 | 526 | 519 | 513 | 506 | 12 | 49 |
| 12 | | 48 | | 494 | 500 | 506 | 513 | 519 | | 292 | 290 | 289 | 287 | 286 | | 708 | 710 | 711 | 713 | 714 | | 506 | 500 | 494 | 487 | 481 | 8 | 48 |
| 13 | | 52 | | 519 | 526 | 532 | 539 | 545 | | 286 | 284 | 282 | 281 | 279 | | 714 | 716 | 718 | 719 | 721 | | 481 | | | | | 4 | 47 |
| 14 | | 56 | | 545 | 551 | 558 | 564 | 571 | | 279 | 278 | 276 | 275 | 273 | | 721 | 722 | 724 | 725 | 727 | | 45 | | | | | | 46 |
| 15 | 45. 0 | | 9.64 | | | | | | 9.95 | 273 | 272 | 270 | 268 | 267 | 0.04 | 727 | 728 | 730 | 732 | 733 | 0.35 | 429 | 423 | 417 | 410 | 404 | 56 | 45 |
| 16 | | 4 | | | | | | | | | | | | | | 733 | | | | | | 4 | | | | | | 44 |
| 17 | | 8 | | | | | | | | | | | | | | 739 | 741 | | 744 | 746 | | 27 | | | | | | 43 |
| 18 | | 12 | | 647 | 654 | 660 | 667 | 673 | | 254 | 253 | 251 | 250 | 248 | | 746 | 747 | 749 | 750 | 752 | | 353 | 346 | 340 | 333 | 327 | 44 | 41 |
| 19 | | 16 | | | | | | | | | | | | | | 753 | | | | | | 27 | | | | | | 40 |
| 20 | 45. 20 | | 9.64 | 698 | 705 | 711 | 718 | 724 | 9.95 | 242 | 240 | 239 | 237 | 236 | 0.04 | 758 | | | | | 0.35 | 3 | | | | | 52 | 39 |
| 21 | | 24 | | 724 | 730 | 737 | 743 | 749 | | 236 | 234 | 232 | 231 | 229 | | 764 | | | | 771 | | 276 | 257 | 251 | 244 | 238 | 51 | 38 |
| 22 | | 28 | | 749 | 756 | 762 | 769 | 775 | | 229 | 228 | 226 | 225 | 223 | | 771 | 772 | 774 | 775 | 777 | | 251 | 244 | 238 | 231 | 225 | 28 | 37 |
| 23 | | 32 | | 775 | 781 | 788 | 794 | 800 | | 223 | 222 | 220 | 218 | 217 | | 777 | 778 | 780 | 782 | 783 | | 225 | 219 | 212 | 206 | 200 | 24 | 36 |
| 24 | | 36 | | | | | | | | | | | | | | 785 | | | | | | 200 | | | | | | 35 |
| 25 | 45. 40 | | 9.64 | | | | | | 9.95 | | | | | | 0.04 | 791 | | | | | 0.35 | 174 | | | | | 52 | 34 |
| 26 | | 44 | | | | | | | | | | | | | | 797 | | | | | | 149 | 141 | | | | 51 | 33 |
| 27 | | 48 | | | | | | | | | | | | | | 803 | | | | | | 123 | 117 | 111 | | | 50 | 32 |
| 28 | | 52 | | | | | | | | | | | | | | 809 | | | | | | 97 | | | | | 49 | 31 |
| 29 | | 56 | | | | | | | | | | | | | | 815 | | | | | | 73 | | | | | 48 | 30 |
| 30 | 46. 0 | | 9.64 | | | | | | 9.95 | | | | | | 0.04 | 821 | | | | | 0.35 | 47 | | | | | 47 | 29 |
| 31 | | 4 | | | | | | | | | | | | | | 827 | | | | | | 22 | | | | | 46 | 28 |
| 32 | | 8 | 9.65 | 003 | 010 | 016 | 022 | 029 | | 167 | 165 | 163 | 162 | 160 | | 833 | 835 | 837 | 838 | 840 | 0.34 | 997 | 990 | 984 | 978 | 971 | 45 | 27 |
| 33 | | 12 | | | | | | | | | | | | | | 846 | | | | | | 971 | | | | | | 26 |
| 34 | | 16 | | 054 | 060 | 067 | 073 | 079 | | 154 | 152 | 151 | 149 | 148 | | 846 | 848 | 849 | 851 | 852 | | 946 | 940 | 933 | 927 | 921 | 13.4 | 25 |
| 35 | 46. 20 | | 9.65 | | | | | | 9.95 | | | | | | 0.04 | 858 | | | | | 0.34 | 896 | | | | | 44 | 24 |
| 36 | | 24 | | 104 | 111 | 117 | 123 | 130 | | 141 | 140 | 138 | 137 | 135 | | 859 | 860 | 862 | 863 | 865 | | 871 | | | | | 43 | 23 |
| 37 | | 28 | | 130 | 136 | 142 | 149 | 155 | | 135 | 133 | 132 | 130 | 129 | | 865 | 867 | 868 | 870 | 871 | | 846 | | | | | 42 | 22 |
| 38 | | 32 | | 155 | 161 | 167 | 174 | 180 | | 129 | 127 | 125 | 124 | 122 | | 871 | 873 | 875 | 876 | 878 | | 821 | | | | | 41 | 21 |
| 39 | | 36 | | 180 | 186 | 193 | 199 | 205 | | 122 | 121 | 119 | 117 | 116 | | 878 | 879 | 881 | 882 | 884 | | 796 | | | | | 40 | 20 |
| 40 | 46. 40 | | 9.65 | 205 | 211 | 218 | 224 | 230 | 9.95 | 116 | 114 | 113 | 111 | 110 | 0.04 | 884 | 886 | 887 | 889 | 890 | 0.34 | 771 | | | | | 39 | 19 |
| 41 | | 44 | | 230 | 237 | 243 | 249 | 255 | | 110 | 108 | 106 | 105 | 103 | | 890 | 892 | 894 | 895 | 897 | | 746 | | | | | 38 | 18 |
| 42 | | 48 | | 255 | 262 | 268 | 274 | 281 | | 103 | 102 | 100 | 098 | 097 | | 897 | 898 | 900 | 901 | 903 | | 721 | | | | | 37 | 17 |
| 43 | | 52 | | 281 | 287 | 293 | 299 | 306 | | 097 | 095 | 094 | 092 | 090 | | 903 | 905 | 906 | 908 | 910 | | 696 | | | | | 36 | 16 |
| 44 | | 56 | | 306 | 312 | 318 | 324 | 331 | | 090 | 089 | 087 | 086 | 084 | | 910 | 911 | 913 | 914 | 916 | | 671 | | | | | 35 | 15 |
| 45 | 47. 0 | | 9.65 | 331 | 337 | 343 | 350 | 356 | 9.95 | 084 | 083 | 081 | 079 | 078 | 0.04 | 916 | 917 | 919 | 921 | 922 | | 646 | | | | | 34 | 14 |
| 46 | | 4 | | 356 | 362 | 368 | | | | | | | | | | | | | | | | 621 | | | | | 33 | 13 |
| 47 | | 8 | | 381 | 387 | 393 | | | | | | | | | | | | | | | | 596 | | | | | 32 | 12 |
| 48 | | 12 | | 406 | 412 | 418 | 425 | 431 | | 065 | 063 | 062 | 060 | 059 | | 935 | 937 | 938 | 940 | 941 | | 504 | 588 | 582 | 575 | 569 | 44 | 31 |
| 49 | | 16 | | 431 | 437 | 443 | | | | | | | | | | | | | | | | 546 | | | | | | 30 |
| 50 | 47. 20 | | 9.65 | | | | | | 9.95 | | | | | | 0.04 | 951 | | | | | 0.34 | 521 | | | | | 43 | 29 |
| 51 | | 24 | | | | | | | | | | | | | | 954 | 956 | | | | | 496 | | | | | | 28 |
| 52 | | 28 | | | | | | | | | | | | | | 961 | 962 | 964 | | | | 471 | | | | | | 27 |
| 53 | | 32 | | | | | | | | | | | | | | | | | | | | 446 | | | | | | 26 |
| 54 | | 36 | | | | | | | | | | | | | | | | | | | | 421 | | | | | | 25 |
| 55 | 47. 40 | | 9.65 | | | | | | 9.95 | | | 017 | 015 | 014 | 0.04 | 980 | 981 | 983 | 985 | 986 | 0.34 | 396 | | | | | 42 | 24 |
| 56 | | 44 | | | | | | | | | 011 | 009 | 007 | | | 986 | 988 | 989 | 991 | 993 | | 371 | | | | | | 23 |
| 57 | | 48 | | 030 | 036 | 043 | 049 | 055 | | 007 | 005 | 004 | 002 | 001 | | 993 | 994 | 996 | 997 | 999 | | 346 | | | | | | 22 |
| 58 | | 52 | | 655 | 661 | 667 | 674 | 680 | * | 001 | 999 | 998 | 996 | 995 | * | 999 | 001 | 002 | 004 | | | 321 | | | | | | 21 |
| 59 | | 56 | | 680 | 686 | 692 | 698 | 705 | 9.94 | 995 | 993 | 991 | 990 | 988 | 0.05 | 001 | 002 | 004 | 006 | 008 | | 296 | | | | | | 20 |
| | | | | 60 | 45 | 30 | 15 | 0 | | 60 | 45 | 30 | 15 | 0 | | 60 | 45 | 30 | 15 | 0 | | 60 | 45 | 30 | 15 | 0 | | |
| | | | | Cosine | | | | | | Sine | | | | | | Cosecant | | | | | | Secant | | | | | | |

| ′ | Versed | | | | | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0′ | 15″ | 30″ | 45″ | 60″ | 0′ | 15″ | 30″ | 45″ | 60″ | 0′ | 15″ | 30″ | 45″ | 60″ | 0′ | 15″ | 30″ | 45″ | 60″ | | |
| 0 | 0 | | | | | | | | | | | | | | | | | | | | | |
| 1 | 4 | | | | | | | | | | | | | | | | | | | | | |
| 2 | 8 | | | | | | | | | | | | | | | | | | | | | |
| 3 | 12 | | | | | | | | | | | | | | | | | | | | | |
| 4 | 16 | 8.72 | 639 | 650 | 663 | 677 | 691 | 9.44 | 761 | 756 | 751 | 746 | 741 | 9.97 | 733 | 732 | 732 | 731 | 730 | 9.85 | 716 | 718 | 720 | 722 | 724 | 15. | 00 |
| 5 | 20 | | | | | | | | | | | | | | | | | | | | | |
| 6 | 24 | | 745 | 759 | 773 | 786 | 800 | | 721 | 715 | 710 | 705 | 700 | | 727 | 727 | 726 | 725 | 724 | | 731 | 733 | 735 | | | | 56 |
| 7 | 28 | | | | | | | | | | | | | | | | | | | | | |
| 8 | 32 | | 854 | 868 | 881 | 895 | 909 | | 680 | 675 | 670 | 665 | 660 | | 721 | 721 | 720 | 719 | 718 | | 747 | 749 | 75 | | | | 51 |
| 9 | 36 | | | | | | | | | | | | | | | | | | | | | |
| 10 | 40 | | | | | | | | | | | | | | | | | | | | | |
| 11 | 44 | 8.71 | | | | | | | | | | | | | | | | | | | | |
| 12 | 48 | | | | | | | | | | | | | | | | | | | | | |
| 13 | 52 | | 120 | 139 | 158 | | | | | | | | | | | | | | | | | |
| 14 | 56 | | 180 | 194 | 2 | | | | | | | | | | | | | | | | | |
| 15 | 45. 0 | 8.71 | 234 | 248 | 261 | 275 | 289 | 9.44 | 538 | 533 | 528 | 523 | 518 | 9.97 | 701 | 700 | 699 | 699 | 698 | 9.85 | 802 | 804 | 806 | 808 | 810 | | 50 |
| 16 | 4 | | | | | | | | 518 | 513 | 508 | 502 | 497 | | | | | | | | | | | | | | 53 |
| 17 | 8 | | 343 | 357 | 371 | 385 | 399 | | 497 | 492 | 487 | 482 | 477 | | | | | | | | | | | | | | 48 |
| 18 | 12 | | 387 | 401 | 415 | 429 | 443 | | 477 | 472 | 467 | 462 | 457 | | | | | | | | | | | | | | 44 |
| 19 | 16 | | 431 | 445 | 459 | 473 | 487 | | 457 | 452 | 446 | 441 | 436 | | | | | | | | | | | | | 15. | 40 |
| 20 | 20 | | | | | | | | | | | | | | | | | | | | | |
| 21 | 24 | 8.71 | 543 | 558 | 573 | 588 | 603 | 9.44 | 416 | 411 | 406 | 401 | 396 | 9.97 | 683 | 682 | 682 | | | 9.85 | | | | | | | 36 |
| 22 | 28 | | 619 | 634 | 649 | 664 | 679 | | | | | | | | | | | | | | | | | | | | 32 |
| 23 | 32 | | | | | | | | 396 | 391 | 386 | 381 | 376 | | | | | | | | | | | | | | 28 |
| 24 | 36 | | | | | | | | 375 | 370 | 365 | 360 | 355 | | | | | | | | | | | | | | 24 |
| 25 | 40 | | 721 | 734 | 747 | 761 | 774 | | 355 | 350 | 345 | 340 | 334 | | 674 | 673 | 673 | 672 | 671 | | 873 | 875 | 877 | 879 | 881 | 14. 20 | 35 |
| 26 | 44 | | | | | | | | | | | | | | | | | | | | | |
| 27 | 48 | 8.71 | 774 | 788 | 801 | 815 | 828 | 9.44 | 334 | 329 | 324 | 319 | 314 | 9.97 | | | | | | 9.85 | | | | | | | 31 |
| 28 | 52 | | 828 | 842 | 855 | 869 | 882 | | 314 | 309 | 304 | 299 | 294 | | | | | | | | | | | | | | 27 |
| 29 | 56 | | 882 | 895 | 909 | 922 | 936 | | 294 | 289 | 283 | 278 | 273 | | 665 | 665 | 664 | 663 | 662 | | 896 | 898 | 900 | 902 | 904 | | 23 |
| 30 | 60 | | 936 | 949 | 963 | 976 | 989 | | 273 | 268 | 263 | 258 | 253 | | 662 | 662 | 661 | 660 | 659 | | 904 | 906 | 908 | 910 | 912 | | 19 |
| 31 | 64 | | | | | | | | | | | | | | | | | | | | | |
| 32 | 68 | 8.72 | 043 | 057 | 071 | 085 | 099 | 9.44 | 232 | 227 | 222 | 217 | 212 | 9.97 | 656 | 656 | 655 | 654 | 653 | 9.85 | 920 | 922 | 924 | 926 | 928 | | 15 |
| 33 | 72 | | | | | | | | | | | | | | | | | | | | | |
| 34 | 76 | | 150 | 164 | 177 | 190 | 204 | | 192 | 186 | 181 | 176 | 171 | | 650 | 650 | 649 | 648 | 647 | | 935 | 937 | 939 | 941 | 943 | | 07 |
| 35 | 80 | | | | | | | | | | | | | | | | | | | | | |
| 36 | 84 | | | | | | | | | | | | | | | | | | | | | |
| 37 | 88 | 8.72 | 311 | 325 | 338 | 351 | 364 | 9.44 | 110 | 105 | 100 | 095 | 090 | 9.97 | 636 | 635 | 634 | 633 | 633 | 9.85 | 974 | 976 | 978 | 980 | 982 | | 51 |
| 38 | 92 | | | | | | | | | | | | | | | | | | | | | |
| 39 | 96 | | 417 | 431 | 444 | 458 | 471 | | 089 | 084 | 079 | 074 | 069 | | 633 | 632 | 631 | 630 | 630 | | 982 | 984 | 986 | 988 | 990 | | 28 |
| 40 | 100 | | | | | | | | | | | | | | | | | | | | | |
| 41 | 104 | 8.72 | 578 | 591 | 604 | 618 | 631 | 9.44 | * | 007 | 002 | 997 | 992 | 9.97 | 624 | 623 | 622 | 621 | 621 | 9.86 | | | | | | | 11 |
| 42 | 108 | | 644 | 658 | 671 | 684 | | 9.43 | 987 | 982 | 977 | 972 | 967 | | 621 | 620 | 619 | 618 | 618 | | | | | | | | 07 |
| 43 | 112 | | 711 | 724 | 738 | | | | 967 | 961 | 956 | 951 | 946 | | 618 | 617 | 616 | 615 | 615 | | | | | | | | 03 |
| 44 | 116 | | 778 | 791 | 804 | 817 | 831 | | 946 | 941 | 936 | 931 | 925 | | 615 | 614 | 613 | 613 | 612 | | | | | | | 15. | 00 |
| 45 | 120 | | | | | | | | | | | | | | | | | | | | | |
| 46 | 124 | 8.73 | 911 | 924 | 937 | 950 | | 9.43 | 905 | 900 | 895 | 889 | | 9.97 | | | | | | 9.86 | | | | | | | 56 |
| 47 | 128 | | | | | | | | 884 | 879 | 874 | 869 | | | | | | | | | | | | | | | 52 |
| 48 | 132 | | | | | | | | | | | | | | | | | | | | | |
| 49 | 136 | | | | | | | | | | | | | | | | | | | | | |
| 50 | 140 | 8.73 | 177 | 190 | 203 | 216 | 229 | | | | | | | | 597 | 596 | 595 | 594 | 594 | 9.86 | 076 | 078 | 079 | 081 | | | 49 |
| 51 | 144 | | | | | | | | 797 | 792 | 787 | 782 | 777 | | 594 | 593 | 592 | 591 | 590 | | 083 | 085 | 087 | 089 | 091 | | 45 |
| 52 | 148 | | 315 | 328 | 341 | 354 | 367 | | 771 | 766 | 761 | 756 | 751 | | 590 | 590 | 589 | 588 | 587 | | 091 | 093 | 095 | 097 | 099 | 28 | 7 |
| 53 | 152 | | 380 | 393 | 406 | 419 | 432 | | 746 | 741 | 736 | 731 | 726 | | 587 | 587 | 586 | 585 | 584 | | 099 | 101 | 103 | 105 | 107 | 24 | 6 |
| 54 | 156 | | 445 | 458 | 471 | 484 | 497 | | 721 | 716 | 711 | 706 | 701 | | | | | | | | | | | | | | 02 |
| 55 | 160 | 8.73 | 510 | 523 | 536 | 549 | 562 | 9.43 | 697 | 692 | 687 | 682 | 677 | 9.97 | | | | | | 9.86 | | | | | | | 47 |
| 56 | 164 | | | | | | | | | | | | | | | | | | | | | |
| 57 | 168 | | 575 | 588 | 601 | 614 | 627 | | 648 | 643 | 638 | 633 | 628 | | 575 | 575 | 574 | 573 | 572 | | 130 | 132 | 134 | 136 | 138 | 8 | 2 |
| 58 | 172 | | 640 | 653 | 666 | 679 | 692 | | 624 | 619 | 614 | 609 | 604 | | | | | | | | | | | | | 4 | 1 |
| 59 | 176 | | 705 | 718 | 731 | 744 | 757 | | 600 | 595 | 590 | 585 | 580 | | | | | | | | | | | | | | 0 |
| | | 4s | 3s | 2s | 1s | 0s | | 4s | 3s | 2s | 1s | 0s | | 4s | 3s | 2s | 1s | 0s | | 4s | 3s | 2s | 1s | 0s | m | s |
| | | 60 | 45 | 30 | 15 | 0 | | 60 | 45 | 30 | 15 | 0 | | | | | | | | | | | | | | |
| | | Suversed | | | | | | Coversed | | | | | | | | | | | | | | | | | | |
| | | Coversed | | | | | | Versed | | | | | | | | | | | | | | | | | | |

| ′ | m | Sine | Cosine | Secant | Cosecant | |
|---|---|---|---|---|---|---|
| 0 | | | 85 983 982 | | | |
| 1 | | | 982 980 978 | | | |
| 2 | | | | | | |
| 3 | 12 | 779 785 791 798 804 | 969 967 966 964 962 | 031 033 034 036 038 | 221 215 209 202 196 | 44 50 |
| 5 | | | 950 954 953 951 949 | 0.05 044 046 047 049 051 | 0.34 172 165 159 153 147 | 36 34 |
| 6 | 24 | | 949 948 946 945 943 | 051 052 054 055 057 | 147 141 135 128 122 | 32 33 |
| 7 | | | 943 941 940 938 936 | 057 059 060 062 064 | 122 116 110 104 098 | 28 32 |
| 8 | 36 | | 936 935 933 932 930 | 064 065 067 068 070 | 098 091 085 079 073 | 24 31 |
| 9 | | | 930 928 927 | | | |
| 10 | | 957 964 970 976 | 9.94 923 922 92 | 0.05 | 0.34 | |
| 11 | 44 | 976 982 989 995 001 | 917 915 914 912 911 | | | |
| 12 | 48 | 001 007 013 019 026 | 911 909 907 906 | | 0.35 | |
| 13 | 52 | | | | | |
| 14 | | | 893 890 888 885 883 | 102 | | |
| 15 | | | 9.94 891 889 888 886 885 | 0.05 109 111 | 0.35 | |
| 16 | | | 885 883 881 880 878 | 115 117 119 120 122 | 901 895 889 883 876 | 52 |
| 17 | | | 878 876 875 873 871 | 122 124 125 127 129 | 876 870 864 858 852 | 48 |
| 18 | | | | | | |
| 19 | | | | | | 40 49 |
| 20 | | | 9.94 858 857 855 854 852 | 0.05 142 143 145 146 148 | 0.35 803 797 791 785 779 | |
| 21 | | | | | 779 | |
| 22 | | | | | 755 749 743 | 28 37 |
| 23 | | | 837 830 834 832 | 161 163 164 166 168 | 730 724 718 711 | |
| 24 | | | 829 827 826 | 168 169 171 173 174 | 705 699 693 687 | |
| 25 | | 0.00 | 826 824 822 821 819 | 0.05 174 176 178 179 181 | 0.33 681 675 669 663 657 | 16 34 |
| 26 | 44 | | 819 818 816 814 813 | 181 182 184 186 187 | 657 651 644 638 632 | 12 33 |
| 27 | 48 | 368 374 380 386 392 | 813 811 809 808 806 | 187 189 191 192 194 | 632 626 620 614 608 | 8 32 |
| 28 | 52 | | 806 804 803 801 799 | 194 196 197 199 201 | 608 602 596 590 | |
| 29 | | | 799 798 796 795 793 | 201 202 204 205 207 | 584 578 572 | |
| 30 | | | | | | |
| 31 | | | | | | |
| 32 | | | | | | |
| 33 | | | | | | |
| 34 | | | | | | |
| 35 | 30. 20 | 9.66 562 568 574 580 586 | 9.94 760 758 757 | | | |
| 36 | 24 | 586 592 598 604 610 | 753 752 750 | | | |
| 37 | | | 747 745 743 | | | |
| 38 | | | 740 738 737 | | | |
| 39 | | | 734 732 730 729 727 | 266 268 270 271 273 | 342 336 330 324 318 | 9 |
| 40 | | | 727 725 724 722 720 | 0.05 273 275 277 278 280 | 0.33 318 312 306 300 294 | 10 15 |
| 41 | | | 720 719 717 715 714 | 280 281 283 285 286 | 294 288 282 276 270 | 8 |
| 42 | 48 | 737 743 749 755 | 714 712 710 709 707 | 286 288 290 291 293 | 270 263 257 251 245 | 6 |
| 43 | 52 | 755 761 767 773 779 | 707 705 704 702 700 | 293 295 296 298 300 | 245 239 233 227 221 | 4 16 |
| 44 | | | | | | 2 |
| 45 | | | | | 215 | 0 0 15 |
| 46 | | | | | 173 167 161 155 149 | 5 |
| 47 | | | | | 149 143 137 131 125 | 4 1 |
| 48 | 12 | 875 881 887 893 899 | 674 672 670 669 667 | 326 328 330 331 333 | 125 119 113 107 101 | 4 11 |
| 49 | 16 | 899 905 911 917 923 | 667 665 664 662 660 | 333 335 336 338 340 | 101 095 089 083 077 | 8 40 1 |
| 50 | | | | | | |
| 51 | | | | | 0.33 077 072 066 060 054 | 5 9 |
| 52 | | | | | 054 048 042 036 030 | 8 |
| 53 | | | | | 030 024 018 012 006 | 7 |
| 54 | | | | | 006 000 994 988 982 | 6 |
| 55 | | | | | 982 976 970 964 958 | 8. 20 |
| 56 | | | | | 958 952 946 940 934 | 10 |
| 57 | | | | | 934 928 922 916 910 | 12 |
| 58 | | | | | 910 904 898 892 887 | 8 2 |
| 59 | | | | | 887 881 875 869 863 | 4 1 |
| 60 | | | | | 863 857 851 845 839 | 8. 0 |
| ′ | m | Sine | Cosine | Secant | Cosecant | ′ |
| | | 4° 65″ | 3° 45 | 2° 30 | 1° 15 | 0° 0 m s |
| | | Cosecant | | | | 10° 570 |
| | | Secant | | | | 4° 60 |



| ′ | 0° | Sine / Cosine | 15′ | 30′ | 45′ | 60′ | Cosine / Sine | 0′ | 15′ | 30′ | 45′ | 60′ | Secant / Cosecant | 0′ | 15′ | 30′ | 45′ | 60′ | Cofecant / Secant | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 12. 0 | 9.67 | 101 | 157 | 173 | 188 | 9.94 | 899 | 843 | 827 | 812 | 796 | 0.05 | 101 | 108 | 410 | 412 | 413 | 0.32 | 59 |
| 1 | | | 191 | 167 | | | | 899 | 893 | 892 | 891 | 889 | | 413 | 415 | 417 | 418 | 420 | | 58 |
| 2 | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | |
| 4 | 16 | | | | | | | | | | | | | | | | | | | |
| 5 | 12. 0 | 9.67 | | | | | 9.94 | | | | | | 0.05 | | | | | | 0.32 | |
| 6 | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | |
| 10 | 12. 40 | 9.67 | | | | | 9.94 | | | | | | 0.05 | | | | | | 0.32 | |
| 11 | | | | 27 | 433 | 439 | 445 | | | | | | | | | | | | | |
| 12 | | | | 451 | 457 | 463 | 468 | | | | | | | | | | | | | |
| 13 | | | | 474 | 480 | 486 | 492 | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | |
| 15 | 13. 0 | 9.67 | | | | | 9.94 | | | | | | 0.05 | | | | | | 0.32 | |
| 16 | | | | | | | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | | | | | | 6.40 | |
| 20 | 13. 20 | 9.67 | | | | | 9.94 | | | | | | 0.05 | | | | | | 0.32 | |
| 21 | | | | | | | | | | | | | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | | | | | |
| 23 | | | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | | | |
| 25 | 13. 40 | 9.67 | | | | | 9.94 | | | | | | 0.05 | | | | | | 0.32 | |
| 26 | | | | | | | | | | | | | | | | | | | | |
| 27 | | | | | 808 | 814 | 820 | | | | | | | | | | | | | |
| 28 | | | | | 831 | 837 | 843 | | | | | | | | | | | | | |
| 29 | | | | | | | | | | | | | | | | | | | | |
| 30 | 14. 0 | 9.67 | | | | | 9.94 | | | | | | 0.05 | | | | | | 0.32 | |
| 31 | 4 | | 890 | 895 | 901 | 907 | | | | | | | | 617 | 619 | 620 | 622 | 624 | | |
| 32 | 8 | | 913 | 919 | 924 | 930 | | | 374 | 373 | 371 | 369 | | 624 | 626 | 627 | 629 | 631 | | |
| 33 | 12 | | | | | | | | 368 | 366 | 364 | 362 | | 631 | 632 | 634 | 636 | 638 | | |
| 34 | 16 | | 959 | 965 | 971 | 977 | | | 361 | 359 | 357 | 355 | | 638 | 639 | 641 | 643 | 645 | | |
| 35 | 14. 40 | 9.67 | 982 | 988 | 994 | 000 | 9.94 | 35 | | 352 | 350 | 349 | 0.05 | 645 | 646 | 648 | 650 | 651 | | |
| | | 9.68 | 006 | 011 | 017 | 023 | | 34 | | | | | | | | | | | 0.31 | 994 |
| | | | 029 | 035 | 040 | 046 | | 34 | | | | 333 | | | | | 663 | | | 971 |
| | | | 052 | 058 | 063 | | | 335 | | | | 329 | | 665 | 667 | 669 | 670 | 672 | | 948 |
| | | | 075 | 081 | 087 | | | 328 | | | | 321 | | | | | | | | |
| | 15. 0 | 9.68 | 098 | 104 | 110 | | 9.94 | 321 | | | | 314 | | | | | | | 0.31 | |
| | | | 121 | 127 | 133 | 139 | | 314 | | | | 307 | | | | | | | | |
| | | | 144 | 150 | 156 | 162 | | 307 | | | | 300 | | 693 | 695 | 696 | 698 | 700 | | |
| | | | 167 | 173 | 179 | 185 | | 300 | | | | 293 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | 286 | | | | | | | | | | | 0.31 | |
| | | | | | | | | 279 | | | | | | | | | | | | |
| | | | | | | | | 272 | | | | | | | | | | | | |
| | | | | | | | | 265 | | | | | | | | | | | | |
| | | | | | | | | 258 | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | 340 | | | | | | | | | | | | | | 0.31 | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

| ′ | ″ | Versed / Coversed | | | | | | Coversed / Suversed | | | | | | Suversed / Versed | | | | | | Sucoversed / Versed | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0° | 15′ 0″ | 30′ 0″ | 45′ 0″ | 60′ 0″ | | 0° | 15′ 0″ | 30′ 0″ | 45′ 0″ | 60′ 0″ | | 0° | 15′ 0″ | 30′ 0″ | 45′ 0″ | 60′ 0″ | | 0° | 15′ 0″ | 30′ 0″ | 45′ 0″ | 60′ 0″ | | |
| 0 | 0 | | | | | | | 9.42 | 368 | 363 | 357 | 352 | 347 | 9.97 | 891 | 889 | 887 | 885 | 883 | 9.89 | 613 | 615 | 617 | 619 | 621 | 0 | 0 | 60 |
| 1 | 4 | | | 786 | 798 | 811 | 824 | 836 | | 347 | 342 | 337 | 331 | 327 | | 877 | 875 | 873 | 871 | 868 | | 621 | 623 | 624 | 626 | 628 | 0 | 4 | 56 |
| | 8 | | | | | | | | | 326 | 321 | 316 | 311 | 306 | | 863 | 861 | 859 | 857 | 854 | | 630 | 632 | 634 | 636 | 638 | 0 | 8 | 52 |
| 0 | 12 | | | | | | | | | 305 | 300 | 295 | 290 | 285 | | 849 | 847 | 845 | 843 | 841 | | 640 | 642 | 644 | 646 | 648 | 0 | 12 | 48 |
| | 16 | | | 937 | | | | | | 284 | 279 | 274 | 269 | 264 | | 835 | 833 | 831 | 829 | 827 | | 650 | 652 | 654 | 656 | 658 | 0 | 16 | 44 |
| 0 | 20 | | | | | | | | | 263 | 258 | 253 | 248 | 243 | | 821 | 819 | 817 | 815 | 813 | | 660 | 662 | 664 | 666 | 668 | 0 | 20 | 40 |
| 0 | 24 | 8.77 | 030 | 781 | 794 | 807 | 820 | | | 242 | 237 | 232 | 227 | 222 | | 807 | 805 | 803 | 801 | 799 | | 670 | 672 | 674 | 676 | 678 | 0 | 24 | 36 |
| | 28 | | | | | | | | | 221 | 216 | 211 | 206 | 201 | | 793 | 791 | 789 | 787 | 785 | | 680 | 682 | 684 | 686 | 688 | 0 | 28 | 32 |
| 0 | 32 | | | 085 | 102 | 114 | 127 | 140 | | 200 | 195 | 190 | 185 | 180 | | 779 | 777 | 775 | 773 | 771 | | 690 | 692 | 694 | 696 | 698 | 0 | 32 | 28 |
| 0 | 36 | | | 138 | 152 | 165 | 177 | 190 | | 179 | 174 | 169 | 164 | 159 | | 765 | 763 | 761 | 759 | 757 | | 700 | 702 | 704 | 706 | 708 | 0 | 36 | 24 |
| 0 | 40 | | | 192 | 205 | 218 | 231 | 244 | | 158 | 153 | 148 | 143 | 138 | | 751 | 749 | 747 | 745 | 743 | | 710 | 712 | 714 | 716 | 718 | 0 | 40 | 20 |
| 0 | 44 | | | 245 | 259 | 272 | 285 | 298 | | 137 | 132 | 127 | 122 | 117 | | 737 | 735 | 733 | 731 | 729 | | 720 | 722 | 724 | 726 | 728 | 0 | 44 | 16 |
| 0 | 48 | 8.77 | 299 | 313 | 326 | 339 | 352 | | 9.42 | 116 | 111 | 106 | 101 | 096 | 9.97 | 723 | 721 | 719 | 717 | 715 | 9.86 | 689 | 691 | 693 | 695 | 696 | 16 | 49 |
| 0 | 52 | | | 352 | 366 | 379 | 392 | 405 | | 095 | 090 | 085 | 080 | 075 | | 709 | 707 | 705 | 703 | 701 | | 696 | 698 | 700 | 702 | 704 | 12 | 48 |
| 0 | 56 | | | 406 | 419 | 432 | 445 | 458 | | 074 | 069 | 064 | 059 | 054 | | 695 | 693 | 691 | 689 | 687 | | 702 | 704 | 706 | 708 | 710 | 8 | 47 |
| 1 | 0 | | | 459 | 472 | 485 | 498 | 511 | | 053 | 048 | 043 | 038 | 033 | | 681 | 679 | 677 | 675 | 673 | | 708 | 710 | 712 | 714 | 716 | 4 | 46 |
| 1 | 4 | | | 512 | 525 | 538 | 551 | 564 | | 032 | 027 | 022 | 017 | 012 | | 667 | 665 | 663 | 661 | 659 | | 714 | 716 | 718 | 720 | 722 | 0 | 45 |
| 1 | 8 | | | 565 | 578 | 591 | 604 | 617 | | 011 | 006 | 001 | 9.96 | 991 | | 653 | 651 | 649 | 647 | 645 | | 720 | 722 | 724 | 726 | 728 | | |
| 1 | 12 | | | 618 | 631 | 644 | 657 | 670 | 9.41 | 990 | 985 | 980 | 975 | 970 | | 639 | 637 | 635 | 633 | 631 | | 726 | 728 | 730 | 732 | 734 | | |
| 1 | 16 | | | 671 | 684 | 697 | 710 | 723 | | 969 | 964 | 959 | 954 | 949 | | 625 | 623 | 621 | 619 | 617 | | 732 | 734 | 736 | 738 | 740 | | |
| 1 | 20 | | | 724 | 737 | 750 | 763 | 776 | | 948 | 943 | 938 | 933 | 928 | | 611 | 609 | 607 | 605 | 603 | | 738 | 740 | 742 | 744 | 746 | | |
| 1 | 24 | 8.77 | 777 | 790 | 803 | 816 | 829 | | | 927 | 922 | 917 | 912 | 907 | | 597 | 595 | 593 | 591 | 589 | | 744 | 746 | 748 | 750 | 752 | | |
| 1 | 28 | | | 830 | 843 | 856 | 869 | 882 | | 906 | 901 | 896 | 891 | 886 | | 583 | 581 | 579 | 577 | 575 | | 750 | 752 | 754 | 756 | 758 | | |
| 1 | 32 | | | 883 | 896 | 909 | 922 | 935 | | 885 | 880 | 875 | 870 | 865 | | 569 | 567 | 565 | 563 | 561 | | 756 | 758 | 760 | 762 | 764 | | |
| 1 | 36 | | | 936 | 949 | 962 | 975 | 988 | | 864 | 859 | 854 | 849 | 844 | | 555 | 553 | 551 | 549 | 547 | | 762 | 764 | 766 | 768 | 770 | | |
| 1 | 40 | | | 989 | 002 | 015 | 028 | 041 | | 843 | 838 | 833 | 828 | 823 | | 541 | 539 | 537 | 535 | 533 | | 768 | 770 | 772 | 774 | 776 | | |
| 1 | 44 | | | 042 | 055 | 068 | 081 | 094 | | 822 | 817 | 812 | 807 | 802 | | 527 | 525 | 523 | 521 | 519 | | 774 | 776 | 778 | 780 | 782 | | |
| 1 | 48 | 8.78 | 107 | 120 | 133 | 146 | 159 | | 9.41 | 801 | 796 | 791 | 786 | 781 | 9.96 | 513 | 511 | 509 | 507 | 505 | 9.86 | 780 | 782 | 784 | 786 | 788 | 16 | 48 |
| 1 | 52 | | | 172 | 185 | 198 | 211 | 224 | | 780 | 775 | 770 | 765 | 760 | | 499 | 497 | 495 | 493 | 491 | | 786 | 788 | 790 | 792 | 794 | 12 | 47 |
| 1 | 56 | | | 237 | 250 | 263 | 276 | 289 | | 759 | 754 | 749 | 744 | 739 | | 485 | 483 | 481 | 479 | 477 | | 792 | 794 | 796 | 798 | 800 | 8 | 46 |
| 2 | 0 | | | 302 | 315 | 328 | 341 | 354 | | 738 | 733 | 728 | 723 | 718 | | 471 | 469 | 467 | 465 | 463 | | 798 | 800 | 802 | 804 | 806 | 4 | 45 |
| 2 | 4 | | | 367 | 380 | 393 | 406 | 419 | | 717 | 712 | 707 | 702 | 697 | | 457 | 455 | 453 | 451 | 449 | | 804 | 806 | 808 | 810 | 812 | 0 | 44 |
| 2 | 8 | | | 432 | 445 | 458 | 471 | 484 | | 696 | 691 | 686 | 681 | 676 | | 443 | 441 | 439 | 437 | 435 | | 810 | 812 | 814 | 816 | 818 | | |
| 2 | 12 | | | 497 | 510 | 523 | 536 | 549 | | 675 | 670 | 665 | 660 | 655 | | 429 | 427 | 425 | 423 | 421 | | 816 | 818 | 820 | 822 | 824 | | |
| 2 | 16 | | | 562 | 575 | 588 | 601 | 614 | | 654 | 649 | 644 | 639 | 634 | | 415 | 413 | 411 | 409 | 407 | | 822 | 824 | 826 | 828 | 830 | | |
| 2 | 20 | | | 627 | 640 | 653 | 666 | 679 | | 633 | 628 | 623 | 618 | 613 | | 401 | 399 | 397 | 395 | 393 | | 828 | 830 | 832 | 834 | 836 | | |
| 2 | 24 | 8.78 | 692 | 705 | 718 | 731 | 744 | | | 612 | 607 | 602 | 597 | 592 | | 387 | 385 | 383 | 381 | 379 | | 834 | 836 | 838 | 840 | 842 | | |
| 2 | 28 | | | 757 | 770 | 783 | 796 | 809 | | 591 | 586 | 581 | 576 | 571 | | 373 | 371 | 369 | 367 | 365 | | 840 | 842 | 844 | 846 | 848 | | |
| 2 | 32 | | | 822 | 835 | 848 | 861 | 874 | | 570 | 565 | 560 | 555 | 550 | | 359 | 357 | 355 | 353 | 351 | | 846 | 848 | 850 | 852 | 854 | | |
| 2 | 36 | | | 887 | 900 | 913 | 926 | 939 | | 549 | 544 | 539 | 534 | 529 | | 345 | 343 | 341 | 339 | 337 | | 852 | 854 | 856 | 858 | 860 | | |
| 2 | 40 | | | 952 | 965 | 978 | 991 | 004 | | 528 | 523 | 518 | 513 | 508 | | 331 | 329 | 327 | 325 | 323 | | 858 | 860 | 862 | 864 | 866 | | |
| 2 | 44 | | | 017 | 030 | 043 | 056 | 069 | | 507 | 502 | 497 | 492 | 487 | | 317 | 315 | 313 | 311 | 309 | | 864 | 866 | 868 | 870 | 872 | | |
| 2 | 48 | 8.78 | 082 | 095 | 108 | 121 | 134 | | 9.41 | 486 | 481 | 476 | 471 | 466 | 9.96 | 303 | 301 | 299 | 297 | 295 | 9.86 | 870 | 872 | 874 | 875 | 877 | 5.40 | 25 |
| 2 | 52 | | | 147 | 160 | 173 | 186 | 199 | | 465 | 460 | 455 | 450 | 445 | 9.97 | 269 | 269 | 268 | 267 | 266 | 9.86 | 877 | 879 | 881 | 883 | 885 | 36 | 24 |
| 2 | 56 | | | 212 | 225 | 238 | 251 | 264 | | 444 | 439 | 434 | 429 | 424 | | 266 | 265 | 265 | 264 | 263 | | 885 | 887 | 889 | 890 | 892 | 32 | 23 |
| 3 | 0 | | | 277 | 290 | 303 | 316 | 329 | | 423 | 418 | 413 | 408 | 403 | | 263 | 262 | 261 | 261 | 260 | | 892 | 894 | 896 | 898 | 900 | 28 | 22 |
| 3 | 4 | | | 342 | 355 | 368 | 381 | 394 | | 402 | 397 | 392 | 387 | 382 | | 260 | 259 | 258 | 257 | 256 | | 900 | 902 | 904 | 905 | 907 | 24 | 21 |
| 3 | 8 | | | 407 | 420 | 433 | 446 | 459 | | 381 | 376 | 371 | 366 | 361 | | 256 | 256 | 255 | 254 | 253 | | 907 | 909 | 911 | 913 | 915 | 5.20 | 20 |
| 3 | 12 | | | 472 | 485 | 498 | 511 | 524 | | 360 | 355 | 350 | 345 | 340 | 9.97 | 252 | 251 | 250 | 249 | 248 | 9.86 | 915 | 917 | 918 | 920 | 922 | 16 | 19 |
| 3 | 16 | | | 537 | 550 | 563 | 576 | 589 | | 339 | 334 | 329 | 324 | 319 | | 250 | 249 | 248 | 248 | 247 | | 922 | 924 | 926 | 928 | 930 | 12 | 18 |
| 3 | 20 | | | 602 | 615 | 628 | 641 | 654 | | 318 | 313 | 308 | 303 | 298 | | 247 | 246 | 245 | 244 | 244 | | 930 | 932 | 933 | 935 | 937 | 8 | 17 |
| 3 | 24 | 8.78 | 667 | 680 | 693 | 706 | 719 | | | 297 | 292 | 287 | 282 | 277 | | 245 | 243 | 242 | 241 | 240 | | 937 | 939 | 941 | 943 | 945 | 4 | 16 |
| 3 | 28 | | | 732 | 745 | 758 | 771 | 784 | | 276 | 271 | 266 | 261 | 256 | | 243 | 242 | 241 | 240 | 239 | | 945 | 947 | 949 | 951 | 953 | 0 | 15 |
| 3 | 32 | | | 797 | 810 | 823 | 836 | 849 | | 255 | 250 | 245 | 240 | 235 | | 241 | 240 | 239 | 238 | 237 | | 953 | 955 | 957 | 959 | 961 | | |
| 3 | 36 | | | 862 | 875 | 888 | 901 | 914 | | 234 | 229 | 224 | 219 | 214 | | 237 | 236 | 235 | 234 | 233 | | 961 | 963 | 965 | 967 | 969 | | |
| 3 | 40 | | | 927 | 940 | 953 | 966 | 979 | | 213 | 208 | 203 | 198 | 193 | | 233 | 232 | 231 | 230 | 229 | | 969 | 971 | 973 | 975 | 977 | | |
| 3 | 44 | | | 992 | 005 | 018 | 031 | 044 | | 192 | 187 | 182 | 177 | 172 | | 229 | 228 | 227 | 226 | 225 | | 977 | 979 | 981 | 983 | 985 | | |
| 3 | 48 | 8.79 | 057 | 070 | 083 | 096 | 109 | | 9.41 | 171 | 166 | 161 | 156 | 151 | 9.97 | 225 | 224 | 223 | 222 | 221 | 9.86 | 985 | 987 | 989 | 991 | 993 | 16 | 14 |
| 3 | 52 | | | 122 | 135 | 148 | 161 | 174 | | 150 | 145 | 140 | 135 | 130 | | 221 | 220 | 219 | 218 | 217 | | 993 | 995 | 997 | 999 | 001 | 12 | 13 |
| 3 | 56 | | | 187 | 200 | 213 | 226 | 239 | | 129 | 124 | 119 | 114 | 109 | | 217 | 216 | 215 | 214 | 213 | | 001 | 003 | 005 | 007 | 009 | 8 | 12 |
| 4 | 0 | | | 252 | 265 | 278 | 291 | 304 | | 108 | 103 | 098 | 093 | 088 | | 213 | 212 | 211 | 210 | 209 | | 009 | 011 | 013 | 015 | 017 | 4 | 11 |
| 4 | 4 | | | 317 | 330 | 343 | 356 | 369 | | 087 | 082 | 077 | 072 | 067 | | 209 | 208 | 207 | 206 | 205 | | 017 | 019 | 021 | 023 | 025 | 0 | 10 |
| 4 | 8 | | | 382 | 395 | 408 | 421 | 434 | | 066 | 061 | 056 | 051 | 046 | | 205 | 204 | 203 | 202 | 201 | | 025 | 027 | 029 | 031 | 033 | | |
| 4 | 12 | | | 447 | 460 | 473 | 486 | 499 | | 045 | 040 | 035 | 030 | 025 | | 201 | 200 | 199 | 198 | 197 | | 033 | 035 | 037 | 039 | 041 | | |
| 4 | 16 | | | 512 | 525 | 538 | 551 | 564 | | 024 | 019 | 014 | 009 | 004 | | 197 | 196 | 195 | 194 | 193 | | 041 | 043 | 045 | 047 | 049 | | |
| 4 | 20 | | | 577 | 590 | 603 | 616 | 629 | 9.41 | 003 | 9.96 | 998 | 993 | 988 | | 193 | 192 | 191 | 190 | 189 | | 049 | 051 | 053 | 055 | 057 | 4 | 1 |
| 4 | 24 | 8.79 | 642 | 655 | 668 | 681 | 694 | | | 982 | 977 | 972 | 967 | 962 | | 189 | 188 | 187 | 186 | 185 | | 057 | 059 | 101 | 103 | 105 | 0 | 0 |
| 4 | 28 | | | 707 | 720 | 733 | 746 | 759 | | 961 | 956 | 951 | 946 | 941 | | 185 | 184 | 183 | 182 | 181 | | 105 | 107 | 109 | 111 | 113 | | |
| 4 | 32 | | | 772 | 785 | 798 | 811 | 824 | | 940 | 935 | 930 | 925 | 920 | | 181 | 180 | 179 | 178 | 177 | | 113 | 115 | 117 | 119 | 121 | | |
| 4 | 36 | | | 837 | 850 | 863 | 876 | 889 | | 919 | 914 | 909 | 904 | 899 | | 177 | 176 | 175 | 174 | 173 | | 121 | 123 | 125 | 127 | 129 | | |
| 4 | 40 | | | 902 | 915 | 928 | 941 | 954 | | 898 | 893 | 888 | 883 | 878 | | 173 | 172 | 171 | 170 | 169 | | 129 | 131 | 133 | 135 | 137 | | |
| 4 | 44 | | | 967 | 980 | 993 | 006 | 019 | | 877 | 872 | 867 | 862 | 857 | | 169 | 168 | 167 | 166 | 165 | | 137 | 139 | 141 | 143 | 145 | | |
| 4 | 48 | 8.79 | 032 | 045 | 058 | 071 | 084 | | 9.41 | 856 | 851 | 846 | 841 | 836 | 9.97 | 165 | 164 | 163 | 162 | 161 | 9.87 | 145 | 147 | 149 | 151 | 153 | 16 | 0 |
| 4 | 52 | | | 097 | 110 | 123 | 136 | 149 | | 835 | 830 | 825 | 820 | 815 | | 161 | 160 | 159 | 158 | 157 | | 153 | 155 | 157 | 159 | 201 | 12 | 1 |
| 4 | 56 | | | 162 | 175 | 188 | 201 | 214 | | 814 | 809 | 804 | 799 | 794 | | 157 | 156 | 155 | 154 | 153 | | 201 | 203 | 205 | 207 | 209 | 8 | 2 |
| 5 | 0 | | | 227 | 240 | 253 | 266 | 279 | | 793 | 788 | 783 | 778 | 773 | | 153 | 152 | 151 | 150 | 149 | | 209 | 211 | 213 | 215 | 217 | 4 | 3 |
| 5 | 4 | | | 292 | 305 | 318 | 331 | 344 | | 772 | 767 | 762 | 757 | 752 | | 149 | 148 | 147 | 146 | 145 | | 217 | 219 | 221 | 223 | 225 | 0 | 4 |
| 5 | 8 | | | 357 | 370 | 383 | 396 | 409 | | 751 | 746 | 741 | 736 | 731 | | 145 | 144 | 143 | 142 | 141 | | 225 | 227 | 229 | 231 | 233 | | |
| 5 | 12 | | | 422 | 435 | 448 | 461 | 474 | | 730 | 725 | 720 | 715 | 710 | | 141 | 140 | 139 | 138 | 137 | | 233 | 235 | 237 | 239 | 241 | | |
| 5 | 16 | | | 487 | 500 | 513 | 526 | 539 | | 709 | 704 | 699 | 694 | 689 | | 137 | 136 | 135 | 134 | 133 | | 241 | 243 | 245 | 247 | 249 | | |
| 5 | 20 | | | 552 | 565 | 578 | 591 | 604 | | 688 | 683 | 678 | 673 | 668 | | 133 | 132 | 131 | 130 | 129 | | 249 | 251 | 253 | 255 | 257 | | |
| 5 | 24 | 8.79 | 617 | 630 | 643 | 656 | 669 | | | 667 | 662 | 657 | 652 | 647 | | 129 | 128 | 127 | 126 | 125 | | 257 | 259 | 301 | 303 | 305 | | |
| 5 | 28 | | | 682 | 695 | 708 | 721 | 734 | | 646 | 641 | 636 | 631 | 626 | | 125 | 124 | 123 | 122 | 121 | | 305 | 307 | 309 | 311 | 313 | | |
| 5 | 32 | | | 747 | 760 | 773 | 786 | 799 | | 625 | 620 | 615 | 610 | 605 | | 121 | 120 | 119 | 118 | 117 | | 313 | 315 | 317 | 319 | 321 | | |
| 5 | 36 | | | 812 | 825 | 838 | 851 | 864 | | 604 | 599 | 594 | 589 | 584 | | 117 | 116 | 115 | 114 | 113 | | 321 | 323 | 325 | 327 | 329 | | |
| 5 | 40 | | | 877 | 890 | 903 | 916 | 929 | | 583 | 578 | 573 | 568 | 563 | | 113 | 112 | 111 | 110 | 109 | | 329 | 331 | 333 | 335 | 337 | | |
| 5 | 44 | | | 942 | 955 | 968 | 981 | 994 | | 562 | 557 | 552 | 547 | 542 | | 109 | 108 | 107 | 106 | 105 | | 337 | 339 | 341 | 343 | 345 | | |
| 5 | 48 | 8.79 | 007 | 020 | 033 | 046 | 059 | | 9.41 | 541 | 536 | 531 | 526 | 521 | 9.97 | 105 | 104 | 103 | 102 | 101 | 9.87 | 345 | 347 | 349 | 351 | 353 | 16 | 0 |
| 5 | 52 | | | 072 | 085 | 098 | 111 | 124 | | 520 | 515 | 510 | 505 | 500 | | 101 | 100 | 099 | 098 | 097 | | 353 | 355 | 357 | 359 | 401 | 12 | 1 |
| 5 | 56 | | | 137 | 150 | 163 | 176 | 189 | | 499 | 494 | 489 | 484 | 479 | | 097 | 096 | 095 | 094 | 093 | | 401 | 403 | 405 | 407 | 409 | 8 | 2 |
| | | | 4° 60″ | 3° 45″ | 2° 30″ | 1° 15″ | 0° 0″ | | 4° 60″ | 3° 45″ | 2° 30″ | 1° 15″ | 0° 0″ | | 4° 60″ | 3° 45″ | 2° 30″ | 1° 15″ | 0° 0″ | | 4° 60″ | 3° 45″ | 2° 30″ | 1° 15″ | 0° 0″ | m | s |
| | | | Suversed / Coversed | | | | | | Coversed / Versed | | | | | | Versed / Suversed | | | | | | Suversed / Sucoversed | | | | | 16 | 121 |
| | | | Coversed / Versed | | | | | | Versed / Suversed | | | | | | Suversed / Sucoversed | | | | | | Sucoversed / Versed | | | | | 17 | 61 |

| ′ | m | Sine / Cosine | | | | | Cosine / Sine | | | | | Secant / Cosecant | | | | | Cosecant / Secant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | | 0° | 1° | 2° | 3° | 4° | 4° | 3° | 2° | 1° | 0° | 0° | 1° | 2° | 3° | 4° | 4° | 3° | 2° | 1° | 0° | | |
| 0 | 0. 0 | 9. 68 | 537 | 543 | 549 | 554 | 560 | 9. 94 | 183 | 177 | 171 | 165 | 159 | 0. 06 | 817 | 823 | 829 | 835 | 841 | 0. 31 | 443 | 437 | 431 | 426 | 420 | 60 | 0 |
| 1 | 4 | | 580 | 586 | 591 | 597 | 603 | | 175 | 173 | 171 | 170 | 168 | | 825 | 827 | 829 | 830 | 832 | | 420 | 414 | 409 | 403 | 397 | 52 | 58 |
| 2 | 8 | | 603 | 608 | 614 | 620 | 625 | | 168 | 166 | 164 | 163 | 161 | | 832 | 834 | 836 | 837 | 839 | | 397 | 392 | 386 | 380 | 375 | 48 | 57 |
| 3 | 12 | | 626 | 631 | 637 | 643 | 648 | | 161 | 159 | 157 | 156 | 154 | | 839 | 841 | 843 | 844 | 846 | | 375 | 369 | 364 | 358 | 353 | 44 | 56 |
| 4 | 16 | | 648 | 654 | 660 | 665 | 671 | | 154 | 152 | 150 | 148 | 146 | | 846 | 848 | 850 | 852 | 854 | | 353 | 347 | 342 | 337 | 331 | 40 | 55 |
| 5 | 20 | 9. 68 | 671 | 677 | 682 | 688 | 694 | 9. 94 | 146 | 144 | 142 | 140 | 138 | 0. 06 | 854 | 856 | 858 | 860 | 862 | 0. 31 | 326 | 320 | 315 | 309 | 304 | 36 | 54 |
| 6 | 24 | | 694 | 699 | 705 | 711 | 716 | | 138 | 136 | 134 | 132 | 130 | | 862 | 864 | 866 | 868 | 870 | | 304 | 298 | 293 | 287 | 282 | 32 | 53 |
| 7 | 28 | | 716 | 722 | 727 | 733 | 738 | | 130 | 128 | 126 | 124 | 122 | | 870 | 872 | 874 | 876 | 878 | | 282 | 276 | 271 | 265 | 260 | 28 | 52 |
| 8 | 32 | | 738 | 743 | 749 | 754 | 760 | | 122 | 120 | 118 | 116 | 114 | | 878 | 880 | 882 | 884 | 886 | | 260 | 254 | 249 | 244 | 238 | 24 | 51 |
| 9 | 36 | | 759 | 765 | 770 | 776 | 781 | | 114 | 112 | 110 | 108 | 106 | | 886 | 888 | 890 | 892 | 894 | | 238 | 233 | 227 | 222 | 216 | 20 | 50 |
| 10 | 40 | 9. 68 | 781 | 786 | 792 | 797 | 803 | 9. 94 | 106 | 104 | 102 | 100 | 098 | 0. 06 | 894 | 896 | 898 | 900 | 902 | 0. 31 | 211 | 205 | 200 | 194 | 189 | 16 | 49 |
| 11 | 44 | | 802 | 808 | 813 | 819 | 824 | | 098 | 096 | 094 | 092 | 090 | | 902 | 904 | 906 | 908 | 910 | | 189 | 183 | 178 | 172 | 167 | 12 | 48 |
| 12 | 48 | | 829 | 835 | 841 | 846 | 852 | | 090 | 088 | 086 | 084 | 082 | | 910 | 912 | 914 | 916 | 918 | | 167 | 161 | 156 | 150 | 145 | 8 | 47 |
| 13 | 52 | | 846 | 852 | 857 | 863 | 868 | | 082 | 080 | 078 | 076 | 074 | | 918 | 920 | 922 | 924 | 926 | | 145 | 139 | 134 | 128 | 123 | 4 | 46 |
| 14 | 56 | | 863 | 869 | 874 | 880 | 885 | | 074 | 072 | 070 | 068 | 066 | | 926 | 928 | 930 | 932 | 934 | | 123 | 117 | 112 | 106 | 101 | 0. 00 | 45 |
| 15 | 57. 00 | 9. 68 | 880 | 886 | 891 | 897 | 902 | 9. 94 | 066 | 064 | 062 | 060 | 058 | 0. 06 | 934 | 936 | 938 | 940 | 942 | 0. 31 | 101 | 095 | 090 | 084 | 079 | 56 | 44 |
| 16 | 4 | | 897 | 903 | 908 | 914 | 919 | | 058 | 056 | 054 | 052 | 050 | | 942 | 944 | 946 | 948 | 950 | | 079 | 073 | 068 | 062 | 057 | 52 | 43 |
| 17 | 8 | | 914 | 920 | 925 | 931 | 936 | | 050 | 048 | 046 | 044 | 042 | | 950 | 952 | 954 | 956 | 958 | | 057 | 051 | 046 | 040 | 035 | 48 | 42 |
| 18 | 12 | | 965 | 970 | 976 | 982 | 987 | | 042 | 040 | 038 | 036 | 034 | | 958 | 960 | 962 | 964 | 966 | | 035 | 030 | 024 | 018 | 013 | 44 | 41 |
| 19 | 16 | | 982 | 993 | 999 | 004 | 010 | | 034 | 032 | 030 | 028 | 026 | | 966 | 968 | 970 | 972 | 974 | | 013 | 007 | 002 | 3. 996 | 3. 990 | 40 | 40 |
| 20 | 57. 20 | 9. 69 | 031 | 037 | 042 | 048 | 053 | 9. 93 | 024 | 022 | 020 | 018 | 016 | 0. 06 | 976 | 978 | 980 | 982 | 984 | 0. 30 | 990 | 984 | 979 | 973 | 968 | 36 | 39 |
| 21 | 24 | | 059 | 064 | 070 | 075 | 081 | | 016 | 014 | 012 | 010 | 008 | | 984 | 986 | 988 | 990 | 992 | | 968 | 962 | 957 | 951 | 946 | 32 | 38 |
| 22 | 28 | | 086 | 092 | 097 | 103 | 108 | | 008 | 006 | 004 | 002 | 000 | | 992 | 994 | 996 | 998 | 000 | | 946 | 940 | 934 | 928 | 923 | 28 | 37 |
| 23 | 32 | | 113 | 119 | 124 | 130 | 135 | | 000 | 3. 998 | 3. 996 | 3. 994 | 3. 992 | | 3. 008 | 3. 006 | 3. 004 | 3. 002 | 3. 000 | | 923 | 917 | 912 | 906 | 900 | 24 | 36 |
| 24 | 36 | | 140 | 146 | 151 | 157 | 162 | | 3. 992 | 990 | 988 | 986 | 984 | | 010 | 012 | 014 | 016 | 018 | | 900 | 895 | 889 | 884 | 878 | 20 | 35 |
| 25 | 57. 40 | 9. 69 | 167 | 173 | 178 | 184 | 189 | 9. 93 | 982 | 980 | 978 | 976 | 974 | 0. 06 | 020 | 022 | 024 | 026 | 028 | 0. 30 | 873 | 867 | 862 | 856 | 851 | 16 | 34 |
| 26 | 44 | | 194 | 200 | 205 | 211 | 216 | | 974 | 972 | 970 | 968 | 966 | | 028 | 030 | 032 | 034 | 036 | | 851 | 845 | 840 | 834 | 829 | 12 | 33 |
| 27 | 48 | | 221 | 227 | 232 | 238 | 243 | | 966 | 964 | 962 | 960 | 958 | | 036 | 038 | 040 | 042 | 044 | | 829 | 823 | 818 | 812 | 807 | 8 | 32 |
| 28 | 52 | | 248 | 254 | 259 | 265 | 270 | | 958 | 956 | 954 | 952 | 950 | | 044 | 046 | 048 | 050 | 052 | | 807 | 801 | 796 | 790 | 785 | 4 | 31 |
| 29 | 56 | | 275 | 281 | 286 | 292 | 297 | | 950 | 948 | 946 | 944 | 942 | | 052 | 054 | 056 | 058 | 060 | | 785 | 779 | 774 | 768 | 763 | 0. 00 | 30 |
| 30 | 58. 00 | 9. 69 | 302 | 308 | 313 | 319 | 324 | 9. 93 | 940 | 938 | 936 | 934 | 932 | 0. 06 | 062 | 064 | 066 | 068 | 070 | 0. 30 | 757 | 752 | 746 | 741 | 735 | 60 | 29 |
| 31 | 4 | | 329 | 335 | 340 | 346 | 351 | | 932 | 930 | 928 | 926 | 924 | | 070 | 072 | 074 | 076 | 078 | | 735 | 730 | 724 | 719 | 713 | 56 | 28 |
| 32 | 8 | | 356 | 362 | 367 | 373 | 378 | | 924 | 922 | 920 | 918 | 916 | | 078 | 080 | 082 | 084 | 086 | | 713 | 708 | 702 | 697 | 691 | 52 | 27 |
| 33 | 12 | | 383 | 389 | 394 | 400 | 405 | | 916 | 914 | 912 | 910 | 908 | | 086 | 088 | 090 | 092 | 094 | | 691 | 686 | 680 | 675 | 669 | 48 | 26 |
| 34 | 16 | | 410 | 416 | 421 | 427 | 432 | | 908 | 906 | 904 | 902 | 900 | | 094 | 096 | 098 | 100 | 102 | | 669 | 664 | 658 | 653 | 647 | 44 | 25 |
| 35 | 58. 20 | 9. 69 | 438 | 443 | 449 | 454 | 460 | 9. 93 | 898 | 896 | 894 | 892 | 890 | 0. 06 | 104 | 106 | 108 | 110 | 112 | 0. 30 | 647 | 642 | 636 | 631 | 625 | 40 | 24 |
| 36 | 24 | | 465 | 471 | 476 | 482 | 487 | | 890 | 888 | 886 | 884 | 882 | | 112 | 114 | 116 | 118 | 120 | | 625 | 620 | 614 | 609 | 603 | 36 | 23 |
| 37 | 28 | | 492 | 498 | 503 | 509 | 514 | | 882 | 880 | 878 | 876 | 874 | | 120 | 122 | 124 | 126 | 128 | | 603 | 598 | 592 | 587 | 581 | 32 | 22 |
| 38 | 32 | | 519 | 525 | 530 | 536 | 541 | | 874 | 872 | 870 | 868 | 866 | | 128 | 130 | 132 | 134 | 136 | | 581 | 576 | 570 | 565 | 559 | 28 | 21 |
| 39 | 36 | | 546 | 552 | 557 | 563 | 568 | | 866 | 864 | 862 | 860 | 858 | | 136 | 138 | 140 | 142 | 144 | | 559 | 554 | 548 | 543 | 537 | 24 | 20 |
| 40 | 58. 40 | 9. 69 | 573 | 579 | 584 | 590 | 595 | 9. 93 | 856 | 854 | 852 | 850 | 848 | 0. 06 | 146 | 148 | 150 | 152 | 154 | 0. 30 | 537 | 532 | 526 | 521 | 515 | 20 | 19 |
| 41 | 44 | | 600 | 606 | 611 | 617 | 622 | | 846 | 844 | 842 | 840 | 838 | | 154 | 156 | 158 | 160 | 162 | | 515 | 510 | 504 | 499 | 493 | 16 | 18 |
| 42 | 48 | | 627 | 633 | 638 | 644 | 649 | | 838 | 836 | 834 | 832 | 830 | | 162 | 164 | 166 | 168 | 170 | | 493 | 488 | 482 | 477 | 471 | 12 | 17 |
| 43 | 52 | | 654 | 660 | 665 | 671 | 676 | | 830 | 828 | 826 | 824 | 822 | | 170 | 172 | 174 | 176 | 178 | | 471 | 466 | 460 | 455 | 449 | 8 | 16 |
| 44 | 56 | | 681 | 687 | 692 | 698 | 703 | | 822 | 820 | 818 | 816 | 814 | | 178 | 180 | 182 | 184 | 186 | | 449 | 444 | 438 | 433 | 427 | 4 | 15 |
| 45 | 59. 00 | 9. 69 | 708 | 714 | 719 | 725 | 730 | 9. 93 | 814 | 812 | 810 | 808 | 806 | 0. 06 | 186 | 188 | 190 | 192 | 194 | 0. 30 | 427 | 422 | 416 | 411 | 405 | 0. 00 | 14 |
| 46 | 4 | | 735 | 741 | 746 | 752 | 757 | | 806 | 804 | 802 | 800 | 798 | | 194 | 196 | 198 | 200 | 202 | | 405 | 400 | 394 | 389 | 383 | 56 | 13 |
| 47 | 8 | | 762 | 768 | 773 | 779 | 784 | | 798 | 796 | 794 | 792 | 790 | | 202 | 204 | 206 | 208 | 210 | | 383 | 378 | 372 | 367 | 361 | 52 | 12 |
| 48 | 12 | | 789 | 795 | 800 | 806 | 811 | | 790 | 788 | 786 | 784 | 782 | | 210 | 212 | 214 | 216 | 218 | | 361 | 356 | 350 | 345 | 339 | 48 | 11 |
| 49 | 16 | | 816 | 822 | 827 | 833 | 838 | | 782 | 780 | 778 | 776 | 774 | | 218 | 220 | 222 | 224 | 226 | | 339 | 334 | 328 | 323 | 317 | 44 | 10 |
| 50 | 59. 20 | 9. 69 | 843 | 849 | 854 | 860 | 865 | 9. 93 | 774 | 772 | 770 | 768 | 766 | 0. 06 | 226 | 228 | 230 | 232 | 234 | 0. 30 | 317 | 312 | 306 | 301 | 295 | 40 | 9 |
| 51 | 24 | | 870 | 876 | 881 | 887 | 892 | | 766 | 764 | 762 | 760 | 758 | | 234 | 236 | 238 | 240 | 242 | | 295 | 290 | 284 | 279 | 273 | 36 | 8 |
| 52 | 28 | | 897 | 903 | 908 | 914 | 919 | | 758 | 756 | 754 | 752 | 750 | | 242 | 244 | 246 | 248 | 250 | | 273 | 268 | 262 | 257 | 251 | 32 | 7 |
| 53 | 32 | | 924 | 930 | 935 | 941 | 946 | | 750 | 748 | 746 | 744 | 742 | | 250 | 252 | 254 | 256 | 258 | | 251 | 246 | 240 | 235 | 229 | 28 | 6 |
| 54 | 36 | | 951 | 957 | 962 | 968 | 973 | | 742 | 740 | 738 | 736 | 734 | | 258 | 260 | 262 | 264 | 266 | | 229 | 224 | 218 | 213 | 207 | 24 | 5 |
| 55 | 59. 40 | 9. 69 | 978 | 984 | 989 | 995 | 000 | 9. 93 | 734 | 732 | 730 | 728 | 726 | 0. 06 | 266 | 268 | 270 | 272 | 274 | 0. 30 | 207 | 202 | 196 | 191 | 185 | 20 | 4 |
| 56 | 44 | | 9. 70 | 011 | 016 | 022 | 027 | | 726 | 724 | 722 | 720 | 718 | | 274 | 276 | 278 | 280 | 282 | | 185 | 180 | 174 | 169 | 163 | 16 | 3 |
| 57 | 48 | | 038 | 043 | 049 | 054 | 060 | | 718 | 716 | 714 | 712 | 710 | | 282 | 284 | 286 | 288 | 290 | | 163 | 158 | 152 | 147 | 141 | 12 | 2 |
| 58 | 52 | | 065 | 071 | 076 | 082 | 087 | | 710 | 708 | 706 | 704 | 702 | | 290 | 292 | 294 | 296 | 298 | | 141 | 136 | 130 | 125 | 119 | 8 | 1 |
| 59 | 56 | | 092 | 098 | 103 | 109 | 114 | | 702 | 700 | 698 | 696 | 694 | | 298 | 300 | 302 | 304 | 306 | | 119 | 114 | 108 | 103 | 097 | 4 | 0 |
| | | 4″ | 3″ | 2″ | 1″ | 0″ | 4″ | 3″ | 2″ | 1″ | 0″ | 4″ | 3″ | 2″ | 1″ | 0″ | 4″ | 3″ | 2″ | 1″ | 0″ | m | s |
| | | 60″ | | | | | 60″ | 45″ | 30″ | 15″ | 0″ | 60″ | 45″ | 30″ | 15″ | 0″ | 60″ | 45″ | 30″ | 15″ | 0″ | 10h | 150° |
| | | Cosine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | 4h | 60° |
| | | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | | |

| | 1h | Verſed | | | | | Coverſed | | | | | Saverſed | | | | | Sucoverſed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7h | Coverſed | | | | | Suverſed | | | | | Sucoverſed | | | | | Verſed | | | | | | |
| | m s | 0″ 0° | 15″ 1′ | 30″ 2′ | 45″ 3′ | 60″ 4′ | 0″ 0° | 15″ 1′ | 30″ 2′ | 45″ 3′ | 60″ 4′ | 0″ 0′ | 15″ 1′ | 30″ 2′ | 45″ 3′ | 60″ 4′ | 0″ 0° | 15″ 1′ | 30″ 2′ | 45″ 3′ | 60″ 4′ | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |

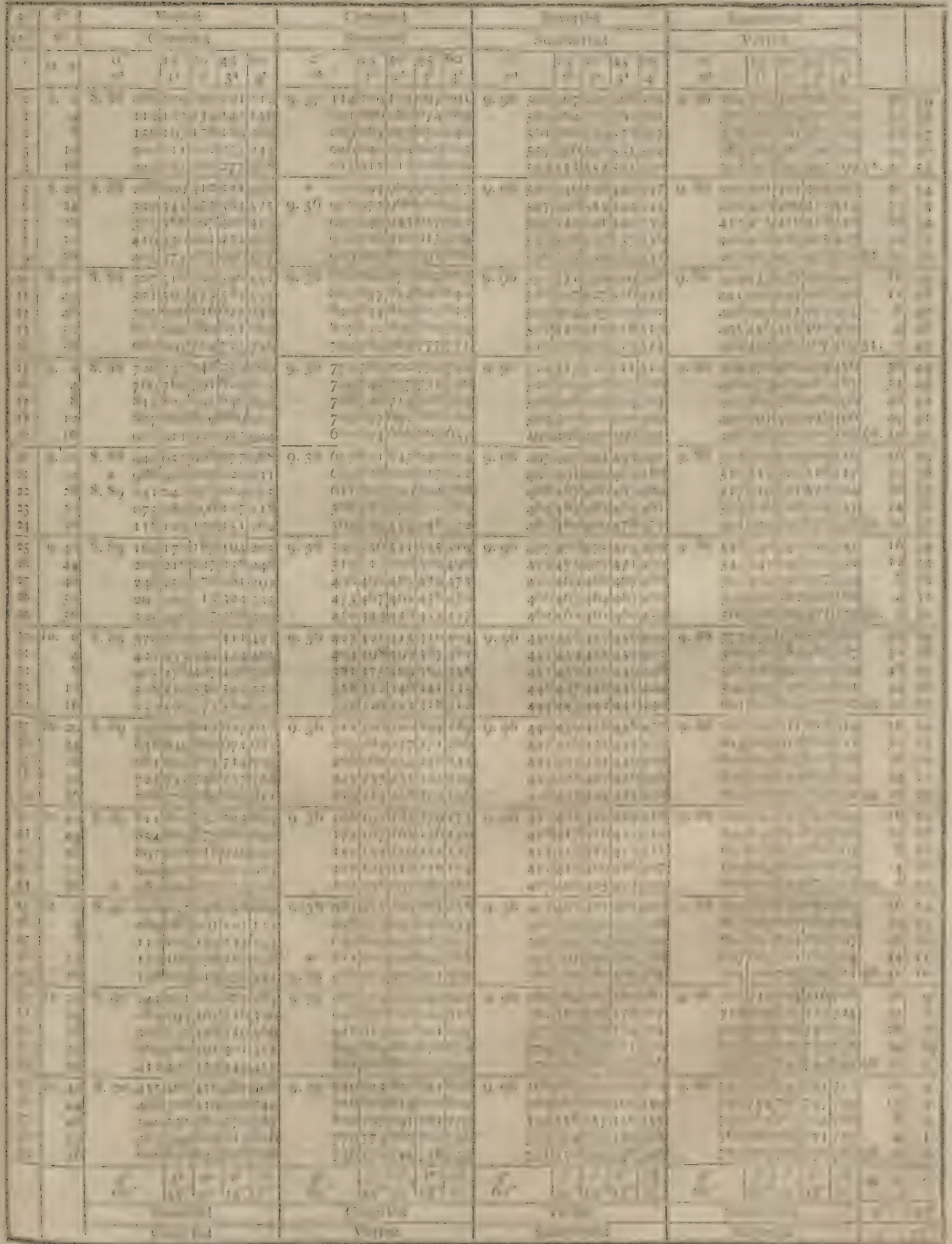
| 30° / 120° | 2h / 8h | Sine / Cosine | | | | | Cosine / Sine | | | | | Secant / Cosecant | | | | | Cosecant / Secant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | m s | 0″ 0° | 15″ 15° | 30″ 30° | 45″ 45° | 60″ 60° | 0″ 0° | 15″ 15° | 30″ 30° | 45″ 45° | 60″ 60° | 0″ 0° | 15″ 15° | 30″ 30° | 45″ 45° | 60″ 60° | 0″ 0° | 15″ 15° | 30″ 30° | 45″ 45° | 60″ 60° | | |
| 0 | 0 0 | 9·71 | | | | | 9·93 | | | | | 0·00 | | | | | 0·29 | | | | | | |
| 1 | 4 | | 919 | 924 | 930 | 935 | 941 | | 746 | 744 | 742 | 740 | 738 | | 254 | 256 | 258 | 260 | 262 | | 081 | 076 | 070 | 065 | 059 | | |
| 2 | 8 | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 12 | | 963 | 968 | 973 | 979 | 984 | | 731 | 729 | 728 | 726 | 724 | | 269 | 271 | 272 | 274 | 276 | | 037 | 032 | 027 | 021 | 016 | | |
| 4 | 16 | * | 984 | 990 | 995 | 001 | 006 | | 724 | 722 | 720 | 718 | 717 | | 276 | 278 | 280 | 282 | 283 | * | 016 | 010 | 005 | 999 | 994 | 59. 40 | 56 |
| 5 | | 9·72 | | | | | | | | | | | | | | | | | | | | | |
| 6 | 2 | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 3 | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 2. 4 | 9·72 | | | | | | | | | | | | | | | | | | | | | |
| 11 | 44 | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 48 | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 52 | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 56 | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 1. 0 | 9·73 | | | | | | | | | | | | | | | | | | | | | |
| 16 | 4 | | 245 | 251 | 256 | 261 | 267 | | 636 | 634 | 632 | 630 | 628 | | 304 | 306 | 308 | 310 | 312 | | 755 | 749 | 744 | 739 | 733 | | |
| 17 | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 12 | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 16 | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 1. 4 | 9·73 | | | | | | 9·93 | | | | | | 0·06 | | | | | | 0·29 | | | |
| 21 | 24 | | 353 | 359 | 364 | 369 | 375 | | 599 | 597 | 595 | 593 | 591 | | 401 | 403 | 405 | 407 | 409 | | 647 | 641 | 636 | 631 | 625 | 32 | 38 |
| 22 | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 32 | | | | | | | | | | | | | | | | | | | | | | |
| 24 | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 1. 4 | 9·73 | | | | | | 9·93 | | | | | | 0·06 | | | | | | 0·29 | | | |
| 26 | 48 | | | | | | | | | | | | | | | | | | | | | | |
| 27 | 52 | | | | | | | | | | | | | | | | | | | | | | |
| 28 | 56 | | 504 | 509 | 515 | 520 | 525 | | 547 | 545 | 543 | 541 | 539 | | 453 | 455 | 457 | 459 | 461 | | 496 | 491 | 485 | 480 | 475 | 4 | 31 |
| 29 | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 2. 0 | 9·73 | | | | | | 9·93 | | | | | | 0·06 | | | | | | 0·29 | | | |
| 31 | 4 | | | | | | | | | | | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | 12 | | | | | | | | | | | | | | | | | | | | | | |
| 34 | 16 | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 2. 4 | 9·73 | | | | | | 9·93 | | | | | | 0·06 | | | | | | 0·29 | | | |
| 36 | 28 | | | | | | | | | | | | | | | | | | | | | | |
| 37 | 32 | | | | | | | | | | | | | | | | | | | | | | |
| 38 | 36 | | | | | | | | | | | | | | | | | | | | | | |
| 39 | 40 | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 2. 4 | 9·73 | | | | | | 9·93 | | | | | | 0·06 | | | | | | 0·29 | | | |
| 41 | 4 | | | | | | | | | | | | | | | | | | | | | | |
| 42 | 8 | | | | | | | | | | | | | | | | | | | | | | |
| 43 | 12 | | | | | | | | | | | | | | | | | | | | | | |
| 44 | 16 | | | | | | | | | | | | | | | | | | | | | | |
| 45 | 3. 0 | 9·73 | | | | | | 9·93 | | | | | | 0·06 | | | | | | 0·29 | | | |
| 46 | 4 | | | | | | | | | | | | | | | | | | | | | | |
| 47 | 8 | | 909 | 915 | 920 | 925 | 931 | | 405 | 403 | 401 | 399 | 397 | | 595 | 597 | 599 | 601 | 603 | | 091 | 085 | 080 | 075 | 069 | 48 | 12 |
| 48 | 12 | | | | | | | | | | | | | | | | | | | | | | |
| 49 | 16 | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 3. 0 | 9·73 | | | | | | 9·93 | | | | | | 0·06 | | | | | | 0·29 | | | |
| 51 | 24 | | | | | | | | | | | | | | | | | | | | | | |
| 52 | 28 | 9·73 | | | | | | | | | | | | | | | | | | | | | |
| 53 | 32 | | | | | | | | | | | | | | | | | | | | | | |
| 54 | 36 | | | | | | | | | | | | | | | | | | | | | | |
| 55 | 3. 4 | 9·73 | | | | | | 9·93 | | | | | | 0·06 | | | | | | 0·29 | | | |
| 56 | 44 | | | | | | | | | | | | | | | | | | | | | | |
| 57 | 48 | | | | | | | | | | | | | | | | | | | | | | |
| 58 | 52 | | | | | | | | | | | | | | | | | | | | | | |
| 59 | 56 | | | | | | | | | | | | | | | | | | | | | | |
| | | 4″ 0° | | 45″ 45° | 30″ 30° | 15″ 15° | 0″ 0° | 4″ 60″ | | 45″ 45° | 30″ 30° | 15″ 15° | 0″ 0° | 4″ 60″ | | 45″ 45° | 30″ 30° | 15″ 15° | 0″ 0° | 4″ 60″ | | 45″ 45° | 30″ 30° | 15″ 15° | 0″ 0° | m s | |
| | | Sine / Cosine | | | | | Cosine / Sine | | | | | Secant / Cosecant | | | | | Cosecant / Secant | | | | | | |

| | | Verſed / Coverſed | | | | | Coverſed / Suverſed | | | | | Suverſed / Sucoverſed | | | | | Sucoverſed / Verſed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | m ″ | 0″ 0° | 15″ 1° | 30″ 2° | 45″ 3° | 60″ 4° | 0″ 0° | 15″ 1° | 30″ 2° | 45″ 3° | 60″ 4° | 0″ 0° | 15″ 1° | 30″ 2° | 45″ 3° | 60″ 4° | 0″ 0° | 15″ 1° | 30″ 2° | 45″ 3° | 60″ 4° | | |
| 0 | | 8.82 | 500 | 511 | 523 | 535 | 9.39 | 794 | 786 | 778 | 772 | 9.90 | | | | 9.96 | 9.87 | 500 | 506 | 513 | 519 | | 60 |
| 1 | | | 647 | 658 | 670 | 682 | | 772 | 765 | 757 | 750 | | 963 | 961 | 959 | | | 513 | 515 | 519 | | 52 | 59 |
| 2 | 8 | | 693 | 705 | 717 | 729 | 741 | 750 | 743 | 739 | 734 | 728 | 962 | 961 | 960 | 959 | 959 | 519 | 523 | 526 | 530 | | 48 | 57 |
| 3 | 12 | | 741 | 752 | 764 | 776 | 788 | 728 | 723 | 717 | 712 | 706 | 979 | 978 | 977 | 976 | 975 | 528 | 530 | 532 | 533 | 535 | 44 | 56 |
| 4 | 16 | | 788 | 799 | 811 | 823 | 835 | 726 | 721 | 715 | 710 | 704 | 974 | 973 | 972 | 972 | 972 | 538 | 539 | 541 | 543 | 545 | 40 | 55 |
| 5 | 20 | 8.82 | 835 | 841 | 858 | 870 | 882 | 9.39 | 684 | 677 | 674 | 668 | 663 | 9.96 | 971 | 971 | 971 | 971 | 9.87 | 549 | 550 | 552 | 554 | 556 | 36 | 54 |
| 6 | 24 | | 882 | 893 | 905 | 917 | 929 | | 663 | 657 | 652 | 646 | 641 | | 968 | 967 | 967 | 965 | | 559 | 561 | 563 | 565 | 567 | 32 | 53 |
| 7 | 28 | | 929 | 940 | 952 | 964 | 976 | | 641 | 635 | 630 | 624 | 619 | | 965 | 964 | 963 | 962 | 962 | 557 | 559 | 561 | 563 | 564 | 28 | 52 |
| 8 | 32 | | 976 | 987 | 999 | 011 | 022 | | 619 | 613 | 608 | 602 | 597 | | 962 | 961 | 960 | 959 | 958 | 564 | 566 | 568 | 570 | 572 | 24 | 51 |
| 9 | 36 | 8.83 | 022 | 034 | 046 | 057 | 069 | | 597 | 591 | 586 | 581 | 575 | | 958 | 957 | 956 | 955 | 955 | 573 | 575 | 577 | 579 | 581 | 20 | 50 |
| 10 | 40 | 8.83 | 069 | 081 | 093 | 104 | 116 | 9.39 | 575 | 569 | 564 | 558 | 553 | 9.96 | 955 | 954 | 953 | 952 | 951 | 9.87 | 583 | 585 | 587 | 589 | 591 | 16 | 49 |
| 11 | 44 | | 116 | 128 | 140 | 151 | 163 | | 553 | 547 | 542 | 536 | 531 | | 951 | 950 | 949 | 948 | 947 | | 593 | 595 | 597 | 599 | 601 | 12 | 48 |
| 12 | 48 | | 163 | 175 | 187 | 198 | 210 | | 531 | 525 | 520 | 514 | 509 | | 947 | 946 | 945 | 944 | 943 | | 603 | 605 | 607 | 609 | 611 | 8 | 47 |
| 13 | 52 | | 210 | 222 | 233 | 245 | 257 | | 509 | 503 | 498 | 492 | 487 | | 945 | 944 | 943 | 942 | 941 | | 613 | 615 | 617 | 619 | 621 | 4 | 46 |
| 14 | 56 | | 257 | 268 | 280 | 292 | 303 | | 487 | 481 | 476 | 471 | 465 | | 941 | 940 | 939 | 938 | 937 | | 623 | 625 | 627 | 629 | 631 | 0 | 45 |
| 15 | 1. 0 | 8.83 | 303 | 315 | 327 | 338 | 350 | 9.39 | 465 | 459 | 454 | 448 | 443 | 9.96 | 937 | 936 | 935 | 934 | 933 | 9.87 | 633 | 635 | 637 | 639 | 641 | 56 | 44 |
| 16 | 4 | | 350 | 362 | 373 | 385 | 397 | | 443 | 437 | 432 | 426 | 421 | | 934 | 933 | 933 | 932 | 931 | | 643 | 645 | 647 | 649 | 651 | 52 | 43 |
| 17 | 8 | | 397 | 408 | 420 | 432 | 443 | | 421 | 415 | 410 | 404 | 399 | | 931 | 930 | 929 | 928 | 927 | | 653 | 655 | 657 | 659 | 661 | 48 | 42 |
| 18 | 12 | | 443 | 455 | 467 | 478 | 490 | | 399 | 393 | 388 | 382 | 377 | | 927 | 927 | 926 | 925 | 924 | | 663 | 665 | 667 | 669 | 671 | 44 | 41 |
| 19 | 16 | | 490 | 502 | 513 | 525 | 537 | | 377 | 371 | 366 | 360 | 355 | | 924 | 923 | 922 | 921 | 920 | | 673 | 675 | 677 | 679 | 681 | 40 | 40 |
| 20 | 1. 20 | 8.83 | 537 | 548 | 560 | 572 | 583 | 9.39 | 355 | 349 | 344 | 338 | 333 | 9.96 | 920 | 919 | 918 | 917 | 917 | 9.87 | 683 | 685 | 687 | 689 | 691 | 36 | 39 |
| 21 | 24 | | 583 | 595 | 607 | 618 | 630 | | 333 | 327 | 322 | 316 | 311 | | 917 | 916 | 915 | 914 | 913 | | 693 | 695 | 697 | 699 | 701 | 32 | 38 |
| 22 | 28 | | 630 | 642 | 653 | 665 | 677 | | 311 | 305 | 300 | 294 | 289 | | 913 | 912 | 911 | 910 | 909 | | 703 | 705 | 707 | 709 | 711 | 28 | 37 |
| 23 | 32 | | 677 | 688 | 700 | 712 | 723 | | 289 | 283 | 278 | 272 | 267 | | 909 | 908 | 907 | 906 | 905 | | 713 | 715 | 717 | 719 | 721 | 24 | 36 |
| 24 | 36 | | 723 | 735 | 747 | 758 | 770 | | 267 | 261 | 256 | 250 | 245 | | 905 | 904 | 903 | 902 | 901 | | 723 | 725 | 727 | 729 | 731 | 20 | 35 |
| 25 | 1. 40 | 8.83 | 770 | 782 | 793 | 805 | 817 | 9.39 | 245 | 239 | 234 | 228 | 223 | 9.96 | 901 | 900 | 899 | 898 | 897 | 9.87 | 733 | 735 | 737 | 739 | 741 | 16 | 34 |
| 26 | 44 | | 817 | 828 | 840 | 852 | 863 | | 223 | 217 | 212 | 206 | 201 | | 897 | 896 | 895 | 894 | 893 | | 743 | 745 | 747 | 749 | 751 | 12 | 33 |
| 27 | 48 | | 862 | 874 | 885 | 897 | 909 | | 201 | 195 | 189 | 184 | 178 | | 893 | 892 | 891 | 890 | 889 | | 753 | 755 | 757 | 759 | 761 | 8 | 32 |
| 28 | 52 | | 909 | 920 | 932 | 943 | 955 | | 178 | 172 | 167 | 162 | 156 | | 889 | 888 | 887 | 886 | 885 | | 763 | 765 | 767 | 769 | 771 | 4 | 31 |
| 29 | 56 | | 955 | 967 | 978 | 990 | 002 | | 156 | 151 | 145 | 140 | 134 | | 885 | 884 | 883 | 882 | 881 | | 773 | 775 | 777 | 779 | 781 | 0 | 30 |
| 30 | 2. 0 | 8.84 | 002 | 013 | 025 | 037 | 048 | 9.39 | 134 | 128 | 123 | 117 | 112 | 9.96 | 881 | 880 | 879 | 878 | 877 | 9.87 | 783 | 785 | 787 | 789 | 791 | 56 | 29 |
| 31 | 4 | | 048 | 060 | 071 | 083 | 095 | | 112 | 106 | 101 | 095 | 090 | | 877 | 876 | 875 | 874 | 873 | | 793 | 795 | 797 | 799 | 801 | 52 | 28 |
| 32 | 8 | | 095 | 106 | 118 | 129 | 141 | | 090 | 084 | 079 | 073 | 068 | | 873 | 872 | 871 | 870 | 869 | | 803 | 805 | 807 | 809 | 811 | 48 | 27 |
| 33 | 12 | | 141 | 152 | 164 | 176 | 187 | | 068 | 062 | 057 | 051 | 046 | | 869 | 868 | 867 | 866 | 865 | | 813 | 815 | 817 | 819 | 821 | 44 | 26 |
| 34 | 16 | | 187 | 199 | 210 | 222 | 234 | | 046 | 040 | 035 | 029 | 024 | | 865 | 864 | 863 | 862 | 861 | | 823 | 825 | 827 | 829 | 831 | 40 | 25 |
| 35 | 2. 20 | 8.84 | 234 | 245 | 257 | 269 | 280 | 9.39 | 024 | 018 | 013 | 007 | 002 | 9.96 | 861 | 860 | 859 | 858 | 857 | 9.87 | 833 | 835 | 837 | 839 | 841 | 36 | 24 |
| 36 | 24 | | 280 | 292 | 303 | 315 | 327 | | 002 | 9.38 | 996 | 991 | 985 | | 857 | 856 | 855 | 854 | 853 | | 843 | 845 | 847 | 849 | 851 | 32 | 23 |
| 37 | 28 | | 327 | 338 | 350 | 362 | 373 | 9.38 | 985 | 980 | 974 | 969 | 963 | | 853 | 852 | 851 | 850 | 849 | | 853 | 855 | 857 | 859 | 861 | 28 | 22 |
| 38 | 32 | | 373 | 385 | 397 | 408 | 420 | | 963 | 958 | 952 | 947 | 941 | | 849 | 848 | 847 | 846 | 845 | | 863 | 865 | 867 | 869 | 871 | 24 | 21 |
| 39 | 36 | | 420 | 432 | 443 | 455 | 467 | | 941 | 936 | 930 | 925 | 919 | | 845 | 844 | 843 | 842 | 841 | | 873 | 875 | 877 | 879 | 881 | 20 | 20 |
| 40 | 40 | | 467 | 478 | 490 | 502 | 513 | | 919 | 914 | 908 | 903 | 897 | | 841 | 840 | 839 | 838 | 837 | | 883 | 885 | 887 | 889 | 891 | 16 | 19 |
| 41 | 44 | 8.84 | 513 | 525 | 537 | 548 | 560 | 9.38 | 897 | 891 | 885 | 880 | 874 | 9.96 | 848 | 847 | 847 | 846 | 845 | | 893 | 895 | 897 | 899 | 901 | 12 | 18 |
| 42 | 48 | | 560 | 572 | 583 | 595 | 607 | | 874 | 868 | 863 | 857 | 852 | | 845 | 844 | 843 | 842 | 841 | | 903 | 905 | 907 | 909 | 911 | 8 | 17 |
| 43 | 52 | | 607 | 618 | 630 | 642 | 653 | | 852 | 846 | 841 | 835 | 830 | | 841 | 841 | 840 | 839 | 838 | | 913 | 915 | 917 | 919 | 921 | 4 | 16 |
| 44 | 56 | | 653 | 665 | 677 | 688 | 700 | | 830 | 824 | 819 | 813 | 808 | | 838 | 837 | 836 | 835 | 834 | | 923 | 925 | 927 | 929 | 931 | 0 | 15 |
| 45 | 3. 0 | 8.84 | 700 | 712 | 723 | 735 | 747 | 9.38 | 808 | 802 | 796 | 791 | 785 | 9.96 | 834 | 834 | 833 | 832 | 831 | 9.87 | 932 | 934 | 935 | 937 | 939 | 56 | 14 |
| 46 | 4 | | 747 | 758 | 770 | 782 | 793 | | 785 | 780 | 774 | 769 | 763 | | 831 | 830 | 829 | 828 | 827 | | 939 | 941 | 943 | 944 | 946 | 52 | 13 |
| 47 | 8 | | 793 | 805 | 817 | 828 | 840 | | 763 | 757 | 752 | 746 | 741 | | 827 | 827 | 826 | 825 | 824 | | 946 | 948 | 950 | 952 | 953 | 48 | 12 |
| 48 | 12 | | 840 | 852 | 863 | 875 | 887 | | 741 | 735 | 730 | 724 | 718 | | 824 | 823 | 822 | 821 | 821 | | 953 | 955 | 957 | 959 | 961 | 44 | 11 |
| 49 | 16 | | 887 | 898 | 910 | 922 | 933 | | 718 | 713 | 707 | 702 | 696 | | 821 | 820 | 819 | 818 | 817 | | 961 | 962 | 964 | 966 | 968 | 40 | 10 |
| 50 | 3. 20 | 8.84 | 933 | 945 | 957 | 968 | 980 | 9.38 | 691 | 685 | 680 | 674 | 669 | 9.96 | 816 | 815 | 814 | 813 | 812 | | 970 | 972 | 973 | 975 | 977 | 36 | 9 |
| 51 | 24 | * | 969 | 980 | 992 | 003 | 015 | | 668 | 663 | 657 | 652 | 646 | | 814 | 813 | 812 | 811 | 810 | | 975 | 977 | 979 | 980 | 982 | 32 | 8 |
| 52 | 28 | 8 | | | | | | | | | | | | | | | | | | | | | |
| 53 | 32 | | | | | | | | | | | | | | | | | | | | | | |
| 54 | 36 | | | | | | | | | | | | | | | | | | | | | | |
| 55 | 40 | | | | | | | | | | | | | | | | | | | | | | |
| 56 | 44 | | | | | | | | | | | | | | | | | | | | | | |
| 57 | 48 | | | | | | | | | | | | | | | | | | | | | | |
| 58 | 52 | | | | | | | | | | | | | | | | | | | | | | |
| 59 | 56 | | | | | | | | | | | | | | | | | | | | | | |
| | | ′ | ″ | | | | ′ | ″ | | | | ′ | ″ | | | | ′ | ″ | | | | m ″ | |
| | | Suverſed / Coverſed | | | | | Coverſed / Verſed | | | | | Verſed / Sucoverſed | | | | | Sucoverſed / Suverſed | | | | | | 149 |

| 31′ | 2h | Sine | Cosine | Secant | Cosecant | | |
|---|---|---|---|---|---|---|---|
| 121′ | 8h | Cosine | Sine | Cosecant | Secant | | |
| ′ | m s | 0″ 15″ 30″ 45″ 60″ / 0s 1s 2s 3s 4s | 0″ 15″ 30″ 45″ 60″ / 0s 1s 2s 3s 4s | 0′ 15′ 30′ 45′ 60′ / 0s 1s 2s 3s 4s | 0′ 15′ 30′ 45′ 60′ / 0s 1s 2s 3s 4s | | |
| 0 | 4. 0 | 9.71 184 189 194 200 205 | 9.93 3 7 [illegible] 303 301 299 | 0.06 693 695 697 699 701 | 0.28 816 811 [illegible] 795 | 5′ | 59 |
| 1 | 4 | 205 210 215 221 226 | 299 297 295 293 291 | 701 703 705 707 709 | 795 790 785 779 774 | 52 | 58 |
| 2 | 8 | 226 231 236 242 247 | 291 289 288 286 284 | 709 711 712 714 716 | 774 769 763 758 753 | 48 | 57 |
| 3 | 12 | 247 252 257 263 268 | 284 282 280 278 276 | 716 718 720 722 724 | 753 748 743 737 732 | 44 | 56 |
| 4 | 16 | 268 273 278 284 289 | 276 274 272 270 268 | 724 726 728 730 731 | 732 727 722 716 711 | 55. 40 | 55 |
| 5 | 4. 20 | 9.71 289 294 299 305 310 | 9.93 266 264 262 260 258 | 0.06 731 733 735 737 739 | 0.28 711 706 701 695 690 | 3′ | 54 |
| 6 | 24 | 310 315 320 326 331 | 256 254 252 250 248 | 739 741 743 745 747 | 690 685 680 674 669 | 32 | 53 |
| 7 | 28 | 331 336 341 346 352 | 253 251 249 248 246 | 747 749 751 752 754 | 669 664 659 654 648 | 28 | 52 |
| 8 | 32 | 352 357 362 367 373 | 246 244 242 240 238 | 754 756 758 760 762 | 648 643 638 633 627 | 24 | 51 |
| 9 | 36 | 373 378 383 388 393 | 238 236 234 232 230 | 762 764 766 768 770 | 627 622 617 612 607 | 55. 20 | 50 |
| 10 | 4. 40 | 9.71 393 399 404 409 414 | 9.93 230 228 227 225 223 | 0.06 770 772 773 775 777 | 0.28 607 601 596 591 586 | 1′ | 49 |
| 11 | 44 | 414 419 425 430 435 | 223 221 219 217 215 | 777 779 781 783 785 | 586 581 575 570 565 | 1 | 48 |
| 12 | 48 | 435 440 446 451 456 | 215 213 211 209 207 | 785 787 789 791 793 | 565 560 554 549 544 | 3 | 47 |
| 13 | 52 | 456 461 467 472 477 | 207 205 204 202 200 | 793 794 796 798 800 | 544 539 533 528 523 | 4 | 46 |
| 14 | 56 | 477 482 487 493 498 | 200 198 196 194 192 | 800 802 804 806 808 | 523 518 513 507 502 | 55. 0 | 45 |
| 15 | 5. 0 | 9.71 498 503 508 513 519 | 9.93 192 190 188 186 184 | 0.06 808 810 812 814 816 | 0.28 502 497 492 487 481 | 5′ | 44 |
| 16 | 4 | 519 524 529 534 539 | 184 183 181 179 177 | 816 817 819 821 823 | 481 476 471 466 461 | 5 | 43 |
| 17 | 8 | 539 545 550 555 560 | 177 175 173 171 169 | 823 825 827 829 831 | 461 455 450 445 440 | 4 | 42 |
| 18 | 12 | 560 565 571 576 581 | 169 167 165 163 161 | 831 833 835 837 839 | 440 435 429 424 419 | 4 | 41 |
| 19 | 16 | 581 586 591 596 602 | 161 160 158 156 154 | 839 841 843 844 846 | 419 414 409 404 398 | 54. 4 | 40 |
| 20 | 5. 20 | 9.71 602 607 612 617 622 | 9.93 154 152 150 148 146 | 0.06 846 848 850 852 854 | 0.28 398 393 388 383 378 | 3′ | 39 |
| 21 | 24 | 622 628 633 638 643 | 146 144 142 140 138 | 854 856 858 860 862 | 378 372 367 362 357 | 3 | 38 |
| 22 | 28 | 643 648 654 659 664 | 138 136 135 133 131 | 862 864 865 867 869 | 357 352 346 341 336 | 2 | 37 |
| 23 | 32 | 664 669 674 679 685 | 131 129 127 125 123 | 869 871 873 875 877 | 336 331 326 321 315 | 2 | 36 |
| 24 | 36 | 685 690 695 700 705 | 123 121 119 117 115 | 877 879 881 883 885 | 315 310 305 300 295 | 54. 2 | 35 |
| 25 | 5. 40 | 9.71 705 710 716 721 726 | 9.93 115 113 111 109 108 | 0.06 885 887 889 891 892 | 0.28 295 290 284 279 274 | 1′ | 34 |
| 26 | 44 | 726 731 736 741 747 | 108 106 104 102 100 | 892 894 896 898 900 | 274 269 264 259 253 | 1 | 33 |
| 27 | 48 | 747 752 757 762 767 | 100 098 096 094 092 | 900 902 904 906 908 | 253 248 243 238 233 | 0 | 32 |
| 28 | 52 | 767 772 778 783 788 | 092 090 088 086 084 | 908 910 912 914 916 | 233 228 222 217 212 | 4 | 31 |
| 29 | 56 | 788 793 798 803 808 | 084 082 080 078 077 | 916 918 920 921 923 | 212 207 202 197 191 | 54. 0 | 30 |
| 30 | 6. 0 | 9.71 808 814 819 824 829 | 9.93 077 075 073 071 069 | 0.06 923 925 927 929 931 | 0.28 191 186 181 176 171 | 5′ | 29 |
| 31 | 4 | 829 834 839 845 850 | 069 067 065 063 061 | 931 933 935 937 939 | 171 166 161 155 150 | 5 | 28 |
| 32 | 8 | 850 855 860 866 871 | 061 059 057 055 053 | 939 941 943 945 947 | 150 145 140 135 130 | 4 | 27 |
| 33 | 12 | 870 875 881 886 891 | 053 051 049 048 046 | 947 949 951 952 954 | 130 125 119 114 109 | 44 | 26 |
| 34 | 16 | 891 896 901 906 911 | 046 044 042 040 038 | 954 956 958 960 962 | 109 104 099 094 089 | 53. 40 | 25 |
| 35 | 6. 20 | 9.71 911 917 922 927 932 | 9.93 038 036 034 032 030 | 0.06 962 964 966 968 970 | 0.28 089 083 078 073 068 | 3′ | 24 |
| 36 | 24 | 932 937 942 947 952 | 030 028 026 024 022 | 970 972 974 976 978 | 068 063 058 053 048 | 3 | 23 |
| 37 | 28 | 952 958 963 968 973 | 022 020 018 016 014 | 978 980 982 984 986 | 048 042 037 032 027 | 2 | 22 |
| 38 | 32 | 973 978 983 988 993 | 014 012 011 009 007 | 986 987 989 991 993 | 027 022 017 012 007 | 2 | 21 |
| 39 | 36 | 993 998 003 008 014 | 007 005 003 001 999 | 993 995 997 999 001 | 007 002 997 992 987 | 53. 20 | 20 |
| 40 | 6. 40 | 9.72 014 019 024 029 034 | 9.92 999 997 995 993 991 | 0.07 001 003 005 007 009 | 0.27 987 981 976 971 966 | 1′ | 19 |
| 41 | 44 | 034 039 044 049 055 | 991 989 987 985 983 | 009 011 013 015 017 | 966 960 955 950 945 | 1 | 18 |
| 42 | 48 | 055 060 065 070 075 | 983 981 979 977 976 | 017 019 021 023 024 | 945 940 935 930 925 | 0 | 17 |
| 43 | 52 | 075 080 086 091 096 | 976 974 972 970 968 | 024 026 028 030 032 | 925 920 914 909 904 | 4 | 16 |
| 44 | 56 | 096 101 106 111 116 | 968 966 964 962 960 | 032 034 036 038 040 | 904 899 894 888 883 | 53. 0 | 15 |
| 45 | 7. 0 | 9.72 116 121 126 131 137 | 9.92 960 958 956 954 952 | 0.07 040 042 044 046 048 | 0.27 883 878 873 868 863 | 5′ | 14 |
| 46 | 4 | 137 142 147 153 158 | 952 950 948 946 944 | 048 050 052 054 056 | 863 858 853 848 843 | 5 | 13 |
| 47 | 8 | 158 163 168 174 179 | 944 942 940 938 936 | 056 058 060 062 064 | 843 838 833 828 823 | 4 | 12 |
| 48 | 12 | 179 184 189 195 200 | 936 934 932 930 928 | 064 066 068 070 071 | 823 817 812 807 802 | 4 | 11 |
| 49 | 16 | 200 205 211 216 221 | 928 926 924 922 920 | 071 073 075 077 079 | 802 797 792 787 782 | 52. 40 | 10 |
| 50 | 7. 20 | 9.72 221 226 232 237 242 | 9.92 920 918 916 914 912 | 0.07 079 081 083 085 087 | 0.27 782 777 772 767 762 | 0′ | 9 |
| 51 | 24 | 242 248 253 258 263 | 912 910 908 906 904 | 087 089 091 093 095 | 762 757 752 747 742 | 0 | 8 |
| 52 | 28 | 263 269 274 279 284 | 904 902 900 898 896 | 095 097 099 101 103 | 742 737 732 727 721 | 0 | 7 |
| 53 | 32 | 284 290 295 300 305 | 896 894 892 890 888 | 103 105 107 109 111 | 721 716 711 706 701 | 0 | 6 |
| 54 | 36 | 305 310 315 321 326 | 888 886 884 882 880 | 111 113 115 117 119 | 701 696 691 686 681 | 52. 0 | 5 |
| 55 | 7. 40 | 9.72 326 331 337 342 347 | 9.92 880 878 876 874 872 | 0.07 119 121 123 124 126 | 0.27 681 676 670 665 660 | 1′ | 4 |
| 56 | 44 | 347 353 358 363 368 | 872 870 868 866 864 | 126 128 130 132 134 | 660 655 650 645 640 | 1 | 3 |
| 57 | 48 | 368 374 379 384 389 | 864 862 860 858 856 | 134 136 138 140 142 | 640 635 630 625 619 | 0 | 2 |
| 58 | 52 | 389 395 400 405 411 | 856 854 852 850 848 | 142 144 146 148 150 | 619 614 609 604 599 | 0 | 1 |
| 59 | 56 | 411 416 421 427 432 | 848 846 844 842 840 | 150 152 154 156 158 | 599 594 589 584 579 | 51. 0 | 0 |
| | | 4″ 3″ 2″ 1″ 0″ / 60″ 45″ 30″ 15″ 0″ | 4″ 3″ 2″ 1″ 0″ / 60″ 45″ 30″ 15″ 0″ | 4″ 3″ 2″ 1″ 0″ / 60″ 45″ 30″ 15″ 0″ | 4″ 3″ 2″ 1″ 0″ / 60″ 45″ 30″ 15″ 0″ | m s | ′ |
| | | Sine / Cosine | Cosine / Sine | Secant / Cosecant | Cosecant / Secant | 0′ | 14″ |
| | | | | | | 3″ | 0″ |

| 11′ | 2h | Versed | | | | | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11° | 8h | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | Versed | | | | | | |
| ′ | m s | ° | 15′ | 30′ | 45′ | 60′ | ° | 15′ | 30′ | 45′ | 60′ | ° | 15′ | 30′ | 45′ | 60′ | ° | 15′ | 30′ | 45′ | 60′ | | |
| | | ° | 1° | 2° | 3° | 4° | ° | 1° | 2° | 3° | 4° | ° | 1° | 2° | 3° | 4° | ° | 1° | 2° | 3° | 4° | | |
| 0 | 4. 0 | 8.85 | 386 | 391 | 403 | 414 | 425 | 9.38 | 468 | 462 | 457 | 451 | 445 | 9.96 | 782 | 781 | 778 | 776 | 774 | 9.87 | 952 | 941 | 934 | 926 | 920 | | |
| 1 | 4 | | 425 | 437 | 448 | 459 | 471 | | 445 | 440 | 434 | 429 | 423 | | 779 | 777 | 775 | 773 | 772 | | 947 | 941 | 935 | 932 | 930 | 54 | 53 |
| 2 | 8 | | 471 | 482 | 494 | 505 | 516 | | 423 | 418 | 412 | 407 | 401 | | 775 | 774 | 773 | 772 | 771 | | 956 | 955 | 953 | 951 | 951 | 51 | 53 |
| 3 | 12 | | 516 | 528 | 539 | 550 | 562 | | 401 | 395 | 390 | 384 | 378 | | 772 | 771 | 770 | 770 | 770 | | 968 | 970 | 971 | 973 | 975 | 48 | 53 |
| 4 | 16 | | 562 | 573 | 584 | 596 | 607 | | 378 | 373 | 367 | 362 | 356 | | 768 | 767 | 766 | 765 | 765 | | 968 | 970 | 971 | 973 | 975 | 44 | 53 |
| 5 | 4. 20 | 8.85 | 607 | 619 | 630 | 641 | 653 | 9.38 | 356 | 350 | 345 | 339 | 334 | 9.96 | 765 | 764 | 763 | 762 | 761 | 9.87 | 975 | 977 | 979 | 981 | 983 | 41 | 53 |
| 6 | 24 | | 653 | 664 | 675 | 687 | 698 | | 334 | 328 | 322 | 317 | 311 | | 761 | 760 | 759 | 758 | 758 | | 983 | 985 | 987 | 989 | 991 | 38 | 53 |
| 7 | 28 | | 698 | 709 | 721 | 732 | 743 | | 311 | 305 | 300 | 294 | 289 | | 758 | 757 | 756 | 755 | 754 | | 989 | 991 | 993 | 995 | 997 | 35 | 52 |
| 8 | 32 | | 743 | 755 | 766 | 777 | 789 | | 289 | 283 | 278 | 272 | 266 | | 754 | 753 | 752 | 751 | 750 | | 994 | 996 | 998 | 000 | 002 | 31 | 51 |
| 9 | 36 | | 789 | 800 | 811 | 823 | 834 | | 266 | 261 | 255 | 250 | 244 | | 750 | 750 | 749 | 748 | 747 | 9.88 | 004 | 007 | 009 | 011 | 013 | 28 | 50 |
| 10 | 4. 40 | 8.85 | 834 | 845 | 857 | 868 | 879 | 9.38 | 244 | 238 | 233 | 227 | 222 | 9.96 | 747 | 746 | 745 | 744 | 743 | 9.88 | 015 | 017 | 019 | 021 | 023 | 25 | 49 |
| 11 | 44 | | 879 | 891 | 902 | 913 | 925 | | 222 | 216 | 211 | 205 | 199 | | 743 | 743 | 742 | 741 | 740 | | 025 | 028 | 030 | 032 | 034 | 22 | 48 |
| 12 | 48 | | 925 | 936 | 947 | 958 | 970 | | 199 | 194 | 188 | 182 | 177 | | 740 | 739 | 738 | 737 | 736 | | 036 | 037 | 039 | 041 | 043 | 19 | 47 |
| 13 | 52 | * | 970 | 981 | 992 | 004 | 015 | | 177 | 171 | 166 | 160 | 154 | | 736 | 735 | 735 | 734 | 733 | | 045 | 047 | 049 | 051 | 053 | 16 | 46 |
| 14 | 56 | 8.86 | 015 | 026 | 038 | 049 | 060 | | 154 | 149 | 143 | 138 | 132 | | 733 | 733 | 732 | 732 | 731 | | 055 | 057 | 059 | 101 | 103 | 13 | 45 |
| 15 | 5. 0 | 8.86 | 060 | 071 | 083 | 094 | 105 | 9.38 | 132 | 126 | 121 | 115 | 110 | 9.96 | 729 | 728 | 728 | 727 | 727 | 9.88 | 105 | 107 | 109 | 111 | 113 | 10 | 44 |
| 16 | 4 | | 105 | 117 | 128 | 139 | 150 | | 110 | 104 | 098 | 093 | 087 | | 726 | 725 | 724 | 723 | 722 | | 053 | 055 | 057 | 059 | 061 | 52 | 43 |
| 17 | 8 | | 150 | 162 | 173 | 184 | 196 | | 087 | 081 | 076 | 070 | 065 | | 722 | 721 | 720 | 720 | 719 | | 061 | 062 | 064 | 066 | 068 | 48 | 42 |
| 18 | 12 | | 196 | 207 | 218 | 229 | 241 | | 065 | 059 | 053 | 048 | 042 | | 719 | 718 | 717 | 716 | 715 | | 068 | 069 | 071 | 073 | 075 | 44 | 41 |
| 19 | 16 | | 241 | 252 | 263 | 274 | 286 | | 042 | 037 | 031 | 025 | 020 | | 715 | 714 | 713 | 713 | 712 | | 075 | 077 | 079 | 081 | 083 | 41 | 40 |
| 20 | 5. 20 | 8.86 | 286 | 297 | 308 | 320 | 331 | * | 020 | 014 | 008 | 003 | 997 | 9.96 | 712 | 711 | 710 | 709 | 708 | 9.88 | 082 | 084 | 086 | 088 | 090 | 36 | 39 |
| 21 | 24 | | 331 | 342 | 353 | 364 | 376 | 9.37 | 997 | 991 | 986 | 980 | 975 | | 708 | 707 | 706 | 705 | 705 | | 089 | 091 | 093 | 094 | 096 | 33 | 38 |
| 22 | 28 | | 376 | 387 | 398 | 410 | 421 | | 975 | 969 | 963 | 958 | 952 | | 705 | 704 | 703 | 702 | 701 | | 096 | 098 | 100 | 101 | 103 | 28 | 37 |
| 23 | 32 | | 421 | 432 | 443 | 454 | 466 | | 952 | 946 | 941 | 935 | 930 | | 701 | 700 | 699 | 698 | 697 | | 103 | 105 | 107 | 108 | 110 | 24 | 36 |
| 24 | 36 | | 466 | 477 | 488 | 499 | 511 | | 930 | 924 | 918 | 913 | 907 | | 697 | 697 | 696 | 695 | 695 | | 110 | 112 | 114 | 116 | 117 | 54. 20 | 35 |
| 25 | 5. 40 | 8.86 | 511 | 522 | 533 | 544 | 556 | 9.37 | 901 | 896 | 890 | 885 | | 9.96 | 694 | 693 | 692 | 691 | | 9.88 | 117 | 119 | 121 | 123 | 124 | 16 | 34 |
| 26 | 44 | | 556 | 567 | 578 | 589 | 600 | | 885 | 879 | 873 | 868 | 862 | | 690 | 689 | 689 | 688 | 687 | | 124 | 126 | 128 | 130 | 131 | 12 | 33 |
| 27 | 48 | | 600 | 612 | 623 | 634 | 645 | | 862 | 856 | 851 | 845 | 840 | | 687 | 686 | 685 | 684 | 683 | | 131 | 133 | 135 | 137 | 139 | 8 | 32 |
| 28 | 52 | | 645 | 656 | 668 | 679 | 690 | | 840 | 834 | 828 | 823 | 817 | | 683 | 682 | 681 | 681 | 680 | | 139 | 142 | 144 | 146 | 148 | 4 | 31 |
| 29 | 56 | | 690 | 701 | 713 | 724 | 735 | | 817 | 811 | 806 | 800 | 794 | | 680 | 679 | 678 | 677 | 676 | | 148 | 151 | 153 | 155 | 157 | 54. 0 | 30 |
| 30 | 6. 0 | 8.86 | 735 | 746 | 757 | 768 | 780 | 9.37 | 794 | 789 | 783 | 778 | 772 | 9.96 | 676 | 675 | 674 | 673 | 673 | 9.88 | 159 | 201 | 203 | 205 | 207 | 52 | 29 |
| 31 | 4 | | 780 | 791 | 802 | 813 | 824 | | 772 | 766 | 761 | 755 | 749 | | 673 | 672 | 671 | 670 | 669 | | 209 | 211 | 213 | 215 | 217 | 48 | 28 |
| 32 | 8 | | 824 | 836 | 847 | 858 | 869 | | 749 | 744 | 738 | 732 | 727 | | 669 | 668 | 667 | 666 | 665 | | 217 | 219 | 221 | 223 | 224 | 44 | 27 |
| 33 | 12 | | 869 | 880 | 892 | 903 | 914 | | 727 | 721 | 716 | 710 | 704 | | 665 | 665 | 664 | 663 | 662 | | 224 | 226 | 228 | 230 | 232 | 40 | 26 |
| 34 | 16 | | 914 | 925 | 936 | 947 | 959 | | 704 | 699 | 693 | 687 | 682 | | 662 | 661 | 660 | 659 | 658 | | 232 | 234 | 236 | 238 | 240 | 53. 36 | 25 |
| 35 | 6. 20 | * | 959 | 970 | 981 | 992 | 003 | 9.37 | 682 | 676 | 670 | 665 | 659 | 9.96 | 658 | 657 | 656 | 656 | 655 | 9.88 | 242 | 244 | 246 | 248 | 250 | 32 | 24 |
| 36 | 24 | 8.87 | 003 | 014 | 026 | 037 | 048 | | 659 | 653 | 648 | 642 | 636 | | 655 | 654 | 653 | 652 | 651 | | 252 | 254 | 256 | 258 | 260 | 28 | 23 |
| 37 | 28 | | 048 | 059 | 070 | 081 | 092 | | 636 | 631 | 625 | 619 | 614 | | 651 | 650 | 649 | 648 | 648 | | 262 | 264 | 266 | 268 | 270 | 24 | 22 |
| 38 | 32 | | 092 | 104 | 115 | 126 | 137 | | 614 | 608 | 602 | 597 | 591 | | 648 | 647 | 646 | 645 | 644 | | 272 | 274 | 276 | 278 | 280 | 20 | 21 |
| 39 | 36 | | 137 | 148 | 159 | 170 | 182 | | 591 | 585 | 580 | 574 | 568 | | 644 | 643 | 642 | 641 | 640 | | 282 | 284 | 286 | 288 | 290 | 53. 16 | 20 |
| 40 | 6. 40 | 8.87 | 182 | 193 | 204 | 215 | 226 | 9.37 | 568 | 563 | 557 | 552 | 546 | 9.96 | 640 | 639 | 639 | 638 | 637 | 9.88 | 293 | 295 | 297 | 299 | 301 | 16 | 19 |
| 41 | 44 | | 226 | 237 | 248 | 259 | 271 | | 546 | 540 | 535 | 529 | 523 | | 637 | 636 | 635 | 634 | 633 | | 303 | 305 | 307 | 309 | 311 | 12 | 18 |
| 42 | 48 | | 271 | 282 | 293 | 304 | 315 | | 523 | 518 | 512 | 506 | 501 | | 633 | 632 | 631 | 630 | 630 | | 313 | 315 | 317 | 319 | 321 | 8 | 17 |
| 43 | 52 | | 315 | 326 | 337 | 348 | 359 | | 501 | 495 | 489 | 484 | 478 | | 630 | 629 | 628 | 627 | 626 | | 323 | 325 | 327 | 329 | 331 | 4 | 16 |
| 44 | 56 | | 359 | 371 | 382 | 393 | 404 | | 478 | 472 | 467 | 461 | 455 | | 626 | 625 | 624 | 623 | 622 | | 333 | 335 | 337 | 339 | 341 | 53. 0 | 15 |
| 45 | 7. 0 | 8.87 | 404 | 415 | 427 | 438 | 449 | 9.37 | 455 | 450 | 444 | 438 | 433 | 9.96 | 622 | 621 | 621 | 620 | 619 | 9.88 | 343 | 345 | 347 | 349 | 351 | 52 | 14 |
| 46 | 4 | | 448 | 460 | 471 | 482 | 493 | | 433 | 427 | 421 | 416 | 410 | | 619 | 618 | 617 | 616 | 615 | | 353 | 355 | 357 | 359 | 361 | 48 | 13 |
| 47 | 8 | | 493 | 504 | 515 | 526 | 537 | | 410 | 404 | 399 | 393 | 387 | | 615 | 614 | 613 | 613 | 612 | | 363 | 365 | 367 | 369 | 371 | 44 | 12 |
| 48 | 12 | | 537 | 548 | 559 | 570 | 582 | | 387 | 381 | 376 | 370 | 364 | | 612 | 611 | 610 | 610 | 609 | | 373 | 375 | 377 | 379 | 381 | 40 | 11 |
| 49 | 16 | | 582 | 593 | 604 | 615 | 626 | | 364 | 358 | 353 | 347 | 341 | | 609 | 608 | 607 | 607 | 606 | | 383 | 385 | 387 | 389 | 391 | 53. 36 | 10 |
| 50 | 7. 20 | 8.87 | 626 | 637 | 648 | 659 | 670 | 9.37 | 341 | 335 | 330 | 324 | 318 | 9.96 | 606 | 605 | 604 | 604 | 603 | 9.88 | 393 | 395 | 397 | 399 | 401 | 32 | 9 |
| 51 | 24 | | 670 | 681 | 692 | 703 | 714 | | 318 | 312 | 307 | 301 | 295 | | 603 | 602 | 601 | 601 | 600 | | 403 | 405 | 407 | 409 | 411 | 28 | 8 |
| 52 | 28 | | 714 | 725 | 736 | 747 | 758 | | 295 | 289 | 284 | 278 | 273 | | 600 | 599 | 598 | 597 | 597 | | 413 | 415 | 417 | 419 | 421 | 24 | 7 |
| 53 | 32 | | 758 | 769 | 780 | 791 | 802 | | 273 | 267 | 261 | 256 | 250 | | 597 | 596 | 595 | 595 | 594 | | 423 | 425 | 427 | 429 | 431 | 20 | 6 |
| 54 | 36 | | 802 | 813 | 824 | 835 | 846 | | 250 | 244 | 239 | 233 | 228 | | 594 | 593 | 593 | 592 | 592 | | 433 | 435 | 437 | 439 | 441 | 53. 16 | 5 |
| 55 | 7. 40 | 8.87 | 846 | 857 | 868 | 879 | 890 | 9.37 | 228 | 222 | 217 | 211 | 205 | 9.96 | 590 | 589 | 588 | 587 | 586 | 9.88 | 443 | 445 | 447 | 449 | 451 | 16 | 4 |
| 56 | 44 | | 890 | 901 | 912 | 923 | 934 | | 205 | 199 | 194 | 188 | 182 | | 586 | 585 | 584 | 583 | 582 | | 453 | 455 | 457 | 459 | 461 | 12 | 3 |
| 57 | 48 | | 934 | 946 | 957 | 968 | 979 | | 182 | 176 | 171 | 165 | 160 | | 579 | 578 | 577 | 576 | 576 | | 343 | 345 | 346 | 348 | 350 | 8 | 2 |
| 58 | 52 | * | 979 | 990 | 001 | 013 | 024 | | 160 | 154 | 148 | 143 | 137 | | 576 | 575 | 574 | 573 | 572 | | 350 | 352 | 353 | 355 | 357 | 4 | 1 |
| 59 | 56 | 8.88 | 024 | 035 | 046 | 057 | 068 | | 137 | 131 | 126 | 120 | 114 | | 572 | 571 | 570 | 569 | 568 | | 357 | 359 | 401 | 402 | 404 | 53. 0 | 0 |
| | | ″ | 45″ | 30″ | 15′ | 0″ | ″ | 45″ | 30″ | 15′ | 0″ | ″ | 45″ | 30″ | 15′ | 0″ | ″ | 45″ | 30″ | 15′ | 0″ | m s | |
| | | Suversed | | | | | Coversed | | | | | Versed | | | | | Sucoversed | | | | | ° | 14° |
| | | Coversed | | | | | Versed | | | | | Sucoversed | | | | | Suversed | | | | | ′ | 11′ |

| 32° | 2h | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 122° | 8m | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | | |
| ′ | m s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | | |
| 0 | 8. | 9. 72 | 422 | 427 | 431 | 436 | 441 | 9. 92 | 84 | | | | 0. 07 | 16 | 16 | 16 | 16 | 16 | 0. 27 | 576 | 574 | 572 | 570 | 569 | |
| 1 | 4 | | 441 | 446 | 451 | 456 | 461 | | 79 | | | | | 17 | 17 | 17 | 17 | 17 | | 569 | 567 | 565 | 564 | 562 | |
| 2 | 8 | | 461 | 466 | 471 | 477 | 482 | | 74 | | | | | 17 | 17 | 18 | 18 | 18 | | 562 | 560 | 558 | 556 | 554 | |
| 3 | 12 | | 481 | 487 | 492 | 497 | 502 | | 69 | | | | | 18 | 18 | 18 | 18 | 19 | | 555 | 553 | 551 | 549 | 547 | |
| 4 | 16 | | 502 | 507 | 512 | 517 | 522 | | 64 | | | | | 19 | 19 | 19 | 19 | 19 | | 549 | 547 | 545 | 543 | 541 | 51. 42 |
| 5 | 20 | 9. 72 | 522 | 527 | 532 | 537 | 542 | 9. 92 | 59 | | | | 0. 07 | 19 | 19 | 19 | 20 | 20 | 0. 27 | 543 | 541 | 539 | 537 | 535 | |
| 6 | 24 | | 542 | 547 | 552 | 557 | 562 | | 54 | | | | | 20 | 20 | 21 | 21 | 21 | | 537 | 535 | 533 | 531 | 529 | |
| 7 | 28 | | 562 | 567 | 572 | 577 | 582 | | 49 | | | | | 21 | 21 | 22 | 22 | 22 | | 531 | 529 | 527 | 525 | 523 | |
| 8 | 32 | | 582 | 587 | 592 | 597 | 602 | | 44 | | | | | 22 | 22 | 23 | 23 | 23 | | 525 | 523 | 521 | 519 | 517 | |
| 9 | 36 | | 602 | 607 | 612 | 617 | 622 | | 39 | | | | | 23 | 23 | 24 | 24 | 24 | | 519 | 517 | 515 | 513 | 511 | 51. 24 |
| 10 | 8. 40 | 9. 72 | 622 | 627 | 633 | 638 | 643 | 9. 92 | 703 | 701 | 699 | 697 | 695 | 0. 07 | 237 | 239 | 241 | 243 | 245 | 0. 27 | 513 | 511 | 509 | 507 | 505 | |
| 11 | 44 | | 643 | 648 | 653 | 658 | 663 | | 755 | 753 | 751 | 749 | 747 | | 245 | 247 | 249 | 251 | 253 | | 357 | 352 | 347 | 342 | 337 | |
| 12 | 48 | | 663 | 668 | 673 | 678 | 683 | | 747 | 745 | 743 | 741 | 739 | | 255 | 257 | 259 | 261 | 263 | | 337 | 332 | 327 | 322 | 317 | |
| 13 | 52 | | 683 | 688 | 693 | 698 | 703 | | 739 | 737 | 735 | 733 | 731 | | 261 | 263 | 265 | 267 | 269 | | 317 | 312 | 307 | 302 | 297 | |
| 14 | 56 | | 703 | 708 | 713 | 718 | 723 | | 731 | 729 | 727 | 725 | 723 | | 271 | 273 | 275 | 277 | 279 | | 297 | 292 | 287 | 282 | 277 | 50. 77 |
| 15 | 9. | 9. 72 | 723 | 728 | 733 | 738 | 743 | 9. 92 | 723 | 721 | 719 | 717 | 715 | 0. 07 | 277 | 279 | 281 | 283 | 285 | 0. 27 | 277 | 272 | 267 | 262 | 257 | |
| 16 | 4 | | 743 | 748 | 753 | 758 | 763 | | 715 | 713 | 711 | 709 | 707 | | 285 | 287 | 289 | 291 | 293 | | 257 | 252 | 247 | 242 | 237 | |
| 17 | 8 | | 763 | 768 | 773 | 778 | 783 | | 707 | 705 | 703 | 701 | 699 | | 293 | 295 | 297 | 299 | 301 | | 237 | 232 | 227 | 222 | 217 | |
| 18 | 12 | | 783 | 788 | 793 | 798 | 803 | | 699 | 697 | 695 | 693 | 691 | | 301 | 303 | 305 | 307 | 309 | | 217 | 212 | 207 | 202 | 197 | |
| 19 | 16 | | 803 | 808 | 813 | 818 | 823 | | 691 | 689 | 687 | 685 | 683 | | 309 | 311 | 313 | 315 | 317 | | 197 | 192 | 187 | 182 | 177 | 50. 17 |
| 20 | 9. 20 | 9. 72 | 823 | 828 | 833 | 838 | 843 | 9. 92 | 683 | 681 | 679 | 677 | 675 | 0. 07 | 317 | 319 | 321 | 323 | 325 | 0. 27 | 177 | 172 | 167 | 162 | 157 | |
| 21 | 24 | | 843 | 848 | 853 | 858 | 863 | | 675 | 673 | 671 | 669 | 667 | | 325 | 327 | 329 | 331 | 333 | | 157 | 152 | 147 | 142 | 137 | |
| 22 | 28 | | 863 | 868 | 873 | 878 | 883 | | 667 | 665 | 663 | 661 | 659 | | 333 | 335 | 337 | 339 | 341 | | 137 | 132 | 127 | 122 | 117 | |
| 23 | 32 | | 883 | 888 | 893 | 898 | 903 | | 659 | 657 | 655 | 653 | 651 | | 341 | 343 | 345 | 347 | 349 | | 117 | 112 | 107 | 102 | 097 | |
| 24 | 36 | | 903 | 908 | 913 | 918 | 923 | | 651 | 649 | 647 | 645 | 643 | | 349 | 351 | 353 | 355 | 357 | | 097 | 092 | 087 | 082 | 077 | 49. 72 |
| 25 | 9. | 9. 72 | 923 | 928 | 933 | 938 | 943 | 9. 92 | 643 | 641 | 639 | 637 | 635 | 0. 07 | 357 | 359 | 361 | 363 | 365 | 0. 27 | 077 | 072 | 067 | 062 | 057 | |
| 26 | 4 | | 943 | 948 | 953 | 958 | 963 | | 635 | 633 | 631 | 629 | 627 | | 365 | 367 | 369 | 371 | 373 | | 057 | 052 | 047 | 042 | 037 | |
| 27 | 8 | | 963 | 968 | 973 | 978 | 983 | | 627 | 625 | 623 | 621 | 619 | | 373 | 375 | 377 | 379 | 381 | | 037 | 032 | 027 | 022 | 017 | |
| 28 | 12 | | 983 | 988 | 993 | 998 | 003 | | 619 | 617 | 615 | 613 | 611 | | 381 | 383 | 385 | 387 | 389 | | 017 | 012 | 007 | 002 | 9. 97 | |
| 29 | 16 | 9. 73 | 003 | 008 | 013 | 018 | 023 | 9. 92 | 611 | 609 | 607 | 605 | 603 | 0. 07 | 389 | 391 | 393 | 395 | 397 | 0. 26 | 997 | 992 | 987 | 982 | 977 | |
| 30 | 20 | | 023 | 028 | 033 | 038 | 043 | | 603 | 601 | 599 | 597 | 595 | | 397 | 399 | 401 | 403 | 405 | | 977 | 972 | 967 | 962 | 957 | |
| 31 | 4 | | 043 | 048 | 053 | 058 | 063 | | 595 | 593 | 591 | 589 | 587 | | 405 | 407 | 409 | 411 | 413 | | 959 | 954 | 949 | 944 | 939 | 52 48 |
| 32 | 8 | | 063 | 068 | 073 | 078 | 083 | | 587 | 585 | 583 | 581 | 579 | | 413 | 415 | 417 | 419 | 421 | | 939 | 934 | 929 | 924 | 919 | 27 |
| 33 | 12 | | 083 | 088 | 093 | 098 | 103 | | 579 | 577 | 575 | 573 | 571 | | 421 | 423 | 425 | 427 | 429 | | 919 | 914 | 909 | 904 | 899 | 44 |
| 34 | 16 | | 103 | 108 | 113 | 118 | 123 | | 571 | 569 | 567 | 565 | 563 | | 429 | 431 | 433 | 435 | 437 | | 899 | 894 | 889 | 884 | 879 | 10 |
| 35 | 20 | 9. 73 | 123 | 128 | 133 | 138 | 143 | 9. 92 | 563 | 561 | 559 | 557 | 555 | 0. 07 | 437 | 439 | 441 | 443 | 445 | 0. 26 | 879 | 874 | 869 | 864 | 859 | 33 |
| 36 | 24 | | 140 | 145 | 150 | 155 | 160 | | 555 | 553 | 551 | 548 | 546 | | 445 | 447 | 449 | 452 | 454 | | 860 | 855 | 850 | 845 | 840 | 23 |
| 37 | 28 | | 160 | 165 | 170 | 175 | 180 | | 546 | 544 | 542 | 540 | 538 | | 454 | 456 | 458 | 460 | 462 | | 840 | 835 | 830 | 825 | 820 | 22 |
| 38 | 32 | | 180 | 185 | 190 | 195 | 200 | | 538 | 536 | 534 | 532 | 530 | | 462 | 464 | 466 | 468 | 470 | | 820 | 815 | 810 | 805 | 801 | 21 |
| 39 | 36 | | 200 | 205 | 210 | 215 | 220 | | 530 | 528 | 526 | 524 | 522 | | 470 | 472 | 474 | 476 | 478 | | 801 | 796 | 791 | 786 | 781 | 20 |
| 40 | 40 | 9. 73 | 220 | 225 | 230 | 235 | 240 | 9. 92 | 522 | 520 | 518 | 516 | 514 | 0. 07 | 478 | 480 | 482 | 484 | 486 | 0. 26 | 781 | 776 | 771 | 766 | 761 | 1 |
| 41 | 44 | | 240 | 245 | 250 | 255 | 260 | | 514 | 512 | 510 | 508 | 506 | | 486 | 488 | 490 | 492 | 494 | | 761 | 756 | 751 | 746 | 741 | 1 |
| 42 | 48 | | 259 | 264 | 269 | 273 | 278 | | 506 | 504 | 502 | 500 | 498 | | 494 | 496 | 498 | 500 | 502 | | 741 | 736 | 731 | 727 | 722 | |
| 43 | 52 | | 278 | 283 | 288 | 293 | 298 | | 498 | 496 | 494 | 492 | 490 | | 502 | 504 | 506 | 508 | 510 | | 722 | 717 | 712 | 707 | 702 | |
| 44 | 56 | | 298 | 303 | 308 | 313 | 318 | | 490 | 488 | 486 | 484 | 482 | | 510 | 512 | 514 | 516 | 518 | | 702 | 697 | 692 | 687 | 682 | 0 |
| 45 | 10. | 9. 73 | 318 | 323 | 328 | 333 | 338 | 9. 92 | 482 | 480 | 478 | 476 | 473 | 0. 07 | 518 | 520 | 522 | 524 | 526 | 0. 26 | 682 | 677 | 672 | 667 | 662 | 19 |
| 46 | 4 | | 338 | 343 | 348 | 353 | 358 | | 473 | 471 | 469 | 467 | 465 | | 526 | 528 | 530 | 532 | 534 | | 662 | 657 | 652 | 647 | 642 | 18 |
| 47 | 8 | | 358 | 363 | 368 | 373 | 378 | | 465 | 463 | 461 | 459 | 457 | | 534 | 536 | 538 | 540 | 542 | | 642 | 637 | 632 | 627 | 622 | 17 |
| 48 | 12 | | 377 | 381 | 386 | 391 | 396 | | 457 | 455 | 453 | 451 | 449 | | 543 | 545 | 547 | 549 | 551 | | 623 | 619 | 614 | 609 | 604 | 44 16 |
| 49 | 16 | | 396 | 401 | 406 | 411 | 416 | | 449 | 447 | 445 | 443 | 441 | | 551 | 553 | 555 | 557 | 559 | | 604 | 599 | 594 | 589 | 584 | 8. 40 |
| 50 | 11 20 | 9. 73 | 416 | 421 | 426 | 430 | 435 | 9. 92 | 441 | 439 | 437 | 435 | 433 | 0. 07 | 559 | 561 | 563 | 565 | 567 | 0. 26 | 584 | 579 | 574 | 570 | 565 | 15 |
| 51 | 24 | | 435 | 440 | 445 | 450 | 454 | | 433 | 431 | 429 | 427 | 425 | | 567 | 569 | 571 | 573 | 575 | | 565 | 560 | 555 | 551 | 546 | 14 |
| 52 | 28 | | 454 | 459 | 464 | 469 | 474 | | 425 | 423 | 421 | 419 | 417 | | 575 | 577 | 579 | 581 | 583 | | 546 | 541 | 536 | 532 | 527 | 13 |
| 53 | 32 | | 474 | 479 | 484 | 489 | 494 | | 417 | 415 | 413 | 411 | 409 | | 583 | 585 | 587 | 589 | 591 | | 527 | 522 | 517 | 513 | 508 | 12 |
| 54 | 36 | | 494 | 499 | 504 | 509 | 514 | | 409 | 407 | 405 | 403 | 401 | | 591 | 593 | 595 | 597 | 599 | | 508 | 503 | 498 | 494 | 489 | 11 |
| 55 | 40 | | 514 | 519 | 524 | 529 | 534 | | 401 | 399 | 397 | 395 | 393 | | 599 | 601 | 603 | 605 | 607 | | 489 | 484 | 479 | 475 | 470 | 10 |
| 56 | 44 | 9. 73 | 534 | 539 | 544 | 549 | 554 | 9. 92 | 393 | 391 | 389 | 387 | 385 | 0. 07 | 607 | 609 | 611 | 613 | 615 | 0. 26 | 470 | 465 | 460 | 456 | 451 | 9 |
| 57 | 48 | | 554 | 559 | 564 | 569 | 574 | | 385 | 383 | 381 | 379 | 377 | | 615 | 617 | 619 | 621 | 623 | | 451 | 446 | 441 | 437 | 432 | 8 |
| 58 | 52 | | 574 | 579 | 584 | 589 | 594 | | 377 | 375 | 373 | 371 | 369 | | 623 | 625 | 627 | 629 | 631 | | 432 | 427 | 422 | 418 | 413 | 7 |
| 59 | 56 | | 594 | 599 | 604 | 609 | 614 | | 369 | 367 | 365 | 363 | 361 | | 631 | 633 | 635 | 637 | 639 | | 413 | 408 | 403 | 399 | 394 | 6 |
| | | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0″ | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0″ | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0″ | 4″ 60″ | 3″ 45″ | 2″ 30″ | 1″ 15″ | 0″ 0″ | m | |
| | | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | 3′ | 17′ |
| | | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | | |



| ′ | m | ″ | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | | | 0° | 1° | 2° | 3° | 4° | 0° | 1° | 2° | 3° | 4° | 0° | 1° | 2° | 3° | 4° | 0° | 1° | 2° | 3° | 4° | | |
| 0 | 12. 0 | | 9. 73 | 611 | 616 | 621 | 625 | 630 | 9. 92 | 359 | 357 | 355 | 353 | 351 | 0. 07 | 641 | 643 | 645 | 647 | 649 | 0. 26 | 380 | 384 | 370 | 375 | 37 | | |
| 1 | 4 | | | | | | | | | 351 | 349 | 347 | 345 | 343 | | | | | | | | | | | | |
| 2 | 8 | | | | | | | | | 343 | 341 | 339 | 337 | 335 | | | | | | | | | | | | |
| 3 | 12 | | | 669 | 674 | 679 | 684 | 689 | | 335 | 332 | 330 | 328 | 326 | | 665 | 668 | 670 | 672 | 674 | | 331 | 326 | 321 | 316 | 311 | | 44 | 56 |
| 4 | 16 | | | 680 | 685 | 690 | 695 | 700 | | 326 | 324 | 322 | 320 | 318 | | 674 | 676 | 678 | 680 | 682 | | 311 | 307 | 302 | 297 | 293 | 47. 12 | | 55 |
| 5 | 12. 20 | | 9. 73 | 711 | 716 | 721 | 726 | 731 | 9. 92 | 318 | 316 | 314 | 312 | 310 | 0. 07 | 684 | 686 | 688 | 690 | 692 | 0. 26 | 293 | 287 | 282 | 277 | 273 | | 54 | |
| 6 | 24 | | | | | | | | | 310 | 308 | 306 | 304 | 302 | | 694 | 696 | 698 | 700 | 702 | | 273 | 268 | 263 | 259 | 254 | | 51 | 53 |
| 7 | 28 | | | | | | | | | 302 | 300 | 298 | 296 | 294 | | 704 | 706 | 708 | 710 | 712 | | 254 | 249 | 245 | 240 | 236 | | 48 | 52 |
| 8 | 32 | | | 766 | 771 | 776 | 781 | 785 | | 293 | 291 | 289 | 287 | 285 | | 707 | 709 | 711 | 713 | 715 | | 234 | 229 | 224 | 219 | 215 | | 24 | 51 |
| 9 | 36 | | | 785 | 790 | 795 | 800 | 805 | | 285 | 283 | 281 | 279 | 277 | | 715 | 717 | 719 | 721 | 723 | | 215 | 210 | 206 | 201 | 197 | 47. 36 | | 50 |
| 10 | 12. 40 | | 9. 73 | 824 | 829 | 834 | 839 | 843 | 9. 92 | 277 | 275 | 273 | 271 | 269 | 0. 07 | 725 | 727 | 729 | 731 | 733 | 0. 26 | 197 | 192 | 187 | 182 | 178 | | 12 | 49 |
| 11 | 44 | | | 843 | 848 | 853 | 858 | 863 | | 269 | 267 | 264 | 262 | 260 | | 731 | 733 | 736 | 738 | 740 | | 178 | 171 | 166 | 161 | 157 | | 8 | 48 |
| 12 | 48 | | | 863 | 868 | 873 | 878 | 883 | | 260 | 258 | 256 | 254 | 252 | | 740 | 742 | 744 | 746 | 748 | | 157 | 152 | 147 | 142 | 137 | | 4 | 47 |
| 13 | 52 | | | 882 | 887 | 892 | 897 | 902 | | 252 | 250 | 248 | 246 | 244 | | 748 | 750 | 752 | 754 | 756 | | 137 | 132 | 128 | 123 | 118 | | 47 | |
| 14 | 56 | | | 901 | 906 | 911 | 916 | 921 | | 244 | 242 | 240 | 238 | 236 | | 756 | 758 | 760 | 762 | 765 | | 118 | 113 | 108 | 104 | 099 | 47. 0 | | 45 |
| 15 | 13. 0 | | 9. 73 | 901 | 906 | 911 | 916 | 921 | 9. 92 | 235 | 233 | 231 | 229 | 227 | 0. 07 | 765 | 767 | 769 | 771 | 773 | 0. 26 | 099 | 094 | 089 | 084 | 079 | | 56 | 44 |
| 16 | 4 | | | 921 | 925 | 930 | 935 | 940 | | 227 | 225 | 223 | 221 | 219 | | 773 | 775 | 777 | 779 | 781 | | 079 | 075 | 070 | 065 | 060 | | 52 | 43 |
| 17 | 8 | | | 940 | 945 | 949 | 954 | 959 | | 219 | 217 | 215 | 213 | 211 | | 781 | 783 | 785 | 787 | 789 | | 060 | 055 | 051 | 046 | 041 | | 48 | 42 |
| 18 | 12 | | | 959 | 964 | 969 | 973 | 978 | | 211 | 209 | 206 | 204 | 202 | | 789 | 791 | 794 | 796 | 798 | | 041 | 036 | 031 | 027 | 022 | | 44 | 41 |
| 19 | 16 | | | 978 | 983 | 988 | 993 | 998 | | 202 | 200 | 198 | 196 | 194 | | 798 | 800 | 802 | 804 | 806 | | 022 | 017 | 012 | 007 | 003 | 46. 40 | | 40 |
| 20 | 13. 20 | | 9. 73 | 997 | 002 | 007 | 012 | 017 | 9. 92 | 194 | 192 | 190 | 188 | 186 | 0. 07 | 806 | 808 | 810 | 812 | 814 | * | 003 | 998 | 993 | 988 | 983 | | 36 | 39 |
| 21 | 24 | | 9. 74 | 017 | 021 | 026 | 031 | 036 | | 186 | 184 | 182 | 179 | 177 | | 814 | 816 | 818 | 821 | 823 | 0. 25 | 983 | 979 | 974 | 969 | 964 | | 32 | 38 |
| 22 | 28 | | | | | | | | | 177 | 175 | 173 | 171 | 169 | | 823 | 825 | 827 | 829 | 831 | | 964 | 959 | 955 | 950 | 945 | | 28 | 37 |
| 23 | 32 | | | 055 | 060 | 065 | 069 | 074 | | 169 | 167 | 165 | 163 | 161 | | 831 | 833 | 835 | 837 | 839 | | 945 | 940 | 935 | 931 | 926 | | 24 | 36 |
| 24 | 36 | | | | | | | | | 161 | 159 | 157 | 155 | 154 | | 839 | 841 | 843 | 846 | 848 | | 926 | 921 | 916 | 911 | 907 | 46. 20 | | 35 |
| 25 | 13. 40 | | 9. 74 | | | | | | 9. 92 | 152 | 150 | 148 | 146 | 144 | 0. 07 | | | | | | 0. 25 | | | | | | | 16 | 34 |
| 26 | 44 | | | | | | | | | 144 | 142 | 140 | 138 | 136 | | | | | | | | | | | | | | 12 | 33 |
| 27 | 48 | | | | | | | | | 136 | 134 | 132 | 130 | 128 | | | | | | | | | | | | | | 8 | 32 |
| 28 | 52 | | | | | | | | | 127 | 125 | 123 | 121 | 119 | | | | | | | | | | | | | | 4 | 31 |
| 29 | 56 | | | | | | | | | 119 | 117 | 115 | 113 | 111 | | | | | | | | | | | | | 46. 0 | | 30 |
| 30 | 14. 0 | | 9. 74 | | | | | | 9. 92 | | | | | | 0. 07 | | | | | | 0. 25 | | | | | | | 56 | 29 |
| 31 | 4 | | | 208 | 213 | 218 | 222 | 227 | | 102 | 100 | 098 | 096 | 094 | | 898 | 900 | 902 | 904 | 906 | | 792 | 787 | 782 | 778 | 773 | | 52 | 28 |
| 32 | 8 | | | | | | | | | 094 | 092 | 090 | 088 | 086 | | 906 | 908 | 910 | 912 | 914 | | 773 | 768 | 763 | 759 | 754 | | 48 | 27 |
| 33 | 12 | | | 246 | 251 | 256 | 260 | 265 | | 086 | 083 | 081 | 079 | 077 | | 914 | 917 | 919 | 921 | 923 | | 754 | 749 | 744 | 740 | 735 | | 44 | 26 |
| 34 | 16 | | | | | | | | | 077 | 075 | 073 | 071 | 069 | | 923 | 925 | 927 | 929 | 931 | | 735 | 730 | 725 | 721 | 716 | 45. 44 | | 25 |
| 35 | 14. 20 | | 9. 74 | 284 | 289 | 294 | 299 | 303 | 9. 92 | 069 | 067 | 065 | 062 | 060 | 0. 07 | 931 | 933 | 935 | 938 | 940 | 0. 25 | 716 | 711 | 706 | 702 | 697 | | 52 | 24 |
| 36 | 24 | | | 303 | 308 | 313 | 318 | 322 | | 060 | 058 | 056 | 054 | 052 | | 940 | 942 | 944 | 946 | 948 | | 697 | 692 | 687 | 683 | 678 | | 48 | 23 |
| 37 | 28 | | | 322 | 327 | 332 | 337 | 341 | | 052 | 050 | 048 | 046 | 044 | | 948 | 950 | 952 | 954 | 956 | | 678 | 673 | 668 | 664 | 659 | | 44 | 22 |
| 38 | 32 | | | 341 | 346 | 351 | 356 | 360 | | 044 | 042 | 039 | 037 | 035 | | 956 | 958 | 961 | 963 | 965 | | 659 | 654 | 649 | 645 | 640 | | 40 | 21 |
| 39 | 36 | | | | | | | | | 035 | 033 | 031 | 029 | 027 | | 965 | 967 | 969 | 971 | 973 | | 640 | 635 | 631 | 626 | 621 | 45. 15 | | 20 |
| 40 | 14. 40 | | 9. 74 | | | | | | | | | 025 | 023 | 020 | 018 | 0. 07 | 973 | 975 | 977 | 980 | 982 | 0. 25 | | | | | | | 16 | 19 |
| 41 | 44 | | | | | | | | | | | 016 | 014 | 012 | 010 | | 982 | 984 | 986 | 988 | 990 | | | | | | | | 12 | 18 |
| 42 | 48 | | | | | | | | | | | 008 | 006 | 004 | 002 | | 990 | 992 | 994 | 996 | 998 | | | | | | | | 8 | 17 |
| 43 | 52 | | | 436 | 441 | 446 | 450 | 455 | * | 002 | 999 | 997 | 995 | 993 | * | 998 | 001 | 003 | 005 | 007 | | | | | | | | 4 | 16 |
| 44 | 56 | | | 455 | 460 | 464 | 469 | 474 | 9. 91 | 993 | 991 | 989 | 987 | 985 | 0. 08 | 007 | 009 | 011 | 013 | 015 | | | | | | | 45. 0 | | 15 |
| 45 | 15. 0 | | 9. 74 | 474 | 479 | 483 | 488 | 493 | 9. 91 | 985 | 983 | 980 | 978 | 976 | 0. 08 | 015 | 017 | 020 | 022 | 024 | 0. 25 | | | | | | | 56 | 14 |
| 46 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | 52 | 13 |
| 47 | 8 | | | 512 | 516 | 521 | 526 | 531 | | 968 | 966 | 964 | 961 | 959 | | 032 | 034 | 036 | 039 | 041 | | | | | | | | 48 | 12 |
| 48 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | 44 | 11 |
| 49 | 16 | | | | | | | | | 951 | 949 | 947 | 944 | 942 | | 049 | 051 | 053 | 056 | 058 | | | | | | | 44. 40 | | 10 |
| 50 | 15. 20 | | 9. 74 | 563 | 568 | 573 | 578 | 582 | 9. 91 | 942 | 940 | 938 | 936 | 934 | 0. 08 | 058 | 060 | 062 | 064 | 066 | 0. 25 | | | | | | | 40 | 9 |
| 51 | 24 | | | 587 | 592 | 597 | 601 | 606 | | 934 | 932 | 930 | 928 | 925 | | 066 | 068 | 070 | 072 | 075 | | 413 | 408 | 403 | 399 | 394 | | 32 | 8 |
| 52 | 28 | | | 606 | 611 | 615 | 620 | 625 | | 925 | 923 | 921 | 919 | 917 | | 075 | 077 | 079 | 081 | 083 | | 394 | 389 | 385 | 380 | 375 | | 28 | 7 |
| 53 | 32 | | | 625 | 629 | 634 | 639 | 644 | | 917 | 915 | 913 | 911 | 908 | | 083 | 085 | 087 | 089 | 092 | | 375 | 371 | 366 | 361 | 356 | | 24 | 6 |
| 54 | 36 | | | 644 | 648 | 653 | 658 | 662 | | 908 | 906 | 904 | 902 | 900 | | 092 | 094 | 096 | 098 | 100 | | 356 | 351 | 347 | 342 | 337 | 44 | | 5 |
| 55 | 15. 40 | | 9. 74 | 662 | 667 | 672 | 676 | 681 | 9. 91 | 900 | 898 | 896 | 894 | 891 | 0. 08 | 100 | 102 | 104 | 106 | 109 | 0. 25 | | | | | | | 20 | 4 |
| 56 | 44 | | | 681 | 686 | 691 | 695 | 700 | | 891 | 889 | 887 | 885 | 883 | | 109 | 111 | 113 | 115 | 117 | | | | | | | | 16 | 3 |
| 57 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 | 2 |
| 58 | 52 | | | 719 | 723 | 728 | 733 | 737 | | 874 | 872 | 870 | 868 | 866 | | 126 | 128 | 130 | 132 | 134 | | | | | | | | 8 | 1 |
| 59 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 0 |
| | | | | 5″ | 3″ | 1″ | 0″ | | | 5″ | 3″ | 1″ | 0″ | | | 4″ | 3″ | 2″ | 1″ | 0″ | | 4″ | 3″ | 2″ | 1″ | 0″ | | | |
| | | | | 15″ | | 15″ | 0″ | | | 15″ | | 15″ | 0″ | | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | | |
| | | | | Sine | | | | | | Cosine | | | | | | Secant | | | | | | Cosecant | | | | | | | |
| | | | | Cosine | | | | | | Sine | | | | | | Cosecant | | | | | | Secant | | | | | | | |

Versed
Coversed

| ′ | m | s | 0″ | 15″ | 30″ | 45″ | 60″ |
|---|---|---|---|---|---|---|---|
| | | | 0s | 1s | 2s | 3s | 4s |
| 0 | 12. 0 | 8.90 | 677 | 727 | 771 | 715 | 711 |
| 1 | 4 | | 711 | 717 | 741 | 745 | 754 |
| 2 | 8 | | 754 | 774 | 775 | 787 | 797 |
| 3 | 12 | | 796 | 807 | 817 | 828 | 839 |
| 4 | 16 | | 839 | 849 | 860 | 871 | 881 |
| 5 | 12. 20 | 8.90 | 881 | 892 | 903 | 913 | 924 |
| 6 | 24 | | 924 | 934 | 945 | 956 | 966 |
| 7 | 28 | | 966 | 977 | 988 | 998 | 009 |
| 8 | 32 | 8.91 | 009 | 019 | 030 | 041 | 051 |
| 9 | 36 | | 051 | 062 | 072 | 083 | 094 |
| 10 | 12. 40 | 8.91 | 094 | 104 | 115 | 126 | 136 |
| 11 | 44 | | 136 | 147 | 157 | 168 | 179 |
| 12 | 48 | | 179 | 189 | 200 | 211 | 221 |
| 13 | 52 | | 221 | 232 | 242 | 253 | 263 |
| 14 | 56 | | 263 | 274 | 285 | 295 | 306 |
| 15 | 13. 0 | 8.91 | 306 | 317 | 327 | 338 | 348 |
| 16 | 4 | | 348 | 359 | 369 | 380 | 391 |
| 17 | 8 | | 391 | 401 | 412 | 422 | 433 |
| 18 | 12 | | 433 | 444 | 454 | 465 | 475 |
| 19 | 16 | | 475 | 486 | 496 | 507 | 517 |
| 20 | 13. 20 | 8.91 | 517 | 528 | 538 | 549 | 559 |
| 21 | 24 | | 559 | 570 | 580 | 591 | 601 |
| 22 | 28 | | 601 | 612 | 622 | 633 | 643 |
| 23 | 32 | | 643 | 654 | 664 | 675 | 685 |
| 24 | 36 | | 685 | 696 | 706 | 717 | 728 |
| 25 | 13. 40 | 8.91 | 728 | 738 | 749 | 759 | 770 |
| 26 | 44 | | 770 | 781 | 791 | 802 | 812 |
| 27 | 48 | | 812 | 823 | 833 | 843 | 854 |
| 28 | 52 | | 854 | 865 | 875 | 886 | 896 |
| 29 | 56 | | 896 | 907 | 917 | 927 | 938 |
| 30 | 14. 0 | 8.91 | 938 | 948 | 959 | 969 | 980 |
| 31 | 4 | | 980 | 990 | 001 | 011 | 022 |
| 32 | 8 | 8.92 | 022 | 032 | 043 | 053 | 063 |
| 33 | 12 | | 063 | 074 | 084 | 095 | 105 |
| 34 | 16 | | 105 | 116 | 126 | 137 | 147 |
| 35 | 14. 20 | 8.92 | 147 | 158 | 168 | 179 | 189 |
| 36 | 24 | | 189 | 200 | 210 | 221 | 231 |
| 37 | 28 | | 231 | 241 | 252 | 262 | 273 |
| 38 | 32 | | 273 | 283 | 294 | 304 | 315 |
| 39 | 36 | | 315 | 325 | 336 | 346 | 356 |
| 40 | 14. 40 | 8.92 | 356 | 367 | 377 | 388 | 398 |
| 41 | 44 | | 398 | 408 | 419 | 429 | 440 |
| 42 | 48 | | 440 | 450 | 461 | 471 | 481 |
| 43 | 52 | | 481 | 492 | 502 | 513 | 523 |
| 44 | 56 | | 523 | 534 | 544 | 554 | 565 |
| 45 | 15. 0 | 8.92 | 565 | 575 | 586 | 596 | 606 |
| 46 | 4 | | 606 | 617 | 627 | 638 | 648 |
| 47 | 8 | | 648 | 659 | 669 | 680 | 690 |
| 48 | 12 | | 690 | 701 | 711 | 721 | 732 |
| 49 | 16 | | 732 | 742 | 753 | 763 | 773 |
| 50 | 15. 20 | 8.92 | 773 | 784 | 794 | 804 | 814 |
| 51 | 24 | | 814 | 825 | 835 | 845 | 856 |
| 52 | 28 | | 856 | 866 | 877 | 887 | 897 |
| 53 | 32 | | 897 | 908 | 918 | 928 | 939 |
| 54 | 36 | | 939 | 949 | 959 | 970 | 980 |
| 55 | 15. 40 | 8.92 | 980 | 990 | 001 | 011 | 021 |
| 56 | 44 | | 021 | 031 | 042 | 052 | 062 |
| 57 | 48 | 8.93 | 062 | 073 | 083 | 093 | 103 |
| 58 | 52 | | 103 | 114 | 124 | 134 | 144 |
| 59 | 56 | | 144 | 155 | 165 | 175 | 185 |
| | | | 0″ | 15″ | 30″ | 45″ | 60″ |
| | | | 0s | 1s | 2s | 3s | 4s |

Coversed
Versed

| ′ | m | s | 0″ | 15″ | 30″ | 45″ | 60″ |
|---|---|---|---|---|---|---|---|
| | | | 0s | 1s | 2s | 3s | 4s |
| 0 | 12. 0 | 9.35 | 733 | 727 | 721 | 715 | 709 |
| 1 | 4 | | 709 | 703 | 698 | 692 | 686 |
| 2 | 8 | | 686 | 680 | 674 | 668 | 663 |
| 3 | 12 | | 663 | 657 | 651 | 645 | 639 |
| 4 | 16 | | 639 | 634 | 628 | 622 | 616 |
| 5 | 12. 20 | 9.35 | 616 | 611 | 605 | 599 | 593 |
| 6 | 24 | | 593 | 587 | 581 | 575 | 570 |
| 7 | 28 | | 570 | 564 | 558 | 553 | 547 |
| 8 | 32 | | 547 | 541 | 536 | 530 | 524 |
| 9 | 36 | | 524 | 519 | 513 | 508 | 502 |
| 10 | 12. 40 | 9.35 | 502 | 496 | 491 | 485 | 480 |
| 11 | 44 | | 480 | 474 | 469 | 463 | 458 |
| 12 | 48 | | 458 | 452 | 447 | 441 | 436 |
| 13 | 52 | | 436 | 430 | 425 | 420 | 414 |
| 14 | 56 | | 414 | 409 | 404 | 398 | 393 |
| 15 | 13. 0 | 9.35 | 393 | 388 | 382 | 377 | 371 |
| 16 | 4 | | 371 | 366 | 361 | 356 | 350 |
| 17 | 8 | | 350 | 345 | 340 | 335 | 329 |
| 18 | 12 | | 329 | 324 | 319 | 314 | 309 |
| 19 | 16 | | 309 | 304 | 299 | 293 | 288 |
| 20 | 13. 20 | 9.35 | 288 | 283 | 278 | 273 | 268 |
| 21 | 24 | | 268 | 263 | 258 | 253 | 248 |
| 22 | 28 | | 248 | 243 | 238 | 233 | 228 |
| 23 | 32 | | 228 | 223 | 218 | 213 | 208 |
| 24 | 36 | | 208 | 203 | 198 | 193 | 188 |
| 25 | 13. 40 | 9.35 | 188 | 183 | 178 | 173 | 168 |
| 26 | 44 | | 168 | 163 | 158 | 153 | 148 |
| 27 | 48 | | 148 | 143 | 138 | 133 | 128 |
| 28 | 52 | | 128 | 123 | 118 | 113 | 108 |
| 29 | 56 | | 108 | 103 | 098 | 093 | 088 |
| 30 | 14. 0 | 9.35 | 088 | 083 | 078 | 073 | 068 |
| 31 | 4 | | 068 | 063 | 058 | 053 | 048 |
| 32 | 8 | 9.34 | 048 | 043 | 038 | 033 | 028 |
| 33 | 12 | | 028 | 023 | 018 | 013 | 008 |
| 34 | 16 | | 008 | 003 | 998 | 993 | 988 |
| 35 | 14. 20 | 9.34 | 983 | 978 | 973 | 968 | 963 |
| 36 | 24 | | 963 | 958 | 953 | 948 | 943 |
| 37 | 28 | | 943 | 938 | 933 | 928 | 923 |
| 38 | 32 | | 923 | 918 | 913 | 908 | 903 |
| 39 | 36 | | 903 | 898 | 893 | 888 | 883 |
| 40 | 14. 40 | 9.34 | 883 | 878 | 873 | 868 | 863 |
| 41 | 44 | | 863 | 858 | 853 | 848 | 843 |
| 42 | 48 | | 843 | 838 | 833 | 828 | 823 |
| 43 | 52 | | 823 | 818 | 813 | 808 | 803 |
| 44 | 56 | | 803 | 798 | 793 | 788 | 783 |
| 45 | 15. 0 | 9.34 | 783 | 778 | 773 | 768 | 763 |
| 46 | 4 | | 763 | 758 | 753 | 748 | 743 |
| 47 | 8 | | 743 | 738 | 733 | 728 | 723 |
| 48 | 12 | | 723 | 718 | 713 | 708 | 703 |
| 49 | 16 | | 703 | 698 | 693 | 688 | 683 |
| 50 | 15. 20 | 9.34 | 683 | 678 | 673 | 668 | 663 |
| 51 | 24 | | 663 | 658 | 653 | 648 | 643 |
| 52 | 28 | | 643 | 638 | 633 | 628 | 623 |
| 53 | 32 | | 623 | 618 | 613 | 608 | 603 |
| 54 | 36 | | 603 | 598 | 593 | 588 | 583 |
| 55 | 15. 40 | 9.34 | 583 | 578 | 573 | 568 | 563 |
| 56 | 44 | | 563 | 558 | 553 | 548 | 543 |
| 57 | 48 | 9.33 | 543 | 538 | 533 | 528 | 523 |
| 58 | 52 | | 523 | 518 | 513 | 508 | 503 |
| 59 | 56 | | 503 | 498 | 493 | 488 | 483 |
| | | | 0″ | 15″ | 30″ | 45″ | 60″ |
| | | | 0s | 1s | 2s | 3s | 4s |

Suversed
Sucoversed

| ° | ′ | 0″ | 15″ | 30″ | 45″ | 60″ |
|---|---|---|---|---|---|---|
| | | 0s | 1s | 2s | 3s | 4s |
| 9.96 | 0 | 347 | 346 | 345 | 344 | 343 |
| | 4 | 343 | 342 | 341 | 340 | 339 |
| | 8 | 339 | 338 | 337 | 336 | 335 |
| | 12 | 335 | 334 | 333 | 332 | 331 |
| | 16 | 331 | 330 | 329 | 328 | 327 |
| 9.96 | 20 | 327 | 326 | 325 | 324 | 323 |
| | 24 | 323 | 322 | 321 | 320 | 319 |
| | 28 | 319 | 318 | 317 | 316 | 315 |
| | 32 | 315 | 314 | 313 | 312 | 311 |
| | 36 | 311 | 310 | 309 | 308 | 307 |
| 9.96 | 40 | 307 | 306 | 305 | 304 | 303 |
| | 44 | 303 | 302 | 301 | 300 | 299 |
| | 48 | 299 | 298 | 297 | 296 | 295 |
| | 52 | 295 | 294 | 293 | 292 | 291 |
| | 56 | 291 | 290 | 289 | 288 | 287 |
| 9.96 | 0 | 287 | 286 | 285 | 284 | 283 |
| | 4 | 283 | 282 | 281 | 280 | 279 |
| | 8 | 279 | 278 | 277 | 276 | 275 |
| | 12 | 275 | 274 | 273 | 272 | 271 |
| | 16 | 271 | 270 | 269 | 268 | 267 |
| 9.96 | 20 | 267 | 266 | 265 | 264 | 263 |
| | 24 | 263 | 262 | 261 | 260 | 259 |
| | 28 | 259 | 258 | 257 | 256 | 255 |
| | 32 | 255 | 254 | 253 | 252 | 251 |
| | 36 | 251 | 250 | 249 | 248 | 247 |
| 9.96 | 40 | 247 | 246 | 245 | 244 | 243 |
| | 44 | 243 | 242 | 241 | 240 | 239 |
| | 48 | 239 | 238 | 237 | 236 | 235 |
| | 52 | 235 | 234 | 233 | 232 | 231 |
| | 56 | 231 | 230 | 229 | 228 | 227 |
| 9.96 | 0 | 227 | 226 | 225 | 224 | 223 |
| | 4 | 223 | 222 | 221 | 220 | 219 |
| | 8 | 219 | 218 | 217 | 216 | 215 |
| | 12 | 215 | 214 | 213 | 212 | 211 |
| | 16 | 211 | 210 | 209 | 208 | 207 |
| 9.96 | 20 | 207 | 206 | 205 | 204 | 203 |
| | 24 | 203 | 202 | 201 | 200 | 199 |
| | 28 | 199 | 198 | 197 | 196 | 195 |
| | 32 | 195 | 194 | 193 | 192 | 191 |
| | 36 | 191 | 190 | 189 | 188 | 187 |
| 9.96 | 40 | 187 | 186 | 185 | 184 | 183 |
| | 44 | 183 | 182 | 181 | 180 | 179 |
| | 48 | 179 | 178 | 177 | 176 | 175 |
| | 52 | 175 | 174 | 173 | 172 | 171 |
| | 56 | 171 | 170 | 169 | 168 | 167 |
| 9.96 | 0 | 167 | 166 | 165 | 164 | 163 |
| | 4 | 163 | 162 | 161 | 160 | 159 |
| | 8 | 159 | 158 | 157 | 156 | 155 |
| | 12 | 155 | 154 | 153 | 152 | 151 |
| | 16 | 151 | 150 | 149 | 148 | 147 |
| 9.96 | 20 | 147 | 146 | 145 | 144 | 143 |
| | 24 | 143 | 142 | 141 | 140 | 139 |
| | 28 | 139 | 138 | 137 | 136 | 135 |
| | 32 | 135 | 134 | 133 | 132 | 131 |
| | 36 | 131 | 130 | 129 | 128 | 127 |
| 9.96 | 40 | 127 | 126 | 125 | 124 | 123 |
| | 44 | 123 | 122 | 121 | 120 | 119 |
| | 48 | 119 | 118 | 117 | 116 | 115 |
| | 52 | 115 | 114 | 113 | 112 | 111 |
| | 56 | 111 | 110 | 109 | 108 | 107 |
| | | 0″ | 15″ | 30″ | 45″ | 60″ |
| | | 0s | 1s | 2s | 3s | 4s |

Sucoversed
Versed

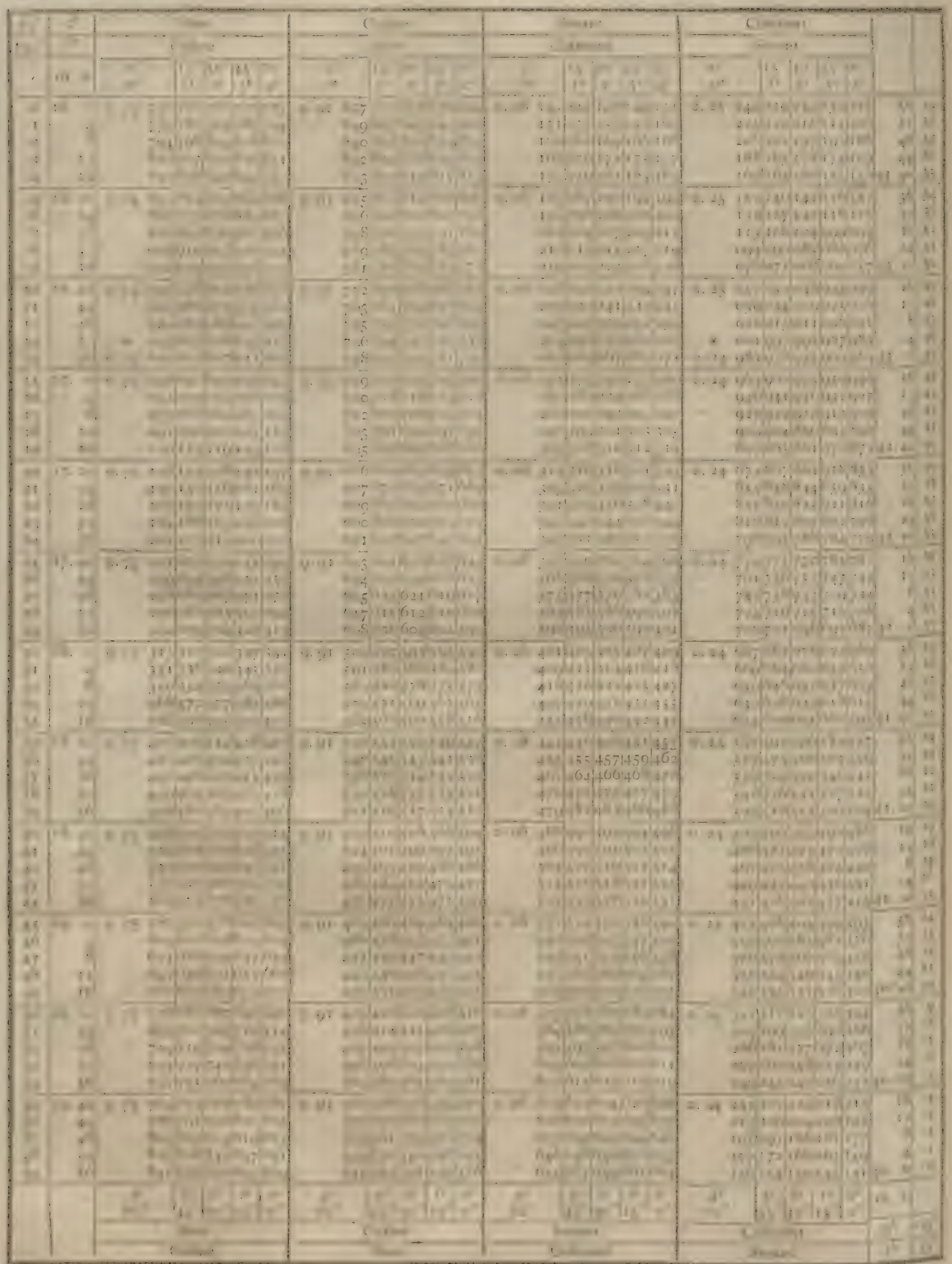
| ° | ′ | 0″ | 15″ | 30″ | 45″ | 60″ | m | s |
|---|---|---|---|---|---|---|---|---|
| | | 0s | 1s | 2s | 3s | 4s | | |
| 9.88 | 0 | 780 | 781 | 783 | 785 | 787 | 56 | 59 |
| | 4 | 787 | 788 | 790 | 792 | 793 | 52 | 58 |
| | 8 | 793 | 795 | 797 | 799 | 800 | 48 | 57 |
| | 12 | 800 | 802 | 804 | 805 | 807 | 44 | 56 |
| | 16 | 807 | 809 | 811 | 812 | 814 | 47. 40 | 55 |
| 9.88 | 20 | 814 | 816 | 817 | 819 | 821 | 36 | 54 |
| | 24 | 821 | 823 | 824 | 826 | 828 | 32 | 53 |
| | 28 | 828 | 829 | 831 | 833 | 834 | 28 | 52 |
| | 32 | 834 | 836 | 838 | 840 | 841 | 24 | 51 |
| | 36 | 841 | 843 | 845 | 846 | 848 | 47. 20 | 50 |
| 9.88 | 40 | 848 | 850 | 852 | 853 | 855 | 16 | 49 |
| | 44 | 855 | 857 | 858 | 860 | 862 | 12 | 48 |
| | 48 | 862 | 864 | 865 | 867 | 869 | 8 | 47 |
| | 52 | 869 | 870 | 872 | 874 | 875 | 4 | 46 |
| | 56 | 875 | 877 | 879 | 881 | 882 | 47. 0 | 45 |
| 9.88 | 0 | 882 | 884 | 886 | 887 | 889 | 56 | 44 |
| | 4 | 889 | 891 | 893 | 894 | 896 | 52 | 43 |
| | 8 | 896 | 898 | 899 | 901 | 903 | 48 | 42 |
| | 12 | 903 | 904 | 906 | 908 | 910 | 44 | 41 |
| | 16 | 910 | 911 | 913 | 915 | 916 | 46. 40 | 40 |
| 9.88 | 20 | 916 | 918 | 920 | 922 | 923 | 36 | 39 |
| | 24 | 923 | 925 | 927 | 929 | 930 | 32 | 38 |
| | 28 | 930 | 932 | 933 | 935 | 937 | 28 | 37 |
| | 32 | 937 | 939 | 940 | 942 | 944 | 24 | 36 |
| | 36 | 944 | 945 | 947 | 949 | 950 | 46. 20 | 35 |
| 9.88 | 40 | 950 | 952 | 954 | 956 | 957 | 16 | 34 |
| | 44 | 957 | 959 | 961 | 962 | 964 | 12 | 33 |
| | 48 | 964 | 966 | 967 | 969 | 971 | 8 | 32 |
| | 52 | 971 | 973 | 974 | 976 | 978 | 4 | 31 |
| | 56 | 978 | 979 | 981 | 983 | 984 | 46. 0 | 30 |
| 9.88 | 0 | 984 | 986 | 988 | 989 | 991 | 56 | 29 |
| | 4 | 991 | 993 | 995 | 996 | 998 | 52 | 28 |
| | 8 | 998 | 000 | 002 | 003 | 005 | 48 | 27 |
| | 12 | 005 | 007 | 009 | 010 | 012 | 44 | 26 |
| 9.89 | 16 | 012 | 014 | 016 | 017 | 019 | 45. 40 | 25 |
| | 20 | 019 | 021 | 023 | 024 | 026 | 36 | 24 |
| | 24 | 026 | 028 | 030 | 031 | 033 | 32 | 23 |
| | 28 | 033 | 035 | 037 | 038 | 040 | 28 | 22 |
| | 32 | 040 | 042 | 044 | 045 | 047 | 24 | 21 |
| | 36 | 047 | 049 | 051 | 052 | 054 | 45. 20 | 20 |
| 9.89 | 40 | 054 | 056 | 058 | 059 | 061 | 16 | 19 |
| | 44 | 061 | 063 | 065 | 066 | 068 | 12 | 18 |
| | 48 | 068 | 070 | 072 | 073 | 075 | 8 | 17 |
| | 52 | 075 | 077 | 079 | 080 | 082 | 4 | 16 |
| | 56 | 082 | 084 | 086 | 087 | 089 | 45. 0 | 15 |
| 9.89 | 0 | 089 | 091 | 093 | 094 | 096 | 56 | 14 |
| | 4 | 096 | 098 | 099 | 101 | 103 | 52 | 13 |
| | 8 | 103 | 105 | 106 | 108 | 110 | 48 | 12 |
| | 12 | 110 | 112 | 113 | 115 | 117 | 44 | 11 |
| | 16 | 117 | 118 | 120 | 122 | 123 | 44. 40 | 10 |
| 9.89 | 20 | 123 | 125 | 127 | 128 | 130 | 36 | 9 |
| | 24 | 130 | 132 | 134 | 135 | 137 | 32 | 8 |
| | 28 | 137 | 139 | 140 | 142 | 144 | 28 | 7 |
| | 32 | 144 | 146 | 147 | 149 | 151 | 24 | 6 |
| | 36 | 151 | 153 | 154 | 156 | 158 | 44. 20 | 5 |
| 9.89 | 40 | 158 | 160 | 161 | 163 | 165 | 16 | 4 |
| | 44 | 165 | 167 | 168 | 170 | 172 | 12 | 3 |
| | 48 | 172 | 174 | 175 | 177 | 179 | 8 | 2 |
| | 52 | 179 | 181 | 182 | 184 | 186 | 4 | 1 |
| | 56 | 186 | 188 | 189 | 191 | 193 | 44. 0 | 0 |
| | | 0″ | 15″ | 30″ | 45″ | 60″ | m | s |
| | | 0s | 1s | 2s | 3s | 4s | | |

Suversed
Coversed

Coversed
Versed

Versed
Sucoversed

Sucoversed
Suversed



| 34° 124′ | 2h 8h | Verſed / Coverſed | | | | | | Coverſed / Suverſed | | | | | | Suverſed / Sucoverſed | | | | | | Sucoverſed / Verſed | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | m s | 0″ | 15″ | 30″ | 45″ | 60″ | | 0″ | 15″ | 30″ | 45″ | 60″ | | 0″ | 15″ | 30″ | 45″ | 60″ | | 0″ | 15″ | 30″ | 45″ | 60″ | | ′ | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 4 | | 228 | 239 | 249 | 259 | 270 | | 298 | 292 | 286 | 280 | 274 | | 115 | 114 | 113 | 112 | 112 | | | | | | | | |
| 2 | 8 | | 270 | 280 | 290 | 301 | 311 | | 274 | 268 | 262 | 256 | 251 | | 112 | 111 | 110 | 109 | 108 | | | | | | | | |
| 3 | 12 | | 311 | 321 | 332 | | | | 251 | 245 | 239 | 233 | 227 | | | | | | | | | | | | | | |
| 4 | 16 | | 352 | 362 | 373 | 383 | 393 | | 227 | 221 | 215 | 209 | 203 | | 104 | 103 | 102 | 101 | 100 | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | 16. 20 | 8.93 | 393 | 404 | 414 | 424 | 435 | 9.34 | 203 | 197 | 191 | 185 | 179 | 9.96 | 100 | 099 | 098 | 097 | 096 | 9.89 | 221 | 222 | 224 | 226 | 227 | 36 | 54 |
| 6 | 24 | | 435 | 445 | 455 | 465 | 476 | | 179 | 173 | 167 | 161 | 155 | | 096 | 095 | 094 | 093 | 092 | | | | | | | | |
| 7 | 28 | | 476 | 486 | 496 | 507 | 517 | | 155 | 149 | 143 | 137 | 132 | | 092 | 091 | 090 | 089 | 088 | | 234 | 236 | 237 | 239 | 241 | 28 | 52 |
| 8 | 32 | | 517 | 527 | 538 | 548 | 558 | | 132 | 126 | 120 | 114 | 108 | | 088 | 087 | 086 | 085 | 084 | | 241 | 242 | 244 | 246 | 247 | 24 | 51 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | |

| 35° | 2h | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 125 | 8′ | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | | |
| ′ | m s | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | | 0° | 1′ | 2′ | 3′ | 4′ | 0° | 1′ | 2′ | 3′ | 4′ | 0° | 1′ | 2′ | 3′ | 4′ | 0° | 1′ | 2′ | 3′ | 4′ | | |
| 0 | 20. 0 | 9.75 | 859 | 864 | 868 | 873 | 877 | 9.91 | 336 | 334 | 332 | 330 | 328 | 0.08 | 664 | 666 | 668 | 670 | 672 | 0.24 | 141 | 136 | 132 | 127 | 123 | 56 | 59 |
| 1 | 4 | | 877 | 882 | 886 | 891 | 895 | | 328 | 325 | 323 | 321 | 319 | | 672 | 675 | 677 | 679 | 681 | | 123 | 118 | 114 | 109 | 105 | 52 | 58 |
| 2 | 8 | | 895 | 900 | 904 | 909 | 913 | | 319 | 317 | 314 | 312 | 310 | | 681 | 683 | 686 | 688 | 690 | | 105 | 100 | 096 | 091 | 087 | 48 | 57 |
| 3 | 12 | | 913 | 918 | 922 | 927 | 931 | | 310 | 308 | 305 | 303 | 301 | | 690 | 692 | 695 | 697 | 699 | | 087 | 082 | 078 | 073 | 069 | 44 | 56 |
| 4 | 16 | | 931 | 936 | 940 | 945 | 949 | | 301 | 299 | 297 | 294 | 292 | | 699 | 701 | 703 | 706 | 708 | | 069 | 064 | 060 | 055 | 051 | 39. 40 | 55 |
| 5 | 20. 20 | 9.75 | 949 | 954 | 958 | 963 | 967 | 9.91 | 292 | 290 | 288 | 286 | 283 | 0.08 | 708 | 710 | 712 | 714 | 717 | 0.24 | 051 | 046 | 042 | 037 | 033 | 36 | 54 |
| 6 | 24 | | 967 | 972 | 976 | 981 | 985 | | 283 | 281 | 279 | 277 | 274 | | 717 | 719 | 721 | 723 | 726 | | 033 | 028 | 024 | 019 | 015 | 32 | 53 |
| 7 | 28 | * | 985 | 990 | 994 | 999 | 003 | | 274 | 272 | 270 | 268 | 266 | | 726 | 728 | 730 | 732 | 734 | * | 015 | 010 | 006 | 001 | 997 | 28 | 52 |
| 8 | 32 | 9.76 | 003 | 008 | 012 | 017 | 021 | | 266 | 263 | 261 | 259 | 257 | | 734 | 737 | 739 | 741 | 743 | 0.23 | 997 | 992 | 988 | 983 | 979 | 24 | 51 |
| 9 | 36 | | 021 | 026 | 030 | 035 | 039 | | 257 | 254 | 252 | 250 | 248 | | 743 | 746 | 748 | 750 | 752 | | 979 | 974 | 970 | 965 | 961 | 39. 20 | 50 |
| 10 | 20. 40 | 9.76 | 039 | 044 | 048 | 052 | 057 | 9.91 | 248 | 245 | 243 | 241 | 239 | 0.08 | 752 | 755 | 757 | 759 | 761 | 0.23 | 961 | 956 | 952 | 948 | 943 | 16 | 49 |
| 11 | 44 | | 057 | 061 | 066 | 070 | 075 | | 239 | 237 | 234 | 232 | 230 | | 761 | 763 | 766 | 768 | 770 | | 943 | 939 | 934 | 930 | 925 | 12 | 48 |
| 12 | 48 | | 075 | 079 | 084 | 088 | 093 | | 230 | 228 | 225 | 223 | 221 | | 770 | 772 | 775 | 777 | 779 | | 925 | 921 | 916 | 912 | 907 | 8 | 47 |
| 13 | 52 | | 093 | 097 | 102 | 106 | 111 | | 221 | 219 | 217 | 214 | 212 | | 779 | 781 | 783 | 786 | 788 | | 907 | 903 | 898 | 894 | 889 | 4 | 46 |
| 14 | 56 | | 111 | 115 | 120 | 124 | 129 | | 212 | 210 | 208 | 205 | 203 | | 788 | 790 | 792 | 795 | 797 | | 889 | 885 | 880 | 876 | 871 | 39. 0 | 45 |
| 15 | 21. 0 | 9.76 | 129 | 133 | 137 | 142 | 146 | 9.91 | 203 | 201 | 199 | 196 | 194 | 0.08 | 797 | 799 | 801 | 804 | 806 | 0.23 | 871 | 867 | 863 | 859 | 854 | 54 | 44 |
| 16 | 4 | | 146 | 151 | 155 | 160 | 164 | | 194 | 192 | 190 | 188 | 185 | | 806 | 808 | 810 | 812 | 815 | | 854 | 849 | 845 | 840 | 836 | 52 | 43 |
| 17 | 8 | | 164 | 169 | 173 | 178 | 182 | | 185 | 183 | 181 | 179 | 176 | | 815 | 817 | 819 | 821 | 824 | | 836 | 831 | 827 | 822 | 818 | 48 | 42 |
| 18 | 12 | | 182 | 187 | 191 | 195 | 200 | | 176 | 174 | 172 | 170 | 167 | | 824 | 826 | 828 | 830 | 833 | | 818 | 813 | 809 | 805 | 800 | 44 | 41 |
| 19 | 16 | | 200 | 204 | 209 | 213 | 218 | | 167 | 165 | 163 | 161 | 158 | | 833 | 835 | 837 | 839 | 842 | | 800 | 796 | 791 | 787 | 782 | 38. 40 | 40 |
| 20 | 21. 20 | 9.76 | 218 | 222 | 227 | 231 | 236 | 9.91 | 158 | 156 | 154 | 152 | 149 | 0.08 | 842 | 844 | 846 | 848 | 851 | 0.23 | 782 | 778 | 773 | 769 | 764 | 36 | 39 |
| 21 | 24 | | 236 | 240 | 244 | 249 | 253 | | 149 | 147 | 145 | 143 | 141 | | 851 | 853 | 855 | 857 | 859 | | 764 | 760 | 756 | 751 | 747 | 32 | 38 |
| 22 | 28 | | 253 | 258 | 262 | 267 | 271 | | 141 | 138 | 136 | 134 | 132 | | 859 | 862 | 864 | 866 | 868 | | 747 | 742 | 738 | 733 | 729 | 28 | 37 |
| 23 | 32 | | 271 | 276 | 280 | 285 | 289 | | 132 | 129 | 127 | 125 | 123 | | 868 | 871 | 873 | 875 | 877 | | 729 | 724 | 720 | 715 | 711 | 24 | 36 |
| 24 | 36 | | 289 | 293 | 298 | 302 | 307 | | 123 | 120 | 118 | 116 | 114 | | 877 | 880 | 882 | 884 | 886 | | 711 | 707 | 702 | 698 | 693 | 38. 20 | 35 |
| 25 | 21. 40 | 9.76 | 307 | 311 | 316 | 320 | 324 | 9.91 | 114 | 111 | 109 | 107 | 105 | 0.08 | 886 | 889 | 891 | 893 | 895 | 0.23 | 693 | 689 | 684 | 680 | 676 | 20 | 34 |
| 26 | 44 | | 324 | 329 | 333 | 338 | 342 | | 105 | 102 | 100 | 098 | 096 | | 895 | 898 | 900 | 902 | 904 | | 676 | 671 | 667 | 662 | 658 | 12 | 33 |
| 27 | 48 | | 342 | 347 | 351 | 356 | 360 | | 096 | 093 | 091 | 089 | 087 | | 904 | 907 | 909 | 911 | 913 | | 658 | 653 | 649 | 644 | 640 | 8 | 32 |
| 28 | 52 | | 360 | 364 | 369 | 373 | 378 | | 087 | 084 | 082 | 080 | 078 | | 913 | 916 | 918 | 920 | 922 | | 640 | 636 | 631 | 627 | 622 | 4 | 31 |
| 29 | 56 | | 378 | 382 | 387 | 391 | 396 | | 078 | 075 | 073 | 071 | 069 | | 922 | 925 | 927 | 929 | 931 | | 622 | 618 | 613 | 609 | 605 | 38. 0 | 30 |
| 30 | 22. 0 | 9.76 | 396 | 400 | 404 | 409 | 413 | 9.91 | 069 | 066 | 064 | 062 | 060 | 0.08 | 931 | 934 | 936 | 938 | 940 | 0.23 | 605 | 600 | 596 | 591 | 587 | 56 | 29 |
| 31 | 4 | | 413 | 418 | 422 | 426 | 431 | | 060 | 057 | 055 | 053 | 051 | | 940 | 943 | 945 | 947 | 949 | | 587 | 582 | 578 | 574 | 569 | 52 | 28 |
| 32 | 8 | | 431 | 435 | 440 | 444 | 448 | | 051 | 048 | 046 | 044 | 042 | | 949 | 952 | 954 | 956 | 958 | | 569 | 565 | 560 | 556 | 552 | 48 | 27 |
| 33 | 12 | | 448 | 453 | 457 | 462 | 466 | | 042 | 039 | 037 | 035 | 033 | | 958 | 961 | 963 | 965 | 967 | | 552 | 547 | 543 | 538 | 534 | 44 | 26 |
| 34 | 16 | | 466 | 471 | 475 | 479 | 484 | | 033 | 030 | 028 | 026 | 023 | | 967 | 970 | 972 | 974 | 977 | | 534 | 529 | 525 | 521 | 516 | 37. 40 | 25 |
| 35 | 22. 20 | 9.76 | 484 | 488 | 493 | 497 | 501 | 9.91 | 023 | 021 | 019 | 017 | 014 | 0.08 | 977 | 979 | 981 | 983 | 986 | 0.23 | 516 | 512 | 507 | 503 | 499 | 20 | 24 |
| 36 | 24 | | 501 | 506 | 510 | 515 | 519 | | 014 | 012 | 010 | 008 | 005 | | 986 | 988 | 990 | 992 | 995 | | 499 | 494 | 490 | 485 | 481 | 12 | 23 |
| 37 | 28 | | 519 | 524 | 528 | 532 | 537 | * | 005 | 003 | 001 | 999 | 996 | * | 995 | 997 | 999 | 001 | 004 | | 481 | 476 | 472 | 468 | 463 | 8 | 22 |
| 38 | 32 | | 537 | 541 | 546 | 550 | 554 | 9.90 | 996 | 994 | 992 | 990 | 987 | 0.09 | 004 | 006 | 008 | 010 | 013 | | 463 | 459 | 454 | 450 | 446 | 4 | 21 |
| 39 | 36 | | 554 | 559 | 563 | 568 | 572 | | 987 | 985 | 983 | 980 | 978 | | 013 | 015 | 017 | 020 | 022 | | 446 | 441 | 437 | 432 | 428 | 37. 20 | 20 |
| 40 | 22. 40 | 9.76 | 572 | 577 | 581 | 585 | 590 | 9.90 | 978 | 976 | 974 | 971 | 969 | 0.09 | 022 | 024 | 026 | 029 | 031 | 0.23 | 428 | 424 | 419 | 415 | 410 | 16 | 19 |
| 41 | 44 | | 590 | 594 | 598 | 603 | 607 | | 969 | 967 | 965 | 962 | 960 | | 031 | 033 | 035 | 038 | 040 | | 410 | 406 | 402 | 397 | 393 | 12 | 18 |
| 42 | 48 | | 607 | 612 | 616 | 620 | 625 | | 960 | 958 | 956 | 953 | 951 | | 040 | 042 | 044 | 047 | 049 | | 393 | 388 | 384 | 380 | 375 | 8 | 17 |
| 43 | 52 | | 625 | 629 | 634 | 638 | 642 | | 951 | 949 | 947 | 944 | 942 | | 049 | 051 | 053 | 056 | 058 | | 375 | 371 | 366 | 362 | 358 | 4 | 16 |
| 44 | 56 | | 642 | 647 | 651 | 655 | 660 | | 942 | 940 | 937 | 935 | 933 | | 058 | 060 | 063 | 065 | 067 | | 358 | 353 | 349 | 345 | 340 | 37. 0 | 15 |
| 45 | 23. 0 | 9.76 | 660 | 664 | 669 | 673 | 677 | 9.90 | 933 | 931 | 928 | 926 | 924 | 0.09 | 067 | 069 | 072 | 074 | 076 | 0.23 | 340 | 336 | 331 | 327 | 323 | 56 | 14 |
| 46 | 4 | | 677 | 682 | 686 | 691 | 695 | | 924 | 921 | 919 | 917 | 915 | | 076 | 079 | 081 | 083 | 085 | | 323 | 318 | 314 | 309 | 305 | 52 | 13 |
| 47 | 8 | | 695 | 699 | 704 | 708 | 713 | | 915 | 912 | 910 | 908 | 906 | | 085 | 088 | 090 | 092 | 094 | | 305 | 301 | 296 | 292 | 288 | 48 | 12 |
| 48 | 12 | | 713 | 717 | 721 | 726 | 730 | | 906 | 903 | 901 | 899 | 896 | | 094 | 097 | 099 | 101 | 104 | | 288 | 284 | 279 | 275 | 270 | 44 | 11 |
| 49 | 16 | | 730 | 734 | 739 | 743 | 747 | | 896 | 894 | 892 | 890 | 887 | | 104 | 106 | 108 | 110 | 113 | | 270 | 266 | 261 | 257 | 253 | 36. 40 | 10 |
| 50 | 23. 20 | 9.76 | 747 | 752 | 756 | 760 | 765 | 9.90 | 887 | 885 | 883 | 880 | 878 | 0.09 | 113 | 115 | 117 | 120 | 122 | 0.23 | 253 | 248 | 244 | 239 | 235 | 32 | 9 |
| 51 | 24 | | 765 | 769 | 774 | 778 | 782 | | 878 | 876 | 874 | 871 | 869 | | 122 | 124 | 126 | 129 | 131 | | 235 | 231 | 226 | 222 | 218 | 28 | 8 |
| 52 | 28 | | 782 | 787 | 791 | 795 | 800 | | 869 | 867 | 864 | 862 | 860 | | 131 | 133 | 136 | 138 | 140 | | 218 | 213 | 209 | 204 | 200 | 24 | 7 |
| 53 | 32 | | 800 | 804 | 808 | 813 | 817 | | 860 | 858 | 855 | 853 | 851 | | 140 | 142 | 145 | 147 | 149 | | 200 | 196 | 191 | 187 | 183 | 20 | 6 |
| 54 | 36 | | 817 | 821 | 826 | 830 | 834 | | 851 | 848 | 846 | 844 | 842 | | 149 | 152 | 154 | 156 | 158 | | 183 | 178 | 174 | 170 | 165 | 36. 0 | 5 |
| 55 | 23. 40 | 9.76 | 834 | 838 | 843 | 847 | 852 | 9.90 | 842 | 839 | 837 | 835 | 832 | 0.09 | 158 | 161 | 163 | 165 | 168 | 0.23 | 165 | 161 | 156 | 152 | 148 | 16 | 4 |
| 56 | 44 | | 852 | 857 | 861 | 865 | 870 | | 832 | 830 | 828 | 826 | 823 | | 168 | 170 | 172 | 174 | 177 | | 148 | 143 | 139 | 135 | 130 | 12 | 3 |
| 57 | 48 | | 870 | 874 | 878 | 883 | 887 | | 823 | 821 | 819 | 816 | 814 | | 177 | 179 | 181 | 184 | 186 | | 130 | 126 | 122 | 117 | 113 | 8 | 2 |
| 58 | 52 | | 887 | 891 | 896 | 900 | 904 | | 814 | 812 | 810 | 807 | 805 | | 186 | 188 | 190 | 193 | 195 | | 113 | 109 | 104 | 100 | 096 | 4 | 1 |
| 59 | 56 | | 904 | 909 | 913 | 917 | 922 | | 805 | 803 | 801 | 798 | 796 | | 195 | 197 | 199 | 202 | 204 | | 096 | 092 | 087 | 083 | 078 | 36. 0 | 0 |
| | | 4′ | 3′ | 2′ | 1′ | 0′ | 4′ | 3′ | 2′ | 1′ | 0′ | 4′ | 3′ | 2′ | 1′ | 0′ | 4′ | 3′ | 2′ | 1′ | 0′ | m s | |
| | | 60″ | 45 | 30 | 15 | 0″ | 60″ | 45 | 30 | 15 | 0″ | 60″ | 45 | 30 | 15 | 0″ | 60″ | 45 | 30 | 15 | 0″ | | |
| | | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | | |
| | | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | | |

| 35° | 2h | Versed | | | | | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 5 | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | Versed | | | | | | |
| ′ | m s | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | | | 1s | 2s | 3s | 4s | | 1s | 2s | 3s | 4s | | 1s | 2s | 3s | 4s | | 1s | 2s | 3s | 4s | | |
| 0 | 20. 0 | S. 95 | 028 | 038 | 048 | 058 | 068 | 9. 32 | 881 | 877 | 872 | 868 | 863 | 9. 95 | 884 | 883 | 882 | 881 | 880 | 9. 89 | | | | 59 | 59 |
| 1 | 4 | | 068 | 078 | 088 | 098 | 108 | | 857 | 851 | 845 | 839 | 833 | | 880 | 878 | 877 | 875 | 873 | | | | | 58 | 58 |
| 2 | 8 | | 108 | 118 | 128 | 138 | 148 | | 833 | 826 | 820 | 814 | 808 | | 876 | 874 | 873 | 872 | 871 | | | | | 57 | 57 |
| 3 | 12 | | 148 | 158 | 168 | 178 | 188 | | 808 | 802 | 796 | 790 | 784 | | 872 | 871 | 870 | 869 | 868 | | | | | 56 | 56 |
| 4 | 16 | | 188 | 198 | 208 | 218 | 228 | | 784 | 778 | 772 | 766 | 760 | | 868 | 867 | 866 | 865 | 864 | | | | | 55 | 55 |
| 5 | 20. 22 | S. 95 | 228 | 238 | 248 | 258 | 268 | 9. 32 | 760 | 754 | 748 | 741 | 735 | 9. 95 | 863 | 862 | 861 | 860 | 859 | 9. 89 | | | | 54 | 54 |
| 6 | 24 | | 268 | 278 | 288 | 298 | 308 | | 735 | 729 | 723 | 717 | 711 | | 859 | 858 | 857 | 856 | 855 | | | | | 53 | 53 |
| 7 | 28 | | 308 | 318 | 328 | 338 | 348 | | 711 | 705 | 699 | 693 | 687 | | 855 | 854 | 853 | 852 | 851 | | | | | 52 | 52 |
| 8 | 32 | | 348 | 358 | 368 | 378 | 388 | | 687 | 681 | 675 | 668 | 662 | | 851 | 850 | 849 | 848 | 847 | | | | | 51 | 51 |
| 9 | 36 | * | 388 | 398 | 408 | 418 | 428 | | 662 | 656 | 650 | 644 | 638 | | 846 | 845 | 844 | 843 | 842 | | | 39. | | 50 | 50 |
| 10 | 20. 40 | S. 95 | 428 | 438 | 448 | 458 | 468 | 9. 32 | 638 | 632 | 626 | 620 | 614 | 9. 95 | 841 | 840 | 839 | 838 | 837 | 9. 89 | | | | 49 | 49 |
| 11 | 44 | | 468 | 478 | 488 | 498 | 508 | | 614 | 608 | 602 | 596 | 590 | | 836 | 835 | 834 | 833 | 832 | | | | | 48 | 48 |
| 12 | 48 | | 508 | 518 | 528 | 538 | 548 | | 589 | 583 | 577 | 571 | 565 | | 831 | 830 | 829 | 828 | 827 | | | | | 47 | 47 |
| 13 | 52 | | 548 | 558 | 568 | 578 | 588 | | 565 | 559 | 553 | 547 | 541 | | 826 | 825 | 824 | 823 | 822 | | | | | 46 | 46 |
| 14 | 56 | | 588 | 598 | 608 | 618 | 628 | | 541 | 534 | 528 | 522 | 516 | | 821 | 820 | 819 | 818 | 817 | | | 39. | | 45 | 45 |
| 15 | 21. 0 | S. 96 | 627 | 637 | 647 | 657 | 667 | 9. 32 | 516 | 510 | 504 | 498 | 492 | 9. 95 | 816 | 815 | 814 | 813 | 812 | 9. 89 | | | | 44 | 44 |
| 16 | 4 | | 667 | 677 | 687 | 697 | 707 | | 492 | 486 | 480 | 474 | 468 | | 811 | 810 | 809 | 808 | 807 | | | | | 43 | 43 |
| 17 | 8 | | 707 | 717 | 727 | 736 | 746 | | 467 | 461 | 455 | 449 | 443 | | 806 | 805 | 804 | 803 | 802 | | | | | 42 | 42 |
| 18 | 12 | | 746 | 756 | 766 | 776 | 786 | | 443 | 437 | 431 | 425 | 419 | | 801 | 800 | 799 | 798 | 797 | | | | | 41 | 41 |
| 19 | 16 | | 786 | 796 | 806 | 816 | 826 | | 418 | 412 | 406 | 400 | 394 | | 796 | 795 | 794 | 793 | 792 | | | | | 40 | 40 |
| 20 | 21. 20 | S. 96 | 826 | 836 | 845 | 855 | 865 | 9. 32 | 394 | 388 | 382 | 376 | 370 | 9. 95 | 791 | 790 | 789 | 788 | 787 | 9. 89 | | | | 39 | 39 |
| 21 | 24 | | 865 | 875 | 885 | 895 | 905 | | 370 | 363 | 357 | 351 | 345 | | 786 | 785 | 784 | 783 | 782 | | | | | 38 | 38 |
| 22 | 28 | | 905 | 915 | 925 | 935 | 945 | | 345 | 339 | 333 | 327 | 321 | | 781 | 780 | 779 | 778 | 777 | | | | | 37 | 37 |
| 23 | 32 | | 945 | 954 | 964 | 974 | 984 | | 321 | 315 | 309 | 303 | 297 | | 776 | 775 | 774 | 773 | 772 | | | | | 36 | 36 |
| 24 | 36 | | 984 | 994 | 004 | 014 | 024 | | 296 | 290 | 284 | 278 | 272 | | 771 | 770 | 769 | 768 | 767 | | | 38. | | 35 | 35 |
| 25 | 21. 40 | S. 96 | 024 | 034 | 044 | 053 | 063 | 9. 32 | 272 | 266 | 259 | 253 | 247 | 9. 95 | 766 | 765 | 764 | 763 | 762 | 9. 89 | | | | 34 | 34 |
| 26 | 44 | | 663 | 673 | 683 | 693 | 703 | | 247 | 241 | 235 | 229 | 223 | | 780 | 779 | 778 | 777 | 776 | | 756 | 758 | 759 | 761 | 762 | 12 | 33 |
| 27 | 48 | | 703 | 713 | 723 | 732 | 742 | | 223 | 217 | 210 | 204 | 198 | | 775 | 774 | 773 | 772 | 771 | | 762 | 764 | 766 | 767 | 769 | 8 | 32 |
| 28 | 52 | | 742 | 752 | 762 | 772 | 782 | | 198 | 192 | 186 | 180 | 174 | | 771 | 770 | 769 | 768 | 767 | | 769 | 771 | 772 | 774 | 775 | 4 | 31 |
| 29 | 56 | | 782 | 792 | 802 | 811 | 821 | | 174 | 168 | 161 | 155 | 149 | | 766 | 765 | 764 | 763 | 762 | | 776 | 777 | 779 | 780 | 782 | 38. | 30 |
| 30 | 22. 0 | S. 96 | 821 | 831 | 841 | 851 | 861 | 9. 32 | 149 | 143 | 137 | 131 | 125 | 9. 95 | 765 | 764 | 763 | 762 | 761 | 9. 89 | 782 | 784 | 785 | 787 | 789 | 30 | 29 |
| 31 | 4 | | 861 | 871 | 880 | 890 | 900 | | 125 | 119 | 112 | 106 | 100 | | 760 | 759 | 758 | 757 | 756 | | 791 | 792 | 793 | 795 | 796 | 52 | 28 |
| 32 | 8 | | 900 | 910 | 920 | 930 | 940 | | 100 | 094 | 088 | 082 | 076 | | 755 | 754 | 753 | 752 | 751 | | 798 | 797 | 799 | 800 | 802 | 4 | 27 |
| 33 | 12 | | 940 | 949 | 959 | 969 | 979 | | 076 | 070 | 063 | 057 | 051 | | 751 | 750 | 749 | 748 | 747 | | 803 | 805 | 806 | 808 | 809 | 44 | 26 |
| 34 | 16 | * | 979 | 989 | 999 | 009 | 018 | | 051 | 045 | 039 | 033 | 027 | | 747 | 746 | 745 | 744 | 743 | | 811 | 812 | 814 | 815 | 817 | 37. | 25 |
| 35 | 22. 20 | S. 97 | 018 | 028 | 038 | 048 | 058 | 9. 32 | 020 | 014 | 008 | 002 | 996 | 9. 95 | 742 | 741 | 740 | 739 | 738 | 9. 89 | 815 | 816 | 818 | 819 | 821 | 30 | 24 |
| 36 | 24 | | 058 | 068 | 077 | 087 | 097 | * | 990 | 984 | 977 | 971 | 965 | | 737 | 736 | 735 | 734 | 733 | | 822 | 824 | 825 | 826 | 828 | 58 | 23 |
| 37 | 28 | | 097 | 107 | 117 | 127 | 136 | 9. 31 | 977 | 971 | 965 | 959 | 953 | | 733 | 732 | 731 | 730 | 729 | | 828 | 830 | 831 | 832 | 834 | 28 | 22 |
| 38 | 32 | | 136 | 146 | 156 | 166 | 176 | | 953 | 947 | 941 | 934 | 928 | | 728 | 727 | 726 | 725 | 724 | | 834 | 836 | 837 | 839 | 840 | 24 | 21 |
| 39 | 36 | | 176 | 185 | 195 | 205 | 215 | | 928 | 922 | 916 | 910 | 903 | | 723 | 722 | 721 | 720 | 719 | | 840 | 842 | 844 | 845 | 847 | 37. 20 | 20 |
| 40 | 22. 40 | S. 97 | 215 | 225 | 235 | 244 | 254 | 9. 31 | 903 | 897 | 891 | 885 | 879 | 9. 95 | 719 | 718 | 717 | 716 | 715 | 9. 89 | 847 | 849 | 850 | 852 | 853 | 10 | 19 |
| 41 | 44 | | 254 | 264 | 274 | 284 | 293 | | 879 | 873 | 867 | 860 | 854 | | 714 | 713 | 712 | 711 | 710 | | 853 | 855 | 857 | 858 | 860 | 12 | 18 |
| 42 | 48 | | 293 | 303 | 313 | 323 | 333 | | 854 | 848 | 841 | 835 | 829 | | 709 | 708 | 707 | 706 | 705 | | 860 | 862 | 863 | 865 | 866 | 8 | 17 |
| 43 | 52 | | 333 | 343 | 352 | 362 | 372 | | 830 | 823 | 817 | 811 | 805 | | 704 | 703 | 702 | 701 | 700 | | 866 | 868 | 870 | 871 | 873 | 4 | 16 |
| 44 | 56 | | 372 | 382 | 391 | 401 | 411 | | 805 | 799 | 793 | 787 | 781 | | 699 | 698 | 697 | 696 | 695 | | 873 | 875 | 876 | 878 | 879 | 37. | 15 |
| 45 | 23. 0 | S. 97 | 411 | 421 | 431 | 440 | 450 | 9. 31 | 781 | 774 | 768 | 762 | 756 | 9. 95 | 694 | 693 | 692 | 691 | 690 | 9. 89 | 879 | 881 | 883 | 884 | 886 | 50 | 14 |
| 46 | 4 | | 450 | 460 | 470 | 480 | 489 | | 756 | 749 | 743 | 737 | 731 | | 689 | 688 | 687 | 686 | 685 | | 887 | 889 | 890 | 892 | 893 | 52 | 13 |
| 47 | 8 | | 489 | 499 | 509 | 518 | 528 | | 731 | 725 | 718 | 712 | 706 | | 684 | 683 | 682 | 681 | 680 | | 895 | 896 | 898 | 899 | 901 | 48 | 12 |
| 48 | 12 | | 529 | 539 | 548 | 558 | 568 | | 706 | 700 | 694 | 688 | 682 | | 680 | 689 | 688 | 687 | 686 | | 899 | 900 | 902 | 904 | 905 | 44 | 11 |
| 49 | 16 | | 568 | 577 | 587 | 597 | 607 | | 682 | 675 | 669 | 663 | 657 | | 685 | 684 | 683 | 682 | 681 | | 905 | 907 | 908 | 910 | 912 | 36. 40 | 10 |
| 50 | 23. 20 | S. 97 | 607 | 616 | 626 | 636 | 645 | 9. 31 | 657 | 651 | 644 | 638 | 632 | 9. 95 | 680 | 679 | 678 | 677 | 676 | 9. 89 | 912 | 913 | 915 | 917 | 918 | 36 | 9 |
| 51 | 24 | | 645 | 655 | 665 | 675 | 685 | | 632 | 626 | 620 | 614 | 607 | | 675 | 674 | 673 | 672 | 671 | | 918 | 920 | 921 | 923 | 925 | 32 | 8 |
| 52 | 28 | | 685 | 695 | 704 | 714 | 724 | | 607 | 601 | 595 | 589 | 583 | | 670 | 669 | 668 | 667 | 666 | | 925 | 926 | 928 | 929 | 931 | 28 | 7 |
| 53 | 32 | | 724 | 734 | 743 | 753 | 763 | | 583 | 577 | 571 | 564 | 558 | | 665 | 664 | 663 | 662 | 661 | | 931 | 933 | 934 | 936 | 938 | 24 | 6 |
| 54 | 36 | | 763 | 772 | 782 | 792 | 802 | | 558 | 552 | 546 | 540 | 534 | | 660 | 659 | 658 | 657 | 656 | | 938 | 939 | 941 | 943 | 944 | 36. | 5 |
| 55 | 23. 40 | S. 97 | 802 | 812 | 821 | 831 | 841 | 9. 31 | 534 | 527 | 521 | 515 | 509 | 9. 95 | 655 | 654 | 653 | 652 | 651 | 9. 89 | 944 | 946 | 947 | 949 | 951 | 20 | 4 |
| 56 | 44 | | 841 | 851 | 860 | 870 | 880 | | 509 | 503 | 497 | 490 | 484 | | 650 | 649 | 648 | 647 | 646 | | 952 | 954 | 955 | 957 | 959 | 12 | 3 |
| 57 | 48 | | 880 | 890 | 900 | 909 | 919 | | 484 | 477 | 471 | 465 | 459 | | 645 | 644 | 643 | 642 | 641 | | 960 | 962 | 963 | 965 | 967 | 8 | 2 |
| 58 | 52 | | 919 | 928 | 938 | 948 | 958 | | 459 | 453 | 447 | 441 | 434 | | 640 | 639 | 638 | 637 | 636 | | 968 | 970 | 971 | 973 | 975 | 4 | 1 |
| 59 | 56 | | 958 | 967 | 977 | 987 | 997 | | 434 | 428 | 422 | 416 | 409 | | 635 | 634 | 633 | 632 | 631 | | 976 | 978 | 979 | 981 | 983 | 36. | 0 |
| | | 4′ | 3′ | 2′ | 1′ | 0′ | 4′ | 3′ | 2′ | 1′ | 0′ | 4′ | 3′ | 2′ | 1′ | 0′ | 4′ | 3′ | 2′ | 1′ | 0′ | m s | |
| | | 60″ | 45 | 30 | 15 | 0″ | 60″ | 45 | 30 | 15 | 0″ | 60″ | 45 | 30 | 15 | 0″ | 60″ | 45 | 30 | 15 | 0″ | | |
| | | Suversed | | | | | Coversed | | | | | Versed | | | | | Sucoversed | | | | | 9h | 144 |
| | | Coversed | | | | | Versed | | | | | Suversed | | | | | Suversed | | | | | | |

| 36° | 2h | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | 0s | 15s | 30s | 45s | 60s | 0s | 15s | 30s | 45s | 60s | 0s | 15s | 30s | 45s | 60s | 0s | 15s | 30s | 45s | 60s | | |
| 0 | 0 | 9.770 | | | | | 9.907 | 776 | 774 | 771 | 769 | 0.093 | 224 | 226 | 229 | 231 | 0.230 | | | | | 60 | 59 |
| 1 | | | | | | | | 767 | 765 | 762 | 760 | | 233 | 235 | 238 | 240 | | | | | | 59 | 58 |
| 2 | | | | | | | | 757 | 755 | 753 | 751 | | 243 | 245 | 247 | 249 | | | | | | 58 | 57 |
| 3 | 1 | | | | | | | 748 | 746 | 744 | 741 | | 253 | 255 | 257 | 259 | | | | | | 57 | 56 |
| 4 | 1 | | | | | | | 738 | 736 | 734 | 732 | | 263 | 265 | 267 | 269 | | | | | | 56 | 55 |
| 5 | 2 | 9.771 | | | | | 9.907 | 728 | 726 | 724 | 722 | 0.093 | 273 | 275 | 277 | 279 | 0.230 | | | | | 55 | 54 |
| 6 | | | | | | | | 718 | 716 | 714 | 712 | | 283 | 285 | 287 | 289 | | | | | | 54 | 53 |
| 7 | 28 | | 043 | 048 | 052 | 056 | 061 | 731 | 729 | 727 | 724 | 722 | 269 | 271 | 273 | 276 | 278 | 957 | 952 | 948 | 944 | 939 | 28 | 52 |
| 8 | 32 | | 061 | 065 | 069 | 074 | 078 | 722 | 720 | 718 | 715 | 713 | 278 | 280 | 282 | 285 | 287 | 939 | 935 | 931 | 926 | 922 | 24 | 51 |
| 9 | | | 078 | | | | | 713 | | | | | 287 | | | | | | | | | | |
| 10 | 4 | 9.772 | | | | | 9.907 | | | | | 0.093 | | | | | 0.230 | | | | | 50 | 49 |
| 11 | 4 | | | | | | | | | | | | | | | | | | | | | 49 | 48 |
| 12 | 48 | | 130 | 134 | 138 | 143 | 147 | 685 | 683 | 681 | 678 | 676 | 315 | 317 | 319 | 322 | 324 | 870 | 866 | 862 | 857 | 853 | 8 | 47 |
| 13 | 5 | | 147 | | | | | 676 | 674 | 671 | 669 | 667 | 324 | 326 | 329 | 331 | 333 | | | | | | 4 | 46 |
| 14 | 56 | | 164 | | | | | 667 | | | | | 333 | | | | | | | | | 35. | 45 |
| 15 | 5 | 9.772 | | | | | 9.907 | | | | | 0.093 | | | | | 0.230 | | | | | 45 | 44 |
| 16 | 4 | | 199 | 203 | 207 | 212 | 216 | 648 | 646 | 644 | 641 | 639 | 352 | 354 | 356 | 359 | 361 | 801 | 797 | 793 | 788 | 784 | 52 | 43 |
| 17 | | | 216 | 220 | 225 | 229 | 233 | 639 | 637 | 634 | 632 | 630 | 361 | 363 | 366 | 368 | 370 | 784 | 780 | 775 | 771 | 767 | 48 | 42 |
| 18 | 12 | | 233 | 237 | 242 | 246 | 250 | 630 | 627 | 625 | 623 | 620 | 370 | 373 | 375 | 377 | 380 | 767 | 762 | 758 | 754 | 750 | 44 | 41 |
| 19 | 16 | | 250 | 255 | 259 | 263 | 268 | 620 | 618 | 616 | 613 | 611 | 380 | 382 | 384 | 387 | 389 | 750 | 745 | 741 | 737 | | | 40 |
| 20 | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | 24 | 9.772 | 285 | 289 | 293 | 298 | 302 | 602 | 599 | 597 | 595 | 592 | 398 | 401 | 403 | 405 | 408 | 713 | 711 | 707 | | | 36 | 39 |
| 22 | 28 | | | | | | | | | | | | 408 | 410 | 412 | 414 | 417 | | | | | | 32 | 38 |
| 23 | | | | | | | | | | | | | 417 | 419 | 421 | 424 | 426 | | | | | | 28 | 37 |
| 24 | | | | | | | | | | | | | 426 | | | | | | | | | | 24 | 36 |
| 25 | 4 | 9.772 | | | | | | | | | | | 435 | 438 | 440 | 442 | 445 | 0.230 | | | | | 20 | 35 |
| 26 | | | | | | | | | | | | | 445 | 447 | 449 | 452 | 454 | | | | | | 16 | 34 |
| 27 | 4 | | | | | | | | | | | | 454 | 456 | 459 | 461 | 463 | | | | | | 12 | 33 |
| 28 | 52 | | 405 | 409 | 413 | 417 | 422 | 537 | 534 | 532 | 530 | 527 | 463 | 466 | 468 | 470 | 473 | 595 | 591 | 587 | 583 | 578 | 4 | 31 |
| 29 | | | | | | | | | | | | | 473 | | | | | | | | | | | 30 |
| 30 | | 9.772 | | | | | | | | | | | | | | | | | | | | | 0 | 29 |
| 31 | 4 | | 456 | 460 | 464 | 469 | 473 | 509 | 506 | 504 | 502 | 499 | 491 | 494 | 496 | 498 | 501 | 544 | 540 | 536 | 531 | 527 | 52 | 28 |
| 32 | | | 473 | | | | | | | | | | | | | | | | | | | | 48 | 27 |
| 33 | 8 | | | | | | | | | | | | | | | | | | | | | | 44 | 26 |
| 34 | | | | | | | | | | | | | 510 | 513 | 515 | 517 | 520 | 510 | 506 | 502 | 497 | 493 | | 25 |
| 35 | | | | | | | | | | | | | | | | | | | | | | | 33. 40 | 24 |
| 36 | | 9.772 | | | | | | 9.907 | 471 | 469 | 466 | 464 | 462 | 0.093 | 529 | 531 | 534 | 536 | 538 | 0.230 | 476 | 472 | 467 | 463 | 459 | 36 | 23 |
| 37 | | | | | | | | | 462 | 459 | 457 | 455 | 452 | | 538 | 541 | 543 | 545 | 548 | | 459 | 455 | 450 | 446 | 442 | 32 | 22 |
| 38 | | | | | | | | | 452 | 450 | 448 | 445 | 443 | | 548 | 550 | 552 | 555 | 557 | | 442 | 438 | 433 | 429 | 425 | 28 | 21 |
| 39 | | | | | | | | | 443 | 441 | 438 | 436 | 434 | | 557 | 559 | 562 | 564 | 566 | | 425 | 421 | 416 | 412 | 408 | 24 | 20 |
| 40 | | | | | | | | | | | | | | | | | | | | | | | | 19 |
| 41 | 4 | 9.772 | | | | | | | 415 | 412 | 410 | 408 | 405 | 0.093 | 585 | 588 | 590 | 592 | 595 | 0.230 | 374 | 370 | 366 | 361 | 357 | 12 | 18 |
| 42 | | | | | | | | | 405 | 403 | 401 | 398 | 396 | | 595 | 597 | 599 | 602 | 604 | | 357 | 353 | 349 | 344 | 340 | 8 | 17 |
| 43 | | | | | | | | | 396 | 394 | 391 | 389 | 386 | | 604 | 606 | 609 | 611 | 614 | | 340 | 336 | 332 | 327 | 323 | 4 | 16 |
| 44 | | | | | | | | | 386 | 384 | 382 | 379 | 377 | | 614 | 616 | 618 | 621 | 623 | | 323 | 319 | 315 | 311 | 306 | 33. 0 | 15 |
| 45 | | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 46 | 4 | | | | | | | | | | | | | | | | | | | | | | | 13 |
| 47 | | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 48 | | | | | | | | | 349 | 346 | 344 | 342 | 339 | | 651 | 654 | 656 | 658 | 661 | | 256 | 251 | 247 | 243 | 239 | 44 | 11 |
| 49 | | | | | | | | | | | | | | | | | | | | | | | | 10 |
| 50 | | | | | | | | | | | | | | | | | | | | | | | | 9 |
| 51 | | | | | | | | | | | | | | | | | | | | | | | | 8 |
| 52 | | | | | | | | | | | | | | | | | | | | | | | | 7 |
| 53 | 32 | | 829 | 833 | 837 | 841 | 846 | | 301 | 299 | 297 | 294 | 292 | | 699 | 701 | 703 | 706 | 708 | | 171 | 167 | 163 | 159 | 154 | 24 | 6 |
| 54 | | | | | | | | | | | | | | | | | | | | | | | | 5 |
| 55 | | | | | | | | | | | | | | | | | | | | | | | | 4 |
| 56 | | | | | | | | | | | | | | | | | | | | | | | | 3 |
| 57 | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| 58 | 52 | | 913 | 917 | 921 | 925 | 930 | | 254 | 252 | 249 | 247 | 244 | | 746 | 748 | 751 | 753 | 756 | | 087 | 083 | 079 | 075 | 070 | 4 | 1 |
| 59 | | | | | | | | | | | | | | | | | | | | | | 66 | 062 | 058 | 054 | 32. 0 | 0 |
| | | | | | | | | | | | | | | | | | | 4″ | 3s 45″ | 2s 30″ | 1s 15″ | 0s 0″ | m s | ′ |
| | | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | 9h | 143° | |
| | | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | 3h | | |

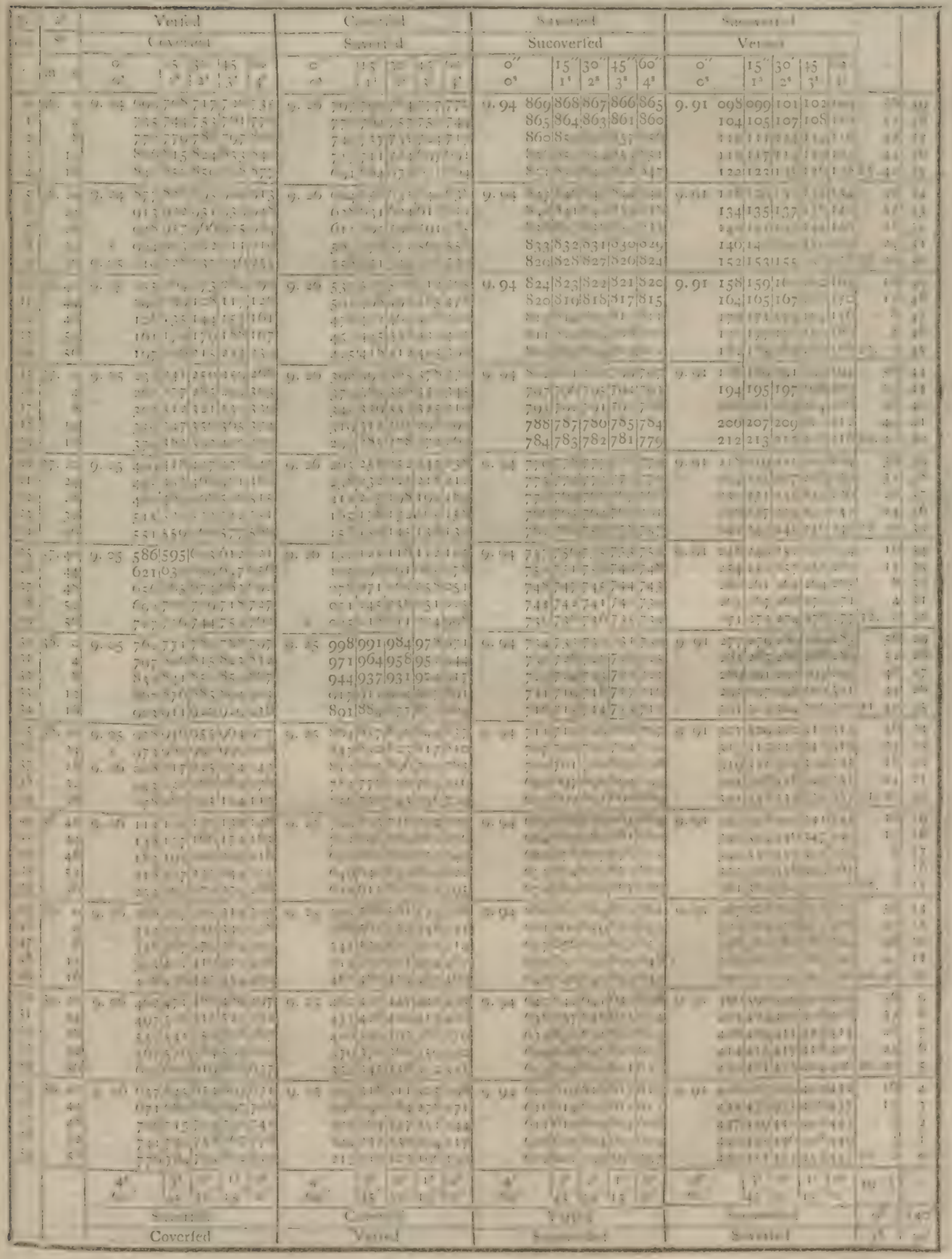
| ′ | ″ | Versed / Coversed | | | | | | Coversed / Suversed | | | | | | Suversed / Sucoversed | | | | | | Sucoversed / Versed | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0″ | 15″ | 30″ | 45″ | 60″ | | 0″ | 15″ | 30″ | 45″ | 60″ | | 0″ | 15″ | 30″ | 45″ | 60″ | | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | | | 0‴ | 1‴ | 2‴ | 3‴ | 4‴ | | 0‴ | 1‴ | 2‴ | 3‴ | 4‴ | | 0‴ | 1‴ | 2‴ | 3‴ | 4‴ | | 0‴ | 1‴ | 2‴ | 3‴ | 4‴ | | |
| 0 | 24. 0 | 8. 98 | | | | | | 9. 31 | | | | | | 9. 95 | 641 | 640 | 639 | 638 | 637 | 9. 89 | 976 | 978 | 979 | 981 | 983 | 59 | 59 |
| 1 | 4 | 8. 98 | | | | | | | | | | | | | 637 | 636 | 635 | 634 | 633 | | 983 | 984 | 986 | 987 | 989 | 52 | 58 |
| 2 | 8 | | | | | | | | | | | | | | 633 | 632 | 631 | 630 | 629 | | | | | | | 48 | 57 |
| 3 | 12 | | | | | | | | | | | | | | 629 | 628 | 627 | 626 | 625 | * | 995 | 997 | 999 | 000 | 002 | 44 | 56 |
| 4 | 16 | | | | | | | | | | | | | | 625 | 624 | 623 | 622 | 621 | 9. 90 | 0 | | | 005 | | 40 | 55 |
| 5 | 24. 24 | 8. 98 | | | | | | 9. 31 | | | | | | 9. 95 | 621 | 620 | 619 | 618 | 617 | 9. 90 | 008 | 010 | 012 | 013 | | 36 | 54 |
| 6 | 24 | | | | | | | | | | | | | | 617 | 616 | 615 | 614 | 612 | | 015 | 016 | 018 | 22 | | 32 | 53 |
| 7 | 28 | | | | | | | | | | | | | | 612 | 611 | 610 | 609 | 608 | | 021 | 023 | 024 | 026 | | 28 | 52 |
| 8 | 32 | | | | | | | | | | | | | | 608 | 607 | 606 | 605 | 604 | | 028 | 029 | 031 | 032 | 034 | 24 | 51 |
| 9 | 36 | | | | | | | | | | | | | | | | | | | | 034 | 036 | | | | 20 | 50 |
| 10 | 24. 40 | 8. 98 | | | | | | 9. 31 | | | | | | 9. 95 | | | | | | 9. 90 | | | | 45 | | 16 | |
| 11 | 44 | | 423 | 418 | | | | | 149 | 142 | 136 | | | | | | | | | | | | | | | 12 | |
| 12 | 48 | | | | | | | | 130 | 124 | 117 | 111 | | | | | | | | | | | | | | 8 | 47 |
| 13 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| 14 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | 0 | 45 |
| 15 | 28. 0 | 8. 98 | | | | | | 9. 31 | | | | | | 9. 95 | | | | | | 9. 90 | | | | | | 56 | |
| 16 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | 52 | |
| 17 | 8 | | | | | | | 9. 30 | | | | | | | | | | | | | | | | | | 48 | |
| 18 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | 44 | |
| 19 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | 40 | |
| 20 | 28. 20 | 8. 98 | | | | | | 9. 30 | | | | | | 9. 95 | | | | | | 9. 90 | | | | | | 36 | |
| 21 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | 32 | |
| 22 | 28 | | | | | | | | | | | | | | | | | | | | | | | | | 28 | |
| 23 | 32 | | | | | | | | | | | | | | | | | | | | | | | | | 24 | |
| 24 | 36 | | | | | | | | | | | | | | | | | | | | | | | | | 20 | |
| 25 | 28. 40 | | | | | | | | | | | | | | | | | | | 9. 90 | | | | | | 16 | |
| 26 | 44 | 8. 99 | | | | | | | | | | | | | | | | | | | | | | | | 12 | |
| 27 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | 8 | |
| 28 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| 29 | 56 | | 116 | 126 | 135 | 145 | 154 | | | | | | | | | | | | | | | | | | | 0 | |
| 30 | 29. 0 | 8. 99 | 154 | 164 | 173 | 183 | 193 | 9. 30 | 661 | 655 | 649 | 643 | 636 | 9. 95 | 517 | 516 | 515 | 514 | 513 | 9. 90 | 168 | 170 | 171 | 173 | 174 | 56 | |
| 31 | 4 | | 193 | 202 | 212 | 221 | 231 | | 636 | 630 | 624 | 618 | 611 | | 513 | 512 | 511 | 510 | 509 | | 174 | 176 | 178 | | | 52 | |
| 32 | 8 | | 231 | 240 | 250 | 260 | 269 | | 611 | 605 | 599 | 593 | 586 | | 509 | 508 | 507 | 506 | 505 | | 181 | 183 | 184 | | | 48 | |
| 33 | 12 | | 269 | 279 | 288 | 298 | 307 | | 586 | 580 | 574 | 567 | 561 | | 505 | 504 | 503 | 502 | 501 | | 187 | 189 | 191 | | | 44 | |
| 34 | 16 | | 307 | 317 | 327 | 336 | 346 | | 561 | 555 | 549 | 542 | 536 | | 501 | 499 | 498 | 497 | 496 | | 194 | 195 | 197 | | | 40 | |
| 35 | 29. 20 | 8. 99 | 346 | 355 | 365 | 374 | 384 | 9. 30 | 536 | 530 | 524 | 517 | 511 | 9. 95 | 496 | 495 | 494 | 493 | 492 | 9. 90 | 200 | 202 | | | | 36 | |
| 36 | 24 | | 384 | 393 | 403 | 412 | 422 | | 511 | 505 | 498 | 492 | 486 | | 492 | 491 | 490 | 489 | 488 | | 206 | | | | | 32 | |
| 37 | 28 | | 422 | 432 | 441 | 451 | 460 | | 486 | 480 | 473 | 467 | 461 | | 488 | 487 | 486 | | 484 | | 213 | 214 | 216 | 218 | | 28 | |
| 38 | 32 | | 460 | 470 | 479 | 489 | 498 | | 461 | 454 | 448 | 442 | 436 | | 484 | 483 | 482 | 481 | 480 | | 219 | 221 | 222 | | | 24 | |
| 39 | | | | | | | | | | | | | | | | | | | | | | | | | | 20 | |
| 40 | 29. 40 | 8. 99 | 536 | 546 | 556 | 565 | 575 | 9. 30 | 410 | 404 | 398 | 392 | | 9. 95 | | | | | | 9. 90 | | | | | | 16 | |
| 41 | 44 | | 575 | 584 | 594 | 603 | 613 | | 385 | 379 | 373 | 367 | | | | | | | | | | | | | | 12 | |
| 42 | 48 | | 613 | | | | | | | | | | | | | | | | | | | | | | | 8 | |
| 43 | 52 | | 651 | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| 44 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | 0 | |
| 45 | 30. 0 | 8. 99 | 727 | 739 | 746 | 755 | 765 | 9. 30 | 285 | 278 | 272 | 266 | 259 | 9. 95 | 454 | 453 | 452 | | | 9. 90 | | | | | | 56 | |
| 46 | 4 | | | | | | | | | | | | | | 450 | 449 | 448 | 447 | 446 | | | | | | | 52 | |
| 47 | 8 | | | | | | | | | | | | | | 446 | 445 | 444 | 443 | 441 | | | | | | | 48 | |
| 48 | 12 | | | | | | | | | | | | | | 442 | 441 | 440 | 439 | | | | | | | | 44 | |
| 49 | 16 | | 879 | 888 | 898 | 907 | 917 | | 164 | 177 | 171 | 165 | 158 | | 438 | 437 | 436 | | | | | | | | | 40 | |
| 50 | | 8. 99 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | 30. 40 | 9. 00 | 106 | 116 | 125 | 135 | 144 | 9. 30 | 032 | 026 | 019 | 013 | 007 | 9. 95 | 412 | 411 | 410 | | | 9. 90 | | | | | | 16 | |
| 56 | 44 | | 144 | 154 | 163 | 172 | 182 | * | 007 | 000 | 994 | 988 | 981 | | 408 | 407 | 406 | | | | | | | | | 12 | |
| 57 | 48 | | | | | | | | | | | | | | | | | | | | | | | | | 8 | |
| 58 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | |
| 59 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | 0 | |
| | | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | m | ′ |
| | | | Suversed / Coversed | | | | | | Coversed / Versed | | | | | | Versed / Sucoversed | | | | | | Sucoversed / Suversed | | | | | s | 14′ |

| 37 | ′ | Sine | | | | | | Cosine | | | | | | Cosecant | | | | | | Secant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 143 | ″ | Cosine | | | | | | Sine | | | | | | Secant | | | | | | Cosecant | | | | | | |
| | | ″ | 15 | 30 | 45 | 0 | 15′ | ″ | | | | | 15′ | ″ | 15 | 30 | 45 | 0 | 15′ | ″ | | | | | 15′ | |
| 0 | | | 9.77 | 946 | 950 | 955 | 959 | 963 | 9.90 | 235 | 232 | 230 | 228 | 225 | 0.09 | 765 | 768 | 770 | 772 | 775 | 0.22 | 054 | 050 | 045 | 041 | 037 | 56 | 59 |
| 1 | | | | 963 | 967 | 971 | 976 | 980 | | 225 | 223 | 221 | 218 | 216 | | 775 | 777 | 779 | 782 | 784 | | 037 | 033 | 029 | 024 | 020 | 52 | 58 |
| 2 | | | | 980 | 984 | 988 | 992 | 997 | | 216 | 213 | 211 | 209 | 206 | | 784 | 787 | 789 | 791 | 794 | | 020 | 016 | 012 | 008 | 003 | 48 | 57 |
| 3 | | 1 | | 997 | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | 9 | 18 | | | | | | | | | | | | | | | | | 21 | 997 | 992 | 987 | 974 | 970 | 31. 4 | 55 |
| 5 | | | 9.78 | | | | | | | | | | | | | | | | | | 0.21 | 970 | 966 | 962 | 957 | 953 | 36 | 54 |
| 6 | | | | | | | | | | | | | | | | | | | | | | 953 | 949 | 945 | 941 | 937 | 32 | 53 |
| 7 | | | | | | | | | | | | | | | | | | | | | | 937 | 932 | 928 | 924 | 920 | 28 | 52 |
| 8 | | | | | | | | | | | | | | | | | | | | | | 920 | 916 | 912 | 907 | 903 | 24 | 51 |
| 9 | | | | | | | | | | | | | | | | | | | | | | 903 | 899 | 895 | 891 | 887 | 31. 20 | 50 |
| 10 | | | 9.78 | | | | | | | | | | | | | | | | | | 0.21 | 887 | 882 | 878 | 874 | 870 | 16 | 49 |
| 11 | | | | 130 | 134 | 138 | 143 | 147 | | 130 | 127 | 125 | 123 | 120 | | 870 | 873 | 875 | 877 | 880 | | 870 | 866 | 862 | 857 | 853 | | |
| 12 | | | | 147 | 151 | 155 | 159 | 163 | | 120 | 118 | 115 | 113 | 111 | | 880 | 882 | 885 | 887 | 889 | | 853 | 849 | 845 | 841 | 837 | | |
| 13 | | | | 163 | 168 | 172 | 176 | 180 | | 111 | 108 | 106 | 103 | 101 | | 889 | 892 | 894 | 897 | 899 | | 837 | 832 | 828 | 824 | 82 | | 4 |
| 14 | | | | 18 | | | | | | | | | | | | 899 | 901 | 904 | 906 | 909 | | 820 | 816 | 812 | 808 | | | |
| 15 | | | 9.78 | | | | | | | | | | | | 0.09 | 909 | 911 | 913 | 916 | 918 | 0.21 | 803 | 799 | 795 | 791 | 787 | 56 | 44 |
| 16 | | | | | | | | | | | | | | | | 918 | 921 | 923 | 925 | 928 | | 787 | 783 | 778 | 774 | 770 | 5 | |
| 17 | | | | | | | | | | | | | | | | 928 | 930 | 933 | 935 | 937 | | 77 | | | | | 4 | |
| 18 | | | | | | | | | | | | | | | | 937 | 940 | 942 | 945 | 947 | | 754 | | | | | 4 | 41 |
| 19 | | | | | | | | | | | | | | | | 947 | 949 | 952 | 954 | 957 | | 737 | | | | | 4 | |
| 20 | | | 9.78 | | | | | | | | | | | | 0.09 | 957 | 959 | 962 | 964 | 966 | 0.21 | 7 | | | | | | |
| 21 | | | | | | | | | | | | | | | | 966 | 969 | 971 | 974 | 976 | | | | | | | | |
| 22 | | | | | | | | | | | | | | | | 976 | 978 | 981 | 983 | 986 | | 6 | | | | 71 | 4 | 37 |
| 23 | | | | | | | | | | | | | | | | 986 | 988 | 990 | 993 | 995 | | 671 | | | | | 4 | |
| 24 | | | | | | | | | | | | | | | * | 995 | 998 | 000 | 003 | 005 | | 654 | | | | | | 33 |
| 25 | | | 9.78 | | | | | | | | | | | | 0.10 | 005 | 007 | 010 | 012 | 015 | 0.21 | 638 | 634 | 629 | 625 | 621 | 16 | 34 |
| 26 | | | | | | | | | | 985 | 983 | 981 | 978 | 976 | | 015 | 017 | 019 | 022 | 024 | | 621 | 617 | 613 | 609 | 605 | 12 | 33 |
| 27 | | | | | | | | | | 97 | 973 | 971 | 968 | 966 | | 024 | 027 | 029 | 032 | 034 | | 605 | 601 | 596 | 592 | 588 | 8 | 32 |
| 28 | | | | | | | | | | 966 | 964 | 961 | 959 | 956 | | 034 | 036 | 039 | 041 | 044 | | 588 | 584 | 580 | 576 | 572 | 4 | 31 |
| 29 | | | | | | | | | | 956 | 954 | 952 | 949 | 947 | | 044 | 046 | 048 | 051 | 053 | | 572 | 565 | 564 | 559 | 555 | 30. 0 | 30 |
| 30 | | | 9.78 | | | | | | | | | | | | 0.10 | 053 | 056 | 058 | 061 | 063 | 0.21 | 555 | 551 | 547 | 542 | 538 | 56 | 29 |
| 31 | | | | | | | | | | | | | | | | 063 | | | | | | | | | | | | |
| 32 | | | | | | | | | | | | | | | | 073 | | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | | | 082 | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | | 092 | | | | | | | | | | | | |
| 35 | | | 9.78 | | | | | | 9.89 | 898 | 896 | 893 | 891 | 888 | 0.10 | 102 | 104 | 107 | 109 | 111 | 0.21 | 471 | | | | | | |
| 36 | | | | | | | 539 | 543 | | 888 | 886 | 884 | 881 | 879 | | 112 | 114 | 116 | | 121 | | 455 | | | | | | |
| 37 | | | | | | | 556 | 560 | | 879 | 876 | 874 | 871 | 869 | | 121 | 124 | 126 | 129 | 131 | | 440 | | | | | | |
| 38 | | | | | | | 572 | 576 | | 869 | 866 | 864 | 862 | 859 | | 131 | 134 | 136 | 138 | 141 | | 424 | | | | | | |
| 39 | | | | | | | 588 | 592 | | | | | | | | | | | | | | | | | | | | |
| 40 | | | 9.78 | 609 | 613 | 617 | 621 | 625 | 9.89 | 849 | 847 | 845 | 842 | 840 | 0.10 | 151 | 153 | 155 | 158 | 160 | 0.21 | 393 | | | | | | |
| 41 | | | | 625 | 629 | 633 | 637 | 642 | | | | | | | | 160 | | | | | | 377 | | | | | | |
| 42 | | | | 642 | 646 | 650 | 654 | 658 | | | | | | | | 177 | | | | | | 361 | | | | | | |
| 43 | | | | 658 | 662 | 666 | 670 | 674 | | | | | | | | 193 | | | | | | 344 | | | | | | |
| 44 | | | | 674 | | | | | | | | | | | | 210 | | | | | | 328 | | | | | | |
| 45 | | | 9.78 | 691 | 695 | 699 | 703 | 707 | 9.89 | 801 | 798 | 796 | 793 | 791 | 0.10 | | | | | | 0.21 | | | | | | | |
| 46 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | | | 9.78 | | | | | | 9.89 | | | | | | 0.10 | | | | | | 0.21 | | | | | | | |
| 51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | | | 9.78 | | | | | | 9.89 | | | | | | 0.10 | | | | | | 0.21 | | | | | | | |
| 56 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58 | | 52 | | 902 | 906 | 910 | 914 | 918 | | 683 | 680 | 678 | 675 | 673 | | 317 | | | | | | 097 | | | | | | |
| 59 | | 50 | | 918 | 922 | 926 | 930 | 934 | | 673 | 670 | 668 | 666 | 663 | | 327 | | | | | | 080 | | | | | | |
| | | | | | | | | | | 663 | 661 | 658 | 656 | 653 | | 347 | | | | | | 064 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |



| ′ | d. | Sine / Cosine | 0 | 1 | 2 | 3 | 4 | Cosine / Sine | 0 | 1 | 2 | 3 | 4 | Secant / Cosecant | 0 | 1 | 2 | 3 | 4 | Cosecant / Secant | 0 | 15 | 30 | 45 | 60 | d. | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | 938 | 942 | 946 | 950 | | 9.89 | 653 | 651 | 648 | 646 | 643 | | | 34 | | | | | | 0.21 | 066 | 062 | 058 | 054 | 05 | | 60 |
| 1 | | | | 954 | 958 | 962 | 967 | | | 643 | 641 | 638 | 636 | 633 | | | 3 | | | | | | | 050 | 046 | 042 | 038 | 033 | | 59 |
| 2 | | | | 971 | 975 | 979 | 983 | | | 633 | 631 | 629 | 626 | 624 | | | 3 | | | | | | | 033 | 029 | 025 | 021 | 017 | | 58 |
| 3 | 1 | | | 983 | 987 | 991 | 995 | 999 | | 624 | 621 | 619 | 616 | 614 | | | 3 | | | | | | | 017 | 013 | | | 01 | | 57 |
| 4 | 1 | | * | 999 | 003 | 007 | 011 | 015 | | 614 | 611 | 609 | 606 | 604 | | | 3 | 389 | 391 | 394 | 396 | | * | 001 | 997 | 993 | 989 | 85 | 27.4 | 56 |
| 5 | 3 | | 9.79 | 01 | | | | | 9.89 | | | | | | | 0.10 | | | | | | | 0.20 | 98 | 81 | 77 | 73 | | | 54 |
| 6 | 2 | | | 03 | 03 | 39 | 43 | 1 | | 594 | 59 | 5 | 5 | 584 | | | 4 | | | | | | | 9 | | | | 53 | | 53 |
| 7 | 2 | | | 047 | 051 | 055 | 059 | 063 | | 584 | 582 | 579 | 577 | 574 | | | 416 | 418 | 421 | 423 | 426 | | | 953 | 949 | 945 | 941 | 937 | | 52 |
| 8 | 3 | | | 063 | 067 | 071 | 075 | 079 | | 574 | 572 | 569 | 567 | 564 | | | 426 | 428 | 431 | 433 | 436 | | | 937 | 933 | 929 | 925 | 921 | | 51 |
| 9 | 3 | | | 07 | 08 | 087 | 091 | 095 | | 564 | 562 | 559 | 557 | 554 | | | 436 | 438 | 441 | 443 | 446 | | | 921 | 917 | 913 | 909 | 905 | 27. | 50 |
| 10 | 3 | 4 | 9.79 | 09 | | | | 107 | 9.89 | | | | | | | 0.10 | | | | | | | 0.20 | | | | | | | 50 |
| 11 | 4 | | | 111 | 11 | 12 | 124 | 128 | | | | | | | | | 4 | | | | | | | 88 | | | | 872 | | 49 |
| 12 | 4 | | | 128 | 132 | 136 | 14 | 144 | | | | | | | | | 4 | | | | | | | 87 | | | | 56 | | 48 |
| 13 | 5 | | | 144 | 148 | 152 | 156 | | | | | | | | | | 4 | | | | | | | 85 | | | | 44 | | 47 |
| 14 | 5 | | | 16 | 164 | 168 | 172 | 176 | | | | | | | | | 4 | | | | | | | 83 | | | | 32 | 27. | 46 |
| 15 | 5 | 6 | 9.79 | 17 | 18 | 184 | 188 | 19 | 9.89 | | | | | | | 0.10 | | | | | | | 0.20 | | | | | | | 45 |
| 16 | 6 | | | 192 | 196 | 200 | 204 | 208 | | 495 | 492 | 490 | 487 | 485 | | | 505 | 508 | 510 | 513 | 515 | | | 808 | 804 | 800 | 796 | 792 | | 44 |
| 17 | 6 | | | | | | | | | 483 | 482 | 480 | 477 | 475 | | | 51 | 518 | | | | | | 76 | 88 | 84 | 8 | | | 43 |
| 18 | 7 | | | 224 | | 23 | 236 | | | 475 | 472 | 470 | 467 | 46 | | | 5 | 52 | | | | | | 77 | 77 | 7 | 76 | 47 | | 42 |
| 19 | 7 | | | 240 | 244 | 248 | 25 | | | 46 | 46 | 46 | 45 | 455 | | | 5 | 53 | | | | | | 7 | 756 | 752 | 1 | 74 | 27. | 41 |
| 20 | 8 | | 9.79 | 256 | 260 | 264 | 268 | 27 | 9.89 | 435 | 43 | 43 | 44 | 445 | | 0.10 | 545 | 54 | 55 | 553 | 555 | | 0.20 | 744 | 74 | 736 | 73 | 728 | | 40 |
| 21 | 8 | | | 272 | 276 | 280 | 284 | 2 | | 445 | 442 | 440 | 437 | 435 | | | 555 | 558 | 560 | 563 | 565 | | | 728 | 724 | 720 | 716 | 712 | | 39 |
| 22 | 9 | | | 288 | 292 | 296 | 300 | 3 | | 435 | 432 | 430 | 427 | 425 | | | 565 | 568 | 570 | 573 | 575 | | | 712 | 708 | 704 | 700 | 696 | | 38 |
| 23 | 9 | | | 304 | 308 | 312 | 316 | 3 | | 4 | 422 | 420 | 417 | 415 | | | 575 | 578 | 580 | 583 | 585 | | | 69 | 69 | 688 | 684 | 681 | | 37 |
| 24 | 10 | | | 319 | 323 | 327 | 331 | 33 | | 415 | 412 | 410 | 407 | 405 | | | 585 | 588 | 590 | 593 | 595 | | | 681 | 677 | 673 | 669 | 665 | 26. | 36 |
| 25 | 11 | | | | | | | 35 | 9.89 | 405 | 402 | 400 | 397 | 395 | | 0.10 | 595 | 598 | 600 | 603 | 605 | | 0.20 | 665 | 661 | 657 | 653 | 649 | | 35 |
| 26 | 11 | | | | | | | 67 | | 395 | | 39 | | | | | 605 | 608 | 610 | 613 | 615 | | | 649 | 645 | 641 | 637 | 633 | | 34 |
| 27 | 12 | | | | | | | 83 | | 385 | 382 | 380 | | | | | 615 | 618 | 620 | 623 | 625 | | | 633 | 629 | 625 | 621 | 617 | | 33 |
| 28 | 12 | | | 38 | 38 | 39 | | | | 37 | 372 | 37 | | 364 | | | 625 | 628 | 630 | 633 | 636 | | | 617 | 613 | 609 | 605 | 601 | | 32 |
| 29 | 13 | | | | 403 | 407 | 411 | 415 | | 364 | 362 | 3 | 357 | 354 | | | 636 | 638 | 641 | 643 | 646 | | | 60 | 597 | 593 | 589 | 585 | | 31 |
| 30 | 14 | | 9.79 | 419 | 423 | 427 | 431 | | 9.89 | 354 | 35 | 349 | 347 | 344 | | 0.10 | 646 | 648 | 651 | 653 | 656 | | 0.20 | 58 | 581 | 577 | 573 | 569 | | 30 |
| 31 | 14 | | | 435 | 439 | 443 | 447 | | | 344 | 34 | 339 | 337 | 334 | | | 656 | 658 | 661 | 663 | 666 | | | 56 | 565 | 561 | 557 | 553 | | 29 |
| 32 | 15 | | | 451 | 455 | 459 | 463 | | | 334 | 33 | 329 | 327 | 324 | | | 666 | 668 | 671 | 673 | 676 | | | 553 | 549 | 545 | 541 | 537 | | 28 |
| 33 | 15 | | | 467 | 471 | 474 | 478 | | | 324 | 32 | 319 | 317 | 314 | | | 676 | 678 | 681 | 683 | 686 | | | 537 | 53 | 53 | 52 | 52 | | 27 |
| 34 | 16 | | | 48 | 48 | | | | | 314 | 31 | 3 | 307 | 304 | | | 686 | 688 | 691 | 693 | 696 | | | 52 | 518 | 514 | 510 | 506 | 25. | 26 |
| 35 | 17 | | 9.79 | | | | | 51 | 9.89 | | | | | | | 0.10 | 696 | 698 | 701 | 703 | 706 | | 0.20 | 500 | 502 | 498 | 494 | 490 | | 25 |
| 36 | 17 | | | | | | | | | | | | | | | | 706 | 708 | 711 | 714 | 716 | | | 490 | 486 | 482 | 478 | 474 | | 24 |
| 37 | 18 | | | | | | | | | | | | | | | | 716 | 719 | 721 | 724 | 726 | | | 474 | 470 | 466 | 462 | 458 | | 23 |
| 38 | 18 | | | | | | | | | 274 | 27 | | | | | | 726 | 729 | 731 | 734 | 736 | | | 458 | 454 | 450 | 446 | 442 | | 22 |
| 39 | 19 | | | 5 | | | | 67 | | | | | | | | | 736 | 739 | 741 | 744 | 746 | | | 442 | 439 | 435 | 431 | 427 | 25. | 21 |
| 40 | 20 | | 9.79 | 57 | 7 | | | | 9.89 | 24 | | | | | | 0.10 | 746 | 749 | 751 | 754 | 756 | | 0.20 | 427 | 423 | 419 | 415 | 411 | | 20 |
| 41 | 20 | | | | | | | | | 4 | 4 | -30 | -33 | -35 | | | 756 | 759 | 762 | 764 | 767 | | | 411 | 407 | 403 | 399 | 395 | | 19 |
| 42 | 21 | | | | | | 13 | | | 231 | 228 | 226 | 223 | | | | 767 | 769 | 772 | 774 | 777 | | | 395 | 391 | 387 | 382 | 379 | | 18 |
| 43 | 22 | | | | | | | | | 21 | 218 | 216 | 213 | | | | 777 | 779 | 782 | 784 | 787 | | | 379 | 375 | 371 | | | | 17 |
| 44 | 22 | | | | | | | | | 11 | 208 | 206 | 203 | | | | 787 | 780 | 792 | 794 | 797 | | | 364 | 360 | 356 | | | | 16 |
| 45 | 23 | | 9.79 | | | | | | 9.89 | | | | | | | 0.10 | | | | | | | 0.20 | | | | | | | 15 |
| 46 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 14 |
| 47 | 24 | | | 684 | 688 | 691 | 695 | 699 | | 183 | 180 | 178 | 175 | 173 | | | 817 | 820 | 822 | 825 | 827 | | | 316 | 312 | 309 | 3 | | | 13 |
| 48 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 12 |
| 49 | 25 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 11 |
| 50 | 26 | | 9.79 | | | | | | 9.89 | 152 | 150 | 147 | 145 | 142 | | 0.10 | 848 | 850 | 853 | 855 | 858 | | | | | | | | | 10 |
| 51 | 26 | | | | | | | | | 142 | 140 | 137 | 134 | 132 | | | 858 | 860 | 863 | 866 | 868 | | | | | | | | | 9 |
| 52 | 27 | | | | | | | | | 132 | 129 | 127 | 124 | 122 | | | 868 | 871 | 873 | 876 | 878 | | | | | | | | | 8 |
| 53 | 28 | | | | | | | | | 122 | 119 | 117 | 114 | 112 | | | 878 | 881 | 883 | 886 | 888 | | | | | | | | | 7 |
| 54 | 28 | | | | | | | | | 112 | 109 | 106 | 104 | 101 | | | 888 | 891 | 894 | 896 | 899 | | | | | | | | | 6 |
| 55 | 29 | | 9.79 | | | | | | 9.89 | 101 | 099 | 096 | 094 | 091 | | 0.10 | 899 | 901 | 904 | 906 | 909 | | 0.20 | 191 | 187 | 183 | 179 | 175 | | 5 |
| 56 | 30 | | | | | | | | | 091 | 089 | 086 | 083 | 081 | | | 909 | 911 | 914 | 917 | 919 | | | 175 | 171 | 167 | 164 | 160 | | 4 |
| 57 | 30 | | | | | | | | | 081 | 078 | 076 | 073 | 071 | | | 919 | 922 | 924 | 927 | 929 | | | 160 | 156 | 152 | 148 | 144 | | 3 |
| 58 | 31 | | | | | | | | | 071 | 068 | 066 | 063 | 060 | | | 929 | 932 | 934 | 937 | 940 | | | 144 | 140 | 136 | 132 | 128 | | 2 |
| 59 | 32 | | | | | | | | | | | | | 050 | | | 940 | 942 | 945 | 947 | 950 | | | 128 | 125 | 121 | 117 | | | 1 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| | | Sine / Cosine | | | | | | Cosine / Sine | | | | | | Secant / Cosecant | | | | | | Cosecant / Secant | | | | | | | |

| | | Verſed | | | | | Coverſed | | | | | Suverſed | | | | | Sucoverſed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | 0″ | 15 | 30″ | 45″ | 60″ | | |
| | | | | | | | | | | | | | | | | | 0° | 1° | 2° | 3° | 4° | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
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| 40° | 2h | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 130° | 8m | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | | |
| ′ | m s | 0° | 15″ | 30″ | 45″ | 60″ | 0° | 15″ | 30″ | 45″ | 60″ | 0° | 15″ | 30″ | 45″ | 60″ | 0° | 15″ | 30″ | 45″ | 60″ | | |
| | | 0s | 1s | 2s | 3s | 4s | | 1s | 2s | 3s | 4s | | 1s | 2s | 3s | 4s | | | | | | | |
| 0 | 40. 0 | 9. 80 | 807 | 811 | 814 | 818 | 822 | 9. 88 | 423 | 423 | 420 | 417 | 415 | 0. 11 | 575 | 577 | 580 | 583 | 585 | 0. 19 | 193 | 189 | 186 | 182 | 178 | | |
| 1 | 4 | | 822 | 826 | 829 | 833 | 837 | | 415 | 412 | 409 | 407 | 404 | | 585 | 588 | 591 | 593 | 596 | | 178 | 174 | 171 | 167 | 163 | 52 | 58 |
| 2 | 8 | | 837 | 841 | 844 | 848 | 852 | | 406 | 403 | 401 | 398 | 395 | | 596 | 598 | 601 | 604 | 606 | | 163 | 159 | 156 | 152 | 148 | 48 | 57 |
| 3 | 12 | | 852 | 856 | 859 | 863 | 867 | | 398 | 395 | 392 | 389 | 387 | | 606 | 609 | 612 | 614 | 617 | | 148 | 144 | 141 | | | | |
| 4 | 16 | | 867 | 871 | 874 | 878 | 882 | | 389 | 386 | 383 | 381 | 378 | | 617 | 620 | 622 | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 24 | | 897 | 901 | 904 | 908 | 912 | | 362 | 359 | 356 | 354 | 351 | | 638 | 641 | 644 | 646 | 649 | | 123 | 119 | 116 | 112 | 109 | 32 | 53 |
| 7 | 28 | | 912 | 916 | 919 | 923 | 927 | | 351 | 348 | 346 | 343 | 340 | | 649 | 652 | 654 | 657 | 660 | | 088 | 084 | 081 | 077 | 073 | 28 | 52 |
| 8 | 32 | | 927 | 931 | 934 | 938 | 942 | | 340 | 337 | 335 | 332 | 329 | | 660 | 663 | 665 | 668 | 671 | | 053 | 049 | 046 | 042 | 039 | 24 | 51 |
| 9 | 36 | | 942 | 946 | 949 | 953 | 957 | | 330 | 327 | 324 | 322 | 319 | | 670 | 673 | 676 | 678 | 681 | | 058 | 054 | 051 | 047 | 043 | 19. 20 | 50 |
| 10 | 40. 40 | 9. 80 | 957 | 961 | 964 | 968 | 972 | 9. 88 | 319 | 316 | 314 | 311 | 308 | 0. 11 | 681 | 684 | 686 | 689 | 692 | 0. 19 | 043 | 039 | 036 | | | | |
| 11 | 44 | | 972 | 976 | 979 | 983 | 987 | | 308 | 306 | 303 | 300 | 298 | | 692 | 694 | 697 | 700 | 702 | | 028 | 024 | 021 | 017 | | | |
| 12 | 48 | * | 987 | 991 | 994 | 998 | 002 | | 298 | 295 | 292 | 290 | 287 | | 702 | 705 | 708 | 710 | 713 | * | 013 | 009 | 006 | 002 | 998 | 8 | 47 |
| 13 | 52 | 9. 81 | 002 | 005 | 009 | 013 | 017 | | 287 | 284 | 282 | 279 | 276 | | 713 | 716 | 718 | 721 | 724 | 0. 18 | 998 | 995 | 991 | 987 | 983 | 4 | 46 |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 41. 0 | 9. 81 | 032 | 035 | 039 | 043 | 047 | 9. 88 | 266 | 263 | 260 | 258 | 255 | 0. 11 | 734 | 737 | 740 | 742 | 745 | 0. 18 | 968 | 965 | 961 | 957 | 954 | 56 | 44 |
| 16 | 4 | | 047 | 050 | 054 | 058 | 061 | | 255 | 252 | 250 | 247 | 244 | | 745 | 748 | 750 | 753 | 756 | | 954 | 950 | 946 | 942 | 939 | 52 | 43 |
| 17 | 8 | | 061 | 065 | 069 | 073 | 076 | | 244 | 242 | 239 | 236 | 234 | | 756 | 758 | 761 | 764 | 766 | | 939 | 935 | 931 | 927 | 924 | 48 | 42 |
| 18 | 12 | | 076 | 080 | 084 | 087 | 091 | | 234 | 231 | 228 | 226 | 223 | | 766 | 769 | 772 | 774 | 777 | | 924 | 920 | 916 | 913 | 909 | 44 | 41 |
| 19 | 16 | | 091 | 095 | 099 | 102 | 106 | | 223 | 220 | 217 | 215 | 212 | | 777 | 780 | 783 | 785 | 788 | | 909 | 905 | 901 | 898 | 894 | 18. 40 | 40 |
| 20 | 41. 20 | 9. 81 | 106 | 110 | 114 | 117 | 121 | 9. 88 | 212 | 209 | 207 | 204 | 201 | 0. 11 | 788 | 791 | 793 | 796 | 799 | 0. 18 | 894 | 890 | 886 | 882 | 879 | 36 | 39 |
| 21 | 24 | | 121 | 125 | 128 | 132 | 136 | | 201 | 199 | 196 | 193 | 191 | | 799 | 801 | 804 | 807 | 809 | | 879 | 875 | 872 | 868 | 864 | 32 | 38 |
| 22 | 28 | | 136 | 140 | 143 | 147 | 151 | | 191 | 188 | 185 | 183 | 180 | | 809 | 812 | 815 | 817 | 820 | | 864 | 860 | 857 | 853 | 849 | 28 | 37 |
| 23 | 32 | | 151 | 154 | 158 | 162 | 166 | | 180 | 177 | 175 | 172 | 169 | | 820 | 823 | 825 | 828 | 831 | | 849 | 846 | 842 | 838 | 834 | 24 | 36 |
| 24 | 36 | | 166 | 169 | 173 | 177 | 181 | | 169 | 166 | 164 | 161 | 158 | | 831 | 833 | 836 | 839 | 841 | | 834 | 831 | 827 | 823 | 820 | 18. 20 | 35 |
| 25 | 41. 40 | 9. 81 | 180 | 184 | 188 | 192 | 195 | 9. 88 | 158 | 156 | 153 | 150 | 148 | 0. 11 | 842 | 844 | 847 | 850 | 852 | 0. 18 | 820 | 816 | 812 | 809 | 805 | 16 | 34 |
| 26 | 44 | | 195 | 199 | 203 | 206 | 210 | | 148 | 145 | 142 | 140 | 137 | | 852 | 855 | 858 | 860 | 863 | | 805 | 801 | 797 | 794 | 790 | 12 | 33 |
| 27 | 48 | | 210 | 214 | 217 | 221 | 225 | | 137 | 134 | 131 | 129 | 126 | | 863 | 866 | 868 | 871 | 874 | | 790 | 786 | 782 | 779 | 775 | 8 | 32 |
| 28 | 52 | | 225 | 229 | 232 | 236 | 240 | | 126 | 123 | 121 | 118 | 115 | | 874 | 876 | 879 | 882 | 884 | | 775 | 771 | 768 | 764 | 760 | 4 | 31 |
| 29 | 56 | | 240 | 243 | 247 | 251 | 254 | | 115 | 113 | 110 | 107 | 105 | | 885 | 887 | 890 | 893 | 895 | | 760 | 757 | 753 | 749 | 746 | 18. 0 | 30 |
| 30 | 42. 0 | 9. 81 | 254 | 258 | 262 | 266 | 269 | 9. 88 | 105 | 102 | 099 | 096 | 094 | 0. 11 | 895 | 898 | 901 | 904 | 906 | 0. 18 | 746 | 742 | 738 | 734 | 731 | 56 | 29 |
| 31 | 4 | | 269 | 273 | 277 | 280 | 284 | | 094 | 091 | 088 | 086 | 083 | | 906 | 909 | 912 | 914 | 917 | | 731 | 727 | 723 | 720 | 716 | 52 | 28 |
| 32 | 8 | | 284 | 288 | 291 | 295 | 299 | | 083 | 080 | 078 | 075 | 072 | | 917 | 920 | 922 | 925 | 928 | | 716 | 712 | 709 | 705 | 701 | 48 | 27 |
| 33 | 12 | | 299 | 302 | 306 | 310 | 314 | | 072 | 069 | 067 | 064 | 061 | | 928 | 931 | 933 | 936 | 939 | | 701 | 698 | 694 | 690 | 686 | 44 | 26 |
| 34 | 16 | | 314 | 317 | 321 | 325 | 328 | | 061 | 059 | 056 | 053 | 051 | | 939 | 941 | 944 | 947 | 949 | | 686 | 683 | 679 | 675 | 672 | 17. 40 | 25 |
| 35 | 42. 20 | 9. 81 | 328 | 332 | 336 | 340 | 343 | 9. 88 | 051 | 048 | 045 | 043 | 040 | 0. 11 | 949 | 952 | 955 | 957 | 960 | 0. 18 | 672 | 668 | 664 | 661 | 657 | 16 | 24 |
| 36 | 24 | | 343 | 347 | 351 | 354 | 358 | | 040 | 037 | 035 | 032 | 029 | | 960 | 963 | 965 | 968 | 971 | | 657 | 653 | 650 | 646 | 642 | 12 | 23 |
| 37 | 28 | | 358 | 362 | 365 | 369 | 373 | | 029 | 027 | 024 | 021 | 019 | | 971 | 973 | 976 | 979 | 981 | | 642 | 639 | 635 | 631 | 628 | 8 | 22 |
| 38 | 32 | | 373 | 376 | 380 | 384 | 387 | | 019 | 016 | 013 | 011 | 008 | | 981 | 984 | 987 | 989 | 992 | | 628 | 624 | 620 | 617 | 613 | 4 | 21 |
| 39 | 36 | | 387 | 391 | 395 | 398 | 402 | * | 007 | 004 | 002 | 999 | 996 | * | 993 | 996 | 998 | 001 | 004 | | 613 | 609 | 605 | 602 | 598 | 17. 20 | 20 |
| 40 | 42. 40 | 9. 81 | 402 | 406 | 410 | 413 | 417 | 9. 88 | 996 | 993 | 990 | 988 | 985 | 0. 12 | 004 | 007 | 010 | 012 | 015 | 0. 18 | 598 | 594 | 590 | 587 | 583 | 16 | 19 |
| 41 | 44 | | 417 | 420 | 424 | 428 | 431 | | 985 | 983 | 980 | 977 | 975 | | 015 | 018 | 021 | 023 | 026 | | 583 | 579 | 575 | 572 | 568 | 12 | 18 |
| 42 | 48 | | 431 | 435 | 439 | 442 | 446 | | 975 | 972 | 969 | 966 | 964 | | 026 | 029 | 031 | 034 | 037 | | 568 | 564 | 561 | 557 | 553 | 8 | 17 |
| 43 | 52 | | 446 | 450 | 453 | 457 | 461 | | 964 | 961 | 958 | 956 | 953 | | 037 | 039 | 042 | 045 | 047 | | 553 | 550 | 546 | 542 | 539 | 4 | 16 |
| 44 | 56 | | 461 | 464 | 468 | 472 | 475 | | 953 | 950 | 947 | 945 | 942 | | 047 | 050 | 053 | 055 | 058 | | 539 | 535 | 531 | 528 | 524 | 17. 0 | 15 |
| 45 | 43. 0 | 9. 81 | 475 | 479 | 482 | 486 | 490 | 9. 87 | 942 | 939 | 937 | 934 | 931 | 0. 12 | 058 | 061 | 063 | 066 | 069 | 0. 18 | 524 | 520 | 517 | 513 | 509 | 16 | 14 |
| 46 | 4 | | 490 | 494 | 497 | 501 | 505 | | 931 | 928 | 926 | 923 | 920 | | 069 | 072 | 074 | 077 | 080 | | 509 | 505 | 502 | 498 | 494 | 12 | 13 |
| 47 | 8 | | 505 | 508 | 512 | 516 | 519 | | 920 | 917 | 915 | 912 | 909 | | 080 | 083 | 085 | | | | | | | | | 8 | 12 |
| 48 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | 4 | 11 |
| 49 | 16 | | 534 | 538 | 541 | 545 | 549 | | 898 | 896 | 893 | 890 | 887 | | 102 | 104 | 107 | 110 | | | | | | | | 16 | 10 |
| 50 | 43. 20 | 9. 81 | 549 | 552 | 556 | 560 | 563 | 9. 87 | 887 | 885 | 882 | 879 | 877 | 0. 12 | 113 | 115 | 118 | 121 | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 52 | 28 | | 578 | 581 | 585 | 589 | 592 | | 866 | 863 | 860 | 857 | 855 | | 134 | 137 | 140 | 143 | 145 | | 422 | 419 | 415 | 411 | 408 | | 6 |
| | | | | | | | | | 855 | 852 | 849 | 847 | 844 | | 145 | 148 | 151 | 153 | 156 | | 408 | 404 | 400 | 397 | 393 | 24 | |
| | | | | | | | | | 844 | 841 | 838 | 836 | 833 | | 156 | 159 | 162 | 164 | 167 | | 393 | 389 | 386 | 382 | 379 | | 5 |
| 55 | 43. 40 | 9. 81 | 622 | 625 | 629 | 632 | 636 | 9. 87 | 833 | 830 | 827 | 825 | 822 | 0. 12 | 167 | 170 | 173 | 175 | 178 | 0. 18 | 378 | 375 | 371 | 368 | 364 | 16 | 4 |
| 56 | 44 | | 636 | 640 | 643 | 647 | 651 | | 822 | 819 | 816 | 814 | 811 | | 178 | 181 | 184 | 186 | 189 | | 364 | 360 | 357 | 353 | 349 | 12 | 3 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | 8 | 2 |
| 58 | 52 | | 665 | 669 | 672 | 676 | 680 | | 800 | 797 | 794 | 792 | 789 | | 200 | 203 | 206 | 208 | 211 | | 335 | 331 | 328 | 324 | 320 | 4 | 1 |
| 59 | 56 | | 680 | 683 | 687 | 691 | 694 | | 789 | 786 | 783 | 781 | 778 | | 211 | 214 | 217 | 219 | 222 | | 320 | 317 | 313 | 309 | 306 | 16. 0 | 0 |
| | | | 4″ | 3″ | 2″ | 1″ | 0″ | | 4″ | 3″ | 2″ | 1″ | 0″ | | 4″ | 3″ | 2″ | 1″ | 0″ | | 4″ | 3″ | 2″ | 1″ | 0″ | m s | |
| | | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | | 60″ | 45″ | 30″ | 15″ | 0″ | 9″ | |
| | | | Sine | | | | | | Cosine | | | | | | Secant | | | | | | Cosecant | | | | | 3″ | 49 |
| | | | Cosine | | | | | | Sine | | | | | | Cosecant | | | | | | Secant | | | | | | |

| ′ | ° | Verſed / Coverſed | | | | | Coverſed / Suverſed | | | | | Sucoverſed / Verſed | | | | | Suverſed / Sucoverſed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0° | 15′ 1° | 30′ 2° | 45′ 3° | 60′ 4° | 0° | 15′ 1° | 30′ 2° | 45′ 3° | 60′ 4° | 0° | 15′ 1° | 30′ 2° | 45′ 3° | 60′ 4° | 0° | 15′ 1° | 30′ 2° | 45′ 3° | 60′ 4° | | |
| 0 | 0 | 9.66 | | | | | 9.25 | 190 | 183 | 176 | 169 | 163 | 9.94 | 597 | 596 | 595 | 594 | 593 | 9.91 | 455 | 457 | 458 | 460 | 461 | 56 | 59 |
| 1 | 4 | | | | | | | 163 | 156 | 149 | 142 | 135 | | 593 | 591 | 590 | 589 | 588 | | | | | | | | |
| 2 | 8 | | | | | | | 135 | 129 | 122 | 115 | 108 | | 588 | 587 | 586 | 585 | 583 | | | | | | | | |
| 3 | 12 | | | | | | | 108 | 102 | 095 | 088 | 081 | | | | | | | | | | | | | | |
| 4 | 16 | | | | | | | 081 | 074 | 068 | 061 | 054 | | 579 | 578 | 576 | 575 | 574 | | 479 | 481 | 482 | 483 | 485 | 19.40 | 55 |
| 5 | 20 | | | | | | 9.25 | 054 | 047 | 040 | 034 | 027 | 9.94 | 574 | 573 | 572 | 571 | 570 | 9.91 | 485 | 486 | 487 | 489 | 490 | 36 | 54 |
| 6 | 24 | 9.67 | | | | | | 027 | | | | | | 57 | | | | | | | | | | | | |
| 7 | 28 | | | | | | | 000 | 993 | 986 | 979 | 972 | | 56 | | | | | | | | | | | | |
| 8 | 32 | | | | | | 9.24 | 973 | 966 | 959 | 952 | 945 | | 56 | | | | | | | | | | | | |
| 9 | 36 | | | | | | | 945 | 939 | 932 | 925 | 918 | | | | | | | | | | | | | | |
| 10 | 40 | 9.67 | | | | | 9.24 | 918 | 911 | 905 | 898 | 891 | 9.94 | 551 | 550 | 549 | 548 | 547 | 9.91 | 514 | 515 | 517 | 518 | 520 | 16 | 52 |
| 11 | 44 | | | | | | | 891 | 884 | 877 | 871 | 864 | | 54 | 545 | 544 | 543 | 542 | | 521 | 523 | 524 | 526 | 527 | 18 | 48 |
| 12 | 48 | | | | | | | 864 | 857 | 850 | 843 | 837 | | 541 | 540 | 539 | 538 | 537 | | 528 | 530 | 531 | 533 | 534 | 18 | 47 |
| 13 | 52 | | | | | | | 837 | 830 | 823 | 817 | 810 | | 537 | 536 | 535 | 534 | 533 | | 536 | 537 | 539 | 540 | 542 | 4 | 46 |
| 14 | 56 | | | | | | | 810 | 803 | 797 | 790 | 784 | | 533 | 532 | 531 | 530 | 529 | | 537 | 539 | 541 | 542 | 544 | 19.6 | 48 |
| 15 | 41.40 | 9.67 | 329 | 336 | 342 | 349 | 9.24 | 784 | 778 | 771 | 765 | 758 | 9.94 | 529 | 528 | 527 | 526 | 524 | 9.91 | 543 | 545 | 547 | 548 | 550 | 20 | 44 |
| 16 | 4 | | 364 | 372 | 381 | 390 | 398 | 755 | 748 | 741 | 734 | 728 | | 523 | 522 | 521 | 520 | 519 | | 547 | 551 | 554 | 556 | 559 | 21 | 43 |
| 17 | 8 | | 398 | 407 | 415 | 424 | 433 | 728 | 721 | 714 | 707 | 700 | | 519 | 518 | 516 | 515 | 514 | | 555 | 558 | 561 | 563 | 566 | 43 | 42 |
| 18 | 12 | | 438 | 447 | 456 | 465 | 474 | 700 | 694 | 687 | 680 | 673 | | 514 | 513 | 512 | 511 | 510 | | 561 | 564 | 567 | 570 | 573 | 44 | 41 |
| 19 | 16 | | 477 | 486 | 495 | 504 | 513 | 673 | 666 | 659 | 653 | 646 | | 509 | 508 | 507 | 506 | 505 | | 567 | 570 | 573 | 577 | 580 | 19.47 | 40 |
| 20 | 41.27 | 9.67 | 517 | 526 | 535 | 544 | 553 | 9.24 | 646 | 639 | 632 | 625 | 618 | 9.94 | 505 | 504 | 502 | 501 | 500 | 9.91 | 573 | 574 | 575 | 577 | 578 | 30 | 39 |
| 21 | 24 | | 557 | 566 | 575 | 584 | 593 | | 618 | 612 | 605 | 598 | 591 | | 500 | 499 | 498 | 497 | 495 | | 580 | 582 | 583 | 585 | 586 | 32 | 38 |
| 22 | 28 | | 597 | 606 | 615 | 624 | 633 | | 591 | 584 | 577 | 571 | 564 | | 495 | 494 | 493 | 492 | 491 | | 588 | 590 | 592 | 594 | 595 | 41 | 37 |
| 23 | 32 | | 636 | 645 | 654 | 663 | 672 | | 564 | 557 | 550 | 543 | 536 | | 491 | 490 | 489 | 487 | 486 | | 597 | 599 | 601 | 603 | 604 | 44 | 36 |
| 24 | 36 | | 675 | 684 | 693 | 702 | 711 | | 536 | 530 | 523 | 516 | 509 | | 486 | 485 | 484 | 483 | 482 | | 607 | 609 | 611 | 613 | 615 | 18.35 | 35 |
| 25 | 41.40 | 9.67 | 715 | 724 | 733 | 742 | 751 | 9.24 | 509 | 502 | 495 | 488 | 482 | 9.94 | 482 | 480 | 479 | 478 | 477 | 9.91 | 617 | 619 | 621 | 623 | 625 | 17 | 34 |
| 26 | 44 | | 754 | 763 | 772 | 781 | 790 | | 482 | 475 | 468 | 461 | 454 | | 477 | 476 | 475 | 473 | 472 | | 627 | 629 | 631 | 633 | 635 | 19 | 33 |
| 27 | 48 | | 794 | 803 | 812 | 821 | 830 | | 454 | 447 | 441 | 434 | 427 | | 472 | 471 | 470 | 469 | 468 | | 613 | 615 | 616 | 618 | 619 | 8 | 32 |
| 28 | 52 | | 833 | 842 | 851 | 860 | 869 | | 427 | 420 | 413 | 406 | 400 | | 468 | 466 | 465 | 464 | 463 | | 619 | 621 | 622 | 624 | 625 | 4 | 31 |
| 29 | 56 | | 872 | 881 | 890 | 899 | 908 | | 400 | 393 | 386 | 379 | 372 | | 463 | 462 | 461 | 459 | 458 | | 625 | 627 | 628 | 629 | 631 | 18.6 | 30 |
| 30 | 41.40 | 9.67 | 912 | 921 | 930 | 939 | 948 | 9.24 | 372 | 365 | 359 | 352 | 345 | 9.94 | 458 | 457 | 456 | 455 | 454 | 9.91 | 631 | 632 | 634 | 635 | 637 | 20 | 29 |
| 31 | 4 | | 951 | 960 | 969 | 978 | 987 | | 345 | 338 | 331 | 324 | 317 | | 454 | 453 | 451 | 450 | 449 | | 638 | 639 | 641 | 642 | 643 | 22 | 28 |
| 32 | 8 | | 991 | 000 | 009 | 018 | 027 | | 317 | 311 | 304 | 297 | 290 | | 449 | 448 | 447 | 445 | 444 | | 643 | 644 | 645 | 647 | 648 | 45 | 27 |
| 33 | 12 | | 030 | 039 | 048 | 057 | 066 | | 290 | 283 | 276 | 270 | 263 | | 444 | 443 | 442 | 441 | 440 | | 648 | 650 | 651 | 653 | 654 | 44 | 26 |
| 34 | 16 | | 069 | 078 | 087 | 096 | 105 | | 263 | 256 | 249 | 243 | 236 | | 440 | 439 | 437 | 436 | 435 | | 656 | 657 | 658 | 660 | 661 | 17.45 | 25 |
| 35 | 41.22 | 9.67 | 109 | 118 | 127 | 136 | 145 | 9.24 | 236 | 229 | 223 | 216 | 210 | 9.94 | 435 | 434 | 433 | 431 | 430 | 9.91 | 663 | 664 | 666 | 667 | 669 | 16 | 24 |
| 36 | 26 | | 148 | 157 | 166 | 175 | 184 | | 210 | 203 | 197 | 190 | 184 | | 430 | 429 | 428 | 427 | 426 | | 670 | 672 | 673 | 674 | 676 | 31 | 23 |
| 37 | 30 | | 188 | 197 | 206 | 215 | 224 | | 184 | 177 | 171 | 164 | 158 | | 426 | 424 | 423 | 422 | 421 | | 677 | 679 | 680 | 682 | 683 | 47 | 22 |
| 38 | 34 | | 228 | 237 | 246 | 255 | 264 | | 158 | 151 | 145 | 139 | 132 | | 421 | 420 | 419 | 417 | 416 | | 685 | 686 | 688 | 689 | 691 | 17.32 | 21 |
| 39 | 38 | | 268 | 277 | 286 | 295 | 304 | | 132 | 125 | 119 | 113 | 106 | | 416 | 415 | 414 | 413 | 412 | | 692 | 694 | 695 | 697 | 698 | | 20 |
| 40 | 41.42 | 9.67 | 308 | 317 | 326 | 335 | 344 | 9.24 | 106 | 099 | 093 | 086 | 080 | 9.94 | 412 | 410 | 409 | 408 | 407 | 9.91 | 699 | 701 | 702 | 704 | 705 | 15 | 19 |
| 41 | 46 | | 348 | 357 | 366 | 375 | 384 | | 080 | 073 | 067 | 060 | 054 | | 407 | 406 | 405 | 403 | 402 | | 707 | 708 | 710 | 711 | 713 | 30 | 18 |
| 42 | 50 | | 388 | 397 | 406 | 415 | 424 | | 054 | 047 | 041 | 034 | 028 | | 402 | 401 | 400 | 399 | 398 | | 714 | 716 | 717 | 719 | 720 | 45 | 17 |
| 43 | 54 | | 428 | 437 | 446 | 455 | 464 | * | 028 | 021 | 015 | 008 | 002 | | 398 | 396 | 395 | 394 | 393 | | 722 | 723 | 725 | 726 | 728 | 17.0 | 16 |
| 44 | 58 | | 468 | 477 | 486 | 495 | 504 | 9.23 | 002 | 995 | 988 | 981 | 975 | | 393 | 392 | 390 | 389 | 388 | | 729 | 731 | 732 | 734 | 735 | 15 | 15 |
| 45 | 41.46 | 9.68 | 547 | 556 | 565 | 574 | 583 | 9.23 | 975 | 968 | 962 | 955 | 948 | 9.94 | 387 | 386 | 385 | 384 | 382 | 9.91 | 737 | 738 | 740 | 741 | 743 | 30 | 14 |
| 46 | 50 | | 587 | 596 | 605 | 614 | 623 | | 948 | 941 | 935 | 928 | 922 | | 382 | 381 | 380 | 379 | 378 | | 744 | 746 | 747 | 749 | 750 | 45 | 13 |
| 47 | 54 | | 627 | 636 | 645 | 654 | 663 | | 922 | 915 | 908 | 902 | 895 | | 378 | 377 | 376 | 375 | 374 | | 752 | 753 | 755 | 756 | 758 | 17.0 | 12 |
| 48 | 58 | | 667 | 676 | 685 | 694 | 703 | | 895 | 888 | 882 | 875 | 869 | | 374 | 373 | 372 | 371 | 370 | | 759 | 761 | 762 | 764 | 765 | 15 | 11 |
| 49 | 41.54 | 9.68 | 707 | 716 | 725 | 734 | 743 | 9.23 | 869 | 862 | 855 | 849 | 842 | 9.94 | 369 | 368 | 367 | 366 | 365 | 9.91 | 767 | 768 | 770 | 771 | 773 | 30 | 10 |
| 50 | 58 | | 747 | 756 | 765 | 774 | 783 | | 842 | 835 | 829 | 822 | 816 | | 365 | 364 | 363 | 362 | 361 | | 774 | 776 | 777 | 779 | 780 | 45 | 9 |
| 51 | 42 | | 560 | 569 | 577 | 586 | 594 | | 816 | 809 | 803 | 796 | 790 | | 361 | 360 | 359 | 358 | 357 | | 782 | 783 | 785 | 786 | 788 | 17.0 | 8 |
| 52 | 46 | | 594 | 603 | 611 | 620 | 628 | | 790 | 783 | 777 | 770 | 764 | | 357 | 356 | 355 | 354 | 353 | | 789 | 791 | 792 | 794 | 795 | 15 | 7 |
| 53 | 50 | | 628 | 637 | 645 | 654 | 662 | | 764 | 757 | 751 | 744 | 738 | | 353 | 352 | 351 | 350 | 349 | | 797 | 798 | 800 | 801 | 803 | 30 | 6 |
| 54 | 54 | | 662 | 671 | 679 | 688 | 696 | | 738 | 731 | 725 | 718 | 712 | | 349 | 348 | 347 | 346 | 345 | | 804 | 806 | 807 | 809 | 810 | 45 | 5 |
| 55 | 41.58 | 9.68 | 696 | 704 | 713 | 721 | 730 | 9.23 | 712 | 705 | 699 | 692 | 686 | 9.94 | 345 | 344 | 343 | 342 | 341 | 9.91 | 812 | 813 | 815 | 816 | 818 | 17.0 | 4 |
| 56 | 42 | | 730 | 738 | 747 | 755 | 764 | | 686 | 679 | 673 | 666 | 660 | | 341 | 340 | 339 | 338 | 337 | | 819 | 821 | 822 | 824 | 825 | 15 | 3 |
| 57 | 46 | | 764 | 772 | 781 | 789 | 798 | | 660 | 653 | 647 | 640 | 634 | | 337 | 336 | 335 | 334 | 333 | | 827 | 828 | 830 | 831 | 833 | 30 | 2 |
| 58 | 50 | | 797 | 806 | 814 | 823 | 831 | | 634 | 627 | 621 | 614 | 608 | | 333 | 332 | 331 | 330 | 329 | | 834 | 836 | 837 | 839 | 840 | 45 | 1 |
| 59 | 54 | | 831 | 839 | 848 | 856 | 865 | | 608 | 601 | 595 | 588 | 582 | | 329 | 328 | 327 | 326 | 325 | | 842 | 843 | 845 | 846 | 848 | 17.0 | 0 |
| | | ′ | ″ | | | | ′ | ″ | | | | ′ | ″ | | | | ′ | ″ | | | | | |
| | | Suverſed / Coverſed | | | | | Coverſed / Verſed | | | | | Verſed / Sucoverſed | | | | | Sucoverſed / Suverſed | | | | | | |

| 41° | 2h | Sine | | | | | | Cosine | | | | | | Secant | | | | | | Cosecant | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 131 | 8h | Cosine | | | | | | Sine | | | | | | Cosecant | | | | | | Secant | | | | | | | |
| ′ | m | ″ | | 15″ | 30″ | 45″ | | ″ | | 15″ | 30″ | 45″ | | ″ | | 15″ | 30″ | 45″ | | ″ | | 15″ | 30″ | 45″ | | | |
| 0 | 44 | 9.81 | | | | | | 9.87 | | | | | | 0.12 | | | | | | 0.18 | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | 1 | | | | | | | | | | | | | | | | | | | | 244 | 240 | 237 | 233 | 15 | 40 | 55 |
| 5 | | | | | | | | | | | | | | 0.12 | | | | | | 0.18 | 230 | 226 | 222 | 219 | | 39 | 54 |
| 6 | | | | | | | | | | | | | | | | | | | | | 215 | | | | | 38 | 53 |
| 7 | | | | | 799 | 803 | 8 | | | | | | | | | | | | | | | | | | | 37 | 52 |
| 8 | 3 | | | 10 | 814 | 818 | | | | | | | | | | | | | | | | | | | | 36 | 51 |
| 9 | 3 | | | | | | | | | | | | | | | | | | | | | | | | | 35 | 50 |
| 10 | 4 | 9.81 | | | | | | 9.87 | | | | | | 0.12 | 33 | | | | 43 | 0.18 | 100 | 157 | 154 | 150 | 147 | | 49 |
| 11 | 4 | | | | | | | | 657 | 654 | 651 | 649 | 646 | | 345 | | | | 354 | | 143 | 140 | 137 | 134 | 131 | 32 | 48 |
| 12 | 4 | | | | | | | | | | 640 | 637 | 635 | | 354 | | | | 363 | | 131 | 128 | 125 | 123 | 120 | 31 | 47 |
| 13 | 5 | | | | | | | | 635 | 632 | 629 | 626 | 624 | | 363 | | | | 371 | | 117 | 114 | 111 | 108 | 106 | 30 | 45 |
| 14 | 5 | | | | | | | | 624 | 621 | 618 | 615 | 612 | | 372 | | | | 380 | | 103 | 099 | 096 | 093 | | 29 | 44 |
| 15 | 6 | 9.81 | 911 | 915 | 919 | 922 | 926 | 9.87 | 612 | 610 | 607 | 604 | 601 | 0.12 | 380 | 383 | 387 | 390 | 399 | 0.18 | 089 | 085 | 081 | 078 | 074 | 28 | 43 |
| 16 | 6 | | 926 | 929 | 933 | 937 | 940 | | 601 | 599 | 596 | 593 | 590 | | 399 | 401 | 404 | 407 | 416 | | 074 | 071 | 067 | 063 | 060 | 27 | 41 |
| 17 | 7 | | 940 | 944 | 947 | 951 | 955 | | 590 | 588 | | | | | 416 | 412 | 415 | 418 | 421 | | 060 | 056 | 053 | 049 | 046 | 26 | 40 |
| 18 | 8 | | | 958 | 962 | 965 | 969 | | | 576 | | | | | 421 | 424 | 426 | 429 | 432 | | 046 | 042 | 03 | | | 25 | 38 |
| 19 | 8 | | | 972 | 976 | 980 | 983 | | | | | | | | 432 | 435 | 437 | 440 | 443 | | 031 | | | | 017 | 24 | 36 |
| 20 | 9 | 9.81 | 983 | 987 | 990 | 994 | 998 | 9.87 | 557 | 554 | 552 | 549 | 546 | 0.12 | 443 | 446 | 448 | 451 | 454 | 0.18 | 017 | 013 | 010 | | | 23 | 35 |
| 21 | 9 | | | | | | | | | | | | | | | | | | | | 002 | 999 | 995 | | | 22 | 33 |
| 22 | 10 | 9.81 | | | | | | | | | | | | | 465 | 468 | 471 | 474 | 476 | 0.18 | 988 | 984 | 981 | 977 | 974 | 21 | 32 |
| 23 | 32 | | 026 | 030 | 033 | 037 | 041 | | 524 | 521 | 518 | 515 | 513 | | 476 | 479 | 482 | | | | 974 | 970 | 967 | 963 | 959 | 20 | 30 |
| 24 | 36 | | 041 | 044 | 048 | 051 | 055 | | 513 | 510 | 507 | 504 | 501 | | 487 | 490 | 493 | | | | 959 | 956 | 952 | 949 | 945 | 19 | 29 |
| 25 | 45.40 | 9.82 | 055 | 059 | 062 | 066 | 069 | 9.87 | 501 | 499 | 496 | 493 | 490 | 0.12 | | | | | | 0.18 | | | | | | 18 | 27 |
| 26 | 44 | | 069 | 073 | 076 | 080 | 084 | | 490 | 487 | 485 | 482 | 479 | | 501 | | | | | | 031 | 027 | | | | 17 | 26 |
| 27 | 48 | | | | | | | | 479 | 476 | 474 | 471 | 468 | | 515 | | | | | | 017 | 013 | | | | 16 | 24 |
| 28 | 2 | | | | | | | | 468 | 465 | 462 | 460 | 457 | | 529 | | | | | | | | | | | 15 | 23 |
| 29 | 2 | | | | | | | | | | | | | | 543 | | | | | | | | | | | 14 | 22 |
| 30 | 46. 0 | 9.82 | 126 | 130 | 134 | 137 | 141 | 9.87 | 446 | 443 | 440 | 437 | 434 | 0.12 | | | | | | 0.17 | | | | | | 13 | 20 |
| 31 | | | 141 | | | | 155 | | 434 | 432 | 429 | 426 | 423 | | | | | | | | | | | | | 12 | 19 |
| 32 | | | | | | | 169 | | 423 | 420 | 418 | 415 | 412 | | | | | | | | | | | | | 11 | 17 |
| 33 | 1 | | | | | | 183 | | 412 | 409 | 406 | 404 | 401 | | | | | | | | | | | | | 10 | 16 |
| 34 | 1 | | | | | | 197 | | 401 | 398 | 395 | 392 | 390 | | | | | | | | | | | | | 9 | 14 |
| 35 | | | | | | | 211 | | | | | | | | | | | | | | | | | | | 8 | 13 |
| 36 | | | | | | | 225 | | | | | | | | | | | | | | | | | | | 7 | 11 |
| 37 | | | | | | | 239 | | | | | | | | | | | | | | | | | | | 6 | 10 |
| 38 | | | | | | | 253 | | | | | | | | | | | | | | | | | | | 5 | 8 |
| 39 | | | | | | | 307 | | | | | | | | | | | | | | | | | | | 4 | 7 |
| 40 | | | | | | | 321 | | | | | | | | | | | | | | | | | | | 3 | 5 |
| 41 | | | | | | | 335 | | | | | | | | | | | | | | | | | | | 2 | 3 |
| 42 | | | | | | | 349 | | | | | | | | | | | | | | | | | | | 1 | 2 |
| 43 | | | | | | | 403 | | | | | | | | | | | | | | | | | | | 0 | 1 |
| | | | | 45″ | 30″ | 15″ | | | | 45″ | 30″ | 15″ | | | | 45″ | 30″ | 15″ | | | | 45″ | 30″ | 15″ | | | |
| | | Cosine | | | | | | Sine | | | | | | Secant | | | | | | Cosecant | | | | | | | |
| | | Cosine | | | | | | | | | | | | Secant | | | | | | Secant | | | | | | | |

| ′ | ″ | Verſed / Coverſed | | | | | Coverſed / Suverſed | | | | | Suverſed / Sucoverſed | | | | | Sucoverſed / Verſed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ° | 15′ | 30′ | 45′ | 60′ | ° | 15′ | 30′ | 45′ | 60′ | ° | 15′ | 30′ | 45′ | 60′ | ° | 15′ | 30′ | 45′ |
| 0 | 0 | | | | | | 0.00 | 000 | 000 | 000 | 000 | 9.94 | | | | | 9.91 | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | |
| 3 | 12 | | | | | | | | | | | | | | | | | | | | |
| 4 | 16 | | | | | | | | | | | | | | | | | | | | |
| 5 | 20 | | | | | | 0.03 | | | | | 9.94 | | | | | 9.91 | | | | |
| 6 | 24 | | | | | | | | | | | | | | | | | | | | |
| 7 | 28 | | | | | | | | | | | | | | | | | | | | |
| 8 | 32 | 135 | 143 | 152 | 160 | 169 | 323 | 310 | 300 | 302 | 295 | 280 | 278 | 277 | 276 | 275 | 851 | 852 | 853 | 855 | 856 | 24 | 51 |
| 9 | 36 | 169 | 177 | 185 | 194 | 202 | 295 | 289 | 282 | 275 | 268 | 275 | 274 | 273 | 271 | 270 | 856 | 858 | 859 | 861 | 862 | 15. 2 | |
| 10 | 44. 40 | 9.09 | 202 | 211 | 219 | 227 | 236 | 9.23 | 268 | 261 | 254 | 247 | 240 | 9.94 | 270 | 269 | 268 | 267 | 265 | 9.91 | 862 | 863 | 865 | 866 | 868 | 16 | 49 |
| 11 | 44 | | 236 | 244 | 253 | 261 | 269 | | 240 | 233 | 226 | 219 | 212 | | 265 | 264 | 263 | 262 | 261 | | 868 | 869 | 871 | 872 | 874 | 12 | 48 |
| 12 | 48 | | 269 | 278 | 286 | 295 | 303 | | 212 | 205 | 198 | 191 | 184 | | 261 | 259 | 258 | 257 | 256 | | 874 | 875 | 876 | 878 | 879 | | 47 |
| 13 | 52 | | | | | | | | | | | | | | | | | | | | 879 | 881 | 882 | 884 | 885 | 4 | 46 |
| 14 | 56 | | 337 | 345 | 353 | | | | | | | | | | | | | | | | 885 | 887 | 888 | 890 | 891 | 15. 0 | 45 |
| 15 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | 50 | 44 |
| 16 | 4 | | | | | | | | | | | | | | | | | | | | 900 | 901 | 902 | | | 52 | 43 |
| 17 | 8 | | 437 | 446 | 454 | 462 | 471 | | 073 | 066 | 059 | 052 | 045 | | 237 | 236 | 235 | 233 | 232 | | 902 | 904 | 905 | 906 | 908 | 48 | 42 |
| 18 | 12 | | 471 | 479 | 488 | 496 | 504 | | 045 | 038 | 031 | 024 | 017 | | 232 | 231 | 230 | 229 | 227 | | 908 | 909 | 911 | 912 | 914 | 44 | 41 |
| 19 | 16 | | | | | | | | | | | | | | | | | | | | 914 | 916 | 917 | 918 | 010 | 15. 40 | 40 |
| 20 | 20 | | | | | | | 9.22 | | | | | | 9.94 | | | | | | 9.91 | | | | | | | 39 |
| 21 | 24 | | | | | | | | | | | | | | | | | | | | | | | | | | 38 |
| 22 | 28 | | 605 | 613 | 622 | 630 | 638 | | 933 | 926 | 919 | 912 | 905 | | 213 | 212 | 211 | 210 | 208 | | 931 | 932 | 934 | 935 | 936 | 28 | 37 |
| 23 | 32 | | 638 | 647 | 655 | 663 | 672 | | 905 | 898 | 891 | 884 | 877 | | 208 | 207 | 206 | 205 | 204 | | 936 | 938 | 939 | 941 | 942 | 24 | 36 |
| 24 | 36 | | | | | | | | | | | | | | | | | | | | | | | | 011. 20 | | 35 |
| 25 | 40 | 9.09 | | | | | | 9.22 | | | | | | 9.94 | | | | | | 9.91 | 948 | 949 | 951 | 952 | 954 | 1 | 34 |
| 26 | 44 | | 739 | 747 | 755 | 764 | 772 | | 821 | 814 | 807 | 800 | 793 | | 194 | 193 | 192 | 190 | 189 | | 954 | 955 | 956 | 958 | 959 | 12 | 33 |
| 27 | 48 | | 772 | 780 | 789 | 797 | 805 | | 793 | 786 | 779 | 772 | 765 | | 189 | 188 | 187 | 186 | 184 | | 959 | 961 | 962 | 963 | 965 | 8 | 32 |
| 28 | 52 | | | | | | | | | | | | | | | | | | | | | | | | | | 31 |
| 29 | 56 | | 839 | 847 | 855 | 864 | 872 | | 737 | 730 | 723 | 716 | 709 | | 180 | 179 | 177 | 176 | 175 | | 971 | 972 | 973 | 975 | 976 | 14. 0 | 30 |
| 30 | 46. 0 | 9.09 | 872 | 880 | 889 | 897 | 905 | 9.22 | 709 | 702 | 695 | 688 | 681 | 9.94 | 175 | 174 | 172 | 171 | 170 | 9.91 | 976 | 978 | 979 | 981 | 983 | 56 | 29 |
| 31 | 4 | | 905 | 914 | 922 | 930 | 939 | | 681 | 674 | 667 | 660 | 653 | | 170 | 169 | 168 | 166 | 165 | | 982 | 983 | 985 | 986 | 988 | 52 | 28 |
| 32 | 8 | | | | | | | | | | | | | | | | | | | | 988 | 989 | 991 | 992 | 993 | 48 | 27 |
| 33 | 12 | | | | | | | | | | | | | | | | | | | | 993 | 995 | 996 | 998 | 999 | 44 | 26 |
| 34 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | 13. 40 | 25 |
| 35 | 20 | | | | | | | 9.22 | | | | | | 9.94 | | | | | | 9.92 | 000 | 002 | 003 | 005 | 006 | | 24 |
| 36 | 24 | | | | | | | | | | | | | | | | | | | | 006 | 008 | 010 | 011 | 013 | 50 | 24 |
| 37 | 28 | | 105 | 113 | 122 | 130 | 138 | | 512 | 505 | 498 | 491 | 484 | | 141 | 140 | 139 | 138 | 137 | | 013 | 015 | 016 | 018 | 020 | 32 | 23 |
| 38 | 32 | | 138 | 147 | 155 | 163 | 172 | | 484 | 477 | 470 | 463 | 456 | | 137 | 135 | 134 | 133 | 132 | | 020 | 022 | 023 | 025 | 026 | 24 | 22 |
| 39 | 36 | | 172 | 180 | 188 | 196 | 205 | | 456 | 449 | 442 | 435 | 428 | | 132 | 131 | 129 | 128 | 127 | | 027 | 029 | 030 | 032 | 033 | 13. 20 | 21 |
| 40 | 40. 40 | 9.10 | 205 | 213 | 221 | 230 | 238 | 9.22 | 428 | 421 | 414 | 407 | 400 | 9.94 | 127 | 126 | 125 | 123 | 122 | 9.92 | 033 | 035 | 036 | 037 | 039 | 16 | 19 |
| 41 | 44 | | 238 | 246 | 255 | 263 | 271 | | 400 | 393 | 386 | 379 | 372 | | 122 | 121 | 120 | 118 | 117 | | 039 | 040 | 042 | 043 | 044 | 12 | 18 |
| 42 | 48 | | | | | | | | | | | | | | | | | | | | 044 | 046 | 047 | 049 | 050 | 8 | 17 |
| 43 | 52 | | | | | | | | | | | | | | | | | | | | 050 | 052 | 053 | 054 | 056 | 4 | 16 |
| 44 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | 12. 0 | 15 |
| 45 | 47. 0 | 9.10 | 371 | 379 | 387 | 395 | 404 | 9.22 | 287 | 280 | 273 | 266 | 259 | 9.94 | 103 | 102 | 100 | 099 | 098 | 9.92 | 061 | 063 | 064 | 066 | 067 | 50 | 14 |
| 46 | 4 | | 404 | 412 | 420 | 429 | 437 | | 259 | 252 | 245 | 238 | 231 | | 098 | 097 | 096 | 094 | 093 | | 067 | 068 | 070 | 071 | 073 | 52 | 13 |
| 47 | 8 | | | | | | | | | | | | | | | | | | | | 073 | 074 | 076 | 077 | 078 | 48 | 12 |
| 48 | 12 | | | | | | | | | | | | | | | | | | | | 078 | 080 | 081 | 083 | 084 | 44 | 11 |
| 49 | 16 | | | | | | | | | | | | | | | | | | | | 084 | 085 | 087 | 088 | 090 | 12. 40 | 10 |
| 50 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | 36 | 9 |
| 51 | 24 | | | | | | | | | | | | | | | | | | | | 100 | 101 | | | | 32 | 8 |
| 52 | 28 | | | | | | | | | | | | | | | | | | | | 105 | 107 | | | | 28 | 7 |
| 53 | 32 | | | | | | | | | | | | | | | | | | | | 112 | | | | | 24 | 6 |
| 54 | 36 | | | | | | | | | | | | | | | | | | | | 112 | 114 | 115 | 116 | 118 | 12. 20 | 5 |
| 55 | 47. 40 | | | | | | | | 004 | 997 | 990 | 983 | 976 | 9.94 | 055 | 053 | 052 | 051 | 050 | 9.92 | 118 | 119 | 121 | 122 | 124 | 10 | 4 |
| 56 | 44 | | | | | | | 9.21 | 976 | 969 | 962 | 955 | 948 | | 050 | 049 | 047 | 046 | 045 | | 124 | 125 | 126 | 128 | 129 | 1 | 3 |
| 57 | 48 | | 767 | 775 | 784 | 792 | 800 | | 948 | 941 | 934 | 926 | 919 | | 045 | 044 | 042 | 041 | 040 | | 129 | 131 | 132 | 133 | 135 | 8 | 2 |
| 58 | 52 | | 800 | 808 | 816 | 825 | 833 | | 919 | 912 | 905 | 898 | 891 | | 040 | 039 | 038 | 036 | 035 | | 135 | 136 | 138 | 139 | 140 | 4 | 1 |
| 59 | 56 | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| | | 4″ | 3″ | 2″ | 1″ | 0″ | 4″ | 3″ | 2″ | 1″ | 0″ | 4″ | 3″ | 2″ | 1″ | 0″ | 4″ | 3″ | 2″ | 1″ | 0″ | m | s | | | | |
| | | Verſed / Coverſed | | | | | Coverſed / Suverſed | | | | | Suverſed / Sucoverſed | | | | | Sucoverſed / Verſed | | | | | | | | | | |

| ′ | m | s | Sine | Cosine | Secant | Cosecant | Sine | Cosine | Secant | Cosecant | m | s | ′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 0″ 15″ 30″ 45″ 60″ | | 0″ 15″ 30″ 45″ 60″ | | 4″ 3″ 2″ 1″ 0″ | | | | | | |
| | | | 0° 1′ 2′ 3′ 4′ | | 0° 1′ 2′ 3′ 4′ | | 60″ 45″ 30″ 15″ 0″ | | | | | | |
| 0 | 48. 0 | | 9.82 551 555 559 563 567 | 9.87 | 0.12 | 0.17 | | | | | | | |
| 1 | | | 563 567 571 575 579 | | | | | | | | | | |
| 2 | | | 575 579 583 587 591 | | | | | | | | | | |
| 3 | 1 | | 587 591 595 599 603 | | | | | | | | | | |
| 4 | 1 | | 599 603 607 611 615 | | | | | | | | | | |
| 5 | 49. 57 | | 9.82 611 615 619 623 627 | 9.87 | 0.12 | 0.17 | | | | | | | |
| 6 | | 24 | 638 642 646 650 654 | | | | | | | | | | |
| 7 | | 28 | 649 653 656 660 663 | 028 025 022 019 016 | 972 975 978 981 984 | 351 347 344 340 337 | | | | | | | |
| 8 | | 32 | 663 667 670 674 677 | 016 013 010 008 005 | 984 987 990 992 995 | 337 333 330 326 323 | | | | | | | |
| 9 | | 36 | 677 681 684 688 691 | | | | | | | | | | |
| 10 | 49. 47 | | 9.82 691 694 698 701 705 | 9.87 | 0.13 | 0.17 | | | | | | | |
| 11 | | 44 | 705 708 712 715 719 | 982 979 976 973 970 | 018 021 024 027 030 | 295 292 288 285 281 | | | | | 12 | 48 | |
| 12 | | 48 | 719 722 726 729 733 | 970 968 965 962 959 | 030 032 035 038 041 | 281 278 274 271 267 | | | | | 8 | 47 | |
| 13 | | 52 | 733 737 740 744 747 | 959 956 953 950 947 | 041 044 047 050 053 | 267 264 260 257 253 | | | | | 4 | 46 | |
| 14 | | 56 | 747 751 754 757 761 | 947 945 942 939 936 | 053 055 058 061 064 | 253 250 246 243 239 | | | | | 11. 0 | 45 | |
| 15 | 49. 0 | | 9.82 765 768 772 775 779 | 9.86 | 0.13 | 0.17 | | | | | | | |
| 16 | | 4 | 779 782 786 789 793 | 924 921 918 915 912 | 076 079 082 085 088 | 224 221 218 215 212 | | | | | 52 | 43 | |
| 17 | | 8 | 793 796 800 803 807 | 913 910 907 904 901 | 087 090 093 096 098 | 213 210 207 204 202 | | | | | 48 | 42 | |
| 18 | | 12 | 807 810 814 817 821 | 902 899 896 893 890 | 098 101 104 107 110 | 198 194 191 187 184 | | | | | 44 | 41 | |
| 19 | | 16 | 821 824 828 831 835 | 890 887 884 881 879 | 110 113 116 119 121 | 184 180 177 173 170 | | | | | 10. 40 | 40 | |
| 20 | 49. 24 | | 9.82 838 842 845 849 852 | 9.86 | 0.13 | 0.17 | | | | | | | |
| 21 | | 24 | 852 856 859 863 866 | | | | | | | | | | |
| 22 | | 28 | 866 870 873 877 880 | | | | | | | | | | |
| 23 | | 32 | 880 884 887 891 894 | 844 841 838 835 832 | 156 159 162 165 168 | 128 125 121 118 115 | | | | | 24 | 36 | |
| 24 | | 36 | 894 898 901 905 908 | | | | | | | | | | |
| 25 | 49. 40 | | 9.82 | 9.86 | 0.13 | 0.17 | | | | | | | |
| 26 | | 44 | | | | | | | | | | | |
| 27 | | 48 | | | | | | | | | | | |
| 28 | | 52 | | | | | | | | | | | |
| 29 | | 56 | | | | | | | | | | | |
| 30 | 50. 0 | | 9.82 | 9.86 | 0.13 | 0.17 | | | | | | | |
| 31 | | 4 | 982 986 989 992 996 | 752 749 746 743 740 | 248 251 254 257 260 | 018 014 011 008 004 | | | | | 52 | 20 | |
| 32 | | 8 | | | | | | | | | 48 | 27 | |
| 33 | | 12 | 9.83 010 013 017 020 023 | 728 725 723 720 717 | 272 275 277 280 283 | 0.16 990 987 983 980 977 | | | | | 44 | 26 | |
| 34 | | 16 | | | | | | | | | 0. 40 | 25 | |
| 35 | 50. 8 | | 9.83 | 9.86 | 0.13 | 0.16 | | | | | | | |
| 36 | | 24 | | | | | | | | | | | |
| 37 | | 28 | | | | | | | | | | | |
| 38 | | 32 | | | | | | | | | | | |
| 39 | | 36 | | | | | | | | | | | |
| 40 | | 40 | 9.83 | 9.86 | 0.13 | 0.16 | | | | | | | |
| 41 | | 44 | | | | | | | | | | | |
| 42 | | 48 | 133 137 140 143 147 | 624 621 618 615 612 | 376 379 382 385 388 | 867 863 860 857 853 | | | | | 8 | 17 | |
| 43 | | 52 | 147 150 154 157 161 | 612 609 606 603 600 | 388 391 394 397 400 | 853 850 846 843 840 | | | | | 4 | 16 | |
| 44 | | 56 | 161 164 167 171 174 | 600 597 595 592 589 | 400 403 405 408 411 | | | | | | | | |
| 45 | 50. 51 | | 9.83 174 178 181 184 188 | 9.86 | 0.13 | 0.16 | | | | | | | |
| 46 | | 4 | 188 191 195 198 202 | 577 574 571 568 565 | 423 426 429 432 435 | | | | | | | | |
| 47 | | 8 | 202 205 208 212 215 | 565 562 559 557 554 | 435 438 441 443 446 | | | | | | | | |
| 48 | | 12 | 215 219 222 225 229 | 554 551 548 545 542 | 446 449 452 455 458 | | | | | | | | |
| 49 | | 16 | 229 232 236 239 242 | 542 539 536 533 530 | 458 461 464 467 470 | | | | | | | | |
| 50 | 51. 20 | | 9.83 242 246 249 253 256 | 9.86 530 527 524 521 518 | 0.13 470 473 476 479 482 | | | | | | | | |
| 51 | | 24 | 256 259 263 266 270 | 518 516 513 510 507 | 482 484 487 490 493 | 744 741 737 734 730 | | | | | 32 | 8 | |
| 52 | | 28 | 270 273 277 280 283 | 507 504 501 498 495 | 493 496 499 502 | | | | | | 28 | 7 | |
| 53 | | 32 | 283 287 290 294 297 | 495 492 489 486 483 | 505 508 511 514 517 | 717 713 | | | | | | 6 | |
| 54 | | 36 | 297 300 304 307 311 | 483 480 477 475 472 | 517 520 523 525 528 | 703 700 696 693 | | | | | | 5 | |
| 55 | 51. 44 | | 9.83 | 9.86 | 0.13 | 0.16 | | | | | | | |
| 56 | | 48 | | | | | | | | | | | |
| 57 | | 48 | 338 341 344 348 351 | 448 445 442 439 436 | 552 555 558 561 564 | 662 659 656 652 649 | | | | | 8 | 2 | |
| 58 | | 52 | 351 355 358 361 365 | 436 433 430 427 425 | 564 567 570 573 575 | 649 645 642 639 635 | | | | | 4 | 1 | |
| 59 | | 56 | | | | | | | | | 8 | 0 | |
| | | | 4″ 3″ 2″ 1″ 0″ | 4″ 3″ 2″ 1″ 0″ | 4″ 3″ 2″ 1″ 0″ | 4″ 3″ 2″ 1″ 0″ | | | | | | | |
| | | | 60″ 45″ 30″ 15″ 0″ | 60″ 45″ 30″ 15″ 0″ | 60″ 45″ 30″ 15″ 0″ | 60″ 45″ 30″ 15″ 0″ | | | | | | | |
| | | | Sine | Cosine | Secant | Cosecant | | | | | | | |

| | | Verfed | | | | | Coverfed | | | | | Suverfed | | | | | Sucoverfed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Coverfed | | | | | Suverfed | | | | | Sucoverfed | | | | | Verfed | | | | | | |
| | m s | 0° 0s | 15′ 1s | 30′ 2s | 45′ 3s | 60′ 4s | 0 | 15 1 | 30 2 | 45 3 | 60 4 | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15 1s | 30 2s | 45 3s | 0 4s | | |
| 0 | 48. 0 | 9. 10 | | | | | 9. 21 | | | | | 9. 94 | 030 | 029 | 028 | 027 | 025 | 9. 92 | 146 | 147 | 149 | 150 | 152 | 56 | 59 |
| 1 | 4 | | | | | | | | | | | | 025 | 024 | 023 | 022 | 021 | | 152 | 153 | 154 | 156 | 157 | 52 | 58 |
| 2 | 8 | | 63. | 940 | 948 | 956 | 964 | | | 799 | 792 | 785 | 777 | | 021 | 019 | 018 | 017 | 016 | | 157 | 159 | 160 | 161 | 163 | 48 | 57 |
| 3 | 12 | | | 973 | 981 | 989 | 997 | | | | | | | | 016 | 015 | 013 | | | | | | | | |
| 4 | 16 | * | 997 | 006 | 014 | 022 | 030 | | | 740 | 734 | | | | 011 | | | | | | | | | | |
| 5 | 48. 20 | 9. 11 | 030 | 038 | 047 | 055 | | 9. 21 | | | | | 9. 94 | | | | | 9. 92 | | | | | | | |
| 6 | 24 | | 063 | 071 | 079 | 088 | 096 | | | | | | | | | | | | | | | | | | |
| 7 | 28 | | 096 | 104 | 112 | 120 | 129 | | | | | | 9. 93 | 996 | 995 | 994 | 993 | | | | | | | | |
| 8 | 32 | | 129 | 137 | 145 | 153 | 161 | | | | | | | 991 | 990 | 989 | 988 | | | | | | | | |
| 9 | 36 | | 161 | 170 | 178 | 186 | 194 | | | | | | | 987 | 985 | 984 | 983 | | | | | | | | |
| 10 | 48. 40 | 9. 11 | | | | | | 9. 21 | | | | | 9. 93 | | | | | 9. 92 | | | | | | | |
| 11 | 44 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 48 | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 52 | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 56 | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 50. 0 | 9. 11 | | | | | | 9. 21 | | | | | 9. 93 | | | | | 9. 92 | | | | | | | |
| 16 | 4 | | | 399 | 407 | | | | | | | | | | | | | | | | | | | | |
| 17 | 8 | | 423 | 431 | 440 | | | | 379 | 374 | | 357 | | 948 | 946 | 945 | | | | | | | | | |
| 18 | 12 | | 456 | 464 | 472 | | | | | | | | | 943 | 941 | 940 | | | | | | | | | |
| 19 | 16 | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 50. 0 | 9. 11 | | | | | | 9. 21 | | | | | 9. 93 | 933 | 932 | 930 | | 9. 92 | | | | | | | |
| 21 | 24 | | | | | | | | | | | 243 | 236 | 928 | 927 | 926 | | | | | | | | | |
| 22 | 28 | | | | | | | | | | | 214 | 207 | 923 | 922 | 921 | | | | | | | | | |
| 23 | 32 | | | | | | | | | | | 186 | 178 | 918 | 917 | 916 | | | | | | | | | |
| 24 | 36 | | 652 | | | | | | 171 | 164 | 157 | | 150 | 913 | 912 | 911 | | | | | | | | | |
| 25 | 49. 40 | 9. 11 | 684 | 692 | 700 | 709 | 717 | 9. 21 | 150 | 143 | 135 | 128 | 121 | 9. 93 | 908 | 907 | 906 | | | 9. 92 | | | | | | |
| 26 | 44 | | 717 | 725 | 733 | 741 | 749 | | 121 | 114 | 107 | 100 | 092 | | 904 | 902 | 901 | | | | | | | | |
| 27 | 48 | | 749 | 757 | 765 | 774 | 782 | | 092 | 085 | 078 | 071 | 064 | | 899 | 897 | 896 | | | | | | | | |
| 28 | 52 | | 782 | 790 | 798 | 806 | 814 | | 064 | 057 | 049 | 042 | 035 | | 894 | 893 | 891 | | | | | | | | |
| 29 | 56 | | 814 | 822 | 831 | 839 | 847 | | 035 | 028 | 021 | 014 | 006 | | 889 | 888 | 886 | | | | | | | | |
| 30 | 50. 0 | 9. 11 | 847 | 855 | 863 | 871 | 879 | * | 000 | 999 | 992 | 985 | 978 | 9. 93 | 884 | 883 | 881 | | | 9. 92 | | | | | | |
| 31 | 4 | | 879 | 887 | 895 | 904 | 912 | 9. 20 | 978 | 970 | 963 | 956 | 949 | | 879 | 878 | 877 | | | | | | | | |
| 32 | 8 | | 912 | | | | | | | | | | | | 874 | | 872 | | | | | | | | |
| 33 | 12 | | 944 | | | | | | | | | | 921 | | | | | | | | | | | | |
| 34 | 16 | * | 977 | 985 | 993 | 001 | 009 | | 891 | 884 | 877 | 870 | 863 | | 864 | 863 | 862 | 861 | 859 | | | | | | |
| 35 | 50. 20 | 9. 12 | 009 | 017 | 025 | 033 | 041 | 9. 20 | 863 | 855 | 848 | 841 | 834 | 9. 93 | 859 | 858 | 857 | 856 | 854 | 9. 92 | | | | | | |
| 36 | 24 | | 041 | 050 | 058 | 066 | 074 | | 834 | 827 | 820 | 812 | 805 | | 854 | 853 | 852 | 851 | 849 | | | | | | | |
| 37 | 28 | | 074 | 082 | 090 | 098 | 106 | | 805 | 798 | 791 | 784 | 776 | | 849 | 848 | 847 | 846 | 845 | | | | | | | |
| 38 | 32 | | 106 | 114 | 122 | 130 | 139 | | 776 | 769 | 762 | 755 | 748 | | 845 | 843 | 842 | 841 | 840 | | | | | | | |
| 39 | 36 | | 139 | 147 | 155 | 163 | 171 | | 741 | | | | | | | | | | | | | | | | |
| 40 | 50. 40 | 9. 12 | 171 | | | | | 9. 20 | 719 | 712 | 704 | 697 | 690 | 9. 93 | 835 | 833 | 832 | 831 | 830 | 9. 92 | 369 | 371 | 372 | 373 | 375 | 10 | 19 |
| 41 | 44 | | 203 | 211 | 219 | 227 | 236 | | 690 | 683 | 675 | 668 | 661 | | 830 | 829 | 827 | 826 | 825 | | 375 | 376 | 378 | 379 | 380 | 12 | 18 |
| 42 | 48 | | 236 | 244 | 252 | 260 | 268 | | 661 | 654 | 647 | 639 | 632 | | 825 | 824 | 822 | 821 | 820 | | 380 | 382 | 383 | 384 | 386 | 8 | 17 |
| 43 | 52 | | 268 | | | | | | 632 | 625 | 618 | 611 | 603 | | 820 | 819 | 817 | 816 | 815 | | 386 | 387 | 389 | 390 | 391 | 4 | 16 |
| 44 | 56 | | 301 | | | | | | 603 | 596 | 589 | 582 | 574 | | 815 | 814 | 812 | 811 | 810 | | 391 | 393 | 394 | 396 | 397 | 9. 0 | 15 |
| 45 | 51. 0 | 9. 12 | 333 | 341 | 349 | 357 | | 9. 20 | 574 | 567 | 560 | 553 | 546 | 9. 93 | 810 | 809 | 808 | 806 | 805 | 9. 92 | 397 | 398 | 400 | 401 | 402 | 50 | 14 |
| 46 | 4 | | 366 | 373 | 381 | 389 | 397 | | 546 | | | | | | | | | | | | | | | | |
| 47 | 8 | | 397 | | | | | | 517 | 509 | 502 | 495 | 488 | | 800 | 799 | 798 | 796 | 795 | | 408 | 409 | 411 | 412 | 413 | 40 | 12 |
| 48 | 12 | | 430 | 437 | 445 | 453 | 461 | | 488 | 481 | 473 | 466 | 459 | | 795 | 794 | 793 | 791 | 790 | | 413 | 415 | 416 | 418 | 419 | 44 | 11 |
| 49 | 16 | | 461 | | | | | | 459 | 452 | 444 | 437 | 430 | | 790 | 789 | 788 | 786 | 785 | | 419 | 420 | 422 | 423 | 425 | 8. 40 | 10 |
| 50 | 51. 0 | 9. 12 | 494 | | | | | 9. 20 | 430 | | | | | 9. 93 | | | | | | 9. 92 | | | | | | | |
| 51 | 4 | | 526 | | | | | | 423 | 394 | 386 | 379 | 372 | | 780 | 779 | 778 | 777 | 775 | | 430 | 431 | 433 | 434 | 436 | 30 | 9 |
| 52 | 8 | | 559 | | | | | | 372 | | | | | | | | | | | | 436 | 437 | 438 | 440 | 441 | 20 | 7 |
| 53 | 12 | | 590 | 598 | 606 | | | | | | | | | | | | | | | | 441 | 442 | 444 | 445 | 447 | 24 | 6 |
| 54 | 16 | | | | | | | | | | | | | | | | | | | | 447 | 448 | 449 | 451 | 452 | 8. 20 | 5 |
| 55 | 51. 0 | 9. 12 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56 | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 57 | 8 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 59 | 16 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Suverfed | | | | | Coverfed | | | | | Verfed | | | | | Sucoverfed | | | | | 9 | 17 |
| | | Coverfed | | | | | Verfed | | | | | Suverfed | | | | | Suverfed | | | | | 2 | 47 |

| ′ | m s | Sine / Cosine | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s |
|---|---|---|---|---|---|---|---|
| 0 | 52. 0 | 9. 83 | 378 | 382 | 385 | 388 | 392 |
| 1 | 4 | | 395 | 395 | 399 | 402 | 405 |
| 2 | 8 | | 405 | 409 | 412 | 416 | 419 |
| 3 | 12 | | 416 | 422 | 426 | 429 | 433 |
| 4 | 16 | | 433 | 436 | 439 | 443 | 446 |
| 5 | 52. 20 | 9. 83 | 447 | 450 | 453 | 456 | 460 |
| 6 | 24 | | 460 | 463 | 467 | 470 | 473 |
| 7 | 28 | | 473 | 476 | 480 | 483 | 486 |
| 8 | 32 | | 487 | 490 | 493 | 497 | 500 |
| 9 | 36 | | 500 | 503 | 507 | 510 | 513 |
| 10 | 52. 40 | 9. 83 | 513 | 517 | 520 | 524 | 527 |
| 11 | 44 | | 527 | 530 | 534 | 537 | 540 |
| 12 | 48 | | 540 | 544 | 547 | 550 | 554 |
| 13 | 52 | | 554 | 557 | 561 | 564 | 567 |
| 14 | 56 | | 567 | 571 | 574 | 577 | 581 |
| 15 | 53. 0 | 9. 83 | 581 | 584 | 587 | 591 | 594 |
| 16 | 4 | | 594 | 597 | 601 | 604 | 608 |
| 17 | 8 | | 608 | 611 | 614 | 618 | 621 |
| 18 | 12 | | 621 | 624 | 628 | 631 | 634 |
| 19 | 16 | | 634 | 638 | 641 | 644 | 648 |
| 20 | 53. 20 | 9. 83 | 648 | 651 | 654 | 658 | 661 |
| 21 | 24 | | 661 | 664 | 668 | 671 | 674 |
| 22 | 28 | | 674 | 678 | 681 | 685 | 688 |
| 23 | 32 | | 688 | 691 | 695 | 698 | 701 |
| 24 | 36 | | 701 | 705 | 708 | 711 | 715 |
| 25 | 53. 40 | 9. 83 | 715 | 718 | 721 | 725 | 728 |
| 26 | 44 | | 728 | 731 | 735 | 738 | 741 |
| 27 | 48 | | 741 | 745 | 748 | 751 | 755 |
| 28 | 52 | | 755 | 758 | 761 | 765 | 768 |
| 29 | 56 | | 768 | 771 | 775 | 778 | 781 |
| 30 | 54. 0 | 9. 83 | 781 | 785 | 788 | 791 | 795 |
| 31 | 4 | | 795 | 798 | 801 | 805 | 808 |
| 32 | 8 | | 808 | 811 | 814 | 818 | 821 |
| 33 | 12 | | 821 | 824 | 828 | 831 | 834 |
| 34 | 16 | | 834 | 838 | 841 | 844 | 848 |
| 35 | 54. 20 | 9. 83 | 848 | 851 | 854 | 858 | 861 |
| 36 | 24 | | 861 | 864 | 868 | 871 | 874 |
| 37 | 28 | | 874 | 878 | 881 | 885 | 888 |
| 38 | 32 | | 888 | 891 | 895 | 898 | 901 |
| 39 | 36 | | 901 | 905 | 908 | 911 | 915 |
| 40 | 54. 40 | 9. 83 | 915 | 918 | 921 | 925 | 928 |
| 41 | 44 | | 928 | 931 | 935 | 938 | 941 |
| 42 | 48 | | 941 | 945 | 948 | 951 | 955 |
| 43 | 52 | | 955 | 958 | 961 | 965 | 968 |
| 44 | 56 | | 968 | 971 | 975 | 978 | 981 |
| 45 | 55. 0 | 9. 84 | 981 | 985 | 988 | 991 | 995 |
| 46 | 4 | | 995 | 998 | 001 | 005 | 008 |
| 47 | 8 | 9. 84 | 008 | 011 | 015 | 018 | 021 |
| 48 | 12 | | 021 | 025 | 028 | 031 | 035 |
| 49 | 16 | | 035 | 038 | 041 | 045 | 048 |
| 50 | 55. 20 | 9. 84 | 048 | 052 | 055 | 058 | 061 |
| 51 | 24 | | 062 | 065 | 068 | 072 | 075 |
| 52 | 28 | | 075 | 078 | 082 | 085 | 088 |
| 53 | 32 | | 088 | 092 | 095 | 098 | 102 |
| 54 | 36 | | 102 | 105 | 108 | 112 | 115 |
| 55 | 55. 40 | 9. 84 | 115 | 118 | 122 | 125 | 128 |
| 56 | 44 | | 128 | 132 | 135 | 138 | 142 |
| 57 | 48 | | 142 | 145 | 148 | 151 | 155 |
| 58 | 52 | | 155 | 158 | 161 | 165 | 168 |
| 59 | 56 | | 168 | 171 | 175 | 178 | 181 |

| ′ | Cosine / Sine | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s |
|---|---|---|---|---|---|---|
| 0 | 9. 86 | 413 | 410 | 407 | 404 | 401 |
| 1 | | 401 | 398 | 395 | 392 | 389 |
| 2 | | 389 | 386 | 383 | 380 | 377 |
| 3 | | 377 | 374 | 371 | 368 | 365 |
| 4 | | 366 | 363 | 360 | 357 | 354 |
| 5 | 9. 86 | 354 | 351 | 348 | 345 | 342 |
| 6 | | 342 | 339 | 336 | 333 | 330 |
| 7 | | 330 | 327 | 324 | 321 | 318 |
| 8 | | 318 | 315 | 312 | 309 | 306 |
| 9 | | 306 | 303 | 301 | 298 | 295 |
| 10 | 9. 86 | 295 | 292 | 289 | 286 | 283 |
| 11 | | 283 | 280 | 277 | 274 | 271 |
| 12 | | 271 | 268 | 265 | 262 | 259 |
| 13 | | 259 | 256 | 253 | 250 | 247 |
| 14 | | 247 | 244 | 241 | 238 | 235 |
| 15 | 9. 86 | 235 | 232 | 229 | 226 | 223 |
| 16 | | 223 | 220 | 217 | 214 | 211 |
| 17 | | 211 | 209 | 206 | 203 | 200 |
| 18 | | 200 | 197 | 194 | 191 | 188 |
| 19 | | 188 | 185 | 182 | 179 | 176 |
| 20 | 9. 86 | 176 | 173 | 170 | 167 | 164 |
| 21 | | 164 | 161 | 158 | 155 | 152 |
| 22 | | 152 | 149 | 146 | 143 | 140 |
| 23 | | 140 | 137 | 134 | 131 | 128 |
| 24 | | 128 | 125 | 122 | 119 | 116 |
| 25 | 9. 86 | 116 | 113 | 110 | 107 | 104 |
| 26 | | 104 | 101 | 098 | 095 | 092 |
| 27 | | 092 | 089 | 086 | 083 | 080 |
| 28 | | 080 | 077 | 074 | 071 | 068 |
| 29 | | 068 | 065 | 062 | 059 | 056 |
| 30 | 9. 86 | 056 | 053 | 050 | 047 | 044 |
| 31 | | 044 | 041 | 038 | 035 | 032 |
| 32 | | 032 | 029 | 026 | 023 | 020 |
| 33 | | 020 | 017 | 014 | 011 | 008 |
| 34 | | 008 | 005 | 002 | 999 | 996 |
| 35 | 9. 85 | 996 | 993 | 990 | 987 | 984 |
| 36 | | 984 | 981 | 978 | 975 | 972 |
| 37 | | 972 | 969 | 966 | 963 | 960 |
| 38 | | 960 | 957 | 954 | 951 | 948 |
| 39 | | 948 | 945 | 942 | 939 | 936 |
| 40 | 9. 85 | 936 | 933 | 930 | 927 | 924 |
| 41 | | 924 | 921 | 918 | 915 | 912 |
| 42 | | 912 | 909 | 906 | 903 | 900 |
| 43 | | 900 | 897 | 894 | 891 | 888 |
| 44 | | 888 | 885 | 882 | 879 | 876 |
| 45 | 9. 85 | 876 | 873 | 870 | 867 | 864 |
| 46 | | 864 | 861 | 858 | 855 | 852 |
| 47 | | 851 | 848 | 845 | 842 | 839 |
| 48 | | 839 | 836 | 833 | 830 | 827 |
| 49 | | 827 | 824 | 821 | 818 | 815 |
| 50 | 9. 85 | 815 | 812 | 809 | 806 | 803 |
| 51 | | 803 | 800 | 797 | 794 | 791 |
| 52 | | 791 | 788 | 785 | 782 | 779 |
| 53 | | 779 | 776 | 773 | 770 | 767 |
| 54 | | 766 | 763 | 760 | 757 | 754 |
| 55 | 9. 85 | 754 | 751 | 748 | 745 | 742 |
| 56 | | 742 | 739 | 736 | 733 | 730 |
| 57 | | 730 | 727 | 724 | 721 | 718 |
| 58 | | 718 | 715 | 712 | 709 | 706 |
| 59 | | 706 | 703 | 700 | 697 | 694 |

| ′ | Secant / Cosecant | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s |
|---|---|---|---|---|---|---|
| 0 | 0. 13 | 587 | 590 | 593 | 596 | 599 |
| 1 | | 599 | 602 | 605 | 608 | 611 |
| 2 | | 611 | 614 | 617 | 620 | 623 |
| 3 | | 623 | 626 | 629 | 631 | 634 |
| 4 | | 634 | 637 | 640 | 643 | 646 |
| 5 | 0. 13 | 646 | 649 | 652 | 655 | 658 |
| 6 | | 658 | 661 | 664 | 667 | 670 |
| 7 | | 670 | 673 | 676 | 679 | 682 |
| 8 | | 682 | 685 | 688 | 691 | 694 |
| 9 | | 694 | 697 | 699 | 702 | 705 |
| 10 | 0. 13 | 705 | 708 | 711 | 714 | 717 |
| 11 | | 717 | 720 | 723 | 726 | 729 |
| 12 | | 729 | 732 | 735 | 738 | 741 |
| 13 | | 741 | 744 | 747 | 750 | 753 |
| 14 | | 753 | 756 | 759 | 762 | 765 |
| 15 | 0. 13 | 765 | 768 | 771 | 774 | 777 |
| 16 | | 777 | 780 | 783 | 786 | 789 |
| 17 | | 789 | 791 | 794 | 797 | 800 |
| 18 | | 800 | 803 | 806 | 809 | 812 |
| 19 | | 812 | 815 | 818 | 821 | 824 |
| 20 | 0. 13 | 824 | 827 | 830 | 833 | 836 |
| 21 | | 836 | 839 | 842 | 845 | 848 |
| 22 | | 848 | 851 | 854 | 857 | 860 |
| 23 | | 860 | 863 | 866 | 869 | 872 |
| 24 | | 872 | 875 | 878 | 881 | 884 |
| 25 | 0. 13 | 884 | 887 | 890 | 893 | 896 |
| 26 | | 896 | 899 | 902 | 905 | 908 |
| 27 | | 908 | 911 | 914 | 917 | 920 |
| 28 | | 920 | 923 | 926 | 929 | 932 |
| 29 | | 932 | 935 | 938 | 941 | 944 |
| 30 | 0. 13 | 944 | 947 | 950 | 953 | 956 |
| 31 | | 956 | 959 | 962 | 965 | 968 |
| 32 | | 968 | 971 | 974 | 977 | 980 |
| 33 | | 980 | 983 | 986 | 989 | 992 |
| 34 | | 992 | 995 | 998 | 001 | 004 |
| 35 | 0. 14 | 004 | 007 | 010 | 013 | 016 |
| 36 | | 016 | 019 | 022 | 025 | 028 |
| 37 | | 028 | 031 | 034 | 037 | 040 |
| 38 | | 040 | 043 | 046 | 049 | 052 |
| 39 | | 052 | 055 | 058 | 061 | 064 |
| 40 | 0. 14 | 064 | 067 | 070 | 073 | 076 |
| 41 | | 076 | 079 | 082 | 085 | 088 |
| 42 | | 088 | 091 | 094 | 097 | 100 |
| 43 | | 100 | 103 | 106 | 109 | 112 |
| 44 | | 112 | 115 | 118 | 121 | 124 |
| 45 | 0. 14 | 124 | 127 | 130 | 133 | 136 |
| 46 | | 136 | 139 | 142 | 145 | 148 |
| 47 | | 149 | 152 | 155 | 158 | 161 |
| 48 | | 161 | 164 | 167 | 170 | 173 |
| 49 | | 173 | 176 | 179 | 182 | 185 |
| 50 | 0. 14 | 185 | 188 | 191 | 194 | 197 |
| 51 | | 197 | 200 | 203 | 206 | 209 |
| 52 | | 209 | 212 | 215 | 218 | 221 |
| 53 | | 221 | 224 | 227 | 230 | 233 |
| 54 | | 234 | 237 | 240 | 243 | 246 |
| 55 | 0. 14 | 246 | 249 | 252 | 255 | 258 |
| 56 | | 258 | 261 | 264 | 267 | 270 |
| 57 | | 270 | 273 | 276 | 279 | 282 |
| 58 | | 282 | 285 | 288 | 291 | 294 |
| 59 | | 294 | 297 | 300 | 303 | 306 |

| ′ | Cosecant / Secant | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s |
|---|---|---|---|---|---|---|
| 0 | 0. 16 | 622 | 618 | 615 | 612 | 608 |
| 1 | | 608 | 605 | 601 | 598 | 595 |
| 2 | | 595 | 591 | 588 | 584 | 581 |
| 3 | | 581 | 578 | 574 | 571 | 568 |
| 4 | | 568 | 564 | 561 | 557 | 554 |
| 5 | 0. 16 | 554 | 551 | 547 | 544 | 541 |
| 6 | | 541 | 537 | 534 | 530 | 527 |
| 7 | | 527 | 524 | 520 | 517 | 514 |
| 8 | | 514 | 510 | 507 | 503 | 500 |
| 9 | | 500 | 497 | 493 | 490 | 487 |
| 10 | 0. 16 | 487 | 483 | 480 | 476 | 473 |
| 11 | | 473 | 470 | 466 | 463 | 460 |
| 12 | | 460 | 456 | 453 | 450 | 446 |
| 13 | | 446 | 443 | 440 | 436 | 433 |
| 14 | | 433 | 429 | 426 | 423 | 419 |
| 15 | 0. 16 | 419 | 416 | 413 | 409 | 406 |
| 16 | | 406 | 403 | 399 | 396 | 393 |
| 17 | | 393 | 389 | 386 | 382 | 379 |
| 18 | | 379 | 376 | 372 | 369 | 366 |
| 19 | | 366 | 362 | 359 | 356 | 352 |
| 20 | 0. 16 | 352 | 349 | 346 | 342 | 339 |
| 21 | | 339 | 336 | 332 | 329 | 326 |
| 22 | | 326 | 322 | 319 | 315 | 312 |
| 23 | | 312 | 309 | 305 | 302 | 299 |
| 24 | | 299 | 295 | 292 | 289 | 285 |
| 25 | 0. 16 | 285 | 282 | 279 | 275 | 272 |
| 26 | | 272 | 269 | 265 | 262 | 259 |
| 27 | | 259 | 255 | 252 | 249 | 245 |
| 28 | | 245 | 242 | 239 | 235 | 232 |
| 29 | | 232 | 229 | 225 | 222 | 219 |
| 30 | 0. 16 | 219 | 215 | 212 | 209 | 205 |
| 31 | | 205 | 202 | 199 | 195 | 192 |
| 32 | | 192 | 189 | 186 | 182 | 179 |
| 33 | | 179 | 176 | 172 | 169 | 166 |
| 34 | | 166 | 163 | 159 | 156 | 153 |
| 35 | 0. 16 | 152 | 149 | 146 | 143 | 139 |
| 36 | | 139 | 136 | 132 | 129 | 126 |
| 37 | | 126 | 122 | 119 | 116 | 113 |
| 38 | | 113 | 109 | 106 | 103 | 099 |
| 39 | | 099 | 096 | 093 | 089 | 086 |
| 40 | 0. 16 | 086 | 083 | 079 | 076 | 073 |
| 41 | | 073 | 070 | 066 | 063 | 060 |
| 42 | | 060 | 056 | 053 | 050 | 046 |
| 43 | | 046 | 043 | 040 | 036 | 033 |
| 44 | | 033 | 030 | 026 | 023 | 020 |
| 45 | 0. 16 | 020 | 016 | 013 | 010 | 006 |
| 46 | | 006 | 003 | 000 | 996 | 993 |
| 47 | | 994 | 990 | 987 | 984 | 980 |
| 48 | | 980 | 977 | 974 | 971 | 967 |
| 49 | | 967 | 964 | 961 | 957 | 954 |
| 50 | 0. 15 | 954 | 951 | 947 | 944 | 941 |
| 51 | | 941 | 938 | 934 | 931 | 928 |
| 52 | | 928 | 924 | 921 | 918 | 915 |
| 53 | | 915 | 911 | 908 | 905 | 902 |
| 54 | | 902 | 898 | 895 | 892 | 888 |
| 55 | 0. 15 | 888 | 885 | 882 | 879 | 875 |
| 56 | | 875 | 872 | 869 | 865 | 862 |
| 57 | | 862 | 859 | 856 | 852 | 849 |
| 58 | | 849 | 846 | 843 | 839 | 836 |
| 59 | | 836 | 833 | 829 | 826 | 823 |

| | | 60″ | 45″ | 30″ | 15″ | 0″ |
|---|---|---|---|---|---|---|
| | | 4s | 3s | 2s | 1s | 0s |
| | | Sine | | | | |
| | | Cosine | | | | |
| | | Cosine | | | | |
| | | Sine | | | | |
| | | Secant | | | | |
| | | Cosecant | | | | |
| | | Cosecant | | | | |
| | | Secant | | | | |

| m s | ′ |
|---|---|
| 9h | 136 |
| 3m | |

| 43° | 2h | Versed | | | | | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 133° | 8m | Coversed | | | | | Suversed | | | | | Sucoversed | | | | | Versed | | | | | | |
| ′ | m s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | 0″ 0s | 15″ 1s | 30″ 2s | 45″ 3s | 60″ 4s | | |
| 0 | 52. 0 | 9. 12 815 | 823 | 831 | 839 | 847 | 9. 20 140 | 133 | 125 | 118 | 111 | 9. 93 730 | 734 | 733 | 732 | 731 | 9. 92 480 | 481 | 482 | 484 | 485 | 50 | 59 |
| 1 | 4 | 847 | 855 | 863 | 871 | 879 | 111 | 104 | 096 | 089 | 082 | 731 | 729 | 728 | 727 | 726 | 485 | 486 | 488 | 489 | 491 | 52 | 58 |
| 2 | 8 | 879 | 887 | 895 | 903 | 911 | 082 | 075 | 067 | 060 | 053 | 726 | 724 | 723 | 722 | 721 | 491 | 492 | 493 | 495 | 496 | 54 | 57 |
| 3 | 12 | 911 | 919 | 927 | 935 | 943 | 053 | 045 | 038 | 031 | 024 | 721 | 719 | 718 | 717 | 716 | 496 | 497 | 499 | 500 | 502 | 44 | 56 |
| 4 | 16 | 943 | 951 | 959 | 967 | 975 | 024 | 017 | 009 | 002 | 995 | 716 | 714 | 713 | 712 | 711 | 502 | 503 | 504 | 506 | 507 | 7. 48 | 55 |
| 5 | 52. 20 | 975 | 983 | 991 | 999 | 007 | 9. 19 | 995 | 987 | 980 | 973 | 965 | 9. 93 | 711 | 709 | 708 | 707 | 706 | 9. 92 | 507 | 508 | 510 | 511 | 512 | 52 | 54 |
| 6 | 24 | 9. 13 | 007 | 015 | 023 | 031 | 039 | 965 | 958 | 951 | 944 | 936 | | 706 | 704 | 703 | 702 | 701 | | 512 | 514 | 515 | 517 | 518 | 32 | 53 |
| 7 | 28 | | 039 | 047 | 055 | 063 | 071 | 936 | 929 | 922 | 914 | 907 | | 701 | 699 | 698 | 697 | 696 | | 518 | 519 | 521 | 522 | 523 | 28 | 52 |
| 8 | 32 | | 071 | 079 | 087 | 095 | 103 | 907 | 900 | 893 | 885 | 878 | | 696 | 694 | 693 | 692 | 691 | | 523 | 525 | 526 | 528 | 529 | 24 | 51 |
| 9 | 36 | | 103 | 111 | 119 | 127 | 135 | 878 | 871 | 863 | 856 | 849 | | 691 | 689 | 688 | 687 | 686 | | 529 | 530 | 532 | 533 | 534 | 7. 20 | 50 |
| 10 | 52. 40 | 9. 13 | 135 | 143 | 151 | 159 | 167 | 9. 19 | 849 | 842 | 834 | 827 | 820 | 9. 93 | 686 | 684 | 683 | 682 | 681 | 9. 92 | 534 | 535 | 537 | 538 | 540 | 16 | 49 |
| 11 | 44 | | 167 | 175 | 183 | 191 | 199 | | 820 | 812 | 805 | 798 | 790 | | 681 | 679 | 678 | 677 | 676 | | 540 | 541 | 543 | 544 | 545 | 12 | 48 |
| 12 | 48 | | 199 | 207 | 215 | 223 | 231 | | 790 | 783 | 776 | 769 | 761 | | 676 | 674 | 673 | 672 | 671 | | 545 | 547 | 548 | 549 | 551 | 8 | 47 |
| 13 | 52 | | 231 | 239 | 247 | 255 | 263 | | 761 | 754 | 747 | 739 | 732 | | 671 | 669 | 668 | 667 | 666 | | 551 | 552 | 554 | 555 | 556 | 4 | 46 |
| 14 | 56 | | 263 | 271 | 279 | 287 | 295 | | 732 | 725 | 717 | 710 | 703 | | 666 | 664 | 663 | 662 | 661 | | 556 | 558 | 559 | 560 | 562 | 7. 0 | 45 |
| 15 | 53. 0 | 9. 13 | 295 | 303 | 311 | 319 | 326 | 9. 19 | 703 | 696 | 688 | 681 | 674 | 9. 93 | 661 | 659 | 658 | 657 | 656 | 9. 92 | 562 | 563 | 564 | 566 | 567 | 56 | 44 |
| 16 | 4 | | 326 | 334 | 342 | 350 | 358 | | 674 | 666 | 659 | 652 | 644 | | 656 | 654 | 653 | 652 | 651 | | 567 | 569 | 570 | 571 | 573 | 52 | 43 |
| 17 | 8 | | 358 | 366 | 374 | 382 | 390 | | 644 | 637 | 630 | 622 | 615 | | 651 | 649 | 648 | 647 | 646 | | 573 | 574 | 575 | 577 | 578 | 48 | 42 |
| 18 | 12 | | 390 | 398 | 406 | 414 | 422 | | 615 | 608 | 600 | 593 | 587 | | 646 | 644 | 643 | 642 | 641 | | 578 | 579 | 581 | 582 | 584 | 44 | 41 |
| 19 | 16 | | 422 | 430 | 438 | 446 | 454 | | 586 | 578 | 571 | 564 | 557 | | 641 | 639 | 638 | 637 | 636 | | 584 | 585 | 586 | 588 | 589 | 6. 4 | 40 |
| 20 | 53. 20 | 9. 13 | 454 | 462 | 470 | 478 | 486 | 9. 19 | 557 | 549 | 542 | 535 | 527 | 9. 93 | 636 | 634 | 633 | 632 | 631 | 9. 92 | 589 | 590 | 592 | 593 | 594 | 36 | 39 |
| 21 | 24 | | 486 | 494 | 502 | 509 | 517 | | 527 | 520 | 512 | 505 | 498 | | 631 | 629 | 628 | 627 | 626 | | 596 | 597 | 598 | 600 | 601 | 32 | 38 |
| 22 | 28 | | 517 | 525 | 533 | 541 | 549 | | 498 | 491 | 483 | 476 | 469 | | 626 | 624 | 623 | 622 | 621 | | 603 | 604 | 606 | 607 | 608 | 28 | 37 |
| 23 | 32 | | 549 | 557 | 565 | 573 | 581 | | 469 | 461 | 454 | 447 | 439 | | 621 | 619 | 618 | 617 | 616 | | 610 | 611 | 613 | 614 | 615 | 24 | 36 |
| 24 | 36 | | 581 | 589 | 597 | 605 | 613 | | 439 | 432 | 425 | 417 | 410 | | 616 | 614 | 613 | 612 | 611 | | 617 | 618 | 620 | 621 | 622 | 6. 24 | 35 |
| 25 | 53. 40 | 9. 13 | 613 | 621 | 629 | 637 | 644 | 9. 19 | 410 | 403 | 395 | 388 | 381 | 9. 93 | 611 | 610 | 609 | 608 | 607 | 9. 92 | 624 | 625 | 627 | 628 | 629 | 16 | 34 |
| 26 | 44 | | 644 | 652 | 660 | 668 | 676 | | 381 | 373 | 366 | 359 | 351 | | 607 | 606 | 605 | 604 | 603 | | 631 | 632 | 634 | 635 | 636 | 12 | 33 |
| 27 | 48 | | 676 | 684 | 692 | 700 | 708 | | 351 | 344 | 337 | 329 | 322 | | 603 | 602 | 601 | 600 | 599 | | 638 | 639 | 641 | 642 | 643 | 8 | 32 |
| 28 | 52 | | 708 | 716 | 724 | 732 | 739 | | 322 | 315 | 307 | 300 | 293 | | 599 | 598 | 597 | 596 | 595 | | 645 | 646 | 648 | 649 | 650 | 4 | 31 |
| 29 | 56 | | 739 | 747 | 755 | 763 | 771 | | 293 | 285 | 278 | 270 | 263 | | 595 | 594 | 593 | 592 | 591 | | 652 | 653 | 655 | 656 | 657 | 6. 0 | 30 |
| 30 | 54. 0 | 9. 13 | 771 | 779 | 787 | 795 | 803 | 9. 19 | 263 | 256 | 248 | 241 | 234 | 9. 93 | 591 | 590 | 589 | 588 | 587 | 9. 92 | 659 | 660 | 662 | 663 | 664 | 56 | 29 |
| 31 | 4 | | 803 | 811 | 819 | 826 | 834 | | 234 | 226 | 219 | 212 | 204 | | 587 | 586 | 585 | 584 | 583 | | 666 | 667 | 669 | 670 | 671 | 52 | 28 |
| 32 | 8 | | 834 | 842 | 850 | 858 | 866 | | 204 | 197 | 190 | 182 | 175 | | 582 | 581 | 580 | 579 | 578 | | 673 | 674 | 676 | 677 | 678 | 48 | 27 |
| 33 | 12 | | 866 | 874 | 882 | 890 | 898 | | 175 | 167 | 160 | 153 | 145 | | 577 | 576 | 575 | 574 | 573 | | 680 | 681 | 683 | 684 | 685 | 44 | 26 |
| 34 | 16 | | 898 | 906 | 913 | 921 | 929 | | 145 | 138 | 131 | 123 | 116 | | 572 | 571 | 570 | 569 | 568 | | 687 | 688 | 690 | 691 | 692 | 5. 40 | 25 |
| 35 | 54. 20 | 9. 13 | 929 | 937 | 945 | 953 | 961 | 9. 19 | 116 | 109 | 101 | 094 | 087 | 9. 93 | 567 | 566 | 565 | 564 | 563 | 9. 92 | 694 | 695 | 697 | 698 | 699 | 56 | 24 |
| 36 | 24 | | 961 | 969 | 977 | 984 | 992 | | 087 | 079 | 072 | 065 | 057 | | 563 | 562 | 561 | 560 | 559 | | 701 | 702 | 704 | 705 | 706 | 52 | 23 |
| 37 | 28 | * | 992 | 000 | 008 | 016 | 024 | | 057 | 050 | 043 | 035 | 028 | | 559 | 558 | 557 | 556 | 555 | | 708 | 709 | 711 | 712 | 713 | 28 | 22 |
| 38 | 32 | 9. 14 | 024 | 032 | 040 | 048 | 056 | * | 028 | 021 | 013 | 006 | 999 | | 555 | 554 | 553 | 552 | 551 | | 715 | 716 | 718 | 719 | 720 | 24 | 21 |
| 39 | 36 | | 056 | 063 | 071 | 079 | 087 | 9. 18 | 999 | 991 | 984 | 977 | 969 | | 551 | 550 | 549 | 548 | 547 | | 722 | 723 | 725 | 726 | 727 | 5. 20 | 20 |
| 40 | 54. 40 | 9. 14 | 087 | 095 | 103 | 111 | 119 | 9. 18 | 969 | 962 | 954 | 947 | 940 | 9. 93 | 547 | 546 | 545 | 544 | 543 | 9. 92 | 729 | 730 | 732 | 733 | 734 | 16 | 19 |
| 41 | 44 | | 119 | 126 | 134 | 142 | 150 | | 939 | 932 | 924 | 917 | 909 | | 530 | 528 | 527 | 526 | 525 | | 703 | 704 | 706 | 707 | 708 | 12 | 18 |
| 42 | 48 | | 150 | 158 | 166 | 174 | 182 | | 909 | 902 | 894 | 887 | 880 | | 525 | 524 | 523 | 521 | 520 | | 710 | 711 | 712 | 714 | 715 | 8 | 17 |
| 43 | 52 | | 182 | 190 | 197 | 205 | 213 | | 880 | 872 | 865 | 858 | 850 | | 519 | 518 | 517 | 516 | 515 | | 716 | 718 | 719 | 720 | 721 | 4 | 16 |
| 44 | 56 | | 213 | 221 | 229 | 237 | 245 | | 850 | 843 | 835 | 828 | 821 | | 513 | 512 | 511 | 510 | 509 | | 723 | 724 | 725 | 727 | 728 | 5. 0 | 15 |
| 45 | 55. 0 | 9. 14 | 245 | 252 | 260 | 268 | 276 | 9. 18 | 821 | 813 | 806 | 798 | 791 | 9. 93 | 509 | 508 | 507 | 506 | 504 | 9. 92 | 725 | 726 | 727 | 729 | 730 | 56 | 14 |
| 46 | 4 | | 276 | 284 | 292 | 300 | 307 | | 791 | 784 | 776 | 769 | 761 | | 504 | 503 | 502 | 501 | 499 | | 730 | 731 | 733 | 734 | 735 | 52 | 13 |
| 47 | 8 | | 307 | 315 | 323 | 331 | 339 | | 761 | 754 | 747 | 739 | 732 | | 499 | 498 | 497 | 496 | 494 | | 735 | 737 | 738 | 739 | 741 | 48 | 12 |
| 48 | 12 | | 339 | 347 | 355 | 362 | 370 | | 732 | 724 | 717 | 710 | 702 | | 494 | 493 | 492 | 490 | 489 | | 741 | 742 | 743 | 745 | 746 | 44 | 11 |
| 49 | 16 | | 370 | 378 | 386 | 394 | 402 | | 702 | 695 | 688 | 680 | 673 | | 488 | 487 | 485 | 484 | 483 | | 747 | 748 | 749 | 750 | 751 | 4. 40 | 10 |
| 50 | 55. 20 | 9. 14 | 402 | 410 | 417 | 425 | 433 | 9. 18 | 673 | 666 | 658 | 651 | 644 | 9. 93 | 482 | 481 | 480 | 479 | 477 | 9. 92 | 752 | 753 | 754 | 756 | 757 | 36 | 9 |
| 51 | 24 | | 433 | 441 | 449 | 457 | 465 | | 644 | 637 | 630 | 623 | 616 | | 477 | 476 | 475 | 474 | 473 | | 758 | 759 | 761 | 762 | 763 | 32 | 8 |
| 52 | 28 | | 465 | 473 | 481 | 488 | 496 | | 616 | 609 | 602 | 595 | 588 | | 473 | 472 | 471 | 470 | 469 | | 765 | 766 | 767 | 768 | 770 | 28 | 7 |
| 53 | 32 | | 496 | 504 | 512 | 519 | 527 | | 588 | 581 | 574 | 567 | 560 | | 468 | 467 | 466 | 465 | 464 | | 771 | 772 | 774 | 775 | 776 | 24 | 6 |
| 54 | 36 | | 527 | 535 | 543 | 551 | 559 | | 560 | 553 | 546 | 539 | 532 | | 463 | 462 | 461 | 460 | 459 | | 777 | 778 | 780 | 781 | 782 | 4. 24 | 5 |
| 55 | 55. 40 | 9. 14 | 559 | 566 | 574 | 582 | 590 | 9. 18 | 532 | 525 | 518 | 511 | 505 | 9. 93 | 458 | 457 | 456 | 455 | 454 | 9. 92 | 784 | 785 | 786 | 788 | 789 | 16 | 4 |
| 56 | 44 | | 590 | 598 | 606 | 613 | 621 | | 505 | 498 | 491 | 484 | 477 | | 454 | 453 | 451 | 450 | 449 | | 790 | 791 | 793 | 794 | 795 | 12 | 3 |
| 57 | 48 | | 621 | 629 | 637 | 645 | 652 | | 477 | 470 | 463 | 456 | 450 | | 448 | 447 | 446 | 445 | 443 | | 797 | 798 | 799 | 801 | 802 | 8 | 2 |
| 58 | 52 | | 652 | 660 | 668 | 676 | 684 | | 450 | 443 | 436 | 429 | 423 | | 443 | 442 | 441 | 440 | 438 | | 803 | 805 | 806 | 807 | 809 | 4 | 1 |
| 59 | 56 | | 684 | 691 | 699 | 707 | 715 | | 423 | 416 | 409 | 403 | 396 | | 438 | 437 | 436 | 434 | 433 | | 810 | 811 | 813 | 814 | 815 | 4. 0 | 0 |
| | | 4s 60″ | 3s 45″ | 2s 30″ | 1s 15″ | 0s 0″ | 4s 60″ | 3s 45″ | 2s 30″ | 1s 15″ | 0s 0″ | 4s 60″ | 3s 45″ | 2s 30″ | 1s 15″ | 0s 0″ | 4s 60″ | 3s 45″ | 2s 30″ | 1s 15″ | 0s 0″ | m s | ′ |
| | | Suversed | | | | | Coversed | | | | | Versed | | | | | Sucoversed | | | | | 9h 13m 36s | |
| | | Coversed | | | | | Versed | | | | | Sucoversed | | | | | Suversed | | | | | 3° 46′ | |

| | | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | |
| | m | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | 0″ | 15″ | 30″ | 45″ | 60″ | | |
| | | 0° | 1° | 2° | 3° | 4° | 0° | 1° | 2° | 3° | 4° | 0° | 1° | 2° | 3° | 4° | 0° | 1° | 2° | 3° | 4° | | |
| 0 | 56. 0 | 9. 84 | 177 | 180 | 184 | 187 | 9. 85 | 683 | 680 | 677 | 674 | 0. 14 | 317 | 320 | 323 | 326 | 0. 15 | 817 | 814 | 810 | 807 | | 60 |
| 1 | 4 | | 190 | 193 | 197 | 200 | 203 | 681 | 678 | 675 | 672 | 669 | 319 | 322 | 325 | 328 | 331 | 810 | 807 | 803 | 800 | 797 | 52 | 58 |
| 2 | 8 | | 203 | 207 | 210 | 213 | 216 | 668 | 666 | 663 | 660 | 657 | 332 | 334 | 337 | 340 | 343 | 797 | 794 | 790 | 787 | 784 | 48 | 57 |
| 3 | 12 | | 216 | 220 | 223 | 226 | 229 | 657 | 654 | 651 | 648 | 645 | 343 | 346 | 349 | 352 | 355 | 784 | 781 | 777 | 774 | 771 | 44 | 56 |
| 4 | 16 | | 229 | 233 | 236 | 239 | 242 | 645 | 642 | 639 | 636 | 633 | 355 | 358 | 361 | 364 | 367 | 771 | 767 | 764 | 761 | 758 | 40 | 55 |
| 5 | 56. 20 | 9. 84 | 242 | 246 | 249 | 252 | 255 | 9. 85 | 632 | 629 | 626 | 623 | 620 | 0. 14 | 368 | 371 | 374 | 377 | 380 | 0. 15 | 758 | 754 | 751 | 748 | 745 | 36 | 54 |
| 6 | 24 | | 255 | 259 | 262 | 265 | 269 | | 620 | 617 | 614 | 611 | 608 | | 380 | 383 | 386 | 389 | 392 | | 745 | 741 | 738 | 735 | 731 | 32 | 53 |
| 7 | 28 | | 269 | 272 | 275 | 278 | 282 | | 608 | 605 | 602 | 599 | 596 | | 392 | 395 | 398 | 401 | 404 | | 731 | 728 | 725 | 722 | 718 | 28 | 52 |
| 8 | 32 | | 282 | 285 | 288 | 291 | 295 | | 596 | 593 | 590 | 586 | 583 | | 404 | 407 | 411 | 414 | 417 | | 718 | 715 | 712 | 709 | 705 | 24 | 51 |
| 9 | 36 | | 295 | 299 | 302 | 304 | 308 | | 583 | 580 | 577 | 574 | 571 | | 417 | 420 | 423 | 426 | 429 | | 705 | 702 | 699 | 696 | 693 | 20 | 50 |
| 10 | 56. 40 | 9. 84 | 308 | 311 | 314 | 317 | 321 | 9. 85 | 571 | 568 | 565 | 562 | 559 | 0. 14 | 429 | 432 | 435 | 438 | 441 | 0. 15 | 693 | 690 | 686 | 683 | 679 | 16 | 49 |
| 11 | 44 | | 321 | 324 | 327 | 330 | 334 | | 559 | 556 | 553 | 550 | 547 | | 441 | 444 | 447 | 450 | 453 | | 679 | 676 | 673 | 670 | 667 | 12 | 48 |
| 12 | 48 | | 334 | 337 | 340 | 343 | 347 | | 547 | 544 | 541 | 537 | 534 | | 453 | 456 | 459 | 463 | 466 | | 667 | 663 | 660 | 657 | 654 | 8 | 47 |
| 13 | 52 | | 347 | 350 | 353 | 356 | 360 | | 534 | 531 | 528 | 525 | 522 | | 466 | 469 | 472 | 475 | 478 | | 654 | 651 | 647 | 644 | 641 | 4 | 46 |
| 14 | 56 | | 360 | 363 | 366 | 369 | 373 | | 522 | 519 | 516 | 513 | 510 | | 478 | 481 | 484 | 487 | 490 | | 640 | 637 | 634 | 631 | 628 | 3. 0 | 45 |
| 15 | 57. 0 | 9. 84 | 373 | 376 | 379 | 382 | 386 | 9. 85 | 509 | 506 | 503 | 500 | 497 | 0. 14 | 491 | 494 | 497 | 500 | 503 | 0. 15 | 625 | 622 | 619 | 616 | 612 | 56 | 44 |
| 16 | 4 | | 386 | 389 | 392 | 395 | 399 | | 497 | 494 | 491 | 488 | 485 | | 503 | 506 | 509 | 512 | 515 | | 612 | 609 | 606 | 603 | 600 | 52 | 43 |
| 17 | 8 | | 398 | 402 | 405 | 408 | 411 | | 485 | 482 | 479 | 476 | 473 | | 515 | 518 | 521 | 524 | 527 | | 602 | 598 | 595 | 592 | 589 | 48 | 42 |
| 18 | 12 | | 411 | 415 | 418 | 421 | 424 | | 473 | 470 | 467 | 463 | 460 | | 527 | 530 | 533 | 537 | 540 | | 589 | 585 | 582 | 579 | 576 | 44 | 41 |
| 19 | 16 | | 424 | 428 | 431 | 434 | 437 | | 460 | 457 | 454 | 451 | 448 | | 540 | 543 | 546 | 549 | 552 | | 576 | 572 | 569 | 566 | 563 | 2. 40 | 40 |
| 20 | 57. 20 | 9. 84 | 437 | 440 | 444 | 447 | 450 | 9. 85 | 448 | 445 | 442 | 439 | 436 | 0. 14 | 552 | 555 | 558 | 561 | 564 | 0. 15 | 563 | 560 | 556 | 553 | 550 | 36 | 39 |
| 21 | 24 | | 450 | 453 | 457 | 460 | 463 | | 436 | 433 | 429 | 426 | 423 | | 564 | 567 | 571 | 574 | 577 | | 550 | 547 | 543 | 540 | 537 | 32 | 38 |
| 22 | 28 | | 463 | 466 | 470 | 473 | 476 | | 423 | 420 | 417 | 414 | 411 | | 577 | 580 | 583 | 586 | 589 | | 537 | 534 | 530 | 527 | 524 | 28 | 37 |
| 23 | 32 | | 476 | 479 | 483 | 486 | 489 | | 411 | 408 | 405 | 402 | 399 | | 589 | 592 | 595 | 598 | 601 | | 524 | 521 | 517 | 514 | 511 | 24 | 36 |
| 24 | 36 | | 489 | 492 | 496 | 499 | 502 | | 399 | 396 | 393 | 390 | 386 | | 601 | 604 | 607 | 610 | 614 | | 511 | 508 | 505 | 502 | 498 | 20 | 35 |
| 25 | 57. 40 | 9. 84 | 502 | 505 | 509 | 512 | 515 | 9. 85 | 386 | 383 | 380 | 377 | 374 | 0. 14 | 614 | 617 | 620 | 623 | 626 | 0. 15 | 495 | 492 | 489 | 486 | 483 | 16 | 34 |
| 26 | 44 | | 515 | 518 | 521 | 524 | 528 | | 374 | 371 | 368 | 365 | 362 | | 626 | 629 | 632 | 635 | 638 | | 483 | 480 | 477 | 474 | 471 | 12 | 33 |
| 27 | 48 | | 528 | 531 | 534 | 537 | 540 | | 361 | 358 | 355 | 352 | 349 | | 638 | 642 | 645 | 648 | 651 | | 472 | 469 | 466 | 463 | 460 | 8 | 32 |
| 28 | 52 | | 541 | 544 | 547 | 550 | 553 | | 349 | 346 | 343 | 340 | 337 | | 651 | 654 | 657 | 660 | 663 | | 460 | 457 | 454 | 451 | 448 | 4 | 31 |
| 29 | 56 | | 554 | 557 | 560 | 563 | 566 | | 337 | 334 | 331 | 328 | 325 | | 663 | 666 | 669 | 672 | 675 | | 448 | 445 | 442 | 439 | 436 | 2. 0 | 30 |
| 30 | 58. 0 | 9. 84 | 566 | 570 | 573 | 576 | 579 | 9. 85 | 324 | 321 | 318 | 315 | 312 | 0. 14 | 676 | 679 | 682 | 685 | 688 | 0. 15 | 433 | 430 | 427 | 424 | 421 | 56 | 29 |
| 31 | 4 | | 579 | 582 | 585 | 589 | 592 | | 312 | 309 | 306 | 302 | 299 | | 688 | 691 | 694 | 698 | 701 | | 421 | 418 | 415 | 411 | 408 | 52 | 28 |
| 32 | 8 | | 592 | 595 | 598 | 602 | 605 | | 299 | 296 | 293 | 290 | 287 | | 701 | 704 | 707 | 710 | 713 | | 408 | 405 | 402 | 399 | 396 | 48 | 27 |
| 33 | 12 | | 605 | 608 | 611 | 614 | 618 | | 287 | 284 | 281 | 278 | 274 | | 713 | 716 | 719 | 722 | 726 | | 395 | 392 | 389 | 386 | 382 | 44 | 26 |
| 34 | 16 | | 618 | 621 | 624 | 627 | 630 | | 274 | 271 | 268 | 265 | 262 | | 726 | 729 | 732 | 735 | 738 | | 382 | 379 | 376 | 373 | 370 | 1. 40 | 25 |
| 35 | 58. 20 | 9. 84 | 630 | 634 | 637 | 640 | 643 | 9. 85 | 262 | 259 | 256 | 253 | 250 | 0. 14 | 738 | 741 | 744 | 747 | 750 | 0. 15 | 370 | 366 | 363 | 360 | 357 | 32 | 24 |
| 36 | 24 | | 643 | 646 | 650 | 653 | 656 | | 250 | 246 | 243 | 240 | 237 | | 750 | 754 | 757 | 760 | 763 | | 357 | 354 | 350 | 347 | 344 | 28 | 23 |
| 37 | 28 | | 656 | 659 | 662 | 666 | 669 | | 237 | 234 | 231 | 228 | 225 | | 763 | 766 | 769 | 772 | 775 | | 344 | 341 | 338 | 334 | 331 | 24 | 22 |
| 38 | 32 | | 669 | 672 | 675 | 679 | 682 | | 225 | 222 | 219 | 216 | 213 | | 775 | 778 | 781 | 784 | 787 | | 331 | 328 | 325 | 322 | 319 | 20 | 21 |
| 39 | 36 | | 682 | 685 | 688 | 692 | 695 | | 213 | 210 | 207 | 204 | 201 | | 787 | 790 | 793 | 796 | 799 | | 319 | 316 | 313 | 309 | 306 | 16 | 20 |
| 40 | 58. 40 | 9. 84 | 695 | 698 | 702 | 705 | 708 | 9. 85 | 201 | 198 | 195 | 192 | 189 | 0. 14 | 799 | 802 | 805 | 808 | 811 | 0. 15 | 306 | 303 | 300 | 297 | 294 | 12 | 19 |
| 41 | 44 | | 708 | 711 | 715 | 718 | 721 | | 189 | 186 | 183 | 180 | 177 | | 811 | 814 | 817 | 820 | 823 | | 294 | 291 | 288 | 285 | 282 | 8 | 18 |
| 42 | 48 | | 721 | 724 | 728 | 731 | 734 | | 177 | 174 | 171 | 168 | 165 | | 823 | 826 | 829 | 832 | 835 | | 282 | 279 | 276 | 273 | 270 | 4 | 17 |
| 43 | 52 | | 734 | 737 | 741 | 744 | 747 | | 165 | 162 | 159 | 156 | 153 | | 835 | 838 | 841 | 844 | 847 | | 270 | 267 | 264 | 261 | 258 | 0 | 16 |
| 44 | 56 | | 747 | 750 | 754 | 757 | 760 | | 153 | 150 | 147 | 144 | 141 | | 847 | 850 | 853 | 856 | 859 | | 258 | 255 | 252 | 249 | 246 | 1. 56 | 15 |
| 45 | 59. 0 | 9. 84 | 760 | 763 | 767 | 770 | 773 | 9. 85 | 141 | 138 | 135 | 132 | 129 | 0. 14 | 859 | 862 | 865 | 868 | 871 | 0. 15 | 246 | 243 | 240 | 237 | 234 | 56 | 14 |
| 46 | 4 | | 773 | 776 | 780 | 783 | 786 | | 129 | 126 | 123 | 120 | 117 | | 871 | 874 | 877 | 880 | 883 | | 234 | 231 | 228 | 225 | 222 | 52 | 13 |
| 47 | 8 | | 786 | 789 | 793 | 796 | 799 | | 117 | 114 | 111 | 108 | 105 | | 883 | 886 | 889 | 892 | 895 | | 222 | 219 | 216 | 213 | 210 | 48 | 12 |
| 48 | 12 | | 799 | 802 | 806 | 809 | 812 | | 105 | 102 | 099 | 096 | 093 | | 895 | 898 | 901 | 904 | 907 | | 210 | 207 | 204 | 201 | 198 | 44 | 11 |
| 49 | 16 | | 812 | 815 | 819 | 822 | 825 | | 093 | 090 | 087 | 084 | 081 | | 907 | 910 | 913 | 916 | 919 | | 198 | 195 | 192 | 189 | 186 | 40 | 10 |
| 50 | 59. 20 | 9. 84 | 825 | 828 | 832 | 835 | 838 | 9. 85 | 081 | 078 | 075 | 072 | 069 | 0. 14 | 919 | 922 | 925 | 928 | 931 | 0. 15 | 186 | 183 | 180 | 177 | 174 | 36 | 9 |
| 51 | 24 | | 838 | 841 | 844 | 847 | 851 | | 069 | 066 | 062 | 059 | 056 | | 931 | 934 | 938 | 941 | 944 | | 174 | 171 | 168 | 165 | 162 | 32 | 8 |
| 52 | 28 | | 851 | 854 | 857 | 860 | 863 | | 056 | 053 | 050 | 047 | 044 | | 944 | 947 | 950 | 953 | 956 | | 162 | 159 | 156 | 153 | 150 | 28 | 7 |
| 53 | 32 | | 863 | 867 | 870 | 873 | 876 | | 044 | 041 | 038 | 034 | 031 | | 956 | 959 | 962 | 966 | 969 | | 150 | 147 | 144 | 141 | 138 | 24 | 6 |
| 54 | 36 | | 876 | 879 | 883 | 886 | 889 | | 031 | 028 | 025 | 022 | 019 | | 969 | 972 | 975 | 978 | 981 | | 138 | 135 | 132 | 129 | 126 | 20 | 5 |
| 55 | 59. 40 | 9. 84 | 889 | 892 | 895 | 898 | 902 | * | 012 | 008 | 005 | 002 | 999 | * | 988 | 992 | 995 | 998 | 001 | 0. 15 | 115 | 112 | 108 | 105 | 102 | 16 | 4 |
| 56 | 44 | | 902 | 905 | 908 | 911 | 914 | 9. 84 | 999 | 996 | 993 | 989 | 986 | 0. 15 | 001 | 004 | 007 | 011 | 014 | | 102 | 099 | 096 | 092 | 089 | 12 | 3 |
| 57 | 48 | | 914 | 917 | 920 | 923 | 927 | | 986 | 983 | 980 | 977 | 974 | | 014 | 017 | 020 | 023 | 026 | | 089 | 086 | 083 | 080 | 077 | 8 | 2 |
| 58 | 52 | | 927 | 930 | 933 | 936 | 940 | | 974 | 971 | 967 | 964 | 961 | | 026 | 029 | 033 | 036 | 039 | | 077 | 074 | 071 | 067 | 064 | 4 | 1 |
| 59 | 56 | | 940 | 943 | 946 | 949 | 952 | | 961 | 958 | 955 | 952 | 949 | | 039 | 042 | 045 | 048 | 052 | | 064 | 061 | 058 | 055 | 052 | 0 | 0 |
| | | 4° | 3° | 2° | 1° | 0° | 4° | 3° | 2° | 1° | 0° | 4° | 3° | 2° | 1° | 0° | 4° | 3° | 2° | 1° | 0° | 9h | 135 |
| | | 45′ | 30′ | 15′ | 0′ | | 45′ | 30′ | 15′ | 0′ | | 45′ | 30′ | 15′ | 0′ | | 45′ | 30′ | 15′ | 0′ | | 3h | 45′ |
| | | Sine | | | | | Cosine | | | | | Secant | | | | | Cosecant | | | | | | |
| | | Cosine | | | | | Sine | | | | | Cosecant | | | | | Secant | | | | | | |

| ′ | ″ | Verſed / Coverſed | | | | | Coverſed / Suverſed | | | | | Suverſed / Sucoverſed | | | | | Sucoverſed / Verſed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 134° | 8″ | ° | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | ° | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | ° | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | 0″ 0″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | | |
| 0 | 56. 0 | 9. 14 715 | 723 | 731 | 739 | 746 | 9. 15 | 37 | 34 | 33 | 33 | 34 | 9. 93 | 433 | 432 | 431 | 429 | 428 | 9. 92 | 805 | 807 | 808 | 809 | 811 | | |
| 1 | 4 | | 746 | 754 | 762 | 770 | 778 | | 34 | 33 | 33 | 34 | | | 428 | 427 | 426 | 424 | 423 | | 811 | 812 | 813 | 815 | 816 | | |
| 2 | 8 | | 778 | 785 | 793 | 801 | 809 | | 34 | 33 | 33 | 34 | | | 423 | 422 | 420 | 419 | 418 | | 816 | 817 | 819 | 820 | 821 | | |
| 3 | 12 | | 809 | 817 | 824 | 832 | 840 | | 34 | 33 | 33 | 34 | | | 418 | 417 | 415 | 414 | 413 | | 821 | 823 | 824 | 825 | 827 | | |
| 4 | 16 | | 840 | 848 | 856 | 863 | 871 | | 34 | 33 | 33 | 34 | | | 413 | 411 | 410 | 409 | 408 | | 827 | 828 | 830 | 831 | 832 | | |
| 5 | 20. 0 | 9. 14 871 | 879 | 887 | 895 | 902 | 9. 15 | 37 | 34 | 33 | 33 | 34 | 9. 93 | 408 | 407 | 406 | 404 | 403 | 9. 92 | 832 | 834 | 835 | 836 | 838 | | |
| 6 | 24 | | 902 | 910 | 918 | 926 | 934 | | 34 | 33 | 33 | 34 | | | 403 | 402 | 401 | 399 | 398 | | 838 | 839 | 841 | 842 | 843 | | |
| 7 | 28 | | 934 | 941 | 949 | 957 | 965 | | 34 | 33 | 33 | 34 | | | 398 | 397 | 396 | 394 | 393 | | 843 | 844 | 846 | 847 | 848 | | |
| 8 | 32 | | 965 | 973 | 98 | 988 | 996 | | 34 | 33 | 33 | 34 | | | 393 | 391 | 390 | 389 | 387 | | 848 | 849 | 851 | 852 | 853 | | |
| 9 | 36 | | 6 | 14 | 21 | 29 | 37 | | 34 | 33 | 33 | 34 | | | 387 | 386 | 385 | 383 | 382 | | 853 | 854 | 856 | 857 | 858 | | |
| 10 | 39. 4 | 9. 15 | 52 | 60 | 68 | 76 | 84 | 9. 16 | 677 | 675 | 673 | 671 | 669 | 9. 93 | 382 | 381 | 379 | 378 | 377 | 9. 92 | 859 | 860 | 861 | 863 | 864 | | |
| 11 | 44 | | 92 | 99 | 107 | 115 | 123 | | 667 | 665 | 663 | 661 | 659 | | 377 | 376 | 374 | 373 | 372 | | 864 | 865 | 867 | 868 | 869 | | |
| 12 | 48 | | 131 | 139 | 146 | 154 | 162 | | 657 | 655 | 653 | 651 | 649 | | 372 | 371 | 369 | 368 | 367 | | 869 | 870 | 872 | 873 | 874 | | |
| 13 | 52 | | 170 | 178 | 186 | 193 | 201 | | 647 | 645 | 643 | 641 | 639 | | 367 | 365 | 364 | 363 | 361 | | 875 | 876 | 877 | 879 | 880 | | |
| 14 | 56 | | 209 | 217 | 225 | 233 | 241 | 9. 17 | 637 | 635 | 633 | 631 | 629 | | 361 | 360 | 359 | 358 | 356 | | 880 | 881 | 883 | 884 | 885 | | |
| 15 | 57. 0 | 9. 15 | 248 | 256 | 264 | 272 | 280 | 9. 17 | 928 | 920 | 913 | 905 | 898 | 9. 93 | 356 | 355 | 354 | 353 | 351 | 9. 92 | 885 | 887 | 888 | 889 | 891 | | |
| 16 | 4 | | 288 | 296 | 304 | 312 | 320 | | 890 | 883 | 875 | 868 | 861 | | 351 | 350 | 349 | 347 | 346 | | 891 | 892 | 893 | 895 | 896 | | |
| 17 | 8 | | 328 | 336 | 344 | 352 | 360 | | 853 | 846 | 839 | 832 | 825 | | 346 | 345 | 344 | 342 | 341 | | 896 | 897 | 899 | 900 | 901 | | |
| 18 | 12 | | 368 | 376 | 384 | 392 | 400 | | 818 | 811 | 804 | 797 | 790 | | 341 | 340 | 338 | 337 | 336 | | 901 | 903 | 904 | 905 | 907 | | |
| 19 | 16 | | 408 | 416 | 424 | 432 | 440 | | 783 | 776 | 769 | 762 | 755 | | 336 | 335 | 333 | 332 | 331 | | 907 | 908 | 909 | 911 | 912 | | |
| 20 | 57. 20 | 9. 15 | 448 | 456 | 464 | 472 | 480 | 9. 17 | 748 | 741 | 734 | 727 | 720 | 9. 93 | 331 | 329 | 328 | 327 | 326 | 9. 92 | 912 | 913 | 915 | 916 | 917 | | |
| 21 | 24 | | 488 | 496 | 504 | 512 | 520 | | 713 | 706 | 699 | 692 | 685 | | 326 | 324 | 323 | 322 | 321 | | 917 | 919 | 920 | 921 | 923 | | |
| 22 | 28 | | 528 | 536 | 544 | 552 | 560 | | 678 | 671 | 664 | 657 | 650 | | 321 | 319 | 318 | 317 | 315 | | 923 | 924 | 925 | 927 | 928 | | |
| 23 | 32 | | 568 | 576 | 584 | 592 | 600 | | 643 | 636 | 629 | 622 | 615 | | 315 | 314 | 313 | 311 | 310 | | 928 | 929 | 931 | 932 | 933 | | |
| 24 | 36 | | 608 | 616 | 624 | 632 | 640 | | 608 | 601 | 594 | 587 | 580 | | 310 | 309 | 307 | 306 | 305 | | 933 | 935 | 936 | 937 | 939 | | |
| 25 | 57. 40 | 9. 15 | 648 | 656 | 664 | 672 | 680 | 9. 17 | 573 | 566 | 559 | 552 | 545 | 9. 93 | 305 | 304 | 302 | 301 | 300 | 9. 92 | 940 | 941 | 943 | 944 | 945 | | |
| 26 | 44 | | 688 | 696 | 704 | 712 | 720 | | 538 | 531 | 524 | 517 | 510 | | 300 | 298 | 297 | 296 | 295 | | 945 | 947 | 948 | 949 | 951 | | |
| 27 | 48 | | 728 | 736 | 744 | 752 | 760 | | 503 | 496 | 489 | 482 | 475 | | 295 | 293 | 292 | 291 | 289 | | 949 | 951 | 952 | 953 | 955 | | |
| 28 | 52 | | 768 | 776 | 784 | 792 | 800 | | 468 | 461 | 454 | 447 | 440 | | 289 | 288 | 287 | 286 | 284 | | 955 | 956 | 957 | 958 | 960 | | |
| 29 | 56 | | 808 | 816 | 824 | 832 | 840 | | 433 | 426 | 419 | 412 | 405 | | 284 | 283 | 282 | 280 | 279 | | 960 | 961 | 962 | 964 | 965 | | |
| 30 | 58. 0 | 9. 15 | 848 | 856 | 864 | 872 | 880 | 9. 17 | 398 | 391 | 384 | 377 | 370 | 9. 93 | 279 | 277 | 276 | 275 | 274 | 9. 92 | 965 | 966 | 968 | 969 | 970 | | |
| 31 | 4 | | 888 | 896 | 904 | 912 | 920 | | 363 | 356 | 349 | 342 | 335 | | 274 | 273 | 271 | 270 | 269 | | 970 | 972 | 973 | 974 | 976 | | |
| 32 | 8 | | 928 | 936 | 944 | 952 | 960 | | 328 | 321 | 314 | 307 | 300 | | 269 | 267 | 266 | 265 | 264 | | 976 | 977 | 978 | 980 | 981 | | |
| 33 | 12 | | 968 | 976 | 984 | 992 | 1000 | | 293 | 286 | 279 | 272 | 265 | | 264 | 262 | 261 | 260 | 258 | | 981 | 982 | 984 | 985 | 986 | | |
| 34 | 16 | | 1008 | 1016 | 1024 | 1032 | 1040 | | 258 | 251 | 244 | 237 | 230 | | 258 | 257 | 256 | 255 | 253 | | 986 | 988 | 989 | 990 | 992 | | |
| 35 | 59. 0 | 9. 15 | 1048 | 1056 | 1064 | 1072 | 1080 | 9. 17 | 223 | 216 | 209 | 202 | 195 | 9. 93 | 253 | 252 | 251 | 249 | 248 | 9. 92 | 993 | 994 | 996 | 997 | 998 | | |
| 36 | 4 | | 1088 | 1096 | 1104 | 1112 | 1120 | | 188 | 181 | 174 | 167 | 160 | | 248 | 247 | 245 | 244 | 243 | | 998 | 1000 | 1001 | 1002 | 1004 | | |
| 37 | 8 | | 1128 | 1136 | 1144 | 1152 | 1160 | | 153 | 146 | 139 | 132 | 125 | | 243 | 242 | 241 | 239 | 238 | 9. 93 | 1005 | 1006 | 1007 | 1009 | 1010 | | |
| 38 | 12 | | 1168 | 1176 | 1184 | 1192 | 1200 | | 118 | 111 | 104 | 97 | 90 | | 238 | 237 | 235 | 234 | 233 | | 1010 | 1012 | 1013 | 1014 | 1016 | | |
| 39 | 16 | | 1208 | 1216 | 1224 | 1232 | 1240 | | 83 | 76 | 69 | 62 | 55 | | 233 | 231 | 230 | 229 | 228 | | 1016 | 1017 | 1019 | 1020 | 1021 | | |
| 40 | 59. 20 | 9. 15 | 1248 | 1256 | 1264 | 1272 | 1280 | 9. 17 | 48 | 41 | 34 | 27 | 20 | 9. 93 | 228 | 226 | 225 | 224 | 223 | 9. 93 | 1023 | 1024 | 1025 | 1027 | 1028 | | |
| 41 | 24 | | 1288 | 1296 | 1304 | 1312 | 1320 | | 13 | 6 | 1 | 9. 16 | 992 | | 223 | 221 | 220 | 219 | 218 | | 1028 | 1030 | 1031 | 1032 | 1034 | | |
| 42 | 28 | 9. 16 | 1328 | 1336 | 1344 | 1352 | 1360 | 9. 16 | 977 | 970 | 963 | 956 | 949 | | 218 | 216 | 215 | 214 | 213 | | 1034 | 1035 | 1037 | 1038 | 1039 | | |
| 43 | 32 | | 1368 | 1376 | 1384 | 1392 | 1400 | | 942 | 935 | 928 | 921 | 914 | | 213 | 211 | 210 | 209 | 208 | | 1039 | 1041 | 1042 | 1043 | 1045 | | |
| 44 | 36 | | 1408 | 1416 | 1424 | 1432 | 1440 | | 907 | 900 | 893 | 886 | 879 | | 208 | 206 | 205 | 204 | 203 | | 1045 | 1046 | 1048 | 1049 | 1050 | | |
| 45 | 59. 40 | 9. 16 | 1448 | 1456 | 1464 | 1472 | 1480 | 9. 16 | 872 | 865 | 858 | 851 | 844 | | 203 | 201 | 200 | 199 | 198 | | 1050 | 1052 | 1053 | 1054 | 1056 | | |
| 46 | 44 | | 1488 | 1496 | 1504 | 1512 | 1520 | | 837 | 830 | 823 | 816 | 809 | | 198 | 196 | 195 | 194 | 193 | | 1056 | 1057 | 1059 | 1060 | 1061 | | |
| 47 | 48 | | 1528 | 1536 | 1544 | 1552 | 1560 | | 802 | 795 | 788 | 781 | 774 | | 193 | 191 | 190 | 189 | 188 | | 1061 | 1063 | 1064 | 1065 | 1067 | | |
| 48 | 52 | | 1568 | 1576 | 1584 | 1592 | 1600 | | 767 | 760 | 753 | 746 | 739 | | 188 | 186 | 185 | 184 | 183 | | 1067 | 1068 | 1070 | 1071 | 1072 | | |
| 49 | 56 | | 1608 | 1616 | 1624 | 1632 | 1640 | | 732 | 725 | 718 | 711 | 704 | | 183 | 181 | 180 | 179 | 178 | | 1072 | 1074 | 1075 | 1076 | 1078 | | |
| 50 | 60. 0 | 9. 16 | 1648 | 1656 | 1664 | 1672 | 1680 | 9. 16 | 697 | 690 | 683 | 676 | 669 | | 178 | 176 | 175 | 174 | 173 | | 1078 | 1079 | 1080 | 1082 | 1083 | | |
| 51 | 4 | | 1688 | 1696 | 1704 | 1712 | 1720 | | 662 | 655 | 648 | 641 | 634 | | 173 | 171 | 170 | 169 | 168 | | 1083 | 1085 | 1086 | 1087 | 1089 | | |
| 52 | 8 | | 1728 | 1736 | 1744 | 1752 | 1760 | | 627 | 620 | 613 | 606 | 599 | | 168 | 166 | 165 | 164 | 163 | | 1089 | 1090 | 1092 | 1093 | 1094 | | |
| 53 | 12 | | 1768 | 1776 | 1784 | 1792 | 1800 | | 592 | 585 | 578 | 571 | 564 | | 163 | 161 | 160 | 159 | 158 | | 1094 | 1096 | 1097 | 1098 | 1100 | | |
| 54 | 16 | | 1808 | 1816 | 1824 | 1832 | 1840 | | 557 | 550 | 543 | 536 | 529 | | 158 | 156 | 155 | 154 | 153 | | 1100 | 1101 | 1103 | 1104 | 1105 | | |
| 55 | 60. 20 | 9. 16 | 1848 | 1856 | 1864 | 1872 | 1880 | 9. 16 | 522 | 515 | 508 | 501 | 494 | | 153 | 151 | 150 | 149 | 148 | | 1105 | 1107 | 1108 | 1109 | 1111 | | |
| 56 | 24 | | 1888 | 1896 | 1904 | 1912 | 1920 | | 487 | 480 | 473 | 466 | 459 | | 148 | 146 | 145 | 144 | 143 | | 1111 | 1112 | 1114 | 1115 | 1116 | | |
| 57 | 28 | | 1928 | 1936 | 1944 | 1952 | 1960 | | 452 | 445 | 438 | 431 | 424 | | 143 | 141 | 140 | 139 | 138 | | 1116 | 1118 | 1119 | 1120 | 1122 | | |
| 58 | 32 | | 1968 | 1976 | 1984 | 1992 | 2000 | | 417 | 410 | 403 | 396 | 389 | | 138 | 136 | 135 | 134 | 133 | | 1122 | 1123 | 1125 | 1126 | 1127 | | |
| 59 | 36 | | 2008 | 2016 | 2024 | 2032 | 2040 | | 382 | 375 | 368 | 361 | 354 | | 133 | 131 | 130 | 129 | 128 | | 1127 | 1129 | 1130 | 1131 | 1133 | | |
| 60 | 60. 40 | 9. 16 | 2048 | 2056 | 2064 | 2072 | 2080 | 9. 16 | 347 | 340 | 333 | 326 | 319 | | 128 | 126 | 125 | 124 | 123 | | 1133 | 1134 | 1136 | 1137 | 1138 | | |

| | | Verſed / Coverſed | | | | | Coverſed / Suverſed | | | | | Suverſed / Sucoverſed | | | | | Sucoverſed / Verſed | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | ″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | ″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | ″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | ″ | 15″ 1″ | 30″ 2″ | 45″ 3″ | 60″ 4″ | | |
| | | 8 | 33 | 33 | 33 | 33 | 8 | 33 | 33 | 33 | 33 | 8 | 33 | 33 | 33 | 33 | 8 | 33 | 33 | 33 | 33 | | |
| | | Verſed / Coverſed | | | | | Coverſed / Suverſed | | | | | Suverſed / Sucoverſed | | | | | Sucoverſed / Verſed | | | | | | |

## T. XVIII.

To convert Signs into Degrees, or Hours.

| s | o | h |
|---|---|---|
| 1 | 30 | 1 |
| 2 | 60 | 2 |
| 3 | 90 | 3 |
| 4 | 120 | 4 |
| 5 | 150 | 5 |
| 6 | 180 | 6 |
| 7 | 210 | 7 |
| 8 | 240 | 8 |
| 9 | 270 | 9 |
| 10 | 300 | 10 |
| 11 | 330 | 11 |
| 12 | 360 | 12 |

## T. XIX.

To convert Seconds of the Circle into Seconds, and Decimals of Time.

| " | s | " | s |
|---|---|---|---|
| 1 | 0, 07 | 31 | 2, 07 |
| 2 | 0, 13 | 32 | 2, 13 |
| 3 | 0, 20 | 33 | 2, 20 |
| 4 | 0, 27 | 34 | 2, 27 |
| 5 | 0, 33 | 35 | 2, 33 |
| 6 | 0, 40 | 36 | 2, 40 |
| 7 | 0, 47 | 37 | 2, 47 |
| 8 | 0, 53 | 38 | 2, 53 |
| 9 | 0, 60 | 39 | 2, 60 |
| 10 | 0, 67 | 40 | 2, 67 |
| 11 | 0, 73 | 41 | 2, 73 |
| 12 | 0, 80 | 42 | 2, 80 |
| 13 | 0, 87 | 43 | 2, 87 |
| 14 | 0, 93 | 44 | 2, 93 |
| 15 | 1, 00 | 45 | 3, 0 |
| 16 | 1, 07 | 46 | 3, 07 |
| 17 | 1, 13 | 47 | 3, 13 |
| 18 | 1, 20 | 48 | 3, 20 |
| 19 | 1, 27 | 49 | 3, 27 |
| 20 | 1, 33 | 50 | 3, 33 |
| 21 | 1, 40 | 51 | 3, 40 |
| 22 | 1, 47 | 52 | 3, 47 |
| 23 | 1, 53 | 53 | 3, 53 |
| 24 | 1, 60 | 54 | 3, 60 |
| 25 | 1, 67 | 55 | 3, 67 |
| 26 | 1, 73 | 56 | 3, 73 |
| 27 | 1, 80 | 57 | 3, 80 |
| 28 | 1, 87 | 58 | 3, 87 |
| 29 | 1, 93 | 59 | 3, 93 |
| 30 | 2, 00 | 60 | 4, 00 |

## T. XX.

To convert Decimals of a Second of Time into Seconds, and Decimals of the Circle.

| s | " | s | " |
|---|---|---|---|
| 0, 01 | 0, 15 | 0, 51 | 7, 65 |
| 0, 02 | 0, 30 | 0, 52 | 7, 80 |
| 0, 03 | 0, 45 | 0, 53 | 7, 95 |
| 0, 04 | 0, 60 | 0, 54 | 8, 10 |
| 0, 05 | 0, 75 | 0, 55 | 8, 25 |
| 0, 06 | 0, 90 | 0, 56 | 8, 40 |
| 0, 07 | 1, 05 | 0, 57 | 8, 55 |
| 0, 08 | 1, 20 | 0, 58 | 8, 70 |
| 0, 09 | 1, 35 | 0, 59 | 8, 85 |
| 0, 10 | 1, 50 | 0, 60 | 9, 00 |
| 0, 11 | 1, 65 | 0, 61 | 9, 15 |
| 0, 12 | 1, 80 | 0, 62 | 9, 30 |
| 0, 13 | 1, 95 | 0, 63 | 9, 45 |
| 0, 14 | 2, 10 | 0, 64 | 9, 60 |
| 0, 15 | 2, 25 | 0, 65 | 9, 75 |
| 0, 16 | 2, 40 | 0, 66 | 9, 90 |
| 0, 17 | 2, 55 | 0, 67 | 10, 05 |
| 0, 18 | 2, 70 | 0, 68 | 10, 20 |
| 0, 19 | 2, 85 | 0, 69 | 10, 35 |
| 0, 20 | 3, 00 | 0, 70 | 10, 50 |
| 0, 21 | 3, 15 | 0, 71 | 10, 65 |
| 0, 22 | 3, 30 | 0, 72 | 10, 80 |
| 0, 23 | 3, 45 | 0, 73 | 10, 95 |
| 0, 24 | 3, 60 | 0, 74 | 11, 10 |
| 0, 25 | 3, 75 | 0, 75 | 11, 25 |
| 0, 26 | 3, 90 | 0, 76 | 11, 40 |
| 0, 27 | 4, 05 | 0, 77 | 11, 55 |
| 0, 28 | 4, 20 | 0, 78 | 11, 70 |
| 0, 29 | 4, 35 | 0, 79 | 11, 85 |
| 0, 30 | 4, 50 | 0, 80 | 12, 00 |
| 0, 31 | 4, 65 | 0, 81 | 12, 15 |
| 0, 32 | 4, 80 | 0, 82 | 12, 30 |
| 0, 33 | 4, 95 | 0, 83 | 12, 45 |
| 0, 34 | 5, 10 | 0, 84 | 12, 60 |
| 0, 35 | 5, 25 | 0, 85 | 12, 75 |
| 0, 36 | 5, 40 | 0, 86 | 12, 90 |
| 0, 37 | 5, 55 | 0, 87 | 13, 05 |
| 0, 38 | 5, 70 | 0, 88 | 13, 20 |
| 0, 39 | 5, 85 | 0, 89 | 13, 35 |
| 0, 40 | 6, 00 | 0, 90 | 13, 50 |
| 0, 41 | 6, 15 | 0, 91 | 13, 65 |
| 0, 42 | 6, 30 | 0, 92 | 13, 80 |
| 0, 43 | 6, 45 | 0, 93 | 13, 95 |
| 0, 44 | 6, 60 | 0, 94 | 14, 10 |
| 0, 45 | 6, 75 | 0, 95 | 14, 25 |
| 0, 46 | 6, 90 | 0, 96 | 14, 40 |
| 0, 47 | 7, 05 | 0, 97 | 14, 55 |
| 0, 48 | 7, 20 | 0, 98 | 14, 70 |
| 0, 49 | 7, 35 | 0, 99 | 14, 85 |
| 0, 50 | 7, 50 | 1, 00 | 15, 00 |

# TABLES

FOR

*COMPUTING THE LATITUDE BY TWO ALTITUDES OF THE SUN,*

OBSERVED

AT ANY HOURS OF THE SAME DAY;

AND BY

SEVERAL ALTITUDES NEAR NOON.

| Proportional parts for Seconds of Interval. additive | | | Time from Noon | Complement of Declination. | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *a* | *b* | *n* | o^h | 84° | D. | 83° | D. | 82° | D. | 81° | D. | 80° | D. | 79° | D. | 78° | D. | 77° | D. | | | | |
| ′ | ′ | ′ | m | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | | | | |
| 0, 3 | 0, 2 | 0, 1 | 1 | 0. 15 | 0 | 0. 15 | 0 | 0. 15 | 0 | 0. 15 | 0 | 0. 15 | 0 | 0. 15 | 0 | 0. 15 | 0 | 0. 15 | 0 | 0. 15 | a | | |
| 0, 5 | 0, 3 | 0, 2 | 2 | 0. 30 | 1 | 0. 30 | 0 | 0. 30 | 0 | 0. 30 | 0 | 0. 30 | 0 | 0. 30 | 0 | 0. 30 | 0 | 0. 30 | 0 | 0. 30 | a | | |
| 0, 8 | 0, 7 | 0, 4 | 3 | 0. 45 | 1 | 0. 45 | 0 | 0. 45 | 0 | 0. 45 | 0 | 0. 45 | 0 | 0. 45 | 0 | 0. 45 | 0 | 0. 45 | 0 | 0. 45 | a | | |
| 1, 0 | 0, 9 | 0, 5 | 4 | 1. 0 | 1 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | a | | |
| 1, 3 | 1, 2 | 1, 1 | 5 | 1. 14 | 0 | 1. 14 | 0 | 1. 15 | 0 | 1. 15 | 0 | 1. 15 | 0 | 1. 15 | 0 | 1. 15 | 0 | 1. 15 | 0 | 1. 15 | a | | |
| 1, 5 | 1, 4 | 1, 2 | 6 | 1. 29 | 1 | 1. 29 | 0 | 1. 30 | 0 | 1. 30 | 0 | 1. 30 | 0 | 1. 30 | 0 | 1. 30 | 0 | 1. 30 | 0 | 1. 30 | a | | |
| 1, 8 | 1, 6 | 1, 3 | 7 | 1. 44 | 1 | 1. 44 | 0 | 1. 45 | 0 | 1. 45 | 0 | 1. 45 | 0 | 1. 45 | 0 | 1. 45 | 0 | 1. 45 | 0 | 1. 45 | a | | |
| 2, 0 | 1, 9 | 1, 4 | 8 | 1. 59 | 1 | 1. 59 | 0 | 2. 0 | 0 | 2. 0 | 1 | 2. 0 | 0 | 2. 0 | 0 | 2. 0 | 0 | 2. 0 | 0 | 2. 0 | a | | |
| 2, 3 | 2, 1 | 2, 0 | 9 | 2. 14 | 1 | 2. 14 | 0 | 2. 15 | 0 | 2. 15 | 0 | 2. 15 | 0 | 2. 15 | 0 | 2. 15 | 0 | 2. 15 | 0 | 2. 15 | a | | |
| 2, 5 | 2, 3 | 2, 1 | 10 | 2. 29 | 1 | 2. 29 | 0 | 2. 30 | 0 | 2. 30 | 0 | 2. 30 | 1 | 2. 30 | 0 | 2. 30 | 0 | 2. 30 | 0 | 2. 30 | a | | |
| 2, 8 | 2, 6 | 2, 3 | 11 | 2. 44 | 1 | 2. 44 | 0 | 2. 45 | 0 | 2. 45 | 0 | 2. 45 | 1 | 2. 45 | 0 | 2. 45 | 0 | 2. 45 | 0 | 2. 45 | a | | |
| 3, 0 | 2, 8 | 2, 4 | 12 | 2. 59 | 1 | 2. 59 | 0 | 3. 0 | 0 | 3. 0 | 0 | 3. 0 | 1 | 3. 0 | 0 | 3. 0 | 0 | 3. 0 | 0 | 3. 0 | a | | |
| 3, 3 | 3, 0 | 2, 5 | 13 | 3. 14 | 1 | 3. 14 | 0 | 3. 15 | 0 | 3. 15 | 0 | 3. 15 | 1 | 3. 15 | 0 | 3. 15 | 0 | 3. 15 | 0 | 3. 15 | a | | |
| 3, 5 | 3, 3 | 3, 0 | 14 | 3. 29 | 1 | 3. 29 | 0 | 3. 30 | 0 | 3. 30 | 0 | 3. 30 | 1 | 3. 30 | 0 | 3. 30 | 0 | 3. 30 | 0 | 3. 30 | a | | |
| 3, 8 | 3, 5 | 3, 1 | 15 | 3. 44 | 1 | 3. 44 | 0 | 3. 45 | 0 | 3. 45 | 0 | 3. 45 | 1 | 3. 45 | 0 | 3. 45 | 0 | 3. 45 | 0 | 3. 45 | a | | |
| 4, 0 | 3, 7 | 3, 2 | 16 | 3. 59 | 1 | 3. 59 | 0 | 4. 0 | 0 | 4. 0 | 0 | 4. 0 | 1 | 4. 0 | 0 | 4. 0 | 0 | 4. 0 | 0 | 4. 0 | a | | |
| 4, 3 | 4, 0 | 3, 3 | 17 | 4. 14 | 1 | 4. 14 | 0 | 4. 15 | 0 | 4. 15 | 0 | 4. 15 | 1 | 4. 15 | 0 | 4. 15 | 0 | 4. 15 | 0 | 4. 15 | a | | |
| 4, 5 | 4, 2 | 3, 4 | 18 | 4. 29 | 1 | 4. 29 | 0 | 4. 30 | 0 | 4. 30 | 0 | 4. 30 | 1 | 4. 30 | 0 | 4. 30 | 0 | 4. 30 | 0 | 4. 30 | a | | |
| 4, 8 | 4, 4 | 4, 1 | 19 | 4. 44 | 1 | 4. 44 | 0 | 4. 45 | 0 | 4. 45 | 0 | 4. 45 | 1 | 4. 45 | 0 | 4. 45 | 0 | 4. 45 | 0 | 4. 45 | a | | |
| 5, 0 | 4, 7 | 4, 2 | 20 | 4. 59 | 1 | 4. 59 | 0 | 5. 0 | 0 | 5. 0 | 0 | 5. 0 | 1 | 5. 0 | 0 | 5. 0 | 0 | 5. 0 | 0 | 5. 0 | a | | |
| 5, 3 | 4, 9 | 4, 3 | 21 | 5. 13 | 1 | 5. 14 | 0 | 5. 15 | 0 | 5. 15 | 0 | 5. 15 | 1 | 5. 15 | 0 | 5. 15 | 0 | 5. 15 | 0 | 5. 15 | a | | |
| 5, 5 | 5, 1 | 4, 4 | 22 | 5. 28 | 1 | 5. 29 | 0 | 5. 30 | 0 | 5. 30 | 0 | 5. 30 | 1 | 5. 30 | 0 | 5. 30 | 0 | 5. 30 | 0 | 5. 30 | a | | |
| 5, 8 | 5, 4 | 5, 0 | 23 | 5. 43 | 1 | 5. 44 | 0 | 5. 45 | 0 | 5. 45 | 0 | 5. 45 | 1 | 5. 45 | 0 | 5. 45 | 0 | 5. 45 | 0 | 5. 45 | a | | |
| 6, 0 | 5, 6 | 5, 1 | 24 | 5. 58 | 1 | 5. 59 | 0 | 6. 0 | 0 | 6. 0 | 0 | 6. 0 | 1 | 6. 0 | 0 | 6. 0 | 0 | 6. 0 | 0 | 6. 0 | a | | |
| 6, 3 | 5, 8 | 5, 4 | 25 | 6. 13 | 1 | 6. 14 | 0 | 6. 15 | 0 | 6. 15 | 0 | 6. 15 | 1 | 6. 15 | 0 | 6. 15 | 0 | 6. 15 | 0 | 6. 15 | a | | |
| 6, 5 | 6, 1 | 5, 5 | 26 | 6. 28 | 1 | 6. 29 | 0 | 6. 30 | 0 | 6. 30 | 0 | 6. 30 | 1 | 6. 30 | 0 | 6. 30 | 0 | 6. 30 | 0 | 6. 30 | a | | |
| 6, 8 | 6, 3 | 5, 6 | 27 | 6. 43 | 1 | 6. 44 | 0 | 6. 45 | 0 | 6. 45 | 0 | 6. 45 | 1 | 6. 45 | 0 | 6. 45 | 0 | 6. 45 | 0 | 6. 45 | a | | |
| 7, 0 | 6, 5 | 6, 1 | 28 | 6. 57 | 1 | 6. 57 | 0 | 7. 0 | 0 | 7. 0 | 0 | 7. 0 | 1 | 7. 0 | 0 | 7. 0 | 0 | 7. 0 | 0 | 7. 0 | a | | |
| 7, 3 | 6, 8 | 6, 2 | 29 | 7. 12 | 1 | 7. 12 | 0 | 7. 15 | 0 | 7. 15 | 0 | 7. 15 | 1 | 7. 15 | 0 | 7. 15 | 0 | 7. 15 | 0 | 7. 15 | a | | |
| 7, 5 | 7, 0 | 6, 3 | 30 | 7. 27 | 1 | 7. 27 | 0 | 7. 30 | 0 | 7. 30 | 0 | 7. 30 | 1 | 7. 30 | 0 | 7. 30 | 0 | 7. 30 | 0 | 7. 30 | a | | |
| 7, 8 | 7, 2 | 6, 4 | 31 | 7. 42 | 1 | 7. 42 | 0 | 7. 45 | 0 | 7. 45 | 0 | 7. 45 | 1 | 7. 45 | 0 | 7. 45 | 0 | 7. 45 | 0 | 7. 45 | a | | |
| 8, 0 | 7, 5 | 6, 5 | 32 | 7. 57 | 1 | 7. 57 | 0 | 8. 0 | 0 | 8. 0 | 0 | 8. 0 | 1 | 8. 0 | 0 | 8. 0 | 0 | 8. 0 | 0 | 8. 0 | a | | |
| 8, 3 | 7, 7 | 7, 0 | 33 | 8. 12 | 1 | 8. 12 | 0 | 8. 15 | 0 | 8. 15 | 0 | 8. 15 | 1 | 8. 15 | 0 | 8. 15 | 0 | 8. 15 | 0 | 8. 15 | a | | |
| 8, 5 | 7, 9 | 7, 1 | 34 | 8. 27 | 1 | 8. 27 | 0 | 8. 30 | 0 | 8. 30 | 0 | 8. 30 | 1 | 8. 30 | 0 | 8. 30 | 0 | 8. 30 | 0 | 8. 30 | a | | |
| 8, 8 | 8, 2 | 7, 4 | 35 | 8. 41 | 1 | 8. 42 | 0 | 8. 45 | 0 | 8. 45 | 0 | 8. 45 | 1 | 8. 45 | 0 | 8. 45 | 0 | 8. 45 | 0 | 8. 45 | a | | |
| 9, 0 | 8, 4 | 7, 5 | 36 | 8. 56 | 1 | 8. 57 | 0 | 9. 0 | 0 | 9. 0 | 0 | 9. 0 | 1 | 9. 0 | 0 | 9. 0 | 0 | 9. 0 | 0 | 9. 0 | a | | |
| 9, 3 | 8, 6 | 8, 0 | 37 | 9. 11 | 1 | 9. 12 | 0 | 9. 15 | 0 | 9. 15 | 0 | 9. 15 | 1 | 9. 15 | 0 | 9. 15 | 0 | 9. 15 | 0 | 9. 15 | a | | |
| 9, 5 | 8, 9 | 8, 1 | 38 | 9. 26 | 1 | 9. 27 | 0 | 9. 30 | 0 | 9. 30 | 0 | 9. 30 | 1 | 9. 30 | 0 | 9. 30 | 0 | 9. 30 | 0 | 9. 30 | a | | |
| 9, 8 | 9, 1 | 8, 2 | 39 | 9. 41 | 1 | 9. 42 | 0 | 9. 45 | 0 | 9. 45 | 0 | 9. 45 | 1 | 9. 45 | 0 | 9. 45 | 0 | 9. 45 | 0 | 9. 45 | a | | |
| 10, 0 | 9, 3 | 8, 3 | 40 | 9. 56 | 1 | 9. 57 | 0 | 10. 0 | 0 | 10. 0 | 0 | 10. 0 | 1 | 10. 0 | 0 | 10. 0 | 0 | 10. 0 | 0 | 10. 0 | a | | |
| 10, 3 | 9, 6 | 8, 4 | 41 | 10. 11 | 1 | 10. 12 | 0 | 10. 15 | 0 | 10. 15 | 0 | 10. 15 | 1 | 10. 15 | 0 | 10. 15 | 0 | 10. 15 | 0 | 10. 15 | a | | |
| 10, 5 | 9, 8 | 9, 0 | 42 | 10. 26 | 1 | 10. 27 | 0 | 10. 30 | 0 | 10. 30 | 0 | 10. 30 | 1 | 10. 30 | 0 | 10. 30 | 0 | 10. 30 | 0 | 10. 30 | a | | |
| 10, 8 | 10, 0 | 9, 1 | 43 | 10. 41 | 1 | 10. 42 | 0 | 10. 45 | 0 | 10. 45 | 0 | 10. 45 | 1 | 10. 45 | 0 | 10. 45 | 0 | 10. 45 | 0 | 10. 45 | a | | |
| 11, 0 | 10, 3 | 9, 2 | 44 | 10. 56 | 1 | 10. 57 | 0 | 11. 0 | 0 | 11. 0 | 0 | 11. 0 | 1 | 11. 0 | 0 | 11. 0 | 0 | 11. 0 | 0 | 11. 0 | a | | |
| 11, 3 | 10, 5 | 9, 3 | 45 | 11. 10 | 1 | 11. 12 | 0 | 11. 15 | 0 | 11. 15 | 0 | 11. 15 | 1 | 11. 15 | 0 | 11. 15 | 0 | 11. 15 | 0 | 11. 15 | a | | |
| 11, 5 | 10, 7 | 10. 0 | 46 | 11. 25 | 1 | 11. 27 | 0 | 11. 30 | 0 | 11. 30 | 0 | 11. 30 | 1 | 11. 30 | 0 | 11. 30 | 0 | 11. 30 | 0 | 11. 30 | a | | |
| 11, 8 | 11, 0 | 10 | 47 | 11. 40 | 1 | 11. 42 | 0 | 11. 45 | 0 | 11. 45 | 0 | 11. 45 | 1 | 11. 45 | 0 | 11. 45 | 0 | 11. 45 | 0 | 11. 45 | a | | |
| 12, 0 | 11, 2 | 10 | 48 | 11. 55 | 2 | 11. 57 | 0 | 12. 0 | 0 | 12. 0 | 0 | 12. 0 | 1 | 12. 0 | 0 | 12. 0 | 0 | 12. 0 | 0 | 12. 0 | a | | |
| 12, 3 | 11, 4 | 10 | 49 | 12. 9 | 2 | 12. 12 | 0 | 12. 15 | 0 | 12. 15 | 0 | 12. 15 | 1 | 12. 15 | 0 | 12. 15 | 0 | 12. 15 | 0 | 12. 15 | a | | |
| 12, 5 | 11, 7 | 10 | 50 | 12. 24 | 2 | 12. 27 | 0 | 12. 30 | 0 | 12. 30 | 0 | 12. 30 | 1 | 12. 30 | 0 | 12. 30 | 0 | 12. 30 | 0 | 12. 30 | a | | |
| 12, 8 | 11, 9 | 11 | 51 | 12. 39 | 2 | 12. 42 | 0 | 12. 45 | 0 | 12. 45 | 0 | 12. 45 | 1 | 12. 45 | 0 | 12. 45 | 0 | 12. 45 | 0 | 12. 45 | a | | |
| 13, 0 | 12, 1 | 11 | 52 | 12. 54 | 2 | 12. 57 | 0 | 13. 0 | 0 | 13. 0 | 0 | 13. 0 | 1 | 13. 0 | 0 | 13. 0 | 0 | 13. 0 | 0 | 13. 0 | a | | |
| 13, 3 | 12, 4 | 11 | 53 | 13. 9 | 2 | 13. 12 | 0 | 13. 15 | 0 | 13. 15 | 0 | 13. 15 | 1 | 13. 15 | 0 | 13. 15 | 0 | 13. 15 | 0 | 13. 15 | a | | |
| 13, 5 | 12, 6 | 11 | 54 | 13. 24 | 2 | 13. 27 | 0 | 13. 30 | 0 | 13. 30 | 0 | 13. 30 | 1 | 13. 30 | 0 | 13. 30 | 0 | 13. 30 | 0 | 13. 30 | a | | |
| 13, 8 | 12, 8 | 11 | 55 | 13. 39 | 2 | 13. 42 | 0 | 13. 45 | 0 | 13. 45 | 0 | 13. 45 | 1 | 13. 45 | 0 | 13. 45 | 0 | 13. 45 | 0 | 13. 45 | a | | |
| 14, 0 | 13, 1 | 12 | 56 | 13. 54 | 2 | 13. 57 | 0 | 14. 0 | 0 | 14. 0 | 0 | 14. 0 | 1 | 14. 0 | 0 | 14. 0 | 0 | 14. 0 | 0 | 14. 0 | a | | |
| 14, 3 | 13, 3 | 12 | 57 | 14. 9 | 2 | 14. 12 | 0 | 14. 15 | 0 | 14. 15 | 0 | 14. 15 | 1 | 14. 15 | 0 | 14. 15 | 0 | 14. 15 | 0 | 14. 15 | a | | |
| 14, 5 | 13, 5 | | 58 | 14. 24 | 2 | 14. 27 | 0 | 14. 30 | 0 | 14. 30 | 0 | 14. 30 | 1 | 14. 30 | 0 | 14. 30 | 0 | 14. 30 | 0 | 14. 30 | a | | |
| 14, 8 | 13, 8 | | 59 | 14. 39 | 2 | 14. 42 | 0 | 14. 45 | 0 | 14. 45 | 0 | 14. 45 | 1 | 14. 45 | 0 | 14. 45 | 0 | 14. 45 | 0 | 14. 45 | a | | |



Proportional parts for Second of Interval.

| a | e | n |
|---|---|---|
| ′ | ′ | ′ |
| 0, 2 | 0, 2 | 0, 2 |
| 0, 3 | 0, 3 | 0, 4 |
| 0, 5 | 0, 5 | 0, 7 |
| 0, 8 | 0, 7 | 0, 9 |
| 1, 0 | 0, 9 | 1, 1 |
| 1, 3 | 1, 2 | 1, 4 |
| 1, 5 | 1, 4 | 1, 6 |
| 1, 8 | 1, 6 | 1, 9 |
| 2, 0 | 1, 9 | 2, 1 |
| 2, 3 | 2, 1 | 2, 4 |
| 2, 5 | 2, 3 | 2, 6 |
| 2, 8 | 2, 6 | 2, 9 |
| 3, 0 | 2, 8 | 3, 1 |
| 3, 3 | 3, 0 | 3, 4 |
| 3, 5 | 3, 3 | 3, 6 |
| 3, 8 | 3, 5 | 3, 9 |
| 4, 0 | 3, 7 | 4, 1 |
| 4, 3 | 4, 0 | 4, 4 |
| 4, 5 | 4, 2 | 4, 6 |
| 4, 8 | 4, 4 | 4, 9 |
| 5, 0 | 4, 7 | 5, 1 |
| 5, 3 | 4, 9 | 5, 4 |
| 5, 5 | 5, 1 | 5, 6 |
| 5, 8 | 5, 4 | 5, 9 |
| 6, 0 | 5, 6 | 6, 1 |
| 6, 3 | 5, 8 | 6, 4 |
| 6, 5 | 6, 1 | 6, 6 |
| 6, 8 | 6, 3 | 6, 9 |
| 7, 0 | 6, 6 | 7, 1 |
| 7, 3 | 6, 8 | 7, 4 |
| 7, 5 | 7, 0 | 7, 6 |
| 7, 8 | 7, 3 | 7, 9 |
| 8, 0 | 7, 5 | 8, 1 |
| 8, 3 | 7, 7 | 8, 4 |
| 8, 5 | 8, 0 | 8, 6 |
| 8, 8 | 8, 2 | 8, 9 |
| 9, 0 | 8, 4 | 9, 1 |
| 9, 3 | 8, 7 | 9, 4 |
| 9, 5 | 8, 9 | 9, 6 |
| 9, 8 | 9, 1 | 9, 9 |
| 10, 0 | 9, 4 | 10, 1 |
| 10, 3 | 9, 6 | 10, 4 |
| 10, 5 | 9, 8 | 10, 6 |
| 10, 8 | 10, 1 | 10, 9 |
| 11, 0 | 10, 3 | 11, 1 |
| 11, 3 | 10, 5 | 11, 4 |
| 11, 5 | 10, 8 | 11, 6 |
| 12, 0 | 11, 0 | 12, 1 |
| 12, 3 | 11, 3 | 12, 4 |
| 12, 5 | 11, 5 | 12, 6 |
| 12, 8 | 11, 8 | 12, 9 |
| 13, 0 | 12, 0 | 13, 1 |
| 13, 3 | 12, 2 | 13, 4 |
| 13, 5 | 12, 5 | 13, 6 |
| 13, 8 | 12, 7 | 13, 9 |

| Interval | Complement of Declination. 74° | D. | 75° | D. | 76° | D. | 77° | D. | 78° | D. | 79° | D. | 80° | D. | 81° | D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ |
| 1 | 0. 14 a | 0 | 0. 14 a | 1 | 0. 15 e | 0 | 0. 15 e | 0 | 0. 15 e | 0 | 0. 15 e | 0 | 0. 15 | 0 | 0. 15 | |
| 2 | 0. 29 e | 0 | 0. 29 e | 0 | 0. 29 e | 0 | 0. 29 e | 0 | 0. 29 e | 0 | 0. 29 e | 0 | 0. 29 | 0 | 0. 29 | |
| 3 | 0. 43 a | 0 | 0. 43 a | 0 | 0. 43 a | 1 | 0. 44 a | 0 | 0. 44 a | 0 | 0. 44 a | 0 | 0. 44 | 0 | 0. 44 | |
| 4 | 0. 58 a | 0 | 0. 58 a | 0 | 0. 58 a | 1 | 0. 59 e | 0 | 0. 59 e | 0 | 0. 59 e | 0 | 0. 59 | 0 | 0. 59 | |
| 5 | 1. 12 e | 0 | 1. 12 e | 1 | 1. 13 e | 0 | 1. 13 a | 0 | 1. 13 a | 1 | 1. 14 a | 0 | 1. 14 | 0 | 1. 14 | |
| 6 | 1. 26 a | 1 | 1. 27 a | 0 | 1. 27 a | 1 | 1. 28 a | 0 | 1. 28 a | 0 | 1. 28 a | 1 | 1. 29 | 0 | 1. 29 | |
| 7 | 1. 41 e | 0 | 1. 41 a | 1 | 1. 42 a | 1 | 1. 42 a | 1 | 1. 43 a | 0 | 1. 43 a | 0 | 1. 43 | 1 | 1. 44 | |
| 8 | 1. 55 a | 1 | 1. 56 a | 0 | 1. 56 a | 1 | 1. 57 a | 0 | 1. 57 a | 1 | 1. 58 a | 0 | 1. 58 | 1 | 1. 59 | |
| 9 | 2. 10 e | 1 | 2. 11 e | 0 | 2. 11 e | 0 | 2. 11 e | 1 | 2. 12 e | 0 | 2. 12 e | 1 | 2. 13 | 0 | 2. 13 | 1 |
| 10 | 2. 24 e | 1 | 2. 25 e | 1 | 2. 26 a | 0 | 2. 26 a | 1 | 2. 27 a | 0 | 2. 27 a | 1 | 2. 28 | 0 | 2. 28 | 1 |
| 11 | 2. 39 a | 0 | 2. 39 a | 1 | 2. 40 e | 1 | 2. 41 a | 0 | 2. 41 a | 1 | 2. 42 a | 1 | 2. 43 | 0 | 2. 43 | 1 |
| 12 | 2. 53 e | 1 | 2. 54 a | 1 | 2. 55 a | 0 | 2. 55 a | 1 | 2. 56 a | 1 | 2. 57 a | 1 | 2. 57 | 1 | 2. 58 | 1 |
| 13 | 3. 7 a | 1 | 3. 8 a | 1 | 3. 9 a | 1 | 3. 10 e | 1 | 3. 11 e | 0 | 3. 11 a | 1 | 3. 12 | 1 | 3. 13 | 1 |
| 14 | 3. 22 e | 1 | 3. 23 e | 1 | 3. 24 a | 0 | 3. 24 a | 1 | 3. 25 a | 1 | 3. 26 a | 1 | 3. 27 | 0 | 3. 27 | 1 |
| 15 | 3. 36 e | 1 | 3. 37 a | 1 | 3. 38 a | 1 | 3. 39 a | 1 | 3. 40 a | 1 | 3. 41 e | 1 | 3. 42 | 0 | 3. 42 | 1 |
| 16 | 3. 50 a | 2 | 3. 52 e | 1 | 3. 53 e | 1 | 3. 54 e | 1 | 3. 55 e | 0 | 3. 55 a | 1 | 3. 56 | 1 | 3. 57 | 1 |
| 17 | 4. 5 e | 1 | 4. 6 a | 1 | 4. 7 a | 1 | 4. 8 a | 1 | 4. 9 a | 1 | 4. 10 a | 1 | 4. 11 | 1 | 4. 12 | 1 |
| 18 | 4. 19 a | 2 | 4. 21 e | 1 | 4. 22 e | 1 | 4. 23 a | 1 | 4. 24 a | 1 | 4. 25 a | 1 | 4. 26 | 1 | 4. 27 | 1 |
| 19 | 4. 34 e | 1 | 4. 35 a | 1 | 4. 36 a | 1 | 4. 38 e | 1 | 4. 39 e | 1 | 4. 40 a | 1 | 4. 41 | 2 | 4. 42 | 2 |
| 20 | 4. 48 e | 2 | 4. 50 a | 1 | 4. 51 a | 1 | 4. 52 e | 1 | 4. 53 a | 2 | 4. 55 e | 1 | 4. 55 | 1 | 4. 56 | 1 |
| 21 | 5. 3 a | 2 | 5. 5 e | 1 | 5. 6 a | 1 | 5. 7 e | 1 | 5. 8 a | 1 | 5. 9 a | 1 | 5. 10 | 1 | 5. 11 | 1 |
| 22 | 5. 17 a | 2 | 5. 19 e | 1 | 5. 20 a | 1 | 5. 21 a | 2 | 5. 23 e | 1 | 5. 24 a | 1 | 5. 25 | 1 | 5. 26 | 1 |
| 23 | 5. 32 e | 1 | 5. 33 a | 2 | 5. 35 e | 1 | 5. 36 a | 1 | 5. 37 a | 2 | 5. 39 e | 1 | 5. 40 | 1 | 5. 41 | 1 |
| 24 | 5. 46 a | 2 | 5. 48 a | 1 | 5. 49 a | 2 | 5. 51 e | 1 | 5. 52 a | 1 | 5. 53 a | 2 | 5. 55 | 1 | 5. 56 | |
| 25 | 6. 1 e | 2 | 6. 3 e | 1 | 6. 4 e | 1 | 6. 5 a | 2 | 6. 7 e | 1 | 6. 8 a | 1 | 6. 9 | 1 | 6. 10 | 1 |
| 26 | 6. 15 e | 2 | 6. 17 e | 1 | 6. 18 a | 2 | 6. 20 a | 1 | 6. 21 a | 2 | 6. 23 a | 1 | 6. 24 | 1 | 6. 25 | 1 |
| 27 | 6. 29 a | 2 | 6. 31 a | 2 | 6. 33 a | 2 | 6. 35 a | 1 | 6. 36 a | 2 | 6. 38 a | 1 | 6. 39 | 1 | 6. 40 | 1 |
| 28 | 6. 44 e | 2 | 6. 46 e | 2 | 6. 48 e | 2 | 6. 50 e | 1 | 6. 51 e | 1 | 6. 52 e | 2 | 6. 54 | 1 | 6. 55 | 1 |
| 29 | 6. 58 a | 2 | 7. 0 a | 2 | 7. 2 a | 2 | 7. 4 a | 1 | 7. 5 a | 2 | 7. 7 a | 1 | 7. 8 | 2 | 7. 10 | 1 |
| 30 | 7. 13 a | 2 | 7. 15 a | 2 | 7. 17 e | 2 | 7. 19 e | 1 | 7. 20 a | 2 | 7. 22 e | 1 | 7. 23 | 1 | 7. 24 | 1 |
| 31 | 7. 27 e | 2 | 7. 29 a | 2 | 7. 31 a | 2 | 7. 33 a | 2 | 7. 35 e | 1 | 7. 36 a | 2 | 7. 38 | 1 | 7. 39 | 1 |
| 32 | 7. 41 e | 3 | 7. 44 e | 2 | 7. 46 e | 2 | 7. 48 e | 1 | 7. 49 a | 2 | 7. 51 a | 2 | 7. 53 | 1 | 7. 54 | 1 |
| 33 | 7. 55 a | 3 | 7. 58 a | 2 | 8. 0 a | 2 | 8. 2 a | 2 | 8. 4 a | 2 | 8. 6 a | 1 | 8. 8 | 1 | 8. 9 | 1 |
| 34 | 8. 10 e | 3 | 8. 13 e | 2 | 8. 15 e | 2 | 8. 17 a | 2 | 8. 19 e | 2 | 8. 21 e | 1 | 8. 22 | 2 | 8. 24 | 2 |
| 35 | 8. 24 a | 3 | 8. 27 a | 2 | 8. 29 a | 3 | 8. 32 e | 1 | 8. 33 a | 2 | 8. 35 a | 1 | 8. 37 | 2 | 8. 39 | 2 |
| 36 | 8. 39 e | 3 | 8. 42 e | 2 | 8. 44 e | 2 | 8. 46 e | 2 | 8. 48 a | 2 | 8. 50 a | 2 | 8. 52 | 1 | 8. 53 | 2 |
| 37 | 8. 53 a | 3 | 8. 56 e | 2 | 8. 58 a | 3 | 9. 1 e | 2 | 9. 3 a | 2 | 9. 5 e | 2 | 9. 7 | 1 | 9. 8 | 2 |
| 38 | 9. 8 e | 2 | 9. 10 a | 3 | 9. 13 a | 2 | 9. 15 a | 3 | 9. 18 e | 1 | 9. 19 a | 2 | 9. 21 | 2 | 9. 23 | 2 |
| 39 | 9. 22 a | 3 | 9. 25 e | 3 | 9. 28 a | 2 | 9. 30 a | 2 | 9. 32 a | 2 | 9. 34 a | 2 | 9. 36 | 2 | 9. 38 | 2 |
| 40 | 9. 37 e | 2 | 9. 39 a | 3 | 9. 42 a | 3 | 9. 45 e | 2 | 9. 47 a | 2 | 9. 49 a | 2 | 9. 51 | 2 | 9. 53 | 2 |
| 41 | 9. 51 a | 3 | 9. 54 e | 3 | 9. 57 e | 3 | 9. 59 a | 3 | 10. 2 e | 2 | 10. 4 e | 2 | 10. 6 | 1 | 10. 7 | 2 |
| 42 | 10. 6 e | 2 | 10. 8 a | 3 | 10. 11 a | 3 | 10. 14 e | 2 | 10. 16 a | 2 | 10. 18 a | 2 | 10. 20 | 2 | 10. 22 | 2 |
| 43 | 10. 20 e | 3 | 10. 23 e | 3 | 10. 26 e | 2 | 10. 28 a | 3 | 10. 31 a | 2 | 10. 33 a | 2 | 10. 35 | 2 | 10. 37 | 2 |
| 44 | 10. 34 a | 3 | 10. 37 a | 3 | 10. 40 a | 3 | 10. 43 a | 3 | 10. 46 e | 2 | 10. 48 a | 2 | 10. 50 | 2 | 10. 52 | 2 |
| 45 | 10. 49 e | 3 | 10. 52 e | 3 | 10. 55 e | 3 | 10. 58 e | 2 | 11. 0 a | 3 | 11. 3 e | 2 | 11. 5 | 2 | 11. 7 | 2 |
| 46 | 11. 3 a | 3 | 11. 6 a | 3 | 11. 9 a | 3 | 11. 12 a | 3 | 11. 15 e | 2 | 11. 17 a | 2 | 11. 20 | 2 | 11. 22 | 2 |
| 47 | 11. 18 a | 3 | 11. 21 a | 3 | 11. 24 a | 3 | 11. 27 e | 3 | 11. 30 e | 2 | 11. 32 a | 2 | 11. 34 | 2 | 11. 36 | 2 |
| 48 | 11. 32 e | 3 | 11. 35 a | 4 | 11. 39 e | 2 | 11. 41 a | 3 | 11. 44 a | 3 | 11. 47 e | 3 | 11. 49 | 2 | 11. 51 | 2 |
| 49 | 11. 46 a | 4 | 11. 50 e | 3 | 11. 53 a | 3 | 11. 56 a | 3 | 11. 59 a | 2 | 12. 1 a | 2 | 12. 4 | 2 | 12. 6 | 2 |
| 50 | 12. 1 e | 3 | 12. 4 a | 4 | 12. 8 e | 3 | 12. 11 e | 3 | 12. 14 a | 2 | 12. 16 a | 2 | 12. 19 | 2 | 12. 21 | 2 |
| 51 | 12. 15 a | 4 | 12. 19 e | 3 | 12. 22 e | 3 | 12. 25 a | 3 | 12. 28 a | 3 | 12. 31 a | 3 | 12. 33 | 3 | 12. 36 | 3 |
| 52 | 12. 30 e | 3 | 12. 33 a | 4 | 12. 37 e | 3 | 12. 40 a | 3 | 12. 43 a | 2 | 12. 45 a | 3 | 12. 48 | 2 | 12. 50 | 2 |
| 53 | 12. 44 e | 4 | 12. 48 e | 3 | 12. 51 e | 4 | 12. 55 e | 3 | 12. 58 e | 3 | 13. 0 e | 2 | 13. 3 | 2 | 13. 5 | 2 |
| 54 | 12. 58 a | 4 | 13. 2 a | 4 | 13. 6 a | 3 | 13. 9 a | 4 | 13. 12 a | 3 | 13. 15 a | 3 | 13. 18 | 2 | 13. 20 | 2 |
| 55 | 13. 13 e | 4 | 13. 17 e | 4 | 13. 20 e | 3 | 13. 24 e | 3 | 13. 27 e | 3 | 13. 30 e | 3 | 13. 32 | 2 | 13. 35 | 2 |
| 56 | 13. 27 a | 4 | 13. 31 a | 4 | 13. 35 a | 4 | 13. 38 a | 3 | 13. 41 a | 3 | 13. 44 a | 2 | 13. 47 | 3 | 13. 50 | 3 |
| 57 | 13. 42 e | 4 | 13. 46 e | 4 | 13. 49 e | 4 | 13. 53 a | 3 | 13. 56 a | 3 | 13. 59 a | 3 | 14. 2 | 2 | 14. 4 | 2 |
| 58 | 13. 56 a | 4 | 14. 0 a | 4 | 14. 4 a | 4 | 14. 8 e | 3 | 14. 11 e | 3 | 14. 14 e | 2 | 14. 17 | 3 | 14. 19 | 3 |
| 59 | 14. 11 e | 4 | 14. 15 e | 4 | 14. 19 e | 3 | 14. 22 a | 4 | 14. 25 e | 2 | 14. 28 e | 3 | 14. 32 | 2 | 14. 34 | 3 |

Proportional Parts for Complement of Declination.

| ′ | ″ |
|---|---|
| 1 | 0. 0 |
| 2 | 0. 0 |
| 3 | 0. 1 |
| 4 | 0. 1 |
| 5 | 0. 1 |
| 6 | 0. 1 |
| 7 | 0. 1 |
| 8 | 0. 1 |
| 9 | 0. 2 |
| 10 | 0. 2 |
| 20 | 0. 3 |
| 30 | 0. 5 |
| 40 | 0. 7 |
| 50 | 0. 8 |
| ′ | ″ |
| 1 | 0. 1 |
| 2 | 0. 1 |
| 3 | 0. 1 |
| 4 | 0. 1 |
| 5 | 0. 2 |
| 6 | 0. 2 |
| 7 | 0. 2 |
| 8 | 0. 3 |
| 9 | 0. 3 |
| 10 | 0. 3 |
| 20 | 0. 7 |
| 30 | 1. 0 |
| 40 | 1. 3 |
| 50 | 1. 7 |
| ′ | ″ |
| 1 | 0. 1 |
| 2 | 0. 1 |
| 3 | 0. 2 |
| 4 | 0. 2 |
| 5 | 0. 3 |
| 6 | 0. 3 |
| 7 | 0. 4 |
| 8 | 0. 4 |
| 9 | 0. 5 |
| 10 | 0. 5 |
| 20 | 1. 0 |
| 30 | 1. 5 |
| 40 | 2. 0 |
| 50 | 2. 5 |

| Difference of Altitudes. | | Declination. | | | | | | | | | | | | | | | | | | | | Proportional parts for Declination. additive | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| d | e | 8° | D. | 9° | D. | 10° | D. | 11° | D. | 12° | D. | 13° | D. | 14° | D. | 15° | D. | ′ | 1′ | 5′ |
| ′ | ′ | m | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | | | | | | |
| | | | | | | | | | | | | | | | | | | | 1 | 0, 0 | 0, 1 |
| | 0 | 1 | 0 1 | 0 | 0. 1 | 0 | 0. 1 | 0 | 0. 1 | 1 | 0. 2 | 0 | 0. 2 | 0 | 0. 2 | 0 | 0. 2 | 0 | 2 | 0, 0 | 0, 2 |
| | 1 | 2 | 0. 2 | 0 | 0. 3 | 1 | 0. 3 | 0 | 0 | 0 | 0. 3 | 0 | 0. 3 | 1 | 0. 4 | 0 | 0. 4 | 0 | 3 | 0, 1 | 0, 3 |
| | 1 | 3 | 0. 3 | 1 | 0. 4 | 0 | 0. 4 | 0 | 0. 5 | 1 | 0. 5 | 0 | 0. 5 | 0 | 0. 5 | 1 | 0. 6 | 0 | 4 | 0, 1 | 0, 3 |
| | 1 | 4 | 0. 4 | 1 | 0. 5 | 0 | 0. 5 | 1 | 0. 6 | 0 | 0. 6 | 1 | 0. 7 | 0 | 0. 7 | 1 | 0. 8 | 0 | 5 | 0, 1 | 0, 4 |
| | 2 | 5 | 0. 5 | 1 | 0. 6 | 0 | 0. 6 | 1 | 0. 7 | 1 | 0. 8 | 0 | 0. 8 | 1 | 0. 9 | 1 | 0. 10 | 0 | 6 | 0, 1 | 0, 5 |
| | 2 | 6 | 0. 6 | 1 | 0. 7 | 1 | 0. 8 | 0 | 0. 8 | 1 | 0. 9 | 1 | 0. 10 | 1 | 0. 11 | 1 | 0. 12 | 0 | 7 | 0, 1 | 0, 6 |
| | 2 | 7 | 0. 7 | 1 | 0. 8 | 1 | 0. 9 | 1 | 0. 10 | 1 | 0. 11 | 1 | 0. 12 | 1 | 0. 13 | 1 | 0. 14 | 0 | 8 | 0, 1 | 0, 7 |
| | 3 | 8 | 0. 8 | 1 | 0. 9 | 1 | 0. 10 | 1 | 0. 11 | 1 | 0. 12 | 1 | 0. 13 | 2 | 0. 15 | 1 | 0. 16 | 1 | 9 | 0, 2 | 0, 8 |
| | 3 | 9 | 0. 9 | 1 | 0. 10 | 2 | 0. 11 | 1 | 0. 12 | 1 | 0. 14 | 1 | 0. 15 | 1 | 0. 16 | 1 | 0. 17 | 2 | 10 | 0, 2 | 0, 8 |
| | 3 | 10 | 0. 10 | 1 | 0. 11 | 1 | 0. 12 | 1 | 0. 13 | 2 | 0. 16 | 1 | 0. 17 | 1 | 0. 18 | 1 | 0. 19 | 2 | 20 | 0, 3 | 1, 7 |
| | 4 | 11 | 0. 11 | 2 | 0. 12 | 1 | 0. 13 | 2 | 0. 14 | 1 | 0. 17 | 2 | 0. 19 | 1 | 0. 20 | 1 | 0. 21 | 2 | 30 | 0, 5 | 2, 5 |
| | 4 | 12 | 0. 13 | 1 | 0. 14 | 2 | 0. 15 | 1 | 0. 16 | 2 | 0. 19 | 1 | 0. 20 | 2 | 0. 22 | 1 | 0. 23 | 2 | 40 | 0, 7 | 3, 3 |
| | 4 | 13 | 0. 14 | 1 | 0. 15 | 2 | 0. 16 | 2 | 0. 18 | 1 | 0. 20 | 2 | 0. 22 | 2 | 0. 24 | 1 | 0. 25 | 2 | 50 | 0, 8 | 4. 2 |
| | 5 | 14 | 0. 15 | 1 | 0. 16 | 2 | 0. 17 | 2 | 0. 19 | 2 | 0. 22 | 2 | 0. 24 | 2 | 0. 26 | 2 | 0. 27 | 2 | ′ | 2′ | 6′ |
| | 5 | 15 | 0. 16 | 2 | 0. 17 | 2 | 0. 18 | 2 | 0. 21 | 2 | 0. 23 | 2 | 0. 25 | 2 | 0. 27 | 2 | 0. 29 | 2 | | | |
| | 5 | 16 | 0. 17 | 2 | 0. 19 | 2 | 0. 21 | 2 | 0. 23 | 2 | 0. 25 | 2 | 0. 27 | 2 | 0. 29 | 2 | 0. 31 | 2 | 1 | 0, 0 | 0, 1 |
| | 6 | 17 | 0. 18 | 2 | 0. 20 | 2 | 0. 22 | 2 | 0. 24 | 3 | 0. 27 | 2 | 0. 29 | 2 | 0. 31 | 2 | 0. 33 | 2 | 2 | 0, 1 | 0, 2 |
| | 6 | 18 | 0. 19 | 2 | 0. 21 | 2 | 0. 23 | 3 | 0. 26 | 2 | 0. 28 | 2 | 0. 30 | 3 | 0. 33 | 2 | 0. 35 | 2 | 3 | 0, 1 | 0, 3 |
| | 6 | 19 | 0. 20 | 2 | 0. 22 | 3 | 0. 24 | 2 | 0. 27 | 3 | 0. 30 | 2 | 0. 32 | 2 | 0. 34 | 3 | 0. 37 | 2 | 4 | 0, 1 | 0, 4 |
| | 7 | 20 | 0. 21 | 2 | 0. 23 | 3 | 0. 25 | 3 | 0. 28 | 2 | 0. 31 | 3 | 0. 34 | 2 | 0. 36 | 3 | 0. 39 | 2 | 5 | 0. 2 | 0, 5 |
| | 7 | 21 | 0. 22 | 3 | 0. 25 | 3 | 0. 27 | 3 | 0. 30 | 3 | 0. 33 | 2 | 0. 35 | 3 | 0. 38 | 3 | 0. 41 | 2 | 6 | 0, 2 | 0, 6 |
| | 7 | 22 | 0. 23 | 3 | 0. 26 | 3 | 0. 28 | 3 | 0. 31 | 3 | 0. 34 | 3 | 0. 37 | 3 | 0 40 | 3 | 0. 43 | 3 | 7 | 0, 2 | 0, 7 |
| | 8 | 23 | 0. 24 | 3 | 0. 27 | 3 | 0. 29 | 3 | 0. 32 | 3 | 0. 36 | 3 | 0. 39 | 3 | 0. 42 | 3 | 0. 45 | 3 | 8 | 0, 3 | 0, 8 |
| | 8 | 24 | 0. 25 | 3 | 0. 28 | 3 | 0. 31 | 3 | 0. 34 | 3 | 0. 37 | 4 | 0. 41 | 3 | 0. 44 | 3 | 0. 47 | 3 | 9 | 0, 3 | 0, 9 |
| | 8 | 25 | 0. 26 | 3 | 0. 29 | 4 | 0. 32 | 3 | 0. 35 | 3 | 0. 39 | 3 | 0. 42 | 3 | 0. 45 | 4 | 0. 48 | 3 | 10 | 0, 3 | 1, 0 |
| | 9 | 26 | 0. 27 | 4 | 0. 31 | 3 | 0. 34 | 3 | 0. 37 | 4 | 0. 41 | 3 | 0. 44 | 3 | 0. 47 | 4 | 0. 51 | 3 | 20 | 0, 7 | 2, 0 |
| | 9 | 27 | 0. 28 | 4 | 0. 32 | 3 | 0. 35 | 4 | 0. 38 | 3 | 0. 42 | 4 | 0. 46 | 3 | 0. 49 | 3 | 0. 52 | 4 | 30 | 1, 0 | 3, 0 |
| | 9 | 28 | 0. 29 | 4 | 0. 33 | 4 | 0. 36 | 3 | 0. 39 | 4 | 0. 44 | 3 | 0. 47 | 4 | 0. 51 | 3 | 0. 54 | 4 | 40 | 1, 3 | 4, 0 |
| | 10 | 29 | 0. 30 | 4 | 0. 34 | 4 | 0. 37 | 4 | 0. 41 | 3 | 0. 45 | 4 | 0. 49 | 4 | 0. 53 | 3 | 0. 56 | 4 | 50 | 1, 7 | 5. 0 |
| | 10 | 30 | 0. 31 | 4 | 0. 35 | 4 | 0. 38 | 4 | 0. 42 | 4 | 0. 47 | 4 | 0. 51 | 4 | 0. 55 | 3 | 0. 58 | 4 | ′ | 3′ | 7′ |
| | 10 | 31 | 0. 32 | 4 | 0. 36 | 4 | 0. 39 | 4 | 0. 43 | 4 | 0. 48 | 4 | 0. 52 | 4 | 0. 56 | 4 | 1. 0 | 4 | | | |
| | 11 | 32 | 0. 33 | 5 | 0. 37 | 4 | 0. 40 | 4 | 0. 44 | 4 | 0. 50 | 4 | 0. 54 | 4 | 0. 58 | 4 | 1. 1 | 4 | 1 | 0, 1 | 0, 1 |
| | 11 | 33 | 0. 35 | 4 | 0. 38 | 4 | 0. 41 | 4 | 0. 45 | 5 | 0. 52 | 4 | 0 56 | 4 | 1. 0 | 4 | 1. 2 | 4 | 2 | 0, 1 | 0, 2 |
| | 11 | 34 | 0. 36 | 4 | 0. 39 | 4 | 0. 42 | 5 | 0. 46 | 4 | 0. 53 | 4 | 0. 57 | 5 | 1. 2 | 4 | 1. 4 | 4 | 3 | 0, 2 | 0, 4 |
| | 12 | 35 | 0. 37 | 4 | 0. 41 | 5 | 0. 43 | 4 | 0. 47 | 5 | 0. 55 | 4 | 0. 59 | 5 | 1. 4 | 4 | 1. 5 | 4 | 4 | 0, 2 | 0, 5 |
| | 12 | 36 | 0. 38 | 4 | 0. 42 | 5 | 0. 44 | 5 | 0. 48 | 4 | 0. 56 | 5 | 1. 1 | 4 | 1. 5 | 5 | 1. 7 | 5 | 5 | 0, 3 | 0, 6 |
| | 12 | 37 | 0. 39 | 5 | 0. 43 | 4 | 0. 46 | 5 | 0. 49 | 5 | 0. 58 | 5 | 1. 3 | 4 | 1. 7 | 5 | 1. 9 | 5 | 6 | 0, 3 | 0, 7 |
| | 13 | 38 | 0. 40 | 5 | 0. 44 | 5 | 0. 47 | 5 | 0. 51 | 4 | 0. 59 | 5 | 1. 4 | 5 | 1. 9 | 5 | 1. 11 | 5 | 7 | 0, 4 | 0, 8 |
| | 13 | 39 | 0. 41 | 5 | 0. 45 | 5 | 0. 48 | 5 | 0. 52 | 5 | 1. 1 | 5 | 1. 6 | 5 | 1. 11 | 5 | 1. 13 | 5 | 8 | 0, 4 | 0, 9 |
| | 13 | 40 | 0. 42 | 5 | 0. 46 | 5 | 0. 49 | 5 | 0. 53 | 5 | 1. 2 | 5 | 1. 7 | 5 | 1. 12 | 5 | 1. 14 | 5 | 9 | 0, 5 | 1, 1 |
| | 14 | 41 | 0. 43 | 5 | 0. 47 | 5 | 0. 50 | 5 | 0. 54 | 5 | 1. 3 | 5 | 1. 8 | 5 | 1. 13 | 5 | 1. 15 | 5 | 10 | 0, 5 | 1, 2 |
| | 14 | 42 | 0. 44 | 5 | 0. 48 | 6 | 0. 51 | 5 | 0. 55 | 5 | 1. 4 | 5 | 1. 9 | 6 | 1. 15 | 5 | 1. 17 | 5 | 20 | 1, 0 | 2, 3 |
| | 14 | 43 | 0. 45 | 6 | 0. 49 | 5 | 0. 52 | 6 | 0. 56 | 5 | 1. 5 | 5 | 1. 11 | 5 | 1. 16 | 6 | 1. 18 | 5 | 30 | 1, 5 | 3, 5 |
| | 15 | 44 | 0. 46 | 6 | 0. 50 | 6 | 0. 53 | 6 | 0. 57 | 5 | 1. 7 | 6 | 1. 13 | 5 | 1. 18 | 6 | 1. 20 | 5 | 40 | 2, 0 | 4, 7 |
| | 15 | 45 | 0. 47 | 6 | 0. 51 | 6 | 0. 54 | 6 | 0. 58 | 6 | 1. 8 | 6 | 1. 14 | 6 | 1. 20 | 6 | 1. 22 | 5 | 50 | 2, 5 | 5, 8 |
| | 15 | 46 | 0. 48 | 6 | 0. 52 | 6 | 0. 55 | 6 | 0. 59 | 6 | 1. 10 | 6 | 1. 16 | 6 | 1. 22 | 6 | 1. 24 | 6 | ′ | 4′ | 8′ |
| | 16 | 47 | 0. 49 | 6 | 0. 53 | 6 | 0. 56 | 6 | 0. 60 | 6 | 1. 11 | 6 | 1. 17 | 6 | 1. 23 | 6 | 1. 25 | 6 | | | |
| | 16 | 48 | 0. 50 | 6 | 0. 54 | 6 | 0. 57 | 6 | 1. 1 | 6 | 1. 12 | 6 | 1. 18 | 6 | 1. 24 | 6 | 1. 26 | 6 | 1 | 0, 1 | 0, 1 |
| | 16 | 49 | 0. 50 | 6 | 0. 55 | 6 | 0. 58 | 6 | 1. 2 | 6 | 1. 13 | 6 | 1. 19 | 6 | 1. 25 | 6 | 1. 27 | 6 | 2 | 0, 1 | 0, 3 |
| | 17 | 50 | 0. 51 | 7 | 0. 56 | 6 | 0. 59 | 6 | 1. 3 | 6 | 1. 14 | 6 | 1. 20 | 6 | 1. 26 | 6 | 1. 28 | 6 | 3 | 0, 2 | 0, 4 |
| | 17 | 51 | 0. 52 | 7 | 0. 57 | 6 | 1. 0 | 6 | 1. 4 | 6 | 1. 15 | 6 | 1. 21 | 6 | 1. 27 | 6 | 1. 29 | 6 | 4 | 0, 3 | 0, 5 |
| | 17 | 52 | 0. 53 | 7 | 0. 58 | 7 | 1. 1 | 6 | 1. 5 | 7 | 1. 16 | 6 | 1. 22 | 7 | 1. 28 | 6 | 1. 30 | 7 | 5 | 0, 3 | 0, 7 |
| | 18 | 53 | 0. 54 | 7 | 1. 0 | 7 | 1. 2 | 7 | 1. 6 | 6 | 1. 17 | 7 | 1. 23 | 6 | 1. 29 | 7 | 1. 31 | 6 | 6 | 0. 4 | 0, 8 |
| | 18 | 54 | 0. 55 | 7 | 1. 1 | 7 | 1. 3 | 7 | 1. 7 | 7 | 1. 18 | 7 | 1. 24 | 7 | 1. 30 | 7 | 1. 32 | 7 | 7 | 0. 5 | 0, 9 |
| | 18 | 55 | 0. 56 | 7 | 1. 2 | 7 | 1. 4 | 7 | 1. 8 | 7 | 1. 19 | 7 | 1. 25 | 7 | 1. 31 | 7 | 1. 33 | 7 | 8 | 0, 5 | 1, 1 |
| | 19 | 56 | 0. 57 | 7 | 1. 3 | 7 | 1. 5 | 7 | 1. 9 | 7 | 1. 20 | 7 | 1. 26 | 7 | 1. 32 | 7 | 1. 34 | 7 | 9 | 0, 6 | 1, 2 |
| | 19 | 57 | 0. 58 | 7 | 1. 4 | 7 | 1. 6 | 7 | 1. 10 | 7 | 1. 21 | 7 | 1. 27 | 7 | 1. 33 | 7 | 1. 35 | 7 | 10 | 0, 6 | 1, 3 |
| | 19 | 58 | 0. 59 | 7 | 1. 5 | 7 | 1. 7 | 7 | 1. 11 | 7 | 1. 22 | 7 | 1. 28 | 7 | 1. 34 | 7 | 1. 36 | 7 | 20 | 1, 1 | 2, 7 |
| | 20 | 59 | 1. 0 | 7 | 1. 6 | 7 | 1. 8 | 7 | 1. 12 | 7 | 1. 23 | 7 | 1. 29 | 7 | 1. 35 | 7 | 1. 37 | 7 | 30 | 1, 7 | 4, 0 |
| | 20 | 60 | 1. 1 | 7 | 1. 7 | 7 | 1. 9 | 7 | 1. 13 | 7 | 1. 24 | 7 | 1. 30 | 7 | 1. 36 | 7 | 1. 38 | 7 | 40 | 2, 2 | 5, 3 |
| | 21 | 61 | 1. 2 | 7 | 1. 8 | 7 | 1. 10 | 7 | 1. 14 | 7 | 1. 25 | 7 | 1. 31 | 7 | 1. 37 | 7 | 1. 39 | 7 | 50 | 2, 8 | 6, 7 |

Complement of Declination.

| M. | 0° | D. | 1° | D. | 2° | D. | 3° | D. | 4° | D. | 5° | D. | 6° | D. | 7° | D. |
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| M. | 72° | D. | 73° | D. |
|---|---|---|---|---|
| | ′ | | ° ′ | |
| 0 | 14 | 0 | 0 14 | |
| 1 | 28 | 1 | 0 28 | |
| 2 | 43 | 0 | 0 43 | |
| 3 | 57 | 0 | 0 57 | |
| 4 | 11 | 1 | 1 11 | |
| 5 | 26 | 0 | 1 26 | |
| 6 | 40 | 0 | 1 40 | |
| 7 | 54 | 1 | 1 54 | |
| 8 | 8 | 1 | 2 8 | |
| 9 | 23 | 0 | 2 23 | |
| 10 | 37 | 1 | 2 37 | |
| 11 | 51 | 1 | 2 51 | |
| 12 | 5 | 1 | 3 5 | |
| 13 | 20 | 1 | 3 20 | |
| 14 | 34 | 1 | 3 34 | |
| 15 | 48 | 1 | 3 48 | |
| 16 | 2 | 1 | 4 2 | |
| 17 | 17 | 1 | 4 17 | |
| 18 | 31 | 2 | 4 31 | |
| 19 | 45 | 2 | 4 45 | |
| 20 | 59 | 2 | 4 59 | |
| 21 | 14 | 2 | 5 14 | |
| 22 | 28 | 2 | 5 28 | |
| 23 | 42 | 2 | 5 42 | |
| 24 | 57 | 2 | 5 57 | |
| 25 | 11 | 2 | 6 11 | |
| 26 | 25 | 2 | 6 25 | |
| 27 | 39 | 3 | 6 39 | |
| 28 | 54 | 2 | 6 54 | |
| 29 | 8 | 2 | 7 8 | |
| 30 | 22 | 3 | 7 22 | |
| 31 | 36 | 3 | 7 36 | |
| 32 | 51 | 2 | 7 51 | |
| 33 | 5 | 3 | 8 5 | |
| 34 | 19 | 3 | 8 19 | |
| 35 | 33 | 3 | 8 33 | |
| 36 | 48 | 3 | 8 48 | |
| 37 | 2 | 3 | 9 2 | |
| 38 | 16 | 3 | 9 16 | |
| 39 | 31 | 3 | 9 31 | |
| 40 | 45 | 3 | 9 45 | |
| 41 | 59 | 3 | 9 59 | |
| 42 | 14 | 3 | 10 14 | |
| 43 | 28 | 3 | 10 28 | |
| 44 | 42 | 3 | 10 42 | |
| 45 | 56 | 4 | 10 56 | |
| 46 | 11 | 4 | 11 11 | |
| 47 | 25 | 4 | 11 25 | |
| 48 | 39 | 4 | 11 39 | |
| 49 | 53 | 4 | 11 53 | |
| 50 | 8 | 4 | 12 8 | |
| 51 | 22 | 4 | 12 22 | |
| 52 | 36 | 4 | 12 36 | |
| 53 | 50 | 4 | 12 50 | |
| 54 | 5 | 4 | 13 5 | |
| 55 | 19 | 4 | 13 19 | |
| 56 | 33 | 4 | 13 33 | |
| 57 | 47 | 5 | 13 47 | |
| 58 | 2 | 4 | 14 2 | |
| 59 | 16 | 5 | 14 16 | |
| 60 | 30 | 5 | 14 30 | |

| Log. sum | Log. diff. | Sum | Declination. 16° | D. | 17° | D. | 18° | D. | 19° | D. | 20° | D. | 21° | D. | 22° | D. | 23° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ |
| 0.0 | 0.0 | 1 | 0. 2 | 0 | 0. 2 | 0 | 0. 2 | 0 | 0. 2 | 1 | 0. 3 | 0 | 0. 3 | 0 | 0. 3 | 0 | 0. 3 e | 0 |
| 0.1 | 0.1 | 2 | 0. 4 | 0 | 0. 4 | 0 | 0. 5 | 0 | 0. 5 | 0 | 0. 5 | 0 | 0. 5 | 1 | 0. 6 | 0 | 0. 6 e | 0 |
| 0.1 | 0.1 | 3 | 0. 6 | 1 | 0. 7 | 0 | 0. 7 | 0 | 0. 7 | 1 | 0. 8 | 0 | 0. 8 | 0 | 0. 8 | 1 | 0. 9 e | 0 |
| 0.2 | 0.2 | 4 | 0. 8 | 1 | 0. 9 | 0 | 0. 9 | 1 | 0. 10 | 1 | 0. 10 | 1 | 0. 11 | 0 | 0. 11 | 1 | 0. 12 e | 0 |
| 0.2 | 0.2 | 5 | 0. 11 | 1 | 0. 11 | 1 | 0. 12 | 0 | 0. 12 | 1 | 0. 13 | 0 | 0. 13 | 1 | 0. 14 | 1 | 0. 15 e | 0 |
| 0.2 | 0.2 | 6 | 0. 13 | 1 | 0. 13 | 1 | 0. 14 | 1 | 0. 15 | 0 | 0. 15 | 1 | 0. 15 | 1 | 0. 17 | 1 | 0. 18 e | 0 |
| 0.3 | 0.3 | 7 | 0. 15 | 1 | 0. 15 | 1 | 0. 16 | 1 | 0. 17 | 1 | 0. 18 | 1 | 0. 18 | 1 | 0. 19 | 1 | 0. 21 a | 0 |
| 0.3 | 0.3 | 8 | 0. 17 | 1 | 0. 18 | 1 | 0. 19 a | 1 | 0. 20 | 1 | 0. 21 | 1 | 0. 22 | 1 | 0. 22 | 1 | 0. 23 e | 1 |
| 0.3 | 0.3 | 9 | 0. 19 | 1 | 0. 20 | 1 | 0. 21 | 1 | 0. 22 | 1 | 0. 23 | 1 | 0. 24 | 1 | 0. 25 | 1 | 0. 26 e | 2 |
| 0.3 | 0.3 | 10 | 0. 21 | 1 | 0. 22 | 1 | 0. 23 a | 1 | 0. 24 | 2 | 0. 25 | 1 | 0. 26 | 1 | 0. 27 | 1 | 0. 28 e | 2 |
| 0.4 | 0.4 | 11 | 0. 23 | 1 | 0. 24 | 1 | 0. 25 | 2 | 0. 26 | 1 | 0. 27 | 2 | 0. 28 | 1 | 0. 29 | 1 | 0. 32 e | 2 |
| 0.4 | 0.4 | 12 | 0. 25 | 1 | 0. 26 | 2 | 0. 27 | 1 | 0. 28 | 2 | 0. 29 | 1 | 0. 30 | 2 | 0. 31 | 2 | 0. 35 e | 2 |
| 0.4 | 0.4 | 13 | 0. 27 | 2 | 0. 28 | 1 | 0. 29 | 2 | 0. 30 | 1 | 0. 31 | 2 | 0. 32 | 1 | 0. 33 | 2 | 0. 38 e | 2 |
| 0.5 | 0.5 | 14 | 0. 29 | 2 | 0. 30 | 2 | 0. 31 | 1 | 0. 32 | 2 | 0. 33 | 2 | 0. 34 | 2 | 0. 35 | 2 | 0. 41 e | 2 |
| 0.5 | 0.5 | 15 | 0. 31 | 2 | 0. 32 | 2 | 0. 33 | 2 | 0. 34 | 2 | 0. 35 | 2 | 0. 36 | 2 | 0. 37 | 2 | 0. 44 e | 2 |
| 0.5 | 0.5 | 16 | 0. 33 | 2 | 0. 34 | 2 | 0. 35 | 2 | 0. 36 | 2 | 0. 37 | 2 | 0. 38 | 2 | 0. 39 | 2 | 0. 47 e | 3 |
| 0.6 | 0.6 | 17 | 0. 35 | 2 | 0. 36 | 2 | 0. 37 | 2 | 0. 38 | 2 | 0. 39 | 2 | 0. 40 | 2 | 0. 41 | 2 | 0. 50 e | 2 |
| 0.6 | 0.6 | 18 | 0. 37 | 2 | 0. 38 | 2 | 0. 39 | 3 | 0. 40 | 2 | 0. 41 | 2 | 0. 42 | 2 | 0. 43 | 3 | 0. 53 e | 2 |
| 0.6 | 0.6 | 19 | 0. 39 | 2 | 0. 40 | 3 | 0. 41 | 2 | 0. 42 | 3 | 0. 43 | 2 | 0. 44 | 3 | 0. 45 | 2 | 0. 56 e | 2 |
| 0.7 | 0.7 | 20 | 0. 41 | 3 | 0. 42 | 2 | 0. 43 | 3 | 0. 44 | 2 | 0. 45 | 3 | 0. 46 | 2 | 0. 47 | 3 | 0. 59 e | 2 |
| 0.7 | 0.7 | 21 | 0. 43 | 3 | 0. 44 | 3 | 0. 45 | 2 | 0. 46 | 3 | 0. 47 | 2 | 0. 48 | 3 | 0. 49 | 2 | 1. 2 e | 2 |
| 0.7 | 0.7 | 22 | 0. 45 | 2 | 0. 46 | 3 | 0. 47 | 3 | 0. 48 | 2 | 0. 49 | 3 | 0. 50 | 3 | 0. 51 | 3 | 1. 5 a | 2 |
| 0.8 | 0.8 | 23 | 0. 47 | 3 | 0. 48 | 3 | 0. 49 | 3 | 0. 50 | 3 | 0. 51 | 3 | 0. 52 | 3 | 0. 53 | 2 | 1. 7 e | 3 |
| 0.8 | 0.8 | 24 | 0. 49 | 3 | 0. 50 | 3 | 0. 51 | 3 | 0. 52 | 3 | 0. 53 | 3 | 0. 54 | 3 | 0. 55 | 3 | 1. 10 e | 3 |
| 0.8 | 0.8 | 25 | 0. 51 | 3 | 0. 52 | 3 | 0. 53 | 3 | 0. 54 | 3 | 0. 55 | 3 | 0. 56 | 3 | 0. 57 | 3 | 1. 13 e | 3 |
| 0.9 | 0.9 | 26 | 0. 53 | 3 | 0. 54 | 3 | 0. 55 | 3 | 1. 1 | 3 | 1. 4 | 3 | 1. 7 | 3 | 1. 10 | 3 | 1. 16 e | 3 |
| 0.9 | 0.9 | 27 | 0. 55 | 3 | 0. 56 | 3 | 0. 57 | 3 | 1. 3 | 4 | 1. 6 | 3 | 1. 9 | 3 | 1. 12 | 3 | 1. 19 e | 3 |
| 0.9 | 0.9 | 28 | 0. 57 | 3 | 0. 58 | 3 | 1. 1 | 3 | 1. 5 | 3 | 1. 8 | 4 | 1. 11 | 3 | 1. 15 | 4 | 1. 22 e | 4 |
| 1.0 | 1.0 | 29 | 0. 59 | 3 | 1. 1 | 3 | 1. 3 | 4 | 1. 7 | 3 | 1. 10 | 4 | 1. 13 | 4 | 1. 17 | 3 | 1. 25 e | 4 |
| 1.0 | 1.0 | 30 | 1. 2 | 4 | 1. 4 | 4 | 1. 6 | 3 | 1. 9 | 4 | 1. 13 | 4 | 1. 16 | 4 | 1. 20 | 4 | 1. 28 e | 4 |
| 1.0 | 1.0 | 31 | 1. 4 | 4 | 1. 6 | 4 | 1. 8 | 4 | 1. 11 | 4 | 1. 15 | 4 | 1. 18 | 4 | 1. 22 | 4 | 1. 31 e | 4 |
| 1.1 | 1.1 | 32 | 1. 6 | 4 | 1. 8 | 4 | 1. 10 | 4 | 1. 13 | 4 | 1. 17 | 4 | 1. 20 | 4 | 1. 24 | 4 | 1. 34 e | 4 |
| 1.1 | 1.1 | 33 | 1. 8 | 4 | 1. 10 | 4 | 1. 12 | 4 | 1. 15 | 4 | 1. 19 | 4 | 1. 22 | 4 | 1. 26 | 4 | 1. 37 e | 4 |
| 1.1 | 1.1 | 34 | 1. 10 | 5 | 1. 12 | 4 | 1. 14 | 4 | 1. 17 | 4 | 1. 21 | 4 | 1. 25 | 4 | 1. 28 | 4 | 1. 40 e | 4 |
| 1.2 | 1.2 | 35 | 1. 12 | 4 | 1. 14 | 4 | 1. 16 | 4 | 1. 19 | 4 | 1. 23 | 4 | 1. 27 | 5 | 1. 30 | 4 | 1. 43 e | 4 |
| 1.2 | 1.2 | 36 | 1. 14 | 4 | 1. 16 | 4 | 1. 18 | 5 | 1. 21 | 4 | 1. 25 | 5 | 1. 29 | 4 | 1. 32 | 4 | 1. 46 e | 4 |
| 1.2 | 1.2 | 37 | 1. 16 | 4 | 1. 18 | 5 | 1. 20 | 4 | 1. 23 | 5 | 1. 27 | 4 | 1. 31 | 4 | 1. 34 | 5 | 1. 49 e | 4 |
| 1.3 | 1.3 | 38 | 1. 18 | 5 | 1. 20 | 4 | 1. 22 | 5 | 1. 25 | 4 | 1. 29 | 5 | 1. 33 | 4 | 1. 36 | 5 | 1. 52 e | 4 |
| 1.3 | 2.0 | 39 | 1. 20 | 5 | 1. 22 | 5 | 1. 24 | 4 | 1. 27 | 5 | 1. 31 | 4 | 1. 35 | 5 | 1. 39 | 4 | 1. 55 a | 4 |
| 1.3 | 2.0 | 40 | 1. 22 | 5 | 1. 24 | 5 | 1. 26 | 5 | 1. 29 | 5 | 1. 33 | 5 | 1. 37 | 5 | 1. 41 | 5 | 1. 57 e | 5 |
| 1.4 | 2.1 | 41 | 1. 24 | 5 | 1. 26 | 5 | 1. 28 | 5 | 1. 31 | 5 | 1. 35 | 5 | 1. 39 | 5 | 1. 43 | 5 | 2. 0 e | 5 |
| 1.4 | 2.1 | 42 | 1. 26 | 5 | 1. 28 | 6 | 1. 30 | 5 | 1. 33 | 5 | 1. 37 | 5 | 1. 41 | 5 | 1. 45 | 5 | 2. 3 e | 5 |
| 1.4 | 2.1 | 43 | 1. 28 | 6 | 1. 30 | 5 | 1. 32 | 5 | 1. 35 | 5 | 1. 39 | 5 | 1. 43 | 5 | 1. 47 | 5 | 2. 6 e | 5 |
| 1.5 | 2.2 | 44 | 1. 30 | 6 | 1. 32 | 5 | 1. 34 | 6 | 1. 37 | 5 | 1. 41 | 6 | 1. 45 | 5 | 1. 49 | 6 | 2. 9 e | 5 |
| 1.5 | 2.2 | 45 | 1. 32 | 6 | 1. 34 | 6 | 1. 36 | 5 | 1. 39 | 6 | 1. 43 | 5 | 1. 47 | 6 | 1. 51 | 5 | 2. 12 e | 6 |
| 1.5 | 2.2 | 46 | 1. 34 | 6 | 1. 36 | 6 | 1. 38 | 6 | 1. 41 | 5 | 1. 45 | 6 | 1. 49 | 6 | 1. 53 | 6 | 2. 15 e | 6 |
| 1.6 | 2.3 | 47 | 1. 36 | 6 | 1. 38 | 6 | 1. 40 | 6 | 1. 43 | 6 | 1. 47 | 6 | 1. 51 | 6 | 1. 55 | 6 | 2. 18 e | 6 |
| 1.6 | 2.3 | 48 | 1. 38 | 7 | 1. 40 | 6 | 1. 42 | 6 | 1. 45 | 6 | 1. 49 | 6 | 1. 53 | 6 | 1. 57 | 6 | 2. 21 e | 6 |
| 1.6 | 2.3 | 49 | 1. 40 | 7 | 1. 42 | 6 | 1. 44 | 6 | 1. 47 | 6 | 1. 51 | 6 | 1. 55 | 6 | 1. 59 | 6 | 2. 24 e | 6 |
| 1.7 | 2.4 | 50 | 1. 42 | 7 | 1. 44 | 6 | 1. 46 | 6 | 1. 49 | 6 | 1. 53 | 6 | 1. 57 | 6 | 2. 1 | 6 | 2. 27 e | 6 |
| 1.7 | 2.4 | 51 | 1. 44 | 7 | 1. 46 | 7 | 1. 48 | 6 | 1. 51 | 6 | 1. 55 | 6 | 1. 59 | 6 | 2. 3 | 6 | 2. 30 e | 6 |
| 1.7 | 2.4 | 52 | 1. 46 | 7 | 1. 48 | 7 | 1. 50 | 6 | 1. 53 | 7 | 1. 57 | 6 | 2. 1 | 6 | 2. 5 | 6 | 2. 33 e | 6 |
| 1.8 | 2.5 | 53 | 1. 48 | 7 | 1. 50 | 7 | 1. 52 | 7 | 1. 55 | 6 | 1. 59 | 7 | 2. 3 | 6 | 2. 7 | 6 | 2. 36 e | 6 |
| 1.8 | 2.5 | 54 | 1. 50 | 7 | 1. 52 | 7 | 1. 54 | 7 | 1. 57 | 7 | 2. 1 | 6 | 2. 5 | 7 | 2. 9 | 6 | 2. 39 e | 6 |
| 1.8 | 2.5 | 55 | 1. 52 | 7 | 1. 54 | 7 | 1. 56 | 7 | 1. 59 | 7 | 2. 3 | 7 | 2. 7 | 6 | 2. 11 | 7 | 2. 42 e | 6 |
| 1.9 | 2.6 | 56 | 1. 54 | 7 | 1. 56 | 7 | 1. 58 | 7 | 2. 1 | 7 | 2. 5 | 7 | 2. 9 | 7 | 2. 13 | 7 | 2. 45 e | 7 |
| 1.9 | 2.6 | 57 | 1. 56 | 7 | 1. 58 | 7 | 2. 0 | 7 | 2. 3 | 7 | 2. 7 | 7 | 2. 11 | 7 | 2. 15 | 7 | 2. 48 e | 7 |
| 1.9 | 2.6 | 58 | 1. 58 | 7 | 2. 0 | 7 | 2. 2 | 7 | 2. 5 | 7 | 2. 9 | 7 | 2. 13 | 7 | 2. 17 | 7 | 2. 51 e | 7 |
| 2.0 | 2.7 | 59 | 2. 0 | 7 | 2. 2 | 7 | 2. 4 | 7 | 2. 7 | 7 | 2. 11 | 7 | 2. 15 | 7 | 2. 19 | 7 | 2. 54 e | 7 |

Complement of Declination.

| Proportional parts for Seconds of Increase. | | |


Declination.
Proportional parts of Declination.

Proportional parts for Second of Interval. *additive*

| *a* | *e* | *n* |
|---|---|---|
| 0, 0 | 0, 0 | 0, 0 |
| 0, 3 | 0, 2 | 0, 2 |
| 0, 5 | 0, 3 | 0, 4 |
| 0, 8 | 0, 5 | 0, 7 |
| 1, 0 | 0, 6 | 0, 9 |
| 1, 3 | 0, 8 | 1, 1 |
| 1, 5 | 1, 0 | 1, 3 |
| 1, 8 | 1, 1 | 1, 6 |
| 2, 0 | 1, 3 | 1, 8 |
| 2, 3 | 1, 4 | 2, 0 |
| 2, 5 | 1, 6 | 2, 2 |
| 2, 8 | 1, 7 | 2, 4 |
| 3, 0 | 1, 9 | 2, 7 |
| 3, 3 | 2, 0 | 2, 9 |
| 3, 5 | 2, 2 | 3, 1 |
| 3, 8 | 2, 3 | 3, 3 |
| 4, 0 | 2, 5 | 3, 5 |
| 4, 3 | 2, 6 | 3, 8 |
| 4, 5 | 2, 8 | 4, 0 |
| 4, 8 | 2, 9 | 4, 2 |
| 5, 0 | 3, 1 | 4, 4 |
| 5, 3 | 3, 2 | 4, 7 |
| 5, 5 | 3, 4 | 4, 9 |
| 5, 8 | 3, 5 | 5, 1 |
| 6, 0 | 3, 7 | 5, 3 |
| 6, 3 | 3, 8 | 5, 6 |
| 6, 5 | 4, 0 | 5, 8 |
| 6, 8 | 4, 1 | 6, 0 |
| 7, 0 | 4, 3 | 6, 2 |
| 7, 3 | 4, 4 | 6, 5 |
| 7, 5 | 4, 6 | 6, 7 |
| 7, 8 | 4, 7 | 6, 9 |
| 8, 0 | 4, 9 | 7, 1 |
| 8, 3 | 5, 0 | 7, 4 |
| 8, 5 | 5, 2 | 7, 6 |
| 8, 8 | 5, 3 | 7, 8 |
| 9, 0 | 5, 5 | 8, 0 |
| 9, 3 | 5, 6 | 8, 3 |
| 9, 5 | 5, 8 | 8, 5 |
| 9, 8 | 5, 9 | 8, 7 |
| 10, 0 | 6, 1 | 8, 9 |
| 10, 3 | 6, 2 | 9, 2 |
| 10, 5 | 6, 4 | 9, 4 |
| 10, 8 | 6, 5 | 9, 6 |
| 11, 0 | 6, 7 | 9, 8 |
| 11, 3 | 6, 8 | 10, 1 |
| 11, 5 | 7, 0 | 10, 3 |
| 11, 8 | 7, 1 | 10, 5 |
| 12, 0 | 7, 3 | 10, 7 |
| 12, 3 | 7, 4 | 11, 0 |
| 12, 5 | 7, 6 | 11, 2 |
| 12, 8 | 7, 7 | 11, 4 |
| 13, 0 | 7, 9 | 11, 6 |
| 13, 3 | 8, 0 | 11, 9 |
| 13, 5 | 8, 2 | 12, 1 |
| 13, 8 | 8, 3 | 12, 3 |
| 14, 0 | 8, 5 | 12, 5 |
| 14, 3 | 8, 6 | 12, 8 |

| Interval | Complement of Declination. | | | | | | | | | | | | | | | | | | | | Proport. parts for 1″ of Declination. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 74° | D. | 75° | D. | 76° | D. | 77° | D. | 78° | D. | 79° | D. | 80° | D. | 81° | D. | | | | | | | |
| 1h | | | | | | | | | | | | | | | | | ′ | ″ | ″ | | | | |
| m | ′ ″ | ″ | ′ ″ | ″ | ′ ″ | ″ | ′ ″ | ″ | ′ ″ | ″ | ′ ″ | ″ | ′ ″ | ″ | ′ ″ | ″ | | | | | | | |
| 0 | 14. 25 | 4 | 14. 29 | 4 | 14. 33 | 4 | 14. 37 | 3 | 14. 41 | 3 | 14. 45 | 3 | 14. 49 | 3 | 14. 53 | 2 | 1 | 0, 5 | 0, 4 | | | | |
| 1 | 14. 29 | 4 | 14. 33 | 4 | 14. 37 | 4 | 14. 41 | 4 | 14. 45 | 3 | 14. 49 | 3 | 14. 53 | 3 | 14. 57 | 2 | 2 | 0, 9 | 0, 8 | | | | |
| 2 | 14. 33 | 4 | 14. 37 | 4 | 14. 41 | 4 | 14. 45 | 4 | 14. 49 | 3 | 14. 53 | 3 | 14. 57 | 3 | 15. 1 | 3 | 3 | 1, 4 | 1, 2 | | | | |
| 3 | 14. 37 | 4 | 14. 41 | 4 | 14. 45 | 4 | 14. 49 | 4 | 14. 53 | 4 | 14. 57 | 3 | 15. 1 | 3 | 15. 5 | 3 | 4 | 1, 8 | 1, 6 | | | | |
| 4 | 14. 41 | 4 | 14. 45 | 4 | 14. 49 | 4 | 14. 53 | 4 | 14. 57 | 4 | 15. 1 | 4 | 15. 5 | 3 | 15. 9 | 3 | 5 | 2, 3 | 2, 0 | | | | |
| 5 | 14. 45 | 4 | 14. 49 | 4 | 14. 53 | 4 | 14. 57 | 4 | 15. 1 | 4 | 15. 5 | 4 | 15. 9 | 4 | 15. 13 | 3 | 6 | 2, 7 | 2, 4 | | | | |
| 6 | 14. 49 | 4 | 14. 53 | 4 | 14. 57 | 4 | 15. 1 | 4 | 15. 5 | 4 | 15. 9 | 4 | 15. 13 | 4 | 15. 17 | 4 | 7 | 3, 2 | 2, 8 | | | | |
| 7 | 14. 53 | 4 | 14. 57 | 4 | 15. 1 | 4 | 15. 5 | 4 | 15. 9 | 4 | 15. 13 | 4 | 15. 17 | 4 | 15. 21 | 4 | 8 | 3, 6 | 3, 2 | | | | |
| 8 | 14. 57 | 4 | 15. 1 | 4 | 15. 5 | 4 | 15. 9 | 4 | 15. 13 | 4 | 15. 17 | 4 | 15. 21 | 4 | 15. 25 | 4 | 9 | 4, 0 | 3, 6 | | | | |
| 9 | 15. 1 | 4 | 15. 5 | 4 | 15. 9 | 4 | 15. 13 | 4 | 15. 17 | 4 | 15. 21 | 4 | 15. 25 | 4 | 15. 29 | 4 | 10 | 4, 5 | 4, 0 | | | | |
| 10 | 15. 5 | 4 | 15. 9 | 4 | 15. 13 | 4 | 15. 17 | 4 | 15. 21 | 4 | 15. 25 | 4 | 15. 29 | 4 | 15. 33 | 4 | 11 | 4, 9 | 4, 4 | | | | |
| 11 | 15. 9 | 4 | 15. 13 | 4 | 15. 17 | 4 | 15. 21 | 4 | 15. 25 | 4 | 15. 29 | 4 | 15. 33 | 4 | 15. 37 | 4 | 12 | 5, 4 | 4, 8 | | | | |
| 12 | 15. 13 | 4 | 15. 17 | 4 | 15. 21 | 4 | 15. 25 | 4 | 15. 29 | 4 | 15. 33 | 4 | 15. 37 | 4 | 15. 41 | 4 | 13 | 5, 8 | 5, 2 | | | | |
| 13 | 15. 17 | 4 | 15. 21 | 4 | 15. 25 | 4 | 15. 29 | 4 | 15. 33 | 4 | 15. 37 | 4 | 15. 41 | 4 | 15. 45 | 4 | 14 | 6, 3 | 5, 6 | | | | |
| 14 | 15. 21 | 4 | 15. 25 | 4 | 15. 29 | 4 | 15. 33 | 4 | 15. 37 | 4 | 15. 41 | 4 | 15. 45 | 4 | 15. 49 | 4 | 15 | 6, 7 | 6, 0 | | | | |
| 15 | 15. 25 | 4 | 15. 29 | 4 | 15. 33 | 4 | 15. 37 | 4 | 15. 41 | 4 | 15. 45 | 4 | 15. 49 | 4 | 15. 53 | 4 | 16 | 7, 2 | 6, 4 | | | | |
| 16 | 15. 29 | 4 | 15. 33 | 4 | 15. 37 | 4 | 15. 41 | 4 | 15. 45 | 4 | 15. 49 | 4 | 15. 53 | 4 | 15. 57 | 4 | 17 | 7, 6 | 6, 8 | | | | |
| 17 | 15. 33 | 4 | 15. 37 | 4 | 15. 41 | 4 | 15. 45 | 4 | 15. 49 | 4 | 15. 53 | 4 | 15. 57 | 4 | 16. 1 | 4 | 18 | 8, 1 | 7, 2 | | | | |
| 18 | 15. 37 | 4 | 15. 41 | 4 | 15. 45 | 4 | 15. 49 | 4 | 15. 53 | 4 | 15. 57 | 4 | 16. 1 | 4 | 16. 5 | 4 | 19 | 8, 5 | 7, 6 | | | | |
| 19 | 15. 41 | 4 | 15. 45 | 4 | 15. 49 | 4 | 15. 53 | 4 | 15. 57 | 4 | 16. 1 | 4 | 16. 5 | 4 | 16. 9 | 4 | 20 | 8, 9 | 8, 0 | | | | |
| 20 | 15. 45 | 4 | 15. 49 | 4 | 15. 53 | 4 | 15. 57 | 4 | 16. 1 | 4 | 16. 5 | 4 | 16. 9 | 4 | 16. 13 | 4 | 21 | 9, 4 | 8, 4 | | | | |
| 21 | 15. 49 | 4 | 15. 53 | 4 | 15. 57 | 4 | 16. 1 | 4 | 16. 5 | 4 | 16. 9 | 4 | 16. 13 | 4 | 16. 17 | 4 | 22 | 9, 8 | 8, 8 | | | | |
| 22 | 15. 53 | 4 | 15. 57 | 4 | 16. 1 | 4 | 16. 5 | 4 | 16. 9 | 4 | 16. 13 | 4 | 16. 17 | 4 | 16. 21 | 4 | 23 | 10, 2 | 9, 2 | | | | |
| 23 | 15. 57 | 4 | 16. 1 | 4 | 16. 5 | 4 | 16. 9 | 4 | 16. 13 | 4 | 16. 17 | 4 | 16. 21 | 4 | 16. 25 | 4 | 24 | 10, 6 | 9, 6 | | | | |
| 24 | 16. 1 | 4 | 16. 5 | 4 | 16. 9 | 4 | 16. 13 | 4 | 16. 17 | 4 | 16. 21 | 4 | 16. 25 | 4 | 16. 29 | 4 | 25 | 11, 0 | 10, 0 | | | | |
| 25 | 16. 5 | 4 | 16. 9 | 4 | 16. 13 | 4 | 16. 17 | 4 | 16. 21 | 4 | 16. 25 | 4 | 16. 29 | 4 | 16. 33 | 4 | 26 | 11, 3 | 10, 3 | | | | |
| 26 | 16. 9 | 4 | 16. 13 | 4 | 16. 17 | 4 | 16. 21 | 4 | 16. 25 | 4 | 16. 29 | 4 | 16. 33 | 4 | 16. 37 | 4 | 27 | 11, 7 | 10, 7 | | | | |
| 27 | 16. 13 | 4 | 16. 17 | 4 | 16. 21 | 4 | 16. 25 | 4 | 16. 29 | 4 | 16. 33 | 4 | 16. 37 | 4 | 16. 41 | 4 | 28 | 12, 1 | 11, 1 | | | | |
| 28 | 16. 17 | 4 | 16. 21 | 4 | 16. 25 | 4 | 16. 29 | 4 | 16. 33 | 4 | 16. 37 | 4 | 16. 41 | 4 | 16. 45 | 4 | 29 | 12, 5 | 11, 5 | | | | |
| 29 | 16. 21 | 4 | 16. 25 | 4 | 16. 29 | 4 | 16. 33 | 4 | 16. 37 | 4 | 16. 41 | 4 | 16. 45 | 4 | 16. 49 | 4 | 30 | 12, 9 | 11, 9 | | | | |
| 30 | 16. 25 | 4 | 16. 29 | 4 | 16. 33 | 4 | 16. 37 | 4 | 16. 41 | 4 | 16. 45 | 4 | 16. 49 | 4 | 16. 53 | 4 | 31 | 13, 3 | 12, 3 | | | | |
| 31 | 16. 29 | 4 | 16. 33 | 4 | 16. 37 | 4 | 16. 41 | 4 | 16. 45 | 4 | 16. 49 | 4 | 16. 53 | 4 | 16. 57 | 4 | 32 | 13, 7 | 12, 7 | | | | |
| 32 | 16. 33 | 4 | 16. 37 | 4 | 16. 41 | 4 | 16. 45 | 4 | 16. 49 | 4 | 16. 53 | 4 | 16. 57 | 4 | 17. 1 | 4 | 33 | 14, 1 | 13, 1 | | | | |
| 33 | 16. 37 | 4 | 16. 41 | 4 | 16. 45 | 4 | 16. 49 | 4 | 16. 53 | 4 | 16. 57 | 4 | 17. 1 | 4 | 17. 5 | 4 | 34 | 14, 5 | 13, 5 | | | | |
| 34 | 16. 41 | 4 | 16. 45 | 4 | 16. 49 | 4 | 16. 53 | 4 | 16. 57 | 4 | 17. 1 | 4 | 17. 5 | 4 | 17. 9 | 4 | 35 | 14, 9 | 13, 9 | | | | |
| 35 | 16. 45 | 4 | 16. 49 | 4 | 16. 53 | 4 | 16. 57 | 4 | 17. 1 | 4 | 17. 5 | 4 | 17. 9 | 4 | 17. 13 | 4 | 36 | 15, 3 | 14, 3 | | | | |
| 36 | 16. 49 | 4 | 16. 53 | 4 | 16. 57 | 4 | 17. 1 | 4 | 17. 5 | 4 | 17. 9 | 4 | 17. 13 | 4 | 17. 17 | 4 | 37 | 15, 7 | 14, 7 | | | | |
| 37 | 16. 53 | 4 | 16. 57 | 4 | 17. 1 | 4 | 17. 5 | 4 | 17. 9 | 4 | 17. 13 | 4 | 17. 17 | 4 | 17. 21 | 4 | 38 | 16, 1 | 15, 1 | | | | |
| 38 | 16. 57 | 4 | 17. 1 | 4 | 17. 5 | 4 | 17. 9 | 4 | 17. 13 | 4 | 17. 17 | 4 | 17. 21 | 4 | 17. 25 | 4 | 39 | 16, 5 | 15, 5 | | | | |
| 39 | 17. 1 | 4 | 17. 5 | 4 | 17. 9 | 4 | 17. 13 | 4 | 17. 17 | 4 | 17. 21 | 4 | 17. 25 | 4 | 17. 29 | 4 | 40 | 16, 9 | 15, 9 | | | | |
| 40 | 17. 5 | 4 | 17. 9 | 4 | 17. 13 | 4 | 17. 17 | 4 | 17. 21 | 4 | 17. 25 | 4 | 17. 29 | 4 | 17. 33 | 4 | 41 | 17, 3 | 16, 3 | | | | |
| 41 | 17. 9 | 4 | 17. 13 | 4 | 17. 17 | 4 | 17. 21 | 4 | 17. 25 | 4 | 17. 29 | 4 | 17. 33 | 4 | 17. 37 | 4 | 42 | 17, 7 | 16, 7 | | | | |
| 42 | 17. 13 | 4 | 17. 17 | 4 | 17. 21 | 4 | 17. 25 | 4 | 17. 29 | 4 | 17. 33 | 4 | 17. 37 | 4 | 17. 41 | 4 | 43 | 18, 1 | 17, 1 | | | | |
| 43 | 17. 17 | 4 | 17. 21 | 4 | 17. 25 | 4 | 17. 29 | 4 | 17. 33 | 4 | 17. 37 | 4 | 17. 41 | 4 | 17. 45 | 4 | 44 | 18, 5 | 17, 5 | | | | |
| 44 | 17. 21 | 4 | 17. 25 | 4 | 17. 29 | 4 | 17. 33 | 4 | 17. 37 | 4 | 17. 41 | 4 | 17. 45 | 4 | 17. 49 | 4 | 45 | 18, 9 | 17, 9 | | | | |
| 45 | 17. 25 | 4 | 17. 29 | 4 | 17. 33 | 4 | 17. 37 | 4 | 17. 41 | 4 | 17. 45 | 4 | 17. 49 | 4 | 17. 53 | 4 | 46 | 19, 3 | 18, 3 | | | | |
| 46 | 17. 29 | 4 | 17. 33 | 4 | 17. 37 | 4 | 17. 41 | 4 | 17. 45 | 4 | 17. 49 | 4 | 17. 53 | 4 | 17. 57 | 4 | 47 | 19, 7 | 18, 7 | | | | |
| 47 | 17. 33 | 4 | 17. 37 | 4 | 17. 41 | 4 | 17. 45 | 4 | 17. 49 | 4 | 17. 53 | 4 | 17. 57 | 4 | 18. 1 | 4 | 48 | 20, 1 | 19, 1 | | | | |
| 48 | 17. 37 | 4 | 17. 41 | 4 | 17. 45 | 4 | 17. 49 | 4 | 17. 53 | 4 | 17. 57 | 4 | 18. 1 | 4 | 18. 5 | 4 | 49 | 20, 5 | 19, 5 | | | | |
| 49 | 17. 41 | 4 | 17. 45 | 4 | 17. 49 | 4 | 17. 53 | 4 | 17. 57 | 4 | 18. 1 | 4 | 18. 5 | 4 | 18. 9 | 4 | 50 | 20, 9 | 19, 9 | | | | |
| 50 | 17. 45 | 4 | 17. 49 | 4 | 17. 53 | 4 | 17. 57 | 4 | 18. 1 | 4 | 18. 5 | 4 | 18. 9 | 4 | 18. 13 | 4 | 51 | 21, 3 | 20, 3 | | | | |
| 51 | 17. 49 | 4 | 17. 53 | 4 | 17. 57 | 4 | 18. 1 | 4 | 18. 5 | 4 | 18. 9 | 4 | 18. 13 | 4 | 18. 17 | 4 | 52 | 21, 7 | 20, 7 | | | | |
| 52 | 17. 53 | 4 | 17. 57 | 4 | 18. 1 | 4 | 18. 5 | 4 | 18. 9 | 4 | 18. 13 | 4 | 18. 17 | 4 | 18. 21 | 4 | 53 | 22, 1 | 21, 1 | | | | |
| 53 | 17. 57 | 4 | 18. 1 | 4 | 18. 5 | 4 | 18. 9 | 4 | 18. 13 | 4 | 18. 17 | 4 | 18. 21 | 4 | 18. 25 | 4 | 54 | 22, 5 | 21, 5 | | | | |
| 54 | 18. 1 | 4 | 18. 5 | 4 | 18. 9 | 4 | 18. 13 | 4 | 18. 17 | 4 | 18. 21 | 4 | 18. 25 | 4 | 18. 29 | 4 | 55 | 22, 9 | 21, 9 | | | | |
| 55 | 18. 5 | 4 | 18. 9 | 4 | 18. 13 | 4 | 18. 17 | 4 | 18. 21 | 4 | 18. 25 | 4 | 18. 29 | 4 | 18. 33 | 4 | 56 | 23, 3 | 22, 3 | | | | |
| 56 | 18. 9 | 4 | 18. 13 | 4 | 18. 17 | 4 | 18. 21 | 4 | 18. 25 | 4 | 18. 29 | 4 | 18. 33 | 4 | 18. 37 | 4 | 57 | 23, 7 | 22, 7 | | | | |
| 57 | 18. 13 | 4 | 18. 17 | 4 | 18. 21 | 4 | 18. 25 | 4 | 18. 29 | 4 | 18. 33 | 4 | 18. 37 | 4 | 18. 41 | 4 | 58 | 24, 1 | 23, 1 | | | | |
| 58 | 18. 17 | 4 | 18. 21 | 4 | 18. 25 | 4 | 18. 29 | 4 | 18. 33 | 4 | 18. 37 | 4 | 18. 41 | 4 | 18. 45 | 4 | 59 | 24, 5 | 23, 5 | | | | |
| 59 | 18. 21 | 4 | 18. 25 | 4 | 18. 29 | 4 | 18. 33 | 4 | 18. 37 | 4 | 18. 41 | 4 | 18. 45 | 4 | 18. 49 | 4 | 60 | 24, 9 | 23, 9 | | | | |
| 60 | 18. 25 | 4 | 18. 29 | 4 | 18. 33 | 4 | 18. 37 | 4 | 18. 41 | 4 | 18. 45 | 4 | 18. 49 | 4 | 18. 53 | 4 | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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Proportional part for Seconds of Interval

| ″ | ′ | m |
|---|---|---|
| | | m |
| 0 | 0 | 0 |
| 1 | 0 | 1 |
| 2 | 0 | 2 |
| 3 | 0 | 3 |
| 4 | 0 | 4 |
| 5 | 0 | 5 |
| 6 | 0 | 6 |
| 7 | 0 | 7 |
| 8 | 0 | 8 |
| 9 | 0 | 9 |
| 10 | 0 | 10 |
| 11 | 0 | 11 |
| 12 | 0 | 12 |
| 13 | 0 | 13 |
| 14 | 0 | 14 |
| 15 | 0 | 15 |
| 16 | 0 | 16 |
| 17 | 0 | 17 |
| 18 | 0 | 18 |
| 19 | 0 | 19 |
| 20 | 0 | 20 |
| 21 | 0 | 21 |
| 22 | 0 | 22 |
| 23 | 0 | 23 |
| 24 | 0 | 24 |
| 25 | 0 | 25 |
| 26 | 0 | 26 |
| 27 | 0 | 27 |
| 28 | 0 | 28 |
| 29 | 0 | 29 |
| 30 | 0 | 30 |
| 31 | 0 | 31 |
| 32 | 0 | 32 |
| 33 | 0 | 33 |
| 34 | 0 | 34 |
| 35 | 0 | 35 |
| 36 | 0 | 36 |
| 37 | 0 | 37 |
| 38 | 0 | 38 |
| 39 | 0 | 39 |
| 40 | 0 | 40 |
| 41 | 0 | 41 |
| 42 | 0 | 42 |
| 43 | 0 | 43 |
| 44 | 0 | 44 |
| 45 | 0 | 45 |
| 46 | 0 | 46 |
| 47 | 0 | 47 |
| 48 | 0 | 48 |
| 49 | 0 | 49 |
| 50 | 0 | 50 |
| 51 | 0 | 51 |
| 52 | 0 | 52 |
| 53 | 0 | 53 |
| 54 | 0 | 54 |
| 55 | 0 | 55 |
| 56 | 0 | 56 |
| 57 | 0 | 57 |
| 58 | 0 | 58 |
| 59 | 0 | 59 |
| 60 | 1 | 0 |

Declination.

| 8° | D | 9° | D | 10° | D | 11° | D | 12° | D | 13° | D | 14° | D | 15° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | ′ | | ′ | | ′ | | ′ | | ′ | | ′ | | ′ | |
| 1. 3 | 7 | 1. 11 | 8 | 1. 19 | 7 | 1. 27 | 8 | 1. 34 | 7 | 1. 42 | 7 | 1. 49 | 7 | 1. 57 | 8 |
| 1. 4 | 7 | 1. 12 | 8 | 1. 20 | 8 | 1. 28 | 7 | 1. 36 | 8 | 1. 43 | 8 | 1. 51 | 8 | 1. 59 | 7 |
| 1. 5 | 8 | 1. 13 | 8 | 1. 21 | 8 | 1. 29 | 8 | 1. 37 | 8 | 1. 45 | 8 | 1. 53 | 8 | 2. 0 | 8 |
| 1. 6 | 8 | 1. 14 | 8 | 1. 23 | 8 | 1. 31 | 8 | 1. 39 | 8 | 1. 47 | 8 | 1. 55 | 8 | 2. 2 | 8 |
| 1. 7 | 8 | 1. 16 | 8 | 1. 24 | 8 | 1. 33 | 8 | 1. 41 | 8 | 1. 49 | 8 | 1. 57 | 8 | 2. 4 | 8 |
| 1. 9 | 8 | 1. 17 | 8 | 1. 25 | 8 | 1. 34 | 8 | 1. 42 | 8 | 1. 50 | 8 | 1. 58 | 8 | 2. 6 | 8 |
| 1. 10 | 8 | 1. 18 | 8 | 1. 27 | 8 | 1. 36 | 8 | 1. 44 | 8 | 1. 52 | 8 | 2. 0 | 8 | 2. 8 | 8 |
| 1. 11 | 8 | 1. 20 | 8 | 1. 28 | 8 | 1. 37 | 8 | 1. 46 | 8 | 1. 54 | 8 | 2. 2 | 8 | 2. 10 | 8 |
| 1. 13 | 8 | 1. 21 | 8 | 1. 30 | 8 | 1. 39 | 8 | 1. 47 | 8 | 1. 56 | 8 | 2. 4 | 8 | 2. 12 | 8 |
| 1. 14 | 8 | 1. 23 | 8 | 1. 32 | 8 | 1. 41 | 8 | 1. 49 | 8 | 1. 58 | 8 | 2. 6 | 8 | 2. 14 | 8 |
| 1. 15 | 8 | 1. 24 | 8 | 1. 33 | 8 | 1. 42 | 8 | 1. 51 | 8 | 2. 0 | 8 | 2. 8 | 8 | 2. 16 | 8 |
| 1. 16 | 8 | 1. 25 | 8 | 1. 35 | 8 | 1. 44 | 8 | 1. 53 | 8 | 2. 2 | 8 | 2. 10 | 8 | 2. 18 | 8 |
| 1. 17 | 8 | 1. 27 | 8 | 1. 36 | 8 | 1. 46 | 8 | 1. 55 | 8 | 2. 4 | 8 | 2. 12 | 8 | 2. 20 | 8 |
| 1. 18 | 8 | 1. 28 | 8 | 1. 37 | 8 | 1. 47 | 8 | 1. 56 | 8 | 2. 6 | 8 | 2. 14 | 8 | 2. 22 | 8 |
| 1. 19 | 8 | 1. 30 | 8 | 1. 38 | 8 | 1. 48 | 8 | 1. 58 | 8 | 2. 8 | 8 | 2. 16 | 8 | 2. 24 | 8 |
| 1. 20 | 8 | 1. 31 | 8 | 1. 40 | 8 | 1. 50 | 8 | 2. 0 | 8 | 2. 9 | 8 | 2. 19 | 8 | 2. 26 | 8 |
| 1. 21 | 8 | 1. 33 | 8 | 1. 41 | 8 | 1. 51 | 8 | 2. 1 | 8 | 2. 11 | 8 | 2. 21 | 8 | 2. 28 | 8 |
| 1. 22 | 8 | 1. 34 | 8 | 1. 43 | 8 | 1. 53 | 8 | 2. 3 | 8 | 2. 13 | 8 | 2. 23 | 8 | 2. 30 | 8 |
| 1. 23 | 8 | 1. 35 | 8 | 1. 44 | 8 | 1. 54 | 8 | 2. 4 | 8 | 2. 14 | 8 | 2. 25 | 8 | 2. 32 | 8 |
| 1. 24 | 8 | 1. 37 | 8 | 1. 45 | 8 | 1. 56 | 8 | 2. 6 | 8 | 2. 16 | 8 | 2. 27 | 8 | 2. 34 | 8 |
| 1. 25 | 8 | 1. 38 | 8 | 1. 47 | 8 | 1. 57 | 8 | 2. 8 | 8 | 2. 18 | 8 | 2. 29 | 8 | 2. 36 | 8 |
| 1. 26 | 8 | 1. 39 | 8 | 1. 48 | 8 | 1. 59 | 8 | 2. 9 | 8 | 2. 20 | 8 | 2. 31 | 8 | 2. 38 | 8 |
| 1. 27 | 8 | 1. 41 | 8 | 1. 50 | 8 | 2. 1 | 8 | 2. 11 | 8 | 2. 21 | 8 | 2. 33 | 8 | 2. 40 | 8 |
| 1. 28 | 8 | 1. 42 | 8 | 1. 51 | 8 | 2. 2 | 8 | 2. 13 | 8 | 2. 23 | 8 | 2. 35 | 8 | 2. 42 | 8 |
| 1. 29 | 8 | 1. 43 | 8 | 1. 53 | 8 | 2. 4 | 8 | 2. 14 | 8 | 2. 25 | 8 | 2. 37 | 8 | 2. 44 | 8 |
| 1. 30 | 8 | 1. 44 | 8 | 1. 54 | 8 | 2. 5 | 8 | 2. 16 | 8 | 2. 27 | 8 | 2. 39 | 8 | 2. 46 | 8 |
| 1. 31 | 8 | 1. 46 | 8 | 1. 56 | 8 | 2. 7 | 8 | 2. 18 | 8 | 2. 29 | 8 | 2. 41 | 8 | 2. 48 | 8 |
| 1. 32 | 8 | 1. 47 | 8 | 1. 57 | 8 | 2. 8 | 8 | 2. 19 | 8 | 2. 31 | 8 | 2. 43 | 8 | 2. 50 | 8 |
| 1. 33 | 8 | 1. 48 | 8 | 1. 59 | 8 | 2. 10 | 8 | 2. 21 | 8 | 2. 33 | 8 | 2. 45 | 8 | 2. 52 | 8 |
| 1. 34 | 8 | 1. 50 | 8 | 2. 0 | 8 | 2. 11 | 8 | 2. 23 | 8 | 2. 35 | 8 | 2. 47 | 8 | 2. 54 | 8 |
| 1. 35 | 8 | 1. 51 | 8 | 2. 2 | 8 | 2. 13 | 8 | 2. 24 | 8 | 2. 36 | 8 | 2. 48 | 8 | 2. 56 | 8 |
| 1. 36 | 8 | 1. 52 | 8 | 2. 3 | 8 | 2. 14 | 8 | 2. 26 | 8 | 2. 38 | 8 | 2. 50 | 8 | 2. 58 | 8 |
| 1. 37 | 8 | 1. 54 | 8 | 2. 4 | 8 | 2. 16 | 8 | 2. 28 | 8 | 2. 40 | 8 | 2. 52 | 8 | 3. 0 | 8 |
| 1. 38 | 8 | 1. 55 | 8 | 2. 6 | 8 | 2. 18 | 8 | 2. 29 | 8 | 2. 42 | 8 | 2. 54 | 8 | 3. 2 | 8 |
| 1. 39 | 8 | 1. 56 | 8 | 2. 7 | 8 | 2. 19 | 8 | 2. 31 | 8 | 2. 43 | 8 | 2. 56 | 8 | 3. 4 | 8 |
| 1. 40 | 8 | 1. 58 | 8 | 2. 9 | 8 | 2. 21 | 8 | 2. 33 | 8 | 2. 45 | 8 | 2. 58 | 8 | 3. 6 | 8 |
| 1. 41 | 8 | 1. 59 | 8 | 2. 10 | 8 | 2. 23 | 8 | 2. 34 | 8 | 2. 47 | 8 | 3. 0 | 8 | 3. 8 | 8 |
| 1. 42 | 8 | 2. 1 | 8 | 2. 12 | 8 | 2. 24 | 8 | 2. 36 | 8 | 2. 49 | 8 | 3. 1 | 8 | 3. 10 | 8 |
| 1. 43 | 8 | 2. 2 | 8 | 2. 13 | 8 | 2. 26 | 8 | 2. 38 | 8 | 2. 50 | 8 | 3. 3 | 8 | 3. 12 | 8 |
| 1. 44 | 8 | 2. 4 | 8 | 2. 15 | 8 | 2. 28 | 8 | 2. 40 | 8 | 2. 52 | 8 | 3. 5 | 8 | 3. 14 | 8 |
| 1. 45 | 8 | 2. 5 | 8 | 2. 16 | 8 | 2. 29 | 8 | 2. 41 | 8 | 2. 54 | 8 | 3. 7 | 8 | 3. 16 | 8 |
| 1. 46 | 8 | 2. 7 | 8 | 2. 18 | 8 | 2. 31 | 8 | 2. 43 | 8 | 2. 56 | 8 | 3. 8 | 8 | 3. 18 | 8 |
| 1. 47 | 8 | 2. 8 | 8 | 2. 19 | 8 | 2. 33 | 8 | 2. 45 | 8 | 2. 58 | 8 | 3. 10 | 8 | 3. 20 | 8 |
| 1. 48 | 8 | 2. 10 | 8 | 2. 21 | 8 | 2. 34 | 8 | 2. 47 | 8 | 3. 0 | 8 | 3. 12 | 8 | 3. 22 | 8 |
| 1. 49 | 8 | 2. 11 | 8 | 2. 23 | 8 | 2. 36 | 8 | 2. 49 | 8 | 3. 1 | 8 | 3. 14 | 8 | 3. 24 | 8 |
| 1. 50 | 8 | 2. 13 | 8 | 2. 24 | 8 | 2. 38 | 8 | 2. 50 | 8 | 3. 3 | 8 | 3. 16 | 8 | 3. 26 | 8 |
| 1. 51 | 8 | 2. 14 | 8 | 2. 26 | 8 | 2. 40 | 8 | 2. 52 | 8 | 3. 5 | 8 | 3. 18 | 8 | 3. 28 | 8 |
| 1. 52 | 8 | 2. 16 | 8 | 2. 28 | 8 | 2. 41 | 8 | 2. 54 | 8 | 3. 7 | 8 | 3. 20 | 8 | 3. 30 | 8 |
| 1. 53 | 8 | 2. 18 | 8 | 2. 29 | 8 | 2. 43 | 8 | 2. 56 | 8 | 3. 8 | 8 | 3. 22 | 8 | 3. 32 | 8 |
| 1. 54 | 8 | 2. 19 | 8 | 2. 31 | 8 | 2. 45 | 8 | 2. 58 | 8 | 3. 10 | 8 | 3. 24 | 8 | 3. 34 | 8 |
| 1. 55 | 8 | 2. 21 | 8 | 2. 33 | 8 | 2. 47 | 8 | 3. 0 | 8 | 3. 12 | 8 | 3. 26 | 8 | 3. 36 | 8 |
| 1. 56 | 8 | 2. 23 | 8 | 2. 34 | 8 | 2. 49 | 8 | 3. 1 | 8 | 3. 14 | 8 | 3. 28 | 8 | 3. 38 | 8 |
| 1. 57 | 8 | 2. 24 | 8 | 2. 36 | 8 | 2. 50 | 8 | 3. 3 | 8 | 3. 16 | 8 | 3. 30 | 8 | 3. 40 | 8 |
| 1. 58 | 8 | 2. 26 | 8 | 2. 38 | 8 | 2. 52 | 8 | 3. 5 | 8 | 3. 18 | 8 | 3. 32 | 8 | 3. 42 | 8 |
| 1. 59 | 8 | 2. 28 | 8 | 2. 40 | 8 | 2. 54 | 8 | 3. 7 | 8 | 3. 20 | 8 | 3. 34 | 8 | 3. 44 | 8 |
| 2. 0 | 8 | 2. 29 | 8 | 2. 41 | 8 | 2. 56 | 8 | 3. 8 | 8 | 3. 22 | 8 | 3. 36 | 8 | 3. 46 | 8 |
| 2. 1 | 8 | 2. 31 | 8 | 2. 43 | 8 | 2. 58 | 8 | 3. 10 | 8 | 3. 24 | 8 | 3. 38 | 8 | 3. 48 | 8 |
| 2. 2 | 8 | 2. 33 | 8 | 2. 45 | 8 | 3. 0 | 8 | 3. 12 | 8 | 3. 26 | 8 | 3. 40 | 8 | 3. 50 | 8 |
| 2. 3 | 8 | 2. 34 | 8 | 2. 47 | 8 | 3. 1 | 8 | 3. 14 | 8 | 3. 28 | 8 | 3. 42 | 8 | 3. 52 | 8 |
| 2. 4 | 8 | 2. 36 | 8 | 2. 49 | 8 | 3. 3 | 8 | 3. 16 | 8 | 3. 30 | 8 | 3. 44 | 8 | 3. 54 | 8 |
| 2. 5 | 8 | 2. 38 | 8 | 2. 50 | 8 | 3. 5 | 8 | 3. 18 | 8 | 3. 32 | 8 | 3. 46 | 8 | 3. 56 | 8 |
| 2. 6 | 8 | 2. 40 | 8 | 2. 52 | 8 | 3. 7 | 8 | 3. 20 | 8 | 3. 34 | 8 | 3. 48 | 8 | 3. 58 | 8 |
| 2. 7 | 8 | 2. 41 | 8 | 2. 54 | 8 | 3. 8 | 8 | 3. 22 | 8 | 3. 36 | 8 | 3. 50 | 8 | 4. 0 | 8 |
| 2. 8 | 8 | 2. 43 | 8 | 2. 56 | 8 | 3. 10 | 8 | 3. 24 | 8 | 3. 38 | 8 | 3. 52 | 8 | 4. 2 | 8 |
| 2. 9 | 8 | 2. 45 | 8 | 2. 58 | 8 | 3. 12 | 8 | 3. 26 | 8 | 3. 40 | 8 | 3. 54 | 8 | 4. 4 | 8 |
| 2. 10 | 8 | 2. 47 | 8 | 3. 0 | 8 | 3. 14 | 8 | 3. 28 | 8 | 3. 42 | 8 | 3. 56 | 8 | 4. 6 | 8 |
| 2. 11 | 8 | 2. 49 | 8 | 3. 1 | 8 | 3. 16 | 8 | 3. 30 | 8 | 3. 44 | 8 | 3. 58 | 8 | 4. 8 | 8 |
| 2. 12 | 8 | 2. 50 | 8 | 3. 3 | 8 | 3. 18 | 8 | 3. 32 | 8 | 3. 46 | 8 | 4. 0 | 8 | 4. 10 | 8 |
| 2. 13 | 8 | 2. 52 | 8 | 3. 5 | 8 | 3. 20 | 8 | 3. 34 | 8 | 3. 48 | 8 | 4. 2 | 8 | 4. 12 | 8 |
| 2. 14 | 8 | 2. 54 | 8 | 3. 7 | 8 | 3. 22 | 8 | 3. 36 | 8 | 3. 50 | 8 | 4. 4 | 8 | 4. 14 | 8 |
| 2. 15 | 8 | 2. 56 | 8 | 3. 8 | 8 | 3. 24 | 8 | 3. 38 | 8 | 3. 52 | 8 | 4. 6 | 8 | 4. 16 | 8 |
| 2. 16 | 8 | 2. 58 | 8 | 3. 10 | 8 | 3. 26 | 8 | 3. 40 | 8 | 3. 54 | 8 | 4. 8 | 8 | 4. 18 | 8 |
| 2. 17 | 8 | 3. 0 | 8 | 3. 12 | 8 | 3. 28 | 8 | 3. 42 | 8 | 3. 56 | 8 | 4. 10 | 8 | 4. 20 | 8 |
| 2. 18 | 8 | 3. 1 | 8 | 3. 14 | 8 | 3. 30 | 8 | 3. 44 | 8 | 3. 58 | 8 | 4. 12 | 8 | 4. 22 | 8 |
| 2. 19 | 8 | 3. 3 | 8 | 3. 16 | 8 | 3. 32 | 8 | 3. 46 | 8 | 4. 0 | 8 | 4. 14 | 8 | 4. 24 | 8 |
| 2. 20 | 8 | 3. 5 | 8 | 3. 18 | 8 | 3. 34 | 8 | 3. 48 | 8 | 4. 2 | 8 | 4. 16 | 8 | 4. 26 | 8 |
| 2. 21 | 8 | 3. 7 | 8 | 3. 20 | 8 | 3. 36 | 8 | 3. 50 | 8 | 4. 4 | 8 | 4. 18 | 8 | 4. 28 | 8 |
| 2. 22 | 8 | 3. 8 | 8 | 3. 22 | 8 | 3. 38 | 8 | 3. 52 | 8 | 4. 6 | 8 | 4. 20 | 8 | 4. 30 | 8 |
| 2. 23 | 8 | 3. 10 | 8 | 3. 24 | 8 | 3. 40 | 8 | 3. 54 | 8 | 4. 8 | 8 | 4. 22 | 8 | 4. 32 | 8 |
| 2. 24 | 8 | 3. 12 | 8 | 3. 26 | 8 | 3. 42 | 8 | 3. 56 | 8 | 4. 10 | 8 | 4. 24 | 8 | 4. 34 | 8 |
| 2. 25 | 8 | 3. 14 | 8 | 3. 28 | 8 | 3. 44 | 8 | 3. 58 | 8 | 4. 12 | 8 | 4. 26 | 8 | 4. 36 | 8 |
| 2. 26 | 8 | 3. 16 | 8 | 3. 30 | 8 | 3. 46 | 8 | 4. 0 | 8 | 4. 14 | 8 | 4. 28 | 8 | 4. 38 | 8 |
| 2. 27 | 8 | 3. 18 | 8 | 3. 32 | 8 | 3. 48 | 8 | 4. 2 | 8 | 4. 16 | 8 | 4. 30 | 8 | 4. 40 | 8 |
| 2. 28 | 8 | 3. 20 | 8 | 3. 34 | 8 | 3. 50 | 8 | 4. 4 | 8 | 4. 18 | 8 | 4. 32 | 8 | 4. 42 | 8 |
| 2. 29 | 8 | 3. 22 | 8 | 3. 36 | 8 | 3. 52 | 8 | 4. 6 | 8 | 4. 20 | 8 | 4. 34 | 8 | 4. 44 | 8 |
| 2. 30 | 8 | 3. 24 | 8 | 3. 38 | 8 | 3. 54 | 8 | 4. 8 | 8 | 4. 22 | 8 | 4. 36 | 8 | 4. 46 | 8 |
| 2. 31 | 8 | 3. 26 | 8 | 3. 40 | 8 | 3. 56 | 8 | 4. 10 | 8 | 4. 24 | 8 | 4. 38 | 8 | 4. 48 | 8 |
| 2. 32 | 8 | 3. 28 | 8 | 3. 42 | 8 | 3. 58 | 8 | 4. 12 | 8 | 4. 26 | 8 | 4. 40 | 8 | 4. 50 | 8 |
| 2. 33 | 8 | 3. 30 | 8 | 3. 44 | 8 | 4. 0 | 8 | 4. 14 | 8 | 4. 28 | 8 | 4. 42 | 8 | 4. 52 | 8 |
| 2. 34 | 8 | 3. 32 | 8 | 3. 46 | 8 | 4. 2 | 8 | 4. 16 | 8 | 4. 30 | 8 | 4. 44 | 8 | 4. 54 | 8 |
| 2. 35 | 8 | 3. 34 | 8 | 3. 48 | 8 | 4. 4 | 8 | 4. 18 | 8 | 4. 32 | 8 | 4. 46 | 8 | 4. 56 | 8 |
| 2. 36 | 8 | 3. 36 | 8 | 3. 50 | 8 | 4. 6 | 8 | 4. 20 | 8 | 4. 34 | 8 | 4. 48 | 8 | 4. 58 | 8 |
| 2. 37 | 8 | 3. 38 | 8 | 3. 52 | 8 | 4. 8 | 8 | 4. 22 | 8 | 4. 36 | 8 | 4. 50 | 8 | 5. 0 | 8 |
| 2. 38 | 8 | 3. 40 | 8 | 3. 54 | 8 | 4. 10 | 8 | 4. 24 | 8 | 4. 38 | 8 | 4. 52 | 8 | 5. 2 | 8 |
| 2. 39 | 8 | 3. 42 | 8 | 3. 56 | 8 | 4. 12 | 8 | 4. 26 | 8 | 4. 40 | 8 | 4. 54 | 8 | 5. 4 | 8 |
| 2. 40 | 8 | 3. 44 | 8 | 3. 58 | 8 | 4. 14 | 8 | 4. 28 | 8 | 4. 42 | 8 | 4. 56 | 8 | 5. 6 | 8 |
| 2. 41 | 8 | 3. 46 | 8 | 4. 0 | 8 | 4. 16 | 8 | 4. 30 | 8 | 4. 44 | 8 | 4. 58 | 8 | 5. 8 | 8 |
| 2. 42 | 8 | 3. 48 | 8 | 4. 2 | 8 | 4. 18 | 8 | 4. 32 | 8 | 4. 46 | 8 | 5. 0 | 8 | 5. 10 | 8 |
| 2. 43 | 8 | 3. 50 | 8 | 4. 4 | 8 | 4. 20 | 8 | 4. 34 | 8 | 4. 48 | 8 | 5. 2 | 8 | 5. 12 | 8 |
| 2. 44 | 8 | 3. 52 | 8 | 4. 6 | 8 | 4. 22 | 8 | 4. 36 | 8 | 4. 50 | 8 | 5. 4 | 8 | 5. 14 | 8 |
| 2. 45 | 8 | 3. 54 | 8 | 4. 8 | 8 | 4. 24 | 8 | 4. 38 | 8 | 4. 52 | 8 | 5. 6 | 8 | 5. 16 | 8 |
| 2. 46 | 8 | 3. 56 | 8 | 4. 10 | 8 | 4. 26 | 8 | 4. 40 | 8 | 4. 54 | 8 | 5. 8 | 8 | 5. 18 | 8 |
| 2. 47 | 8 | 3. 58 | 8 | 4. 12 | 8 | 4. 28 | 8 | 4. 42 | 8 | 4. 56 | 8 | 5. 10 | 8 | 5. 20 | 8 |
| 2. 48 | 8 | 4. 0 | 8 | 4. 14 | 8 | 4. 30 | 8 | 4. 44 | 8 | 4. 58 | 8 | 5. 12 | 8 | 5. 22 | 8 |
| 2. 49 | 8 | 4. 2 | 8 | 4. 16 | 8 | 4. 32 | 8 | 4. 46 | 8 | 5. 0 | 8 | 5. 14 | 8 | 5. 24 | 8 |
| 2. 50 | 8 | 4. 4 | 8 | 4. 18 | 8 | 4. 34 | 8 | 4. 48 | 8 | 5. 2 | 8 | 5. 16 | 8 | 5. 26 | 8 |
| 2. 51 | 8 | 4. 6 | 8 | 4. 20 | 8 | 4. 36 | 8 | 4. 50 | 8 | 5. 4 | 8 | 5. 18 | 8 | 5. 28 | 8 |
| 2. 52 | 8 | 4. 8 | 8 | 4. 22 | 8 | 4. 38 | 8 | 4. 52 | 8 | 5. 6 | 8 | 5. 20 | 8 | 5. 30 | 8 |
| 2. 53 | 8 | 4. 10 | 8 | 4. 24 | 8 | 4. 40 | 8 | 4. 54 | 8 | 5. 8 | 8 | 5. 22 | 8 | 5. 32 | 8 |
| 2. 54 | 8 | 4. 12 | 8 | 4. 26 | 8 | 4. 42 | 8 | 4. 56 | 8 | 5. 10 | 8 | 5. 24 | 8 | 5. 34 | 8 |
| 2. 55 | 8 | 4. 14 | 8 | 4. 28 | 8 | 4. 44 | 8 | 4. 58 | 8 | 5. 12 | 8 | 5. 26 | 8 | 5. 36 | 8 |
| 2. 56 | 8 | 4. 16 | 8 | 4. 30 | 8 | 4. 46 | 8 | 5. 0 | 8 | 5. 14 | 8 | 5. 28 | 8 | 5. 38 | 8 |
| 2. 57 | 8 | 4. 18 | 8 | 4. 32 | 8 | 4. 48 | 8 | 5. 2 | 8 | 5. 16 | 8 | 5. 30 | 8 | 5. 40 | 8 |
| 2. 58 | 8 | 4. 20 | 8 | 4. 34 | 8 | 4. 50 | 8 | 5. 4 | 8 | 5. 18 | 8 | 5. 32 | 8 | 5. 42 | 8 |
| 2. 59 | 8 | 4. 22 | 8 | 4. 36 | 8 | 4. 52 | 8 | 5. 6 | 8 | 5. 20 | 8 | 5. 34 | 8 | 5. 44 | 8 |
| 3. 0 | 8 | 4. 24 | 8 | 4. 38 | 8 | 4. 54 | 8 | 5. 8 | 8 | 5. 22 | 8 | 5. 36 | 8 | 5. 46 | 8 |
| 3. 1 | 8 | 4. 26 | 8 | 4. 40 | 8 | 4. 56 | 8 | 5. 10 | 8 | 5. 24 | 8 | 5. 38 | 8 | 5. 48 | 8 |
| 3. 2 | 8 | 4. 28 | 8 | 4. 42 | 8 | 4. 58 | 8 | 5. 12 | 8 | 5. 26 | 8 | 5. 40 | 8 | 5. 50 | 8 |
| 3. 3 | 8 | 4. 30 | 8 | 4. 44 | 8 | 5. 0 | 8 | 5. 14 | 8 | 5. 28 | 8 | 5. 42 | 8 | 5. 52 | 8 |
| 3. 4 | 8 | 4. 32 | 8 | 4. 46 | 8 | 5. 2 | 8 | 5. 16 | 8 | 5. 30 | 8 | 5. 44 | 8 | 5. 54 | 8 |
| 3. 5 | 8 | 4. 34 | 8 | 4. 48 | 8 | 5. 4 | 8 | 5. 18 | 8 | 5. 32 | 8 | 5. 46 | 8 | 5. 56 | 8 |
| 3. 6 | 8 | 4. 36 | 8 | 4. 50 | 8 | 5. 6 | 8 | 5. 20 | 8 | 5. 34 | 8 | 5. 48 | 8 | 5. 58 | 8 |
| 3. 7 | 8 | 4. 38 | 8 | 4. 52 | 8 | 5. 8 | 8 | 5. 22 | 8 | 5. 36 | 8 | 5. 50 | 8 | 6. 0 | 8 |
| 3. 8 | 8 | 4. 40 | 8 | 4. 54 | 8 | 5. 10 | 8 | 5. 24 | 8 | 5. 38 | 8 | 5. 52 | 8 | 6. 2 | 8 |
| 3. 9 | 8 | 4. 42 | 8 | 4. 56 | 8 | 5. 12 | 8 | 5. 26 | 8 | 5. 40 | 8 | 5. 54 | 8 | 6. 4 | 8 |
| 3. 10 | 8 | 4. 44 | 8 | 4. 58 | 8 | 5. 14 | 8 | 5. 28 | 8 | 5. 42 | 8 | 5. 56 | 8 | 6. 6 | 8 |
| 3. 11 | 8 | 4. 46 | 8 | 5. 0 | 8 | 5. 16 | 8 | 5. 30 | 8 | 5. 44 | 8 | 5. 58 | 8 | 6. 8 | 8 |
| 3. 12 | 8 | 4. 48 | 8 | 5. 2 | 8 | 5. 18 | 8 | 5. 32 | 8 | 5. 46 | 8 | 6. 0 | 8 | 6. 10 | 8 |
| 3. 13 | 8 | 4. 50 | 8 | 5. 4 | 8 | 5. 20 | 8 | 5. 34 | 8 | 5. 48 | 8 | 6. 2 | 8 | 6. 12 | 8 |
| 3. 14 | 8 | 4. 52 | 8 | 5. 6 | 8 | 5. 22 | 8 | 5. 36 | 8 | 5. 50 | 8 | 6. 4 | 8 | 6. 14 | 8 |
| 3. 15 | 8 | 4. 54 | 8 | 5. 8 | 8 | 5. 24 | 8 | 5. 38 | 8 | 5. 52 | 8 | 6. 6 | 8 | 6. 16 | 8 |
| 3. 16 | 8 | 4. 56 | 8 | 5. 10 | 8 | 5. 26 | 8 | 5. 40 | 8 | 5. 54 | 8 | 6. 8 | 8 | 6. 18 | 8 |
| 3. 17 | 8 | 4. 58 | 8 | 5. 12 | 8 | 5. 28 | 8 | 5. 42 | 8 | 5. 56 | 8 | 6. 10 | 8 | 6. 20 | 8 |
| 3. 18 | 8 | 5. 0 | 8 | 5. 14 | 8 | 5. 30 | 8 | 5. 44 | 8 | 5. 58 | 8 | 6. 12 | 8 | 6. 22 | 8 |
| 3. 19 | 8 | 5. 2 | 8 | 5. 16 | 8 | 5. 32 | 8 | 5. 46 | 8 | 6. 0 | 8 | 6. 14 | 8 | 6. 24 | 8 |
| 3. 20 | 8 | 5. 4 | 8 | 5. 18 | 8 | 5. 34 | 8 | 5. 48 | 8 | 6. 2 | 8 | 6. 16 | 8 | 6. 26 | 8 |
| 3. 21 | 8 | 5. 6 | 8 | 5. 20 | 8 | 5. 36 | 8 | 5. 50 | 8 | 6. 4 | 8 | 6. 18 | 8 | 6. 28 | 8 |
| 3. 22 | 8 | 5. 8 | 8 | 5. 22 | 8 | 5. 38 | 8 | 5. 52 | 8 | 6. 6 | 8 | 6. 20 | 8 | 6. 30 | 8 |
| 3. 23 | 8 | 5. 10 | 8 | 5. 24 | 8 | 5. 40 | 8 | 5. 54 | 8 | 6. 8 | 8 | 6. 22 | 8 | 6. 32 | 8 |
| 3. 24 | 8 | 5. 12 | 8 | 5. 26 | 8 | 5. 42 | 8 | 5. 56 | 8 | 6. 10 | 8 | 6. 24 | 8 | 6. 34 | 8 |
| 3. 25 | 8 | 5. 14 | 8 | 5. 28 | 8 | 5. 44 | 8 | 5. 58 | 8 | 6. 12 | 8 | 6. 26 | 8 | 6. 36 | 8 |
| 3. 26 | 8 | 5. 16 | 8 | 5. 30 | 8 | 5. 46 | 8 | 6. 0 | 8 | 6. 14 | 8 | 6. 28 | 8 | 6. 38 | 8 |
| 3. 27 | 8 | 5. 18 | 8 | 5. 32 | 8 | 5. 48 | 8 | 6. 2 | 8 | 6. 16 | 8 | 6. 30 | 8 | 6. 40 | 8 |
| 3. 28 | 8 | 5. 20 | 8 | 5. 34 | 8 | 5. 50 | 8 | 6. 4 | 8 | 6. 18 | 8 | 6. 32 | 8 | 6. 42 | 8 |
| 3. 29 | 8 | 5. 22 | 8 | 5. 36 | 8 | 5. 52 | 8 | 6. 6 | 8 | 6. 20 | 8 | 6. 34 | 8 | 6. 44 | 8 |
| 3. 30 | 8 | 5. 24 | 8 | 5. 38 | 8 | 5. 54 | 8 | 6. 8 | 8 | 6. 22 | 8 | 6. 36 | 8 | 6. 46 | 8 |
| 3. 31 | 8 | 5. 26 | 8 | 5. 40 | 8 | 5. 56 | 8 | 6. 10 | 8 | 6. 24 | 8 | 6. 38 | 8 | 6. 48 | 8 |
| 3. 32 | 8 | 5. 28 | 8 | 5. 42 | 8 | 5. 58 | 8 | 6. 12 | 8 | 6. 26 | 8 | 6. 40 | 8 | 6. 50 | 8 |
| 3. 33 | 8 | 5. 30 | 8 | 5. 44 | 8 | 6. 0 | 8 | 6. 14 | 8 | 6. 28 | 8 | 6. 42 | 8 | 6. 52 | 8 |
| 3. 34 | 8 | 5. 32 | 8 | 5. 46 | 8 | 6. 2 | 8 | 6. 16 | 8 | 6. 30 | 8 | 6. 44 | 8 | 6. 54 | 8 |
| 3. 35 | 8 | 5. 34 | 8 | 5. 48 | 8 | 6. 4 | 8 | 6. 18 | 8 | 6. 32 | 8 | 6. 46 | 8 | 6. 56 | 8 |
| 3. 36 | 8 | 5. 36 | 8 | 5. 50 | 8 | 6. 6 | 8 | 6. 20 | 8 | 6. 34 | 8 | 6. 48 | 8 | 6. 58 | 8 |
| 3. 37 | 8 | 5. 38 | 8 | 5. 52 | 8 | 6. 8 | 8 | 6. 22 | 8 | 6. 36 | 8 | 6. 50 | 8 | 7. 0 | 8 |
| 3. 38 | 8 | 5. 40 | 8 | 5. 54 | 8 | 6. 10 | 8 | 6. 24 | 8 | 6. 38 | 8 | 6. 52 | 8 | 7. 2 | 8 |
| 3. 39 | 8 | 5. 42 | 8 | 5. 56 | 8 | 6. 12 | 8 | 6. 26 | 8 | 6. 40 | 8 | 6. 54 | 8 | 7. 4 | 8 |
| 3. 40 | 8 | 5. 44 | 8 | 5. 58 | 8 | 6. 14 | 8 | 6. 28 | 8 | 6. 42 | 8 | 6. 56 | 8 | 7. 6 | 8 |
| 3. 41 | 8 | 5. 46 | 8 | 6. 0 | 8 | 6. 16 | 8 | 6. 30 | 8 | 6. 44 | 8 | 6. 58 | 8 | 7. 8 | 8 |
| 3. 42 | 8 | 5. 48 | 8 | 6. 2 | 8 | 6. 18 | 8 | 6. 32 | 8 | 6. 46 | 8 | 7. 0 | 8 | 7. 10 | 8 |
| 3. 43 | 8 | 5. 50 | 8 | 6. 4 | 8 | 6. 20 | 8 | 6. 34 | 8 | 6. 48 | 8 | 7. 2 | 8 | 7. 12 | 8 |
| 3. 44 | 8 | 5. 52 | 8 | 6. 6 | 8 | 6. 22 | 8 | 6. 36 | 8 | 6. 50 | 8 | 7. 4 | 8 | 7. 14 | 8 |
| 3. 45 | 8 | 5. 54 | 8 | 6. 8 | 8 | 6. 24 | 8 | 6. 38 | 8 | 6. 52 | 8 | 7. 6 | 8 | 7. 16 | 8 |
| 3. 46 | 8 | 5. 56 | 8 | 6. 10 | 8 | 6. 26 | 8 | 6. 40 | 8 | 6. 54 | 8 | 7. 8 | 8 | 7. 18 | 8 |
| 3. 47 | 8 | 5. 58 | 8 | 6. 12 | 8 | 6. 28 | 8 | 6. 42 | 8 | 6. 56 | 8 | 7. 10 | 8 | 7. 20 | 8 |
| 3. 48 | 8 | 6. 0 | 8 | 6. 14 | 8 | 6. 30 | 8 | 6. 44 | 8 | 6. 58 | 8 | 7. 12 | 8 | 7. 22 | 8 |
| 3. 49 | 8 | 6. 2 | 8 | 6. 16 | 8 | 6. 32 | 8 | 6. 46 | 8 | 7. 0 | 8 | 7. 14 | 8 | 7. 24 | 8 |
| 3. 50 | 8 | 6. 4 | 8 | 6. 18 | 8 | 6. 34 | 8 | 6. 48 | 8 | 7

| Proportional parts for Seconds of Interval. additive | | | Interval | Complement of Declination. | | | | | | | | | | | | | | | | | | Proportionals parts for Complement of Declination. additive | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *a* | *c* | *n* | 1h | 66° | D | 67° | D | 68° | D | 69° | D | 70° | D | 71° | D | 72° | D | 73° | D | | 4′ | 8′ | 12′ |
| | | | m | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | | ′ ″ | ′ ″ | ′ ″ |
| 0, 0 | 0, 0 | 0, 0 | 0 | 13. 42 | 6 | 13. 48 | 6 | 13. 54 | 6 | 14. 0 | 5 | 14. 5 | 6 | 14. 11 | 5 | 14. 16 | 5 | 14. 21 | 4 | 1 | 0, 1 | 0, 1 | 0, 2 |
| 0, 3 | 0, 2 | 0, 2 | 1 | 13. 55 | 7 | 14. 2 | 6 | 14. 8 | 6 | 14. 14 | 6 | 14. 20 | 5 | 14. 25 | 5 | 14. 30 | 5 | 14. 35 | 4 | 2 | 0, 1 | 0, 3 | 0, 4 |
| 0, 5 | 0, 5 | 0, 4 | 2 | 14. 9 | 7 | 14. 16 | 6 | 14. 22 | 6 | 14. 28 | 6 | 14. 34 | 5 | 14. 39 | 5 | 14. 44 | 5 | 14. 49 | 5 | 3 | 0, 2 | 0, 4 | 0, 6 |
| 0, 8 | 0, 7 | 0, 7 | 3 | 14. 23 | 6 | 14. 29 | 7 | 14. 36 | 6 | 14. 42 | 6 | 14. 48 | 5 | 14. 53 | 5 | 14. 58 | 5 | 15. 3 | 5 | 4 | 0, 3 | 0, 5 | 0, 8 |
| 1, 0 | 0, 9 | 0, 9 | 4 | 14. 37 | 6 | 14. 43 | 7 | 14. 50 | 6 | 14. 56 | 6 | 15. 2 | 5 | 15. 7 | 6 | 15. 13 | 5 | 15. 18 | 5 | 5 | 0, 3 | 0, 7 | 1, 0 |
| 1, 3 | 1, 2 | 1, 1 | 5 | 14. 50 | 7 | 14. 57 | 7 | 15. 4 | 6 | 15. 10 | 6 | 15. 16 | 5 | 15. 21 | 6 | 15. 27 | 5 | 15. 32 | 5 | 6 | 0, 4 | 0, 8 | 1, 2 |
| 1, 5 | 1, 4 | 1, 3 | 6 | 15. 4 | 7 | 15. 11 | 6 | 15. 17 | 7 | 15. 24 | 6 | 15. 30 | 5 | 15. 35 | 6 | 15. 41 | 5 | 15. 46 | 5 | 7 | 0, 5 | 0, 9 | 1, 4 |
| 1, 8 | 1, 6 | 1, 5 | 7 | 15. 18 | 7 | 15. 25 | 6 | 15. 31 | 7 | 15. 38 | 6 | 15. 44 | 6 | 15. 50 | 5 | 15. 55 | 6 | 16. 1 | 5 | 8 | 0, 5 | 1, 1 | 1, 6 |
| 2, 0 | 1, 9 | 1, 7 | 8 | 15. 31 | 7 | 15. 38 | 7 | 15. 45 | 7 | 15. 52 | 6 | 15. 58 | 6 | 16. 4 | 6 | 16. 10 | 5 | 16. 15 | 6 | 9 | 0, 6 | 1, 2 | 1, 8 |
| 2, 3 | 2, 1 | 2, 0 | 9 | 15. 45 | 7 | 15. 52 | 7 | 15. 59 | 7 | 16. 6 | 6 | 16. 12 | 6 | 16. 18 | 6 | 16. 24 | 6 | 16. 29 | 5 | 10 | 0, 7 | 1, 3 | 2, 0 |
| 2, 5 | 2, 3 | 2, 2 | 10 | 15. 59 | 7 | 16. 6 | 7 | 16. 13 | 7 | 16. 20 | 6 | 16. 26 | 6 | 16. 32 | 6 | 16. 38 | 6 | 16. 44 | 5 | 20 | 1, 3 | 2, 7 | 4, 0 |
| 2, 8 | 2, 6 | 2, 4 | 11 | 16. 12 | 8 | 16. 20 | 7 | 16. 27 | 7 | 16. 34 | 6 | 16. 40 | 7 | 16. 47 | 5 | 16. 52 | 6 | 16. 58 | 5 | 30 | 2, 0 | 4, 0 | 6, 0 |
| 3, 0 | 2, 8 | 2, 6 | 12 | 16. 26 | 8 | 16. 34 | 7 | 16. 41 | 7 | 16. 48 | 6 | 16. 54 | 7 | 17. 1 | 6 | 17. 7 | 5 | 17. 12 | 6 | 40 | 2, 7 | 5, 3 | 8, 0 |
| 3, 3 | 3, 0 | 2, 8 | 13 | 16. 40 | 7 | 16. 47 | 8 | 16. 55 | 7 | 17. 2 | 6 | 17. 8 | 7 | 17. 15 | 6 | 17. 21 | 6 | 17. 27 | 5 | 50 | 3, 3 | 6, 7 | 10, 0 |
| 3, 5 | 3, 3 | 3, 0 | 14 | 16. 53 | 8 | 17. 1 | 8 | 17. 9 | 7 | 17. 16 | 7 | 17. 23 | 6 | 17. 29 | 6 | 17. 35 | 6 | 17. 41 | 6 | | 5 | 9 | 13 |
| 3, 8 | 3, 5 | 3, 3 | 15 | 17. 7 | 8 | 17. 15 | 7 | 17. 22 | 8 | 17. 30 | 7 | 17. 37 | 6 | 17. 43 | 6 | 17. 49 | 6 | 17. 55 | 6 | 1 | 0, 1 | 0, 2 | 0, 3 |
| 4, 0 | 3, 7 | 3, 5 | 16 | 17. 21 | 8 | 17. 29 | 7 | 17. 36 | 8 | 17. 44 | 7 | 17. 51 | 6 | 17. 57 | 7 | 18. 4 | 6 | 18. 10 | 5 | 2 | 0, 2 | 0, 3 | 0, 5 |
| 4, 3 | 4, 0 | 3, 7 | 17 | 17. 34 | 8 | 17. 42 | 8 | 17. 50 | 8 | 17. 58 | 7 | 18. 5 | 6 | 18. 11 | 7 | 18. 18 | 6 | 18. 24 | 6 | 3 | 0, 3 | 0, 5 | 0, 7 |
| 4, 5 | 4, 2 | 3, 9 | 18 | 17. 48 | 8 | 17. 56 | 8 | 18. 4 | 8 | 18. 12 | 7 | 18. 19 | 7 | 18. 26 | 6 | 18. 32 | 6 | 18. 38 | 6 | 4 | 0, 3 | 0, 6 | 0, 9 |
| 4, 8 | 4, 4 | 4, 1 | 19 | 18. 2 | 8 | 18. 9 | 8 | 18. 18 | 8 | 18. 26 | 7 | 18. 33 | 7 | 18. 40 | 6 | 18. 46 | 7 | 18. 53 | 6 | 5 | 0, 4 | 0, 8 | 1, 1 |
| 5, 0 | 4, 7 | 4, 3 | 20 | 18. 15 | 8 | 18. 24 | 8 | 18. 32 | 8 | 18. 40 | 7 | 18. 47 | 7 | 18. 54 | 7 | 19. 1 | 6 | 19. 7 | 6 | 6 | 0, 5 | 0, 9 | 1, 3 |
| 5, 3 | 4, 9 | 4, 6 | 21 | 18. 29 | 8 | 18. 37 | 9 | 18. 46 | 8 | 18. 54 | 7 | 19. 1 | 7 | 19. 8 | 7 | 19. 15 | 6 | 19. 21 | 6 | 7 | 0, 6 | 1, 1 | 1, 5 |
| 5, 5 | 5, 1 | 4, 8 | 22 | 18. 43 | 8 | 18. 51 | 9 | 19. 0 | 8 | 19. 8 | 7 | 19. 15 | 7 | 19. 22 | 7 | 19. 29 | 6 | 19. 36 | 6 | 8 | 0, 7 | 1, 2 | 1, 7 |
| 5, 8 | 5, 4 | 5, 0 | 23 | 18. 56 | 9 | 19. 5 | 8 | 19. 13 | 8 | 19. 21 | 8 | 19. 29 | 7 | 19. 36 | 7 | 19. 43 | 7 | 19. 50 | 6 | 9 | 0, 8 | 1, 4 | 2, 0 |
| 6, 0 | 5, 6 | 5, 2 | 24 | 19. 10 | 9 | 19. 19 | 8 | 19. 27 | 8 | 19. 35 | 8 | 19. 43 | 8 | 19. 51 | 7 | 19. 58 | 7 | 20. 4 | 6 | 10 | 0, 8 | 1, 5 | 2, 3 |
| 6, 3 | 5, 8 | 5, 4 | 25 | 19. 24 | 9 | 19. 33 | 8 | 19. 41 | 8 | 19. 49 | 8 | 19. 57 | 8 | 20. 5 | 7 | 20. 12 | 7 | 20. 19 | 6 | 20 | 1, 7 | 3, 0 | 4, 5 |
| 6, 5 | 6, 1 | 5, 6 | 26 | 19. 37 | 9 | 19. 46 | 9 | 19. 55 | 8 | 20. 3 | 8 | 20. 11 | 8 | 20. 19 | 7 | 20. 26 | 7 | 20. 33 | 7 | 30 | 2, 5 | 4, 5 | 6, 8 |
| 6, 8 | 6, 3 | 5, 9 | 27 | 19. 51 | 9 | 20. 0 | 9 | 20. 9 | 8 | 20. 17 | 8 | 20. 25 | 8 | 20. 33 | 7 | 20. 40 | 7 | 20. 47 | 7 | 40 | 3, 3 | 6, 0 | 9, 0 |
| 7, 0 | 6, 5 | 6, 1 | 28 | 20. 5 | 9 | 20. 14 | 9 | 20. 23 | 8 | 20. 31 | 8 | 20. 39 | 8 | 20. 47 | 8 | 20. 55 | 7 | 21. 2 | 6 | 50 | 4, 2 | 7, 5 | 10, 8 |
| 7, 3 | 6, 8 | 6, 3 | 29 | 20. 18 | 10 | 20. 28 | 9 | 20. 37 | 8 | 20. 45 | 9 | 20. 54 | 7 | 21. 1 | 8 | 21. 9 | 7 | 21. 16 | 7 | | 6′ | 10′ | 14′ |
| 7, 5 | 7, 0 | 6, 5 | 30 | 20. 32 | 10 | 20. 41 | 10 | 20. 51 | 9 | 21. 0 | 9 | 21. 8 | 8 | 21. 16 | 7 | 21. 23 | 7 | 21. 30 | 7 | | | | |
| 7, 8 | 7, 2 | 6, 7 | 31 | 20. 46 | 10 | 20. 55 | 10 | 21. 4 | 9 | 21. 13 | 9 | 21. 22 | 8 | 21. 30 | 7 | 21. 37 | 8 | 21. 45 | 7 | 1 | 0, 1 | 0, 1 | 0, 2 |
| 8, 0 | 7, 5 | 6, 9 | 32 | 20. 59 | 10 | 21. 9 | 10 | 21. 18 | 9 | 21. 27 | 9 | 21. 36 | 8 | 21. 44 | 8 | 21. 52 | 7 | 21. 59 | 7 | 2 | 0, 2 | 0, 3 | 0, 5 |
| 8, 3 | 7, 7 | 7, 2 | 33 | 21. 13 | 10 | 21. 23 | 10 | 21. 32 | 9 | 21. 41 | 9 | 21. 50 | 8 | 21. 58 | 8 | 22. 6 | 7 | 22. 13 | 7 | 3 | 0, 3 | 0, 5 | 0, 8 |
| 8, 5 | 7, 9 | 7, 4 | 34 | 21. 27 | 10 | 21. 36 | 10 | 21. 46 | 9 | 21. 55 | 9 | 22. 4 | 8 | 22. 12 | 8 | 22. 20 | 7 | 22. 27 | 8 | 4 | 0, 4 | 0, 7 | 1, 0 |
| 8, 8 | 8, 2 | 7, 6 | 35 | 21. 40 | 10 | 21. 50 | 10 | 22. 0 | 9 | 22. 9 | 9 | 22. 18 | 8 | 22. 26 | 8 | 22. 34 | 8 | 22. 42 | 7 | 5 | 0, 5 | 0, 8 | 1, 2 |
| 9, 0 | 8, 4 | 7, 8 | 36 | 21. 54 | 10 | 22. 4 | 10 | 22. 14 | 9 | 22. 23 | 9 | 22. 32 | 8 | 22. 40 | 8 | 22. 49 | 8 | 22. 56 | 8 | 6 | 0, 6 | 1, 0 | 1, 7 |
| 9, 3 | 8, 6 | 8, 0 | 37 | 22. 8 | 10 | 22. 18 | 10 | 22. 28 | 9 | 22. 37 | 9 | 22. 46 | 9 | 22. 55 | 8 | 23. 3 | 8 | 23. 10 | 8 | 7 | 0, 7 | 1, 2 | 1, 9 |
| 9, 5 | 8, 9 | 8, 2 | 38 | 22. 21 | 10 | 22. 31 | 10 | 22. 41 | 10 | 22. 51 | 9 | 23. 0 | 9 | 23. 9 | 8 | 23. 17 | 8 | 23. 25 | 7 | 8 | 0, 8 | 1, 3 | 2, 1 |
| 9, 8 | 9, 1 | 8, 5 | 39 | 22. 35 | 10 | 22. 45 | 10 | 22. 55 | 10 | 23. 5 | 9 | 23. 14 | 9 | 23. 23 | 8 | 23. 31 | 8 | 23. 39 | 8 | 9 | 0, 9 | 1, 5 | 2, 4 |
| 10, 0 | 9, 3 | 8, 7 | 40 | 22. 49 | 10 | 22. 59 | 10 | 23. 9 | 10 | 23. 19 | 9 | 23. 28 | 9 | 23. 37 | 8 | 23. 45 | 8 | 23. 53 | 8 | 10 | 1, 0 | 1, 7 | 2, 8 |
| 10, 3 | 9, 6 | 8, 9 | 41 | 23. 3 | 10 | 23. 13 | 10 | 23. 23 | 10 | 23. 33 | 9 | 23. 42 | 9 | 23. 51 | 9 | 24. 0 | 8 | 24. 8 | 8 | 20 | 2, 0 | 3, 5 | 5, 7 |
| 10, 5 | 9, 8 | 9, 1 | 42 | 23. 16 | 11 | 23. 26 | 11 | 23. 37 | 10 | 23. 47 | 9 | 23. 56 | 9 | 24. 5 | 9 | 24. 14 | 8 | 24. 22 | 8 | 30 | 3, 0 | 5, 2 | 8, 5 |
| 10, 8 | 10, 0 | 9, 3 | 43 | 23. 29 | 11 | 23. 40 | 11 | 23. 51 | 10 | 24. 1 | 9 | 24. 10 | 9 | 24. 19 | 8 | 24. 28 | 8 | 24. 36 | 8 | 40 | 4, 0 | 6, 10 | 11, 3 |
| 11, 0 | 10, 3 | 9, 5 | 44 | 23. 43 | 11 | 23. 54 | 11 | 24. 5 | 10 | 24. 15 | 9 | 24. 24 | 10 | 24. 34 | 8 | 24. 42 | 9 | 24. 51 | 8 | 50 | 5, 0 | 8, 3 | 13, 11 |
| 11, 3 | 10, 5 | 9, 8 | 45 | 23. 57 | 11 | 24. 8 | 10 | 24. 18 | 11 | 24. 29 | 9 | 24. 38 | 10 | 24. 48 | 9 | 24. 57 | 8 | 25. 5 | 8 | | 7′ | 11′ | 15′ |
| 11, 5 | 10, 7 | 10, 0 | 46 | 24. 10 | 12 | 24. 22 | 10 | 24. 32 | 11 | 24. 43 | 10 | 24. 53 | 9 | 25. 2 | 9 | 25. 11 | 8 | 25. 19 | 8 | | | | |
| 11, 8 | 11, 0 | 10, 3 | 47 | 24. 24 | 12 | 24. 35 | 11 | 24. 46 | 11 | 24. 57 | 10 | 25. 7 | 9 | 25. 16 | 9 | 25. 25 | 8 | 25. 34 | 8 | 1 | 0, 1 | 0, 2 | 0, 2 |
| 12, 0 | 11, 2 | 10, 5 | 48 | 24. 38 | 12 | 24. 49 | 11 | 25. 0 | 11 | 25. 11 | 10 | 25. 21 | 9 | 25. 30 | 9 | 25. 39 | 8 | 25. 48 | 8 | 2 | 0, 2 | 0, 3 | 0, 5 |
| 12, 3 | 11, 4 | 10, 7 | 49 | 24. 51 | 12 | 25. 3 | 11 | 25. 14 | 11 | 25. 25 | 10 | 25. 35 | 9 | 25. 44 | 10 | 25. 54 | 8 | 26. 2 | 8 | 3 | 0, 4 | 0, 6 | 0, 7 |
| 12, 5 | 11, 7 | 10, 9 | 50 | 25. 5 | 12 | 25. 17 | 11 | 25. 28 | 10 | 25. 38 | 11 | 25. 49 | 9 | 25. 58 | 10 | 26. 8 | 9 | 26. 17 | 8 | 4 | 0, 5 | 0, 7 | 1, 0 |
| 12, 8 | 11, 9 | 11, 1 | 51 | 25. 19 | 11 | 25. 30 | 12 | 25. 42 | 10 | 25. 52 | 11 | 26. 3 | 10 | 26. 13 | 9 | 26. 22 | 9 | 26. 31 | 8 | 5 | | | |
| 13, 0 | 12, 1 | 11, 3 | 52 | 25. 32 | 12 | 25. 44 | 11 | 25. 55 | 11 | 26. 6 | 11 | 26. 17 | 10 | 26. 27 | 9 | 26. 36 | 9 | 26. 45 | 9 | 6 | | | |
| 13, 3 | 12, 4 | 11, 5 | 53 | 25. 46 | 12 | 25. 58 | 11 | 26. 9 | 11 | 26. 20 | 11 | 26. 31 | 10 | 26. 41 | 9 | 26. 50 | 9 | 26. 59 | 9 | 7 | | | |
| 13, 5 | 12, 6 | 11, 7 | 54 | 25. 50 | 11 | 26. 11 | 12 | 26. 23 | 11 | 26. 34 | 11 | 26. 45 | 10 | 26. 55 | 10 | 27. 5 | 9 | 27. 14 | 8 | 8 | | | |
| 13, 8 | 12, 8 | 11, 9 | 55 | 26. 13 | 12 | 26. 25 | 12 | 26. 37 | 11 | 26. 48 | 11 | 26. 59 | 10 | 27. 9 | 10 | 27. 19 | 9 | 27. 28 | 9 | 9 | 1, 1 | 1, 7 | 2, 5 |
| 14, 0 | 13, 1 | 12, 1 | 56 | 26. 27 | 13 | 26. 39 | 12 | 26. 51 | 11 | 27. 2 | 11 | 27. 13 | 10 | 27. 23 | 10 | 27. 33 | 9 | 27. 42 | 9 | 10 | 1, 3 | 2, 2 | 3, 2 |
| 14, 3 | 13, 3 | 12, 4 | 57 | 26. 40 | 13 | 26. 53 | 12 | 27. 5 | 11 | 27. 16 | 11 | 27. 27 | 10 | 27. 37 | 10 | 27. 47 | 10 | 27. 57 | 9 | 20 | 2, 6 | 4, 5 | 6, 5 |
| 14, 5 | 13, 5 | 12, 6 | 58 | 26. 54 | 13 | 27. 7 | 12 | 27. 19 | 11 | 27. 30 | 11 | 27. 41 | 10 | 27. 51 | 10 | 28. 2 | 9 | 28. 11 | 9 | 30 | 4, 0 | 6, 7 | 9, 7 |
| 14, 8 | 13, 8 | 12, 8 | 59 | 27. 7 | 13 | 27. 20 | 12 | 27. 32 | 12 | 27. 44 | 11 | 27. 55 | 11 | 28. 6 | 10 | 28. 16 | 9 | 28. 25 | 9 | 40 | 5, 3 | 8, 9 | 12, 10 |
| | | | | | | | | | | | | | | | | | | | | 50 | 6, 7 | 11, 2 | 16, 0 |

Proportional parts for seconds of Interval.

| d | c | n |
|---|---|---|
| 0 | 0.0 | 0.0 |
| 1 | 0.1 | 0.1 |
| 2 | 0.1 | 0.1 |
| 3 | 0.2 | 0.2 |
| 4 | 0.3 | 0.3 |
| 5 | 0.3 | 0.4 |
| 6 | 0.4 | 0.5 |
| 7 | 0.5 | 0.6 |
| 8 | 0.5 | 0.7 |
| 9 | 0.6 | 0.8 |
| 10 | 0.7 | 0.9 |
| 11 | 0.7 | 1.0 |
| 12 | 0.8 | 1.1 |
| 13 | 0.9 | 1.2 |
| 14 | 0.9 | 1.3 |
| 15 | 1.0 | 1.4 |
| 16 | 1.1 | 1.5 |
| 17 | 1.1 | 1.6 |
| 18 | 1.2 | 1.7 |
| 19 | 1.3 | 1.8 |
| 20 | 1.3 | 1.9 |
| 21 | 1.4 | 2.0 |
| 22 | 1.5 | 2.1 |
| 23 | 1.5 | 2.2 |
| 24 | 1.6 | 2.3 |
| 25 | 1.7 | 2.4 |
| 26 | 1.7 | 2.5 |
| 27 | 1.8 | 2.6 |
| 28 | 1.9 | 2.7 |
| 29 | 1.9 | 2.8 |
| 30 | 2.0 | 2.9 |
| 31 | 2.1 | 3.0 |
| 32 | 2.1 | 3.1 |
| 33 | 2.2 | 3.2 |
| 34 | 2.3 | 3.3 |
| 35 | 2.3 | 3.4 |
| 36 | 2.4 | 3.5 |
| 37 | 2.5 | 3.6 |
| 38 | 2.5 | 3.7 |
| 39 | 2.6 | 3.8 |
| 40 | 2.7 | 3.9 |
| 41 | 2.7 | 4.0 |
| 42 | 2.8 | 4.1 |
| 43 | 2.9 | 4.2 |
| 44 | 2.9 | 4.3 |
| 45 | 3.0 | 4.4 |
| 46 | 3.1 | 4.5 |
| 47 | 3.1 | 4.6 |
| 48 | 3.2 | 4.7 |
| 49 | 3.3 | 4.8 |
| 50 | 3.3 | 4.9 |
| 51 | 3.4 | 5.0 |
| 52 | 3.5 | 5.1 |
| 53 | 3.5 | 5.2 |
| 54 | 3.6 | 5.3 |
| 55 | 3.7 | 5.4 |
| 56 | 3.7 | 5.5 |
| 57 | 3.8 | 5.6 |
| 58 | 3.9 | 5.7 |
| 59 | 3.9 | 5.8 |

Declination.

| h | 16° | D | 17° | D | 18° | D | 19° | D | 20° | D | 21° | D | 22° | D | 23° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | | | | | | | | | | | | | | | | |
| 0 | 2. 5 | 7 | 2. 12 | 8 | 2. 20 | 7 | 2. 27 | 8 | 2. 35 | 7 | 2. 42 | 7 | 2. 49 | 8 | 2. 57 | 7 |
| 1 | 2. 7 | 7 | 2. 14 | 8 | 2. 22 | 8 | 2. 30 | 7 | 2. 37 | 8 | 2. 45 | 7 | 2. 52 | 8 | 3. 0 | 7 |
| 2 | 2. 9 | 7 | 2. 16 | 8 | 2. 24 | 8 | 2. 32 | 8 | 2. 40 | 8 | 2. 48 | 7 | 2. 55 | 8 | 3. 3 | 7 |
| 3 | 2. 11 | 8 | 2. 19 | 8 | 2. 27 | 8 | 2. 35 | 8 | 2. 43 | 7 | 2. 50 | 8 | 2. 58 | 8 | 3. 6 | 7 |
| 4 | 2. 13 | 8 | 2. 21 | 8 | 2. 29 | 8 | 2. 37 | 8 | 2. 45 | 8 | 2. 53 | 8 | 3. 1 | 8 | 3. 9 | 7 |
| 5 | 2. 15 | 8 | 2. 23 | 9 | 2. 32 | 7 | 2. 39 | 9 | 2. 48 | 8 | 2. 56 | 8 | 3. 4 | 8 | 3. 12 | 7 |
| 6 | 2. 17 | 9 | 2. 26 | 8 | 2. 34 | 8 | 2. 42 | 8 | 2. 50 | 8 | 2. 58 | 9 | 3. 7 | 8 | 3. 15 | 7 |
| 7 | 2. 19 | 9 | 2. 28 | 8 | 2. 36 | 9 | 2. 45 | 8 | 2. 53 | 8 | 3. 1 | 8 | 3. 9 | 8 | 3. 18 | 8 |
| 8 | 2. 22 | 8 | 2. 30 | 9 | 2. 39 | 8 | 2. 47 | 9 | 2. 56 | 8 | 3. 4 | 8 | 3. 12 | 8 | 3. 21 | 8 |
| 9 | 2. 24 | 8 | 2. 32 | 9 | 2. 41 | 9 | 2. 50 | 8 | 2. 58 | 9 | 3. 7 | 8 | 3. 15 | 9 | 3. 24 | 8 |
| 10 | 2. 26 | 9 | 2. 34 | 9 | 2. 43 | 9 | 2. 52 | 9 | 3. 1 | 8 | 3. 9 | 9 | 3. 18 | 9 | 3. 26 | 9 |
| 11 | 2. 28 | 9 | 2. 37 | 9 | 2. 46 | 9 | 2. 55 | 8 | 3. 3 | 9 | 3. 12 | 9 | 3. 21 | 8 | 3. 29 | 9 |
| 12 | 2. 30 | 9 | 2. 39 | 9 | 2. 48 | 9 | 2. 57 | 9 | 3. 6 | 9 | 3. 15 | 9 | 3. 24 | 9 | 3. 32 | 9 |
| 13 | 2. 32 | 9 | 2. 41 | 9 | 2. 50 | 10 | 3. 0 | 9 | 3. 9 | 9 | 3. 18 | 9 | 3. 27 | 9 | 3. 35 | 9 |
| 14 | 2. 34 | 10 | 2. 44 | 9 | 2. 53 | 9 | 3. 2 | 9 | 3. 11 | 9 | 3. 20 | 9 | 3. 29 | 9 | 3. 38 | 9 |
| 15 | 2. 36 | 10 | 2. 46 | 9 | 2. 55 | 10 | 3. 5 | 9 | 3. 14 | 9 | 3. 23 | 9 | 3. 32 | 9 | 3. 41 | 10 |
| 16 | 2. 38 | 10 | 2. 48 | 10 | 2. 58 | 9 | 3. 7 | 10 | 3. 17 | 9 | 3. 26 | 9 | 3. 35 | 9 | 3. 44 | 10 |
| 17 | 2. 41 | 9 | 2. 50 | 10 | 3. 0 | 10 | 3. 10 | 9 | 3. 19 | 10 | 3. 29 | 9 | 3. 38 | 9 | 3. 47 | 10 |
| 18 | 2. 43 | 10 | 2. 53 | 9 | 3. 2 | 10 | 3. 12 | 10 | 3. 22 | 9 | 3. 31 | 10 | 3. 41 | 9 | 3. 50 | 10 |
| 19 | 2. 45 | 10 | 2. 55 | 10 | 3. 5 | 10 | 3. 15 | 9 | 3. 24 | 10 | 3. 34 | 10 | 3. 44 | 9 | 3. 53 | 10 |
| 20 | 2. 47 | 10 | 2. 57 | 10 | 3. 7 | 10 | 3. 17 | 10 | 3. 27 | 10 | 3. 37 | 10 | 3. 47 | 9 | 3. 56 | 10 |
| 21 | 2. 49 | 10 | 2. 59 | 11 | 3. 10 | 10 | 3. 20 | 10 | 3. 30 | 10 | 3. 40 | 10 | 3. 50 | 9 | 3. 59 | 10 |
| 22 | 2. 51 | 11 | 3. 2 | 10 | 3. 12 | 10 | 3. 22 | 10 | 3. 32 | 10 | 3. 42 | 11 | 3. 53 | 9 | 4. 2 | 11 |
| 23 | 2. 53 | 11 | 3. 4 | 10 | 3. 14 | 11 | 3. 25 | 10 | 3. 35 | 10 | 3. 45 | 10 | 3. 55 | 11 | 4. 6 | 10 |
| 24 | 2. 55 | 11 | 3. 6 | 11 | 3. 17 | 10 | 3. 27 | 11 | 3. 38 | 10 | 3. 48 | 10 | 3. 58 | 11 | 4. 9 | 10 |
| 25 | 2. 58 | 10 | 3. 8 | 11 | 3. 19 | 11 | 3. 30 | 11 | 3. 40 | 11 | 3. 51 | 10 | 4. 1 | 11 | 4. 12 | 10 |
| 26 | 3. 0 | 11 | 3. 11 | 10 | 3. 21 | 11 | 3. 32 | 11 | 3. 43 | 11 | 3. 54 | 10 | 4. 4 | 11 | 4. 15 | 10 |
| 27 | 3. 2 | 11 | 3. 13 | 11 | 3. 24 | 11 | 3. 35 | 11 | 3. 46 | 10 | 3. 56 | 11 | 4. 7 | 11 | 4. 18 | 10 |
| 28 | 3. 4 | 11 | 3. 15 | 11 | 3. 26 | 11 | 3. 37 | 11 | 3. 48 | 11 | 3. 59 | 11 | 4. 10 | 11 | 4. 21 | 10 |
| 29 | 3. 6 | 11 | 3. 17 | 11 | 3. 28 | 12 | 3. 40 | 11 | 3. 51 | 11 | 4. 2 | 11 | 4. 13 | 11 | 4. 24 | 11 |
| 30 | 3. 8 | 12 | 3. 20 | 11 | 3. 31 | 11 | 3. 42 | 10 | 3. 54 | 11 | 4. 5 | 11 | 4. 16 | 11 | 4. 27 | 11 |
| 31 | 3. 10 | 12 | 3. 22 | 11 | 3. 33 | 12 | 3. 46 | 11 | 3. 56 | 11 | 4. 7 | 12 | 4. 19 | 11 | 4. 30 | 11 |
| 32 | 3. 13 | 11 | 3. 24 | 12 | 3. 36 | 11 | 3. 47 | 12 | 3. 59 | 11 | 4. 10 | 11 | 4. 21 | 12 | 4. 33 | 11 |
| 33 | 3. 15 | 12 | 3. 27 | 11 | 3. 38 | 12 | 3. 50 | 11 | 4. 1 | 12 | 4. 13 | 11 | 4. 24 | 12 | 4. 36 | 11 |
| 34 | 3. 17 | 12 | 3. 29 | 12 | 3. 41 | 11 | 3. 52 | 12 | 4. 4 | 11 | 4. 16 | 11 | 4. 27 | 12 | 4. 39 | 12 |
| 35 | 3. 19 | 12 | 3. 31 | 12 | 3. 43 | 12 | 3. 55 | 12 | 4. 7 | 12 | 4. 19 | 11 | 4. 30 | 12 | 4. 42 | 11 |
| 36 | 3. 21 | 12 | 3. 33 | 12 | 3. 45 | 12 | 3. 58 | 11 | 4. 9 | 12 | 4. 21 | 12 | 4. 33 | 12 | 4. 45 | 12 |
| 37 | 3. 23 | 12 | 3. 36 | 12 | 3. 48 | 12 | 4. 0 | 12 | 4. 12 | 12 | 4. 24 | 12 | 4. 36 | 12 | 4. 48 | 12 |
| 38 | 3. 25 | 12 | 3. 38 | 12 | 3. 50 | 12 | 4. 3 | 12 | 4. 15 | 12 | 4. 27 | 12 | 4. 39 | 12 | 4. 51 | 12 |
| 39 | 3. 28 | 12 | 3. 40 | 13 | 3. 53 | 12 | 4. 5 | 12 | 4. 17 | 13 | 4. 30 | 12 | 4. 42 | 12 | 4. 54 | 12 |
| 40 | 3. 30 | 13 | 3. 43 | 13 | 3. 55 | 13 | 4. 8 | 12 | 4. 20 | 13 | 4. 33 | 12 | 4. 45 | 12 | 4. 57 | 12 |
| 41 | 3. 32 | 13 | 3. 45 | 13 | 3. 58 | 12 | 4. 10 | 13 | 4. 23 | 13 | 4. 35 | 13 | 4. 48 | 12 | 5. 0 | 12 |
| 42 | 3. 34 | 13 | 3. 47 | 13 | 4. 0 | 13 | 4. 13 | 13 | 4. 26 | 13 | 4. 38 | 13 | 4. 51 | 13 | 5. 3 | 13 |
| 43 | 3. 36 | 13 | 3. 49 | 14 | 4. 3 | 12 | 4. 15 | 13 | 4. 28 | 13 | 4. 41 | 13 | 4. 54 | 13 | 5. 6 | 13 |
| 44 | 3. 38 | 14 | 3. 52 | 13 | 4. 5 | 13 | 4. 18 | 13 | 4. 31 | 13 | 4. 44 | 13 | 4. 57 | 13 | 5. 9 | 13 |
| 45 | 3. 41 | 13 | 3. 54 | 13 | 4. 7 | 13 | 4. 20 | 14 | 4. 34 | 13 | 4. 47 | 13 | 5. 0 | 13 | 5. 12 | 13 |
| 46 | 3. 43 | 13 | 3. 56 | 14 | 4. 10 | 13 | 4. 23 | 13 | 4. 36 | 13 | 4. 49 | 13 | 5. 2 | 13 | 5. 15 | 13 |
| 47 | 3. 45 | 14 | 3. 59 | 13 | 4. 12 | 14 | 4. 26 | 13 | 4. 39 | 14 | 4. 52 | 13 | 5. 5 | 14 | 5. 18 | 13 |
| 48 | 3. 47 | 14 | 4. 1 | 14 | 4. 15 | 13 | 4. 28 | 14 | 4. 42 | 13 | 4. 55 | 14 | 5. 8 | 13 | 5. 21 | 14 |
| 49 | 3. 49 | 14 | 4. 3 | 14 | 4. 17 | 14 | 4. 31 | 13 | 4. 44 | 14 | 4. 58 | 13 | 5. 11 | 14 | 5. 25 | 13 |
| 50 | 3. 52 | 14 | 4. 6 | 13 | 4. 19 | 14 | 4. 33 | 14 | 4. 47 | 14 | 5. 1 | 14 | 5. 14 | 14 | 5. 28 | 14 |
| 51 | 3. 54 | 14 | 4. 8 | 14 | 4. 22 | 14 | 4. 36 | 14 | 4. 50 | 14 | 5. 4 | 14 | 5. 17 | 14 | 5. 31 | 14 |
| 52 | 3. 56 | 14 | 4. 10 | 14 | 4. 24 | 14 | 4. 38 | 14 | 4. 52 | 14 | 5. 6 | 14 | 5. 20 | 14 | 5. 34 | 14 |
| 53 | 3. 58 | 14 | 4. 12 | 15 | 4. 27 | 14 | 4. 41 | 14 | 4. 55 | 14 | 5. 9 | 14 | 5. 23 | 14 | 5. 37 | 14 |
| 54 | 4. 0 | 15 | 4. 15 | 14 | 4. 29 | 15 | 4. 44 | 14 | 4. 58 | 14 | 5. 12 | 14 | 5. 26 | 14 | 5. 40 | 14 |
| 55 | 4. 2 | 15 | 4. 17 | 15 | 4. 32 | 14 | 4. 46 | 15 | 5. 1 | 14 | 5. 15 | 14 | 5. 29 | 14 | 5. 43 | 14 |
| 56 | 4. 5 | 14 | 4. 19 | 15 | 4. 34 | 15 | 4. 49 | 14 | 5. 3 | 15 | 5. 18 | 14 | 5. 32 | 14 | 5. 46 | 15 |
| 57 | 4. 7 | 15 | 4. 22 | 15 | 4. 37 | 14 | 4. 51 | 15 | 5. 6 | 15 | 5. 21 | 14 | 5. 35 | 14 | 5. 49 | 15 |
| 58 | 4. 9 | 15 | 4. 24 | 15 | 4. 39 | 15 | 4. 54 | 15 | 5. 9 | 14 | 5. 23 | 15 | 5. 38 | 15 | 5. 52 | 15 |
| 59 | 4. 11 | 15 | 4. 26 | 16 | 4. 42 | 15 | 4. 57 | 14 | 5. 11 | 15 | 5. 26 | 15 | 5. 41 | 14 | 5. 55 | 15 |

Proportional parts for Declination.

| d | 7 | 13 | 18 |
|---|---|---|---|
| 1 | 0. 1 | 0. 2 | 0. 3 |
| 2 | 0. 2 | 0. 3 | 0. 4 |
| 3 | 0. 4 | 0. 6 | 0. 7 |
| 4 | 0. 5 | 0. 7 | 1. 0 |
| 5 | 0. 7 | 1. 0 | 1. 3 |
| 6 | 0. 8 | 1. 2 | 1. 6 |
| 7 | 0. 9 | 1. 3 | 1. 9 |
| 8 | 1. 0 | 1. 5 | 2. 2 |
| 9 | 1. 1 | 1. 7 | 2. 5 |
| 10 | 1. 2 | 1. 8 | 2. 8 |
| 20 | 2. 5 | 3. 7 | 5. 5 |
| 30 | 3. 7 | 5. 5 | 8. 3 |
| 40 | 4. 9 | 7. 3 | 11. 1 |
| 50 | 6. 2 | 9. 2 | 13. 8 |

| d | 10 | 14 | 18 |
|---|---|---|---|
| 1 | 0. 2 | 0. 2 | 0. 3 |
| 2 | 0. 3 | 0. 5 | 0. 7 |
| 3 | 0. 5 | 0. 7 | 0. 9 |
| 4 | 0. 7 | 0. 9 | 1. 2 |
| 5 | 0. 8 | 1. 2 | 1. 5 |
| 6 | 1. 0 | 1. 4 | 1. 8 |
| 7 | 1. 2 | 1. 6 | 2. 1 |
| 8 | 1. 3 | 1. 9 | 2. 4 |
| 9 | 1. 5 | 2. 1 | 2. 7 |
| 10 | 1. 7 | 2. 3 | 3. 0 |
| 20 | 3. 3 | 4. 7 | 6. 0 |
| 30 | 5. 0 | 7. 0 | 9. 0 |
| 40 | 6. 7 | 9. 3 | 12. 0 |
| 50 | 8. 3 | 11. 7 | 15. 0 |

Proportional parts for Seconds of Interval. *additive*

| *a* | *e* | *n* |
|---|---|---|
| ′ | ′ | ′ |
| 0, 2 | 0, 0 | 0, 0 |
| 0, 3 | 0, 2 | 0, 2 |
| 0, 5 | 0, 5 | 0, 4 |
| 0, 8 | 0, 7 | 0, 7 |
| 1, 0 | 0, 9 | 0, 9 |
| 1, 3 | 1, 2 | 1, 1 |
| 1, 5 | 1, 4 | 1, 3 |
| 1, 8 | 1, 6 | 1, 5 |
| 2, 0 | 1, 9 | 1, 7 |
| 2, 3 | 2, 1 | 2, 0 |
| 2, 5 | 2, 3 | 2, 2 |
| 2, 8 | 2, 6 | 2, 4 |
| 3, 0 | 2, 8 | 2, 6 |
| 3, 3 | 3, 0 | 2, 8 |
| 3, 5 | 3, 3 | 3, 0 |
| 3, 8 | 3, 5 | 3, 3 |
| 4, 0 | 3, 7 | 3, 5 |
| 4, 3 | 4, 0 | 3, 7 |
| 4, 5 | 4, 2 | 3, 9 |
| 4, 8 | 4, 4 | 4, 1 |
| 5, 0 | 4, 7 | 4, 3 |
| 5, 3 | 4, 9 | 4, 6 |
| 5, 5 | 5, 1 | 4, 8 |
| 5, 8 | 5, 4 | 5, 0 |
| 6, 0 | 5, 6 | 5, 2 |
| 6, 3 | 5, 8 | 5, 4 |
| 6, 5 | 6, 1 | 5, 6 |
| 6, 8 | 6, 3 | 5, 9 |
| 7, 0 | 6, 5 | 6, 1 |
| 7, 3 | 6, 8 | 6, 3 |
| 7, 5 | 7, 0 | 6, 5 |
| 7, 8 | 7, 2 | 6, 7 |
| 8, 0 | 7, 5 | 6, 9 |
| 8, 3 | 7, 7 | 7, 2 |
| 8, 5 | 7, 9 | 7, 4 |
| 8, 8 | 8, 2 | 7, 6 |
| 9, 0 | 8, 4 | 7, 8 |
| 9, 3 | 8, 6 | 8, 0 |
| 9, 5 | 8, 9 | 8, 2 |
| 9, 8 | 9, 1 | 8, 5 |
| 10, 0 | 9, 3 | 8, 7 |
| 10, 3 | 9, 6 | 8, 9 |
| 10, 5 | 9, 8 | 9, 1 |
| 10, 8 | 10, 0 | 9, 3 |
| 11, 0 | 10, 3 | [illegible] |
| 11, 3 | 10, 5 | [illegible] |
| 11, 5 | 10, 7 | [illegible] |
| 11, 8 | 11, 0 | [illegible] |
| 12, 0 | 11, 2 | [illegible] |
| 12, 3 | 11, 4 | [illegible] |
| 12, 5 | 11, 7 | [illegible] |
| 12, 8 | 11, 9 | [illegible] |
| 13, 0 | 12, 1 | [illegible] |
| 13, 3 | 12, 4 | [illegible] |
| 13, 5 | [illegible] | [illegible] |
| 13, 8 | [illegible] | [illegible] |
| 14, 0 | [illegible] | [illegible] |
| 14, 3 | [illegible] | [illegible] |
| 14, 5 | [illegible] | [illegible] |
| 14, 8 | [illegible] | [illegible] |

Complement of Declinations.

| ° | ′ | D. | 83° | D. | 84° | D. | 85° | D. | 86° | D. | 87° | D. | 88° | D. | 89° | D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 20 | | | | | | | | | | | | | | | | |
| 21 | [illegible] | [illegible] | 29. 46 | 6 | 29. 50 | 5 | 29. 53 | 3 | 29. 56 | 1 | 29. 57 | 2 | 29. 59 | 1 | 30. 0 | |
| 22 | [illegible] | [illegible] | 30. 15 | 4 | 30. 5 | 5 | 30. 8 | 2 | 30. 11 | 2 | 30. 13 | 2 | 30. 14 | 1 | 30. 15 | 0 |
| 23 | [illegible] | [illegible] | 30. 16 | 4 | 30. 20 | 5 | 30. 23 | 2 | 30. 25 | 2 | 30. 27 | 2 | 30. 29 | 1 | 30. 30 | 0 |
| 24 | [illegible] | [illegible] | 30. 31 | 4 | 30. 35 | 5 | 30. 38 | 2 | 30. 40 | 2 | 30. 42 | 2 | 30. 44 | 1 | 30. 45 | 0 |
| 25 | [illegible] | [illegible] | 30. 46 | 5 | 30. 49 | 5 | 30. 53 | 2 | 30. 55 | 2 | 30. 57 | 2 | 30. 59 | 1 | 31. 0 | 0 |
| 26 | [illegible] | [illegible] | 31. 1 | 5 | 31. 4 | 4 | 31. 8 | 2 | 31. 10 | 2 | 31. 12 | 2 | 31. 14 | 1 | 31. 15 | 0 |
| 27 | [illegible] | [illegible] | 31. 16 | 5 | 31. 19 | 4 | 31. 23 | 2 | 31. 25 | 2 | 31. 27 | 2 | 31. 29 | 1 | 31. 30 | 0 |
| 28 | [illegible] | [illegible] | 31. 30 | 4 | 31. 34 | 4 | 31. 38 | 2 | 31. 40 | 2 | 31. 42 | 2 | 31. 44 | 1 | 31. 45 | 0 |
| 29 | [illegible] | [illegible] | 31. 45 | 4 | 31. 49 | 5 | 31. 53 | 3 | 31. 55 | 2 | 31. 57 | 2 | 31. 59 | 1 | 32. 0 | 0 |
| 30 | [illegible] | [illegible] | 32. 0 | 4 | 32. 4 | 5 | 32. 7 | 3 | 32. 10 | 2 | 32. 12 | 2 | 32. 14 | 1 | 32. 15 | 0 |
| 31 | 32. 1 | 5 | 32. 15 | 4 | 32. 19 | 5 | 32. 22 | 3 | 32. 25 | 2 | 32. 27 | 2 | 32. 29 | 1 | 32. 30 | 0 |
| 32 | 32. [illegible] | 5 | 32. 30 | 4 | 32. 34 | 5 | 32. 37 | 3 | 32. 40 | 2 | 32. 42 | 2 | 32. 44 | 1 | 32. 45 | 0 |
| 33 | 32. 46 | 5 | 32. 45 | 4 | 32. 49 | 5 | 32. 52 | 3 | 32. 55 | 2 | 32. 57 | 2 | 32. 59 | 1 | 33. 0 | 0 |
| 34 | 32 55 | 5 | 33. 0 | 4 | 33. 4 | 5 | 33. 7 | 3 | 33. 10 | 2 | 33. 12 | 2 | 33. 14 | 1 | 33. 15 | 0 |
| 35 | 33. 10 | 5 | 33. 15 | 4 | 33. 19 | 5 | 33. 22 | 3 | 33. 25 | 2 | 33. 27 | 2 | 33. 29 | 1 | 33. 30 | 0 |
| 36 | 33. 25 | 4 | 33. 29 | 5 | 33. 34 | 5 | 33. 37 | 3 | 33. 40 | 2 | 33. 42 | 2 | 33. 44 | 1 | 33. 45 | 0 |
| 37 | 33. 40 | 4 | 33. 44 | 5 | 33. 49 | 5 | 33. 52 | 3 | 33. 55 | 2 | 33. 57 | 2 | 33. 59 | 1 | 34. 0 | 0 |
| 38 | 33. 54 | 5 | 33. 59 | 4 | 34. 3 | 4 | 34. 7 | 3 | 34. 10 | 2 | 34. 12 | 2 | 34. 14 | 1 | 34. 15 | 0 |
| 39 | 34. 9 | 5 | 34. 14 | 4 | 34. 18 | 4 | 34. 22 | 3 | 34. 25 | 2 | 34. 27 | 2 | 34. 29 | 1 | 34. 30 | 0 |
| 40 | 34. 24 | 5 | 34. 29 | 5 | 34. 33 | 4 | 34. 37 | 3 | 34. 40 | 2 | 34. 42 | 2 | 34. 44 | 1 | 34. 45 | 0 |
| 41 | 34. [illegible] | 5 | 34. 44 | 4 | 34. 48 | 4 | 34. 52 | 3 | 34. 55 | 2 | 34. 57 | 2 | 34. 59 | 1 | 35. 0 | 0 |
| 42 | 34. 54 | 5 | 34. 59 | 4 | 35. 3 | 4 | 35. 7 | 3 | 35. 10 | 2 | 35. 12 | 2 | 35. 14 | 1 | 35. 15 | 0 |
| 43 | 35. 9 | 5 | 35. 14 | 4 | 35. 18 | 4 | 35. 22 | 3 | 35. 25 | 2 | 35. 27 | 2 | 35. 29 | 1 | 35. 30 | 0 |
| 44 | 35. 23 | 5 | 35. 28 | 5 | 35. 33 | 4 | 35. 37 | 3 | 35. 40 | 2 | 35. 42 | 2 | 35. 44 | 1 | 35. 45 | 0 |
| 45 | 35. 38 | 5 | 35. 43 | 5 | 35. 48 | 4 | 35. 51 | 3 | 35. 55 | 2 | 35. 57 | 2 | 35. 59 | 1 | 36. 0 | 0 |
| 46 | 35. 53 | 5 | 35. 58 | 5 | 36. 3 | 4 | 36. 6 | 3 | 36. 10 | 2 | 36. 12 | 2 | 36. 14 | 1 | 36. 15 | 0 |
| 47 | 36. 8 | 5 | 36. 13 | 5 | 36. 18 | 4 | 36. 21 | 3 | 36. 24 | 3 | 36. 27 | 2 | 36. 29 | 1 | 36. 30 | 0 |
| 48 | 36. 23 | 5 | 36. 28 | 4 | 36. 32 | 4 | 36. 36 | 3 | 36. 39 | 3 | 36. 42 | 2 | 36. 44 | 1 | 36. 45 | 0 |
| 49 | 36. 38 | 5 | 36. 43 | 4 | 36. 47 | 4 | 36. 51 | 3 | 36. 54 | 3 | 36. 57 | 2 | 36. 59 | 1 | 37. 0 | 0 |
| 50 | 36. 52 | 5 | 36. 58 | 4 | 37. 2 | 4 | 37. 6 | 3 | 37. 9 | 3 | 37. 12 | 2 | 37. 14 | 1 | 37. 15 | 0 |
| 51 | 37. 7 | 5 | 37. 13 | 4 | 37. 17 | 4 | 37. 21 | 3 | 37. 24 | 3 | 37. 27 | 2 | 37. 29 | 1 | 37. 30 | 0 |
| 52 | 37. 22 | 5 | 37. 27 | 5 | 37. 32 | 4 | 37. 36 | 3 | 37. 39 | 3 | 37. 42 | 2 | 37. 44 | 1 | 37. 45 | 0 |
| 53 | 37. 37 | 5 | 37. 42 | 5 | 37. 47 | 4 | 37. 51 | 3 | 37. 54 | 3 | 37. 57 | 2 | 37. 59 | 1 | 38. 0 | 0 |
| 54 | 37. 52 | 5 | 37. 57 | 5 | 38. 2 | 4 | 38. 6 | 3 | 38. 9 | 3 | 38. 12 | 2 | 38. 14 | 1 | 38. 15 | 0 |
| 55 | 38. 7 | 5 | 38. 12 | 5 | 38. 17 | 4 | 38. 21 | 3 | 38. 24 | 3 | 38. 27 | 2 | 38. 29 | 1 | 38. 30 | 0 |
| 56 | 38. 21 | 6 | 38. 27 | 5 | 38. 32 | 4 | 38. 36 | 3 | 38. 39 | 3 | 38. 42 | 2 | 38. 44 | 1 | 38. 45 | |
| 57 | 38. 36 | 6 | 38. 42 | 5 | 38. 47 | 4 | 38. 51 | 3 | 38. 54 | 3 | 38. 57 | 2 | 38. 59 | 1 | 39. 0 | |
| 58 | 38. 51 | 6 | 38. 57 | 5 | 39. 2 | 4 | 39. 6 | 3 | 39. 9 | 3 | 39. 12 | 1 | 39. 13 | 2 | 39. 15 | |
| 59 | 39. 6 | 6 | 39. 12 | 5 | 39. 16 | 4 | 39. 21 | 3 | 39. 24 | 3 | 39. 27 | 1 | 39. 28 | 2 | 39. 30 | |
| 60 | 39. 21 | 6 | 39. 27 | 5 | 39. 31 | 4 | 39. 35 | 3 | 39. 39 | 3 | 39. 42 | 1 | 39. 43 | 2 | 39. 45 | |
| 61 | 39. 36 | 6 | 39. 42 | 5 | 39. 46 | 4 | 39. 50 | 4 | 39. 54 | 3 | 39. 57 | 1 | 39. 58 | 2 | 40. 0 | |
| 62 | 39. 51 | 6 | 39. 57 | 5 | 40. 1 | 4 | 40. 5 | 4 | 40. 9 | 3 | 40. 12 | 1 | 40. 13 | 2 | 40. 15 | |
| 63 | 40. 6 | 6 | 40. 12 | 5 | 40. 16 | 4 | 40. 20 | 4 | 40. 24 | 3 | 40. 27 | 1 | 40. 28 | 2 | 40. 30 | |
| 64 | 40. 21 | 6 | 40. 27 | 5 | 40. 31 | 4 | 40. 35 | 4 | 40. 39 | 2 | 40. 42 | 2 | 40. 43 | 2 | 40. 45 | |
| 65 | 40. 36 | 6 | 40. 42 | 5 | 40. 46 | 4 | 40. 50 | 4 | 40. 54 | 2 | 40. 57 | 2 | 40. 58 | 2 | 41. 0 | |
| 66 | 40. 51 | 6 | 40. 57 | 5 | 41. 1 | 4 | 41. 5 | 4 | 41. 9 | 2 | 41. 12 | 2 | 41. 13 | 2 | 41. 15 | |
| 67 | 41. 6 | 6 | 41. 12 | 5 | 41. 16 | 4 | 41. 20 | 4 | 41. 24 | 2 | 41. 27 | 2 | 41. 28 | 2 | 41. 30 | |
| 68 | 41. 21 | 6 | 41. 27 | 5 | 41. 31 | 4 | 41. 35 | 4 | 41. 39 | 2 | 41. 42 | 2 | 41. 43 | 2 | 41. 45 | |
| 69 | 41. 36 | 6 | 41. 42 | 5 | 41. 46 | 4 | 41. 50 | 4 | 41. 54 | 2 | 41. 57 | 2 | 41. 58 | 2 | 42. 0 | |
| 70 | 41. 51 | 6 | 41. 57 | 5 | 42. 1 | 4 | 42. 5 | 4 | 42. 9 | 3 | 42. 12 | 2 | 42. 13 | 2 | 42. 15 | |
| 71 | 42. 6 | 6 | 42. 12 | 5 | 42. 16 | 4 | 42. 20 | 4 | 42. 24 | 3 | 42. 27 | 2 | 42. 28 | 2 | 42. 30 | |
| 72 | 42. 21 | 6 | 42. 27 | 5 | 42. 31 | 4 | 42. 35 | 4 | 42. 39 | 3 | 42. 42 | 2 | 42. 43 | 2 | 42. 45 | |
| 73 | 42. 36 | 6 | 42. 42 | 5 | 42. 46 | 4 | 42. 50 | 4 | 42. 54 | 3 | 42. 57 | 2 | 42. 58 | 2 | 43. 0 | |
| 74 | 42. 51 | 6 | 42. 57 | 5 | 43. 1 | 4 | 43. 5 | 4 | 43. 9 | 3 | 43. 12 | 2 | 43. 13 | 2 | 43. 15 | |
| 75 | 43. 6 | 6 | 43. 12 | 5 | 43. 16 | 4 | 43. 20 | 4 | 43. 24 | 3 | 43. 27 | 2 | 43. 28 | 2 | 43. 30 | |
| 76 | 43. 21 | 6 | 43. 27 | 5 | 43. 31 | 4 | 43. 35 | 4 | 43. 39 | 3 | 43. 42 | 2 | 43. 43 | 2 | 43. 45 | |
| 77 | 43. 36 | 6 | 43. 42 | 5 | 43. 46 | 4 | 43. 50 | 4 | 43. 54 | 3 | 43. 57 | 2 | 43. 58 | 2 | 44. 0 | |
| 78 | 43. 51 | 6 | 43. 57 | 5 | 44. 1 | 4 | 44. 5 | 4 | 44. 9 | 3 | 44. 12 | 2 | 44. 13 | 2 | 44. 15 | |
| 79 | 44. 6 | 6 | 44. 12 | 5 | 44. 16 | 4 | 44. 20 | 4 | 44. 24 | 3 | 44. 27 | 2 | 44. 28 | 2 | 44. 30 | |
| 80 | 44. 21 | 6 | 44. 27 | 5 | 44. 31 | 4 | 44. 35 | 4 | 44. 39 | 3 | 44. 42 | 2 | 44. 43 | 2 | 44. 45 | |
| 81 | 44. 36 | 6 | 44. 42 | 5 | 44. 46 | 4 | 44. 50 | 4 | 44. 54 | 3 | 44. 57 | 2 | 44. 58 | 2 | 45. 0 | |
| 82 | 44. 51 | 6 | 44. 57 | 5 | 45. 1 | 4 | 45. 5 | 4 | 45. 9 | 3 | 45. 12 | 2 | 45. 13 | 2 | 45. 15 | |
| 83 | 45. 6 | 6 | 45. 12 | 5 | 45. 16 | 4 | 45. 20 | 4 | 45. 24 | 3 | 45. 27 | 2 | 45. 28 | 2 | 45. 30 | |
| 84 | 45. 21 | 6 | 45. 27 | 5 | 45. 31 | 4 | 45. 35 | 4 | 45. 39 | 3 | 45. 42 | 2 | 45. 43 | 2 | 45. 45 | |
| 85 | 45. 36 | 6 | 45. 42 | 5 | 45. 46 | 4 | 45. 50 | 4 | 45. 54 | 3 | 45. 57 | 2 | 45. 58 | 2 | 46. 0 | |
| 86 | 45. 51 | 6 | 45. 57 | 5 | 46. 1 | 4 | 46. 5 | 4 | 46. 9 | 3 | 46. 12 | 2 | 46. 13 | 2 | 46. 15 | |
| 87 | 46. 6 | 6 | 46. 12 | 5 | 46. 16 | 4 | 46. 20 | 4 | 46. 24 | 3 | 46. 27 | 2 | 46. 28 | 2 | 46. 30 | |
| 88 | 46. 21 | 6 | 46. 27 | 5 | 46. 31 | 4 | 46. 35 | 4 | 46. 39 | 3 | 46. 42 | 2 | 46. 43 | 2 | 46. 45 | |
| 89 | 46. 36 | 6 | 46. 42 | 5 | 46. 46 | 4 | 46. 50 | 4 | 46. 54 | 3 | 46. 57 | 2 | 46. 58 | 2 | 47. 0 | |
| 90 | 46. 51 | 6 | 46. 57 | 5 | 47. 1 | 4 | 47. 5 | 4 | 47. 9 | 3 | 47. 12 | 2 | 47. 13 | 2 | 47. 15 | |

Prop. parts for Complement of Declination additive

| | ′ | ″ |
|---|---|---|
| 1 | 0, 0 | 0, 1 |
| 2 | 0, 0 | 0, 2 |
| 3 | 0, 1 | 0, 3 |
| 4 | 0, 1 | 0, 4 |
| 5 | 0, 1 | 0, 5 |
| 6 | 0, 1 | 0, 6 |
| 7 | 0, 1 | 0, 7 |
| 8 | 0, 1 | 0, 8 |
| 9 | 0, 2 | 0, 9 |
| 10 | 0, 2 | 0, 10 |
| 20 | 0, 3 | 1, 8 |
| 30 | 0, 5 | 2, 7 |
| 40 | 0, 7 | 3, 6 |
| 50 | 0, 8 | 4, 5 |
| | 2′ | 3″ |
| 1 | 0, 0 | 0, 3 |
| 2 | 0, 1 | 0, 6 |
| 3 | 0, 1 | 0, 9 |
| 4 | 0, 1 | 1, 0 |
| 5 | 0, 2 | 1, 3 |
| 6 | 0, 2 | 1, 6 |
| 7 | 0, 2 | 1, 9 |
| 8 | 0, 3 | 2, 0 |
| 9 | 0, 3 | 2, 3 |
| 10 | 0, 3 | 2, 6 |
| 20 | 0, 7 | 5, 3 |
| 30 | 1, 0 | 8, 0 |
| 40 | 1, 3 | 10, 6 |
| 50 | 1, 7 | 13, 3 |
| | 3′ | 4″ |
| 1 | 0, 0 | 0, 4 |
| 2 | 0, 1 | 0, 8 |
| 3 | 0, 1 | 1, 1 |
| 4 | 0, 2 | 1, 5 |
| 5 | 0, 2 | 1, 9 |
| 6 | 0, 3 | 2, 3 |
| 7 | 0, 3 | 2, 7 |
| 8 | 0, 4 | 3, 1 |
| 9 | 0, 4 | 3, 5 |
| 10 | 0, 5 | 4, 0 |
| 20 | 1, 0 | 8, 0 |
| 30 | 1, 5 | 12, 0 |
| 40 | 2, 0 | 16, 0 |
| 50 | 2, 5 | 20, 0 |
| | 4′ | 5″ |
| 1 | 0, 1 | 0, 5 |
| 2 | 0, 1 | 1, 0 |
| 3 | 0, 2 | 1, 5 |
| 4 | 0, 3 | 2, 0 |
| 5 | 0, 3 | 2, 5 |
| 6 | 0, 4 | 3, 0 |
| 7 | 0, 5 | 3, 5 |
| 8 | 0, 5 | 4, 0 |
| 9 | 0, 6 | 4, 5 |
| 10 | 0, 7 | 5, 0 |
| 20 | 1, 3 | 10, 0 |
| 30 | 2, 0 | 15, 0 |
| 40 | 2, 7 | 20, 0 |
| 50 | 3, 3 | 25, 0 |
| | 5′ | 6″ |
| 1 | 0, 1 | 0, 6 |
| 2 | 0, 2 | 1, 2 |
| 3 | 0, 3 | 1, 8 |
| 4 | 0, 4 | 2, 4 |
| 5 | 0, 5 | 3, 0 |
| 6 | 0, 6 | 3, 6 |
| 7 | 0, 7 | 4, 2 |
| 8 | 0, 8 | 4, 8 |
| 9 | 0, 9 | 5, 4 |
| 10 | 1, 0 | 6, 0 |
| 20 | 2, 0 | 12, 0 |
| 30 | 3, 0 | 18, 0 |
| 40 | 4, 0 | 24, 0 |
| 50 | 5, 0 | 30, 0 |
| | 6′ | 7″ |
| 1 | 0, 1 | 0, 7 |
| 2 | 0, 2 | 1, 4 |
| 3 | 0, 3 | 2, 1 |
| 4 | 0, 4 | 2, 8 |
| 5 | 0, 5 | 3, 5 |
| 6 | 0, 6 | 4, 2 |
| 7 | 0, 7 | 4, 9 |
| 8 | 0, 8 | 5, 6 |
| 9 | 0, 9 | 6, 3 |
| 10 | 1, 0 | 7, 0 |
| 20 | 2, 0 | 14, 0 |
| 30 | 3, 0 | 21, 0 |
| 40 | 4, 0 | 28, 0 |
| 50 | 5, 0 | 35, 0 |

Difference for Seconds of Interval.

Declination.

Proportional parts for D

| ″ | ″ | ° | 0° | D | 1° | D | 2° | D | 3° | D | 4° | D | 5° | D | 6° | D | 7° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | |
| 0,0 | 0,0 | 0 | 0. 0 | 16 | 0. 16 | 16 | 0. 32 | 16 | 0. 48 | 16 | 1. 4 | 16 | 1. 20 | 16 | 1. 36 | 16 | 1. 52 | 16 |
| 0,0 | 0,1 | 1 | 0. 0 | 16 | 0. 16 | 16 | 0. 32 | 16 | 0. 48 | 16 | 1. 4 | 16 | 1. 20 | 16 | 1. 36 | 16 | 1. 52 | 16 |
| 0,0 | 0,1 | 2 | 0. 0 | 16 | 0. 16 | 16 | 0. 32 | 16 | 0. 48 | 16 | 1. 4 | 16 | 1. 20 | 16 | 1. 36 | 16 | 1. 52 | 16 |
| 0,0 | 0,1 | 3 | 0. 0 | 16 | 0. 16 | 16 | 0. 32 | 16 | 0. 48 | 16 | 1. 4 | 16 | 1. 20 | 16 | 1. 36 | 16 | 1. 52 | 16 |
| 0,0 | 0,1 | 4 | 0. 0 | 16 | 0. 16 | 16 | 0. 32 | 16 | 0. 48 | 16 | 1. 4 | 16 | 1. 20 | 16 | 1. 36 | 16 | 1. 52 | 16 |
| 0,0 | 0,2 | 5 | 0. 0 | 17 | 0. 17 | 17 | 0. 34 | 17 | 0. 51 | 17 | 1. 8 | 17 | 1. 25 | 17 | 1. 42 | 17 | 1. 59 | 17 |
| 0,1 | 0,2 | 6 | 0. 0 | 17 | 0. 17 | 17 | 0. 34 | 17 | 0. 51 | 17 | 1. 8 | 17 | 1. 25 | 17 | 1. 42 | 17 | 1. 59 | 17 |
| 0,1 | 0,2 | 7 | 0. 0 | 17 | 0. 17 | 17 | 0. 34 | 17 | 0. 51 | 17 | 1. 8 | 17 | 1. 25 | 17 | 1. 42 | 17 | 1. 59 | 17 |
| 0,1 | 0,3 | 8 | 0. 0 | 17 | 0. 17 | 17 | 0. 34 | 17 | 0. 51 | 17 | 1. 8 | 17 | 1. 25 | 17 | 1. 42 | 17 | 1. 59 | 17 |
| 0,2 | 0,3 | 9 | 0. 0 | 17 | 0. 17 | 17 | 0. 34 | 17 | 0. 51 | 17 | 1. 8 | 17 | 1. 25 | 17 | 1. 42 | 17 | 1. 59 | 17 |
| 0,2 | 0,3 | 10 | 0. 0 | 17 | 0. 17 | 17 | 0. 35 | 17 | 0. 52 | 17 | 1. 10 | 17 | 1. 27 | 17 | 1. 44 | 17 | 2. 1 | 17 |
| 0,2 | 0,4 | 11 | 0. 0 | 18 | 0. 18 | 18 | 0. 35 | 17 | 0. 53 | 17 | 1. 11 | 17 | 1. 28 | 17 | 1. 46 | 17 | 2. 3 | 17 |
| 0,2 | 0,4 | 12 | 0. 0 | 18 | 0. 18 | 18 | 0. 36 | 17 | 0. 53 | 17 | 1. 11 | 17 | 1. 28 | 17 | 1. 46 | 18 | 2. 5 | 18 |
| 0,3 | 0,4 | 13 | 0. 0 | 18 | 0. 18 | 18 | 0. 36 | 18 | 0. 54 | 18 | 1. 12 | 17 | 1. 29 | 18 | 1. 47 | 18 | 2. 5 | 18 |
| 0,3 | 0,5 | 14 | 0. 0 | 18 | 0. 18 | 18 | 0. 36 | 18 | 0. 54 | 18 | 1. 12 | 18 | 1. 30 | 18 | 1. 48 | 18 | 2. 7 | 18 |
| 0,3 | 0,5 | 15 | 0. 0 | 18 | 0. 18 | 18 | 0. 36 | 18 | 0. 55 | 18 | 1. 13 | 18 | 1. 31 | 18 | 1. 49 | 18 | 2. 7 | 18 |
| 0,3 | 0,5 | 16 | 0. 0 | 18 | 0. 18 | 18 | 0. 36 | 18 | 0. 55 | 18 | 1. 13 | 18 | 1. 32 | 18 | 1. 50 | 18 | 2. 8 | 18 |
| 0,3 | 0,6 | 17 | 0. 0 | 18 | 0. 18 | 18 | 0. 37 | 19 | 0. 55 | 18 | 1. 13 | 18 | 1. 33 | 18 | 1. 51 | 18 | 2. 9 | 18 |
| 0,3 | 0,6 | 18 | 0. 0 | 18 | 0. 18 | 18 | 0. 37 | 18 | 0. 56 | 18 | 1. 14 | 19 | 1. 33 | 19 | 1. 52 | 18 | 2. 10 | 18 |
| 0,3 | 0,6 | 19 | 0. 0 | 18 | 0. 18 | 18 | 0. 36 | 18 | 0. 56 | 18 | 1. 15 | 19 | 1. 34 | 19 | 1. 53 | 19 | 2. 11 | 19 |
| 0,3 | 0,7 | 20 | 0. 0 | 19 | 0. 19 | 19 | 0. 38 | 19 | 0. 57 | 19 | 1. 16 | 19 | 1. 34 | 19 | 1. 53 | 19 | 2. 12 | 19 |
| 0,4 | 0,7 | 21 | 0. 0 | 19 | 0. 19 | 19 | 0. 38 | 19 | 0. 57 | 19 | 1. 16 | 19 | 1. 35 | 19 | 1. 54 | 19 | 2. 13 | 19 |
| 0,4 | 0,7 | 22 | 0. 0 | 19 | 0. 19 | 19 | 0. 38 | 19 | 0. 57 | 19 | 1. 17 | 19 | 1. 36 | 19 | 1. 55 | 19 | 2. 14 | 19 |
| 0,4 | 0,8 | 23 | 0. 0 | 19 | 0. 19 | 19 | 0. 39 | 19 | 0. 58 | 19 | 1. 17 | 19 | 1. 37 | 19 | 1. 56 | 19 | 2. 15 | 19 |
| 0,4 | 0,8 | 24 | 0. 0 | 19 | 0. 19 | 19 | 0. 38 | 19 | 0. 58 | 19 | 1. 18 | 19 | 1. 37 | 19 | 1. 57 | 19 | 2. 16 | 19 |
| 0,4 | 0,8 | 25 | 0. 0 | 20 | 0. 20 | 19 | 0. 39 | 20 | 0. 59 | 19 | 1. 18 | 20 | 1. 38 | 20 | 1. 58 | 20 | 2. 17 | 20 |
| 0,4 | 0,9 | 26 | 0. 0 | 20 | 0. 20 | 20 | 0. 40 | 20 | 0. 59 | 20 | 1. 19 | 20 | 1. 39 | 19 | 1. 58 | 20 | 2. 18 | 20 |
| 0,5 | 0,9 | 27 | 0. 0 | 20 | 0. 20 | 20 | 0. 40 | 20 | 1. 0 | 20 | 1. 20 | 19 | 1. 39 | 20 | 1. 59 | 20 | 2. 19 | 20 |
| 0,5 | 0,9 | 28 | 0. 0 | 20 | 0. 20 | 20 | 0. 40 | 20 | 1. 0 | 20 | 1. 20 | 20 | 1. 40 | 20 | 2. 0 | 20 | 2. 20 | 20 |
| 0,5 | 1,0 | 29 | 0. 0 | 20 | 0. 20 | 20 | 0. 40 | 20 | 1. 0 | 20 | 1. 20 | 20 | 1. 41 | 20 | 2. 1 | 20 | 2. 21 | 20 |
| 0,5 | 1,0 | 30 | 0. 0 | 20 | 0. 20 | 20 | 0. 41 | 21 | 1. 1 | 20 | 1. 21 | 20 | 1. 42 | 20 | 2. 2 | 20 | 2. 22 | 20 |
| 0,5 | 1,0 | 31 | 0. 0 | 21 | 0. 21 | 20 | 0. 41 | 21 | 1. 2 | 21 | 1. 22 | 20 | 1. 42 | 21 | 2. 3 | 20 | 2. 23 | 21 |
| 0,5 | 1,1 | 32 | 0. 0 | 21 | 0. 21 | 21 | 0. 41 | 21 | 1. 2 | 21 | 1. 23 | 20 | 1. 43 | 21 | 2. 4 | 21 | 2. 24 | 21 |
| 0,6 | 1,1 | 33 | 0. 0 | 21 | 0. 21 | 21 | 0. 42 | 21 | 1. 2 | 21 | 1. 23 | 21 | 1. 44 | 21 | 2. 5 | 21 | 2. 25 | 21 |
| 0,6 | 1,1 | 34 | 0. 0 | 21 | 0. 21 | 21 | 0. 42 | 21 | 1. 3 | 21 | 1. 24 | 21 | 1. 45 | 21 | 2. 6 | 21 | 2. 26 | 21 |
| 0,6 | 1,2 | 35 | 0. 0 | 21 | 0. 21 | 21 | 0. 42 | 21 | 1. 3 | 21 | 1. 24 | 21 | 1. 45 | 21 | 2. 6 | 21 | 2. 27 | 21 |
| 0,6 | 1,2 | 36 | 0. 0 | 21 | 0. 21 | 21 | 0. 42 | 21 | 1. 4 | 21 | 1. 25 | 21 | 1. 46 | 21 | 2. 7 | 21 | 2. 28 | 21 |
| 0,6 | 1,2 | 37 | 0. 0 | 21 | 0. 21 | 21 | 0. 43 | 21 | 1. 4 | 21 | 1. 25 | 21 | 1. 47 | 21 | 2. 8 | 21 | 2. 29 | 21 |
| 0,6 | 1,3 | 38 | 0. 0 | 21 | 0. 21 | 21 | 0. 43 | 21 | 1. 5 | 21 | 1. 26 | 21 | 1. 48 | 21 | 2. 9 | 21 | 2. 30 | 21 |
| 0,7 | 1,3 | 39 | 0. 0 | 21 | 0. 21 | 21 | 0. 43 | 22 | 1. 5 | 21 | 1. 27 | 21 | 1. 49 | 21 | 2. 10 | 21 | 2. 31 | 21 |
| 0,7 | 1,3 | 40 | 0. 0 | 22 | 0. 22 | 21 | 0. 44 | 21 | 1. 5 | 21 | 1. 27 | 21 | 1. 49 | 21 | 2. 11 | 21 | 2. 32 | 21 |
| 0,7 | 1,4 | 41 | 0. 0 | 22 | 0. 22 | 22 | 0. 44 | 22 | 1. 6 | 22 | 1. 28 | 22 | 1. 50 | 21 | 2. 12 | 21 | 2. 33 | 21 |
| 0,7 | 1,4 | 42 | 0. 0 | 22 | 0. 22 | 22 | 0. 44 | 22 | 1. 6 | 22 | 1. 28 | 22 | 1. 50 | 22 | 2. 13 | 22 | 2. 34 | 22 |
| 0,7 | 1,4 | 43 | 0. 0 | 22 | 0. 22 | 22 | 0. 45 | 22 | 1. 7 | 22 | 1. 29 | 22 | 1. 51 | 22 | 2. 13 | 22 | 2. 35 | 22 |
| 0,7 | 1,5 | 44 | 0. 0 | 22 | 0. 22 | 22 | 0. 45 | 23 | 1. 7 | 22 | 1. 30 | 22 | 1. 52 | 22 | 2. 14 | 22 | 2. 37 | 22 |
| 0,8 | 1,5 | 45 | 0. 0 | 23 | 0. 23 | 23 | 0. 46 | 23 | 1. 8 | 23 | 1. 31 | 23 | 1. 53 | 23 | 2. 15 | 23 | 2. 38 | 23 |
| 0,8 | 1,5 | 46 | 0. 0 | 23 | 0. 23 | 23 | 0. 46 | 23 | 1. 8 | 23 | 1. 31 | 23 | 1. 53 | 23 | 2. 16 | 23 | 2. 39 | 23 |
| 0,8 | 1,6 | 47 | 0. 0 | 23 | 0. 23 | 23 | 0. 46 | 23 | 1. 9 | 23 | 1. 32 | 23 | 1. 54 | 23 | 2. 17 | 23 | 2. 40 | 23 |
| 0,8 | 1,6 | 48 | 0. 0 | 23 | 0. 23 | 23 | 0. 46 | 23 | 1. 9 | 23 | 1. 32 | 23 | 1. 55 | 23 | 2. 18 | 23 | 2. 41 | 23 |
| 0,8 | 1,6 | 49 | 0. 0 | 23 | 0. 23 | 23 | 0. 46 | 23 | 1. 10 | 23 | 1. 33 | 23 | 1. 56 | 23 | 2. 19 | 23 | 2. 42 | 23 |
| 0,8 | 1,7 | 50 | 0. 0 | 23 | 0. 23 | 23 | 0. 47 | 24 | 1. 10 | 23 | 1. 34 | 24 | 1. 57 | 24 | 2. 20 | 24 | 2. 44 | 24 |
| 0,8 | 1,7 | 51 | 0. 0 | 23 | 0. 23 | 23 | 0. 47 | 24 | 1. 10 | 24 | 1. 34 | 24 | 1. 57 | 24 | 2. 21 | 24 | 2. 45 | 24 |
| 0,8 | 1,7 | 52 | 0. 0 | 24 | 0. 24 | 24 | 0. 47 | 24 | 1. 11 | 24 | 1. 35 | 24 | 1. 58 | 24 | 2. 22 | 24 | 2. 46 | 24 |
| 0,8 | 1,8 | 53 | 0. 0 | 24 | 0. 24 | 24 | 0. 48 | 24 | 1. 11 | 24 | 1. 35 | 24 | 1. 59 | 24 | 2. 23 | 24 | 2. 47 | 24 |
| 0,8 | 1,8 | 54 | 0. 0 | 24 | 0. 24 | 24 | 0. 48 | 24 | 1. 12 | 24 | 1. 36 | 24 | 1. 59 | 24 | 2. 24 | 24 | 2. 48 | 24 |
| 0,8 | 1,8 | 55 | 0. 0 | 24 | 0. 24 | 24 | 0. 48 | 24 | 1. 12 | 24 | 1. 36 | 24 | 2. 0 | 24 | 2. 25 | 24 | 2. 49 | 24 |
| 0,8 | 1,9 | 56 | 0. 0 | 24 | 0. 24 | 24 | 0. 48 | 24 | 1. 13 | 24 | 1. 37 | 24 | 2. 1 | 24 | 2. 26 | 24 | 2. 50 | 24 |
| 0,8 | 1,9 | 57 | 0. 0 | 24 | 0. 24 | 24 | 0. 49 | 24 | 1. 13 | 24 | 1. 37 | 24 | 2. 2 | 24 | 2. 27 | 24 | 2. 51 | 24 |
| 0,8 | 1,9 | 58 | 0. 0 | 24 | 0. 25 | 24 | 0. 49 | 24 | 1. 14 | 24 | 1. 38 | 24 | 2. 3 | 24 | 2. 28 | 24 | 2. 52 | 24 |
| 0,8 | 2,0 | 59 | 0. 0 | 25 | 0. 25 | 24 | 0. 49 | 25 | 1. 14 | 25 | 1. 39 | 24 | 2. 3 | 25 | 2. 29 | 25 | 2. 53 | 25 |

Proportional parts for D

| | 10 | 20 | 30 |
|---|---|---|---|
| 1 | 0. 2 | 0. 3 | 0. 5 |
| 2 | 0. 3 | 0. 7 | 1. 0 |
| 3 | 0. 5 | 1. 0 | 1. 5 |
| 4 | 0. 7 | 1. 3 | 2. 0 |
| 5 | 0. 8 | 1. 7 | 2. 5 |
| 6 | 1. 0 | 2. 0 | 3. 0 |
| 7 | 1. 2 | 2. 3 | 3. 5 |
| 8 | 1. 3 | 2. 7 | 4. 0 |
| 9 | 1. 5 | 3. 0 | 4. 5 |
| 10 | 1. 7 | 3. 3 | 5. 0 |
| 11 | 1. 8 | 3. 7 | 5. 5 |
| 12 | 2. 0 | 4. 0 | 6. 0 |
| 13 | 2. 2 | 4. 3 | 6. 5 |
| 14 | 2. 3 | 4. 7 | 7. 0 |
| 15 | 2. 5 | 5. 0 | 7. 5 |
| 16 | 2. 7 | 5. 3 | 8. 0 |
| 17 | 2. 8 | 5. 7 | 8. 5 |
| 18 | 3. 0 | 6. 0 | 9. 0 |
| 19 | 3. 2 | 6. 3 | 9. 5 |
| 20 | 3. 3 | 6. 7 | 10. 0 |
| 21 | 3. 5 | 7. 0 | 10. 5 |
| 22 | 3. 7 | 7. 3 | 11. 0 |
| 23 | 3. 8 | 7. 7 | 11. 5 |
| 24 | 4. 0 | 8. 0 | 12. 0 |
| 25 | 4. 2 | 8. 3 | 12. 5 |
| 26 | 4. 3 | 8. 7 | 13. 0 |
| 27 | 4. 5 | 9. 0 | 13. 5 |
| 28 | 4. 7 | 9. 3 | 14. 0 |
| 29 | 4. 8 | 9. 7 | 14. 5 |
| 30 | 5. 0 | 10. 0 | 15. 0 |
| 31 | 5. 2 | 10. 3 | 15. 5 |
| 32 | 5. 3 | 10. 7 | 16. 0 |
| 33 | 5. 5 | 11. 0 | 16. 5 |
| 34 | 5. 7 | 11. 3 | 17. 0 |
| 35 | 5. 8 | 11. 7 | 17. 5 |
| 36 | 6. 0 | 12. 0 | 18. 0 |
| 37 | 6. 2 | 12. 3 | 18. 5 |
| 38 | 6. 3 | 12. 7 | 19. 0 |
| 39 | 6. 5 | 13. 0 | 19. 5 |
| 40 | 6. 7 | 13. 3 | 20. 0 |
| 41 | 6. 8 | 13. 7 | 20. 5 |
| 42 | 7. 0 | 14. 0 | 21. 0 |
| 43 | 7. 2 | 14. 3 | 21. 5 |
| 44 | 7. 3 | 14. 7 | 22. 0 |
| 45 | 7. 5 | 15. 0 | 22. 5 |
| 46 | 7. 7 | 15. 3 | 23. 0 |
| 47 | 7. 8 | 15. 7 | 23. 5 |
| 48 | 8. 0 | 16. 0 | 24. 0 |
| 49 | 8. 2 | 16. 3 | 24. 5 |
| 50 | 8. 3 | 16. 7 | 25. 0 |
| 51 | 8. 5 | 17. 0 | 25. 5 |
| 52 | 8. 7 | 17. 3 | 26. 0 |
| 53 | 8. 8 | 17. 7 | 26. 5 |
| 54 | 9. 0 | 18. 0 | 27. 0 |
| 55 | 9. 2 | 18. 3 | 27. 5 |
| 56 | 9. 3 | 18. 7 | 28. 0 |
| 57 | 9. 5 | 19. 0 | 28. 5 |
| 58 | 9. 7 | 19. 3 | 29. 0 |
| 59 | 9. 8 | 19. 7 | 29. 5 |



| Interval | Declination. | | | | | | | | | | | | | | | | | | | | | | Proportion part for Decl. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 8° | D | 9° | D | 10° | D | 11° | D | 12° | D | 13° | D | 14° | D | 15° | D | | | | | | | | |
| m | | | | | | | | | | | | | | | | | | | | | | | ′ | ″ |
| 0 | 3. 8 | 14 | 3. 24 | 15 | 3. 40 | 16 | 3. 56 | 16 | 4. 12 | 16 | 3. 27 e | 16 | .43 | 15 | 3. 58 e | 15 | | | | | | | 15′ | 2.′ |
| 1 | 3. 9 | 14 | 3. 25 | 15 | 3. 41 | 16 | 3. 57 | 16 | 4. 13 | 16 | 3. 29 e | 16 | .44 | 16 | 4. 0 e | 15 | | | | | | | ′ | ″ |
| 2 | 3. 10 | 14 | 3. 27 | 15 | 3. 43 | 16 | 3. 59 | 16 | 4. 15 | 16 | 3. 31 a | 16 | .46 | 16 | 4. 2 e | 16 | 1 | 0, 3 | | | | | 0, 4 | |
| 3 | 3. 11 | 14 | 3. 28 | 15 | 3. 44 | 16 | 4. 0 | 16 | 4. 16 | 16 | 3. 32 e | 16 | .48 | 16 | 4. 4 e | 16 | 2 | 0, 5 | | | | | 0, 8 | |
| 4 | 3. 13 | 14 | 3. 29 | 15 | 3. 45 | 16 | 4. 1 | 16 | 4. 18 | 16 | 3. 34 e | 16 | .50 | 16 | 4. 6 e | 16 | 3 | 0, 8 | 1, | | | | 1, 2 | |
| 5 | 3. 14 | 14 | 3. 30 | 15 | 3. 46 | 16 | 4. 2 | 16 | 4. 19 | 16 | 3. 36 e | 16 | .52 | 16 | 4. 8 e | 16 | 4 | 1, 0 | 1, | | | | 1, 5 | |
| 6 | 3. 15 | 14 | 3. 31 | 15 | 3. 47 | 16 | 4. 3 | 16 | 4. 20 | 16 | 3. 38 e | 16 | .54 | 17 | 4. 11 e | 16 | 5 | 1, 3 | 1, | | | | 1, 9 | |
| 7 | 3. 16 | 14 | 3. 32 | 15 | 3. 48 | 16 | 4. 4 | 16 | 4. 21 | 16 | 3. 40 a | 16 | .56 | 17 | 4. 13 e | 16 | 6 | 1, 5 | 1, | | | | 2, 3 | |
| 8 | 3. 17 | 14 | 3. 34 | 15 | 3. 49 | 16 | 4. 5 | 16 | 4. 23 | 16 | 3. 41 e | 16 | .58 | 17 | 4. 15 e | 16 | 7 | 1, 8 | 2, | | | | 2, 7 | |
| 9 | 3. 18 | 14 | 3. 35 | 15 | 3. 51 | 16 | 4. 7 | 16 | 4. 24 | 16 | 3. 43 e | 16 | 5. 0 | 17 | 4. 17 e | 16 | 8 | 2, 0 | 2, | | | | 3, 1 | |
| 10 | 3. 19 | 14 | 3. 37 | 15 | 3. 52 | 16 | 4. 8 | 16 | 4. 25 | 16 | 3. 45 e | 16 | 5. 2 | 17 | 4. 19 e | 16 | 9 | 2, 3 | 2, | | | | 3, 5 | |
| 11 | 3. 21 | 14 | 3. 38 | 15 | 3. 54 | 16 | 4. 9 | 16 | 4. 27 | 16 | 3. 47 e | 16 | 5. 4 | 17 | 4. 21 e | 16 | 10 | 2, 5 | 3, | | | | 3, 9 | |
| 12 | 3. 22 | 14 | 3. 39 | 15 | 3. 55 | 16 | 4. 11 | 16 | 4. 28 | 16 | 3. 49 e | 16 | 5. 6 | 17 | 4. 23 e | 16 | 20 | 5, 0 | 6, | | | | 7, 7 | |
| 13 | 3. 23 | 14 | 3. 41 | 15 | 3. 57 | 16 | 4. 12 | 16 | 4. 30 | 16 | 3. 51 a | 16 | 5. 8 | 17 | 4. 25 e | 16 | 30 | 7, 5 | 9, | | | | 11, 5 | |
| 14 | 3. 24 | 14 | 3. 42 | 15 | 3. 58 | 16 | 4. 13 | 16 | 4. 31 | 16 | 3. 52 e | 16 | 5. 10 | 17 | 4. 27 e | 16 | 40 | 10, 0 | 12, | | | | 15, 3 | |
| 15 | 3. 25 | 14 | 3. 43 | 15 | 3. 59 | 16 | 4. 14 | 16 | 4. 33 | 16 | 3. 54 e | 16 | 5. 12 | 17 | 4. 29 e | 16 | 50 | 12, 5 | 15, | | | | 19, 2 | |
| 16 | 3. 26 | 14 | 3. 44 | 15 | 4. 0 | 16 | 4. 16 | 16 | 4. 34 | 16 | 3. 56 e | 16 | 5. 14 | 17 | 4. 31 n | 16 | ′ | 16′ | 20 | | | | 24′ | |
| 17 | 3. 27 | 14 | 3. 45 | 15 | 4. 1 | 16 | 4. 17 | 16 | 4. 35 | 16 | 3. 58 e | 16 | 5. 16 | 18 | 4. 34 e | 16 | | | | | | | ′ | ″ |
| 18 | 3. 28 | 14 | 3. 47 | 16 | 4. 2 | 16 | 4. 18 | 16 | 4. 36 | 16 | 4. 0 e | 16 | 5. 18 | 18 | 4. 36 e | 16 | 1 | 0, 3 | 0, 3 | | | | 0, 4 | |
| 19 | 3. 30 | 14 | 3. 48 | 16 | 4. 3 | 16 | 4. 19 | 16 | 4. 38 | 16 | 4. 1 a | 16 | 5. 20 | 18 | 4. 38 e | 16 | 2 | 0, 5 | 0, 7 | | | | 0, 8 | |
| 20 | 3. 31 | 14 | 3. 49 | 16 | 4. 4 | 16 | 4. 21 | 16 | 4. 39 | 16 | 4. 3 e | 16 | 5. 22 | 18 | 4. 40 e | 16 | 3 | 0, 8 | 1, 0 | | | | 1, 2 | |
| 21 | 3. 32 | 14 | 3. 50 | 16 | 4. 5 | 16 | 4. 22 | 16 | 4. 41 | 16 | 4. 5 e | 16 | 5. 24 | 18 | 4. 42 e | 16 | 4 | 1, 1 | 1, 3 | | | | 1, 6 | |
| 22 | 3. 33 | 14 | 3. 51 | 16 | 4. 6 | 16 | 4. 23 | 16 | 4. 42 | 16 | 4. 7 e | 16 | 5. 26 | 18 | 4. 44 e | 16 | 5 | 1, 3 | 1, 7 | | | | 2 0 | |
| 23 | 3. 34 | 14 | 3. 52 | 16 | 4. 7 | 16 | 4. 24 | 16 | 4. 43 | 16 | 4. 9 e | 16 | 5. 28 | 18 | 4. 46 e | 16 | 6 | 1, 6 | 2, 0 | | | | 2, 4 | |
| 24 | 3. 35 | 14 | 3. 53 | 16 | 4. 8 | 16 | 4. 25 | 16 | 4. 44 | 16 | 4. 11 e | 16 | 5. 30 | 18 | 4. 48 n | 16 | 7 | 1, 9 | 2, 3 | | | | 2, 8 | |
| 25 | 3. 37 | 14 | 3. 54 | 16 | 4. 9 | 16 | 4. 26 | 16 | 4. 45 | 16 | 4. 13 e | 16 | 5. 32 | 19 | 4. 51 e | 16 | 8 | 2, 1 | 2, 7 | | | | 3 2 | |
| 26 | 3. 38 | 14 | 3. 55 | 16 | 4. 10 | 16 | 4. 27 | 16 | 4. 46 | 16 | 4. 15 a | 16 | 5. 34 | 19 | 4. 53 e | 16 | 9 | 2, 4 | 3, 0 | | | | 3, 6 | |
| 27 | 3. 39 | 14 | 3. 56 | 16 | 4. 11 | 16 | 4. 28 | 16 | 4. 47 | 16 | 4. 16 e | 16 | 5. 36 | 19 | 4. 55 e | 16 | 10 | 2, 7 | 3, 3 | | | | 4 0 | |
| 28 | 3. 40 | 14 | 3. 57 | 16 | 4. 12 | 16 | 4. 29 | 16 | 4. 48 | 16 | 4. 18 e | 16 | 5. 38 | 19 | 4. 57 e | 16 | 20 | 5, 3 | 6, 7 | | | | 8, 0 | |
| 29 | 3. 41 | 14 | 3. 58 | 16 | 4. 13 | 16 | 4. 30 | 16 | 4. 49 | 16 | 4. 20 e | 16 | 5. 40 | 19 | 4. 59 e | 16 | 30 | 8, 0 | 10, 0 | | | | 12, 0 | |
| 30 | 3. 42 | 14 | 3. 59 | 16 | 4. 14 | 16 | 4. 31 | 16 | 4. 50 | 16 | 4. 22 e | 16 | 5. 42 | 19 | 5. 1 e | 16 | 40 | 10, 7 | 13, 3 | | | | 16, 0 | |
| 31 | 3. 43 | 14 | 4. 0 | 16 | 4. 15 | 16 | 4. 32 | 16 | 4. 51 | 16 | 4. 24 e | 16 | 5. 44 | 19 | 5. 3 n | 16 | 50 | 13, 3 | 16, 7 | | | | 20 0 | |
| 32 | 3. 44 | 14 | 4. 1 | 16 | 4. 16 | 16 | 4. 33 | 16 | 4. 52 | 16 | 4. 26 e | 16 | 5. 46 | 20 | 5. 6 e | 16 | ′ | 17′ | 21′ | | | | 2 7 | |
| 33 | 3. 45 | 14 | 4. 2 | 16 | 4. 17 | 16 | 4. 34 | 16 | 4. 53 | 16 | 4. 28 e | 16 | 5. 48 | 20 | 5. 8 e | 16 | | | | | | | ′ | ″ |
| 34 | 3. 46 | 14 | 4. 3 | 16 | 4. 18 | 16 | 4. 35 | 16 | 4. 54 | 16 | 4. 30 e | 16 | 5. 50 | 20 | 5. 10 e | 16 | 1 | 0, 3 | 0, 4 | | | | 0, 4 | |
| 35 | 3. 47 | 14 | 4. 4 | 16 | 4. 19 | 16 | 4. 36 | 16 | 4. 55 | 16 | 4. 32 a | 16 | 5. 52 | 20 | 5. 12 e | 16 | 2 | 0, 6 | 0, 7 | | | | 0, 8 | |
| 36 | 3. 48 | 14 | 4. 5 | 16 | 4. 20 | 16 | 4. 37 | 16 | 4. 56 | 16 | 4. 33 e | 16 | 5. 54 | 20 | 5. 14 e | 16 | 3 | 0, 9 | 1, 1 | | | | 1, 3 | |
| 37 | 3. 49 | 14 | 4. 6 | 16 | 4. 21 | 16 | 4. 38 | 16 | 4. 57 | 16 | 4. 35 e | 16 | 5. 56 | 20 | 5. 16 n | 16 | 4 | 1, 1 | 1, 4 | | | | 1, 7 | |
| 38 | 3. 50 | 14 | 4. 7 | 16 | 4. 22 | 16 | 4. 39 | 16 | 4. 58 | 16 | 4. 37 e | 16 | 5. 58 | 21 | 5. 19 e | 16 | 5 | 1, 4 | 1, 8 | | | | 2, 1 | |
| 39 | 3. 51 | 14 | 4. 8 | 16 | 4. 23 | 16 | 4. 40 | 16 | 4. 59 | 16 | 4. 39 e | 16 | 6. 0 | 21 | 5. 21 e | 16 | 6 | 1, 7 | 2, 1 | | | | 2, 5 | |
| 40 | 3. 52 | 14 | 4. 9 | 16 | 4. 24 | 16 | 4. 41 | 16 | 5. 0 | 16 | 4. 41 e | 16 | 6. 2 | 21 | 5. 23 e | 16 | 7 | 2, 0 | 2, 5 | | | | 2, 9 | |
| 41 | 3. 53 | 14 | 4. 10 | 16 | 4. 25 | 16 | 4. 42 | 16 | 5. 1 | 16 | 4. 43 e | 16 | 6. 4 | 21 | 5. 25 e | 16 | 8 | 2, 3 | 2, 8 | | | | 3 3 | |
| 42 | 3. 54 | 14 | 4. 11 | 16 | 4. 26 | 16 | 4. 43 | 16 | 5. 2 | 16 | 4. 45 e | 16 | 6. 6 | 21 | 5. 27 e | 16 | 9 | 2, 6 | 3, 2 | | | | 3, 8 | |
| 43 | 3. 55 | 14 | 4. 12 | 16 | 4. 27 | 16 | 4. 44 | 16 | 5. 3 | 16 | 4. 47 a | 16 | 6. 8 | 21 | 5. 29 n | 16 | 10 | 2, 8 | 3, 5 | | | | 4, 2 | |
| 44 | 3. 56 | 14 | 4. 13 | 16 | 4. 28 | 16 | 4. 45 | 16 | 5. 4 | 16 | 4. 48 e | 16 | 6. 10 | 22 | 5. 32 e | 16 | 20 | 5, 7 | 7, 0 | | | | 8, 3 | |
| 45 | 3. 57 | 14 | 4. 14 | 16 | 4. 29 | 16 | 4. 46 | 16 | 5. 5 | 16 | 4. 50 e | 16 | 6. 12 | 22 | 5. 34 e | 16 | 30 | 8, 5 | 10, 5 | | | | 12, 5 | |
| 46 | 3. 58 | 14 | 4. 15 | 16 | 4. 30 | 16 | 4. 47 | 16 | 5. 6 | 16 | 4. 52 e | 16 | 6. 14 | 22 | 5. 36 e | 16 | 40 | 11, 3 | 14, 0 | | | | 16 7 | |
| 47 | 3. 59 | 14 | 4. 16 | 16 | 4. 31 | 16 | 4. 48 | 16 | 5. 7 | 16 | 4. 54 e | 16 | 6. 16 | 22 | 5. 38 e | 16 | 50 | 14, 2 | 17, 5 | | | | 20 8 | |
| 48 | 4. 0 | 14 | 4. 17 | 16 | 4. 32 | 16 | 4. 49 | 16 | 5. 8 | 16 | 4. 56 n | 16 | 6. 18 | 22 | 5. 40 n | 16 | ′ | 18′ | 24′ | | | | 2 7 | |
| 49 | 4. 1 | 14 | 4. 18 | 16 | 4. 33 | 16 | 4. 50 | 16 | 5. 9 | 16 | 4. 58 e | 16 | 6. 20 | 23 | 5. 43 e | 16 | | | | | | | ′ | ″ |
| 50 | 4. 2 | 14 | 4. 19 | 16 | 4. 34 | 16 | 4. 51 | 16 | 5. 10 | 16 | 5. 0 e | 16 | 6. 22 | 23 | 5. 45 e | 16 | 1 | 0, 3 | 0, 4 | | | | 0 4 | |
| 51 | 4. 3 | 14 | 4. 20 | 16 | 4. 35 | 16 | 4. 52 | 16 | 5. 11 | 16 | 5. 2 e | 16 | 6. 25 | 22 | 5. 47 e | 16 | 2 | 0, 6 | 0, 7 | | | | 0 9 | |
| 52 | 4. 4 | 14 | 4. 21 | 16 | 4. 36 | 16 | 4. 53 | 16 | 5. 12 | 16 | 5. 4 e | 16 | 6. 27 | 22 | 5. 49 e | 16 | 3 | 0, 9 | 1, 1 | | | | 1, 3 | |
| 53 | 4. 5 | 14 | 4. 22 | 16 | 4. 37 | 16 | 4. 54 | 16 | 5. 13 | 16 | 5. 6 e | 16 | 6. 29 | 22 | 5. 51 n | 16 | 4 | 1, 2 | 1, 5 | | | | 1 7 | |
| 54 | 4. 6 | 14 | 4. 23 | 16 | 4. 38 | 16 | 4. 55 | 16 | 5. 14 | 16 | 5. 8 e | 16 | 6. 31 | 23 | 5. 54 e | 16 | 5 | 1, 5 | 1, 8 | | | | 2 2 | |
| 55 | 4. 7 | 14 | 4. 24 | 16 | 4. 39 | 16 | 4. 56 | 16 | 5. 15 | 16 | 5. 10 e | 16 | 6. 33 | 23 | 5. 56 e | 16 | 6 | 1, 8 | 2, 2 | | | | 2 6 | |
| 56 | 4. 8 | 14 | 4. 25 | 16 | 4. 40 | 16 | 4. 57 | 16 | 5. 16 | 16 | 5. 12 e | 16 | 6. 35 | 23 | 5. 58 e | 16 | 7 | 2, 1 | 2, 6 | | | | 3 0 | |
| 57 | 4. 9 | 14 | 4. 26 | 16 | 4. 41 | 16 | 4. 58 | 16 | 5. 17 | 16 | 5. 14 a | 16 | 6. 37 | 23 | 6. 0 n | 16 | 8 | 2, 4 | 2, 9 | | | | 3 5 | |
| 58 | 4. 10 | 14 | 4. 27 | 16 | 4. 42 | 16 | 4. 59 | 16 | 5. 18 | 16 | 5. 15 e | 16 | 6. 39 | 24 | 6. 3 e | 16 | 9 | 2, 7 | 3, 3 | | | | 4 | |
| 59 | 4. 11 | 14 | 4. 28 | 16 | 4. 43 | 16 | 5. 0 | 16 | 5. 19 | 16 | 5. 17 e | 16 | 6. 41 | 24 | 6. 5 e | 16 | 10 | 3, 0 | 3, 7 | | | | 4 | |
| | | | | | | | | | | | | | | | | | 20 | 6, 0 | 7, 3 | | | | 8 | |
| | | | | | | | | | | | | | | | | | 30 | 9, 0 | 11, 0 | | | | 13 | |
| | | | | | | | | | | | | | | | | | 40 | 12, 0 | 14, 7 | | | | 17, | |
| | | | | | | | | | | | | | | | | | 50 | 15, 0 | 18, 3 | | | | 21, | |

Proportional parts for Seconds of Interval.

| a | e | n |
|---|---|---|
| 0, 0 | 0, 0 | 0, 0 |
| 0, 3 | 0, 2 | 0, 2 |
| 0, 5 | 0, 5 | 0, 4 |
| 0, 8 | 0, 7 | 0, 7 |
| 1, 0 | 0, 9 | 0, 9 |
| 1, 3 | 1, 2 | 1, 1 |
| 1, 5 | 1, 4 | 1, 3 |
| 1, 8 | 1, 6 | 1, 5 |
| 2, 0 | 1, 9 | 1, 7 |
| 2, 3 | 2, 1 | 2, 0 |
| 2, 5 | 2, 3 | 2, 2 |
| 2, 8 | 2, 6 | 2, 4 |
| 3, 0 | 2, 8 | 2, 6 |
| 3, 3 | 3, 0 | 2, 8 |
| 3, 5 | 3, 3 | 3, 0 |
| 3, 8 | 3, 5 | 3, 3 |
| 4, 0 | 3, 7 | 3, 5 |
| 4, 3 | 4, 0 | 3, 7 |
| 4, 5 | 4, 2 | 3, 9 |
| 4, 8 | 4, 4 | 4, 1 |
| 5, 0 | 4, 7 | 4, 3 |
| 5, 3 | 4, 9 | 4, 6 |
| 5, 5 | 5, 1 | 4, 8 |
| 5, 8 | 5, 4 | 5, 0 |
| 6, 0 | 5, 6 | 5, 2 |
| 6, 3 | 5, 8 | 5, 4 |
| 6, 5 | 6, 1 | 5, 6 |
| 6, 8 | 6, 3 | 5, 9 |
| 7, 0 | 6, 5 | 6, 1 |
| 7, 3 | 6, 8 | 6, 3 |
| 7, 5 | 7, 0 | 6, 5 |
| 7, 8 | 7, 3 | 6, 8 |
| 8, 0 | 7, 5 | 6, 10 |
| 8, 3 | 7, 7 | 7, 2 |
| 8, 5 | 7, 9 | 7, 4 |
| 8, 8 | 8, 2 | 7, 6 |
| 9, 0 | 8, 4 | 7, 8 |
| 9, 3 | 8, 6 | 8, 0 |
| 9, 5 | 8, 9 | 8, 2 |
| 9, 8 | 9, 1 | 8, 5 |
| 10, 0 | 9, 3 | 8, 7 |
| 10, 3 | 9, 6 | 8, 9 |
| 10, 5 | 9, 8 | 9, 1 |
| 10, 8 | 10, 0 | 9, 3 |
| 11, 0 | 10, 3 | 9, 5 |
| 11, 3 | 10, 5 | 9, 8 |
| 11, 5 | 10, 7 | 10, 0 |
| 11, 8 | 11, 0 | 10, 2 |
| 12, 0 | 11, 2 | 10, 4 |
| 12, 3 | 11, 4 | 10, 6 |
| 12, 5 | 11, 7 | 10, 8 |
| 12, 8 | 11, 9 | 11, 1 |
| 13, 0 | 12, 1 | 11, 3 |
| 13, 3 | 12, 4 | 11, 5 |
| 13, 5 | 12, 6 | 11, 7 |
| 13, 8 | 12, 8 | 11, 9 |
| 14, 0 | 13, 1 | 12, 1 |
| 14, 3 | 13, 3 | 12, 4 |
| 14, 5 | 13, 5 | 12, 6 |
| 14, 8 | 13, 8 | 12, 8 |

Complement of Declination.

| Δh m | 66° | D | 67° | D | 68° | D | 69° | D | 70° | D | 71° | D | 72° | D | 73° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 27. 21 | 13 | 27. 34 | 12 | 27. 46 | 12 | 27. 58 | 11 | 28. 9 | 11 | 28. 20 | 11 | 28. 30 | 11 | 28. 40 | 10 |
| 1 | 27. 35 | 13 | 27. 48 | 13 | 28. 0 | 12 | 28. 12 | 11 | 28. 23 | 11 | 28. 34 | 11 | 28. 44 | 11 | 28. 54 | 9 |
| 2 | 27. 48 | 13 | 28. 1 | 13 | 28. 14 | 13 | 28. 25 | 12 | 28. 37 | 11 | 28. 48 | 11 | 28. 58 | 10 | 29. 8 | 9 |
| 3 | 28. 2 | 13 | 28. 15 | 13 | 28. 28 | 13 | 28. 40 | 12 | 28. 51 | 11 | 29. 2 | 11 | 29. 13 | 10 | 29. 23 | 9 |
| 4 | 28. 16 | 13 | 28. 28 | 13 | 28. 42 | 13 | 28. 54 | 11 | 29. 5 | 11 | 29. 16 | 11 | 29. 27 | 11 | 29. 37 | 10 |
| 5 | 28. 29 | 14 | 28. 43 | 12 | 28. 55 | 13 | 29. 8 | 11 | 29. 19 | 11 | 29. 32 | 11 | 29. 41 | 10 | 29. 51 | 9 |
| 6 | 28. 43 | 13 | 28. 56 | 13 | 29. 9 | 13 | 29. 22 | 11 | 29. 33 | 12 | 29. 45 | 11 | 29. 55 | 11 | 30. 5 | 10 |
| 7 | 28. 56 | 13 | 29. 10 | 13 | 29. 23 | 13 | 29. 35 | 12 | 29. 47 | 12 | 29. 59 | 11 | 30. 9 | 11 | 30. 20 | 10 |
| 8 | 29. 10 | 14 | 29. 24 | 13 | 29. 37 | 13 | 29. 49 | 12 | 30. 1 | 12 | 30. 13 | 11 | 30. 24 | 11 | 30. 34 | 10 |
| 9 | 29. 24 | 13 | 29. 37 | 14 | 29. 51 | 13 | 30. 3 | 12 | 30. 15 | 12 | 30. 27 | 11 | 30. 38 | 11 | 30. 48 | 10 |
| 10 | 29. 37 | 14 | 29. 51 | 13 | 30. 4 | 13 | 30. 17 | 13 | 30. 29 | 12 | 30. 41 | 12 | 30. 52 | 11 | 31. 3 | 9 |
| 11 | 29. 51 | 14 | 30. 5 | 13 | 30. 18 | 13 | 30. 31 | 13 | 30. 43 | 12 | 30. 55 | 11 | 31. 6 | 11 | 31. 17 | 10 |
| 12 | 30. 5 | 14 | 30. 19 | 13 | 30. 32 | 13 | 30. 45 | 13 | 30. 58 | 11 | 31. 9 | 12 | 31. 21 | 10 | 31. 31 | 11 |
| 13 | 30. 19 | 14 | 30. 32 | 14 | 30. 46 | 13 | 30. 59 | 12 | 31. 12 | 11 | 31. 23 | 12 | 31. 35 | 11 | 31. 45 | 11 |
| 14 | 30. 33 | 14 | 30. 46 | 14 | 31. 0 | 13 | 31. 13 | 13 | 31. 26 | 11 | 31. 37 | 12 | 31. 49 | 11 | 32. 0 | 10 |
| 15 | 30. 47 | 14 | 31. 0 | 14 | 31. 14 | 13 | 31. 27 | 13 | 31. 40 | 12 | 31. 52 | 12 | 32. 3 | 11 | 32. 14 | 10 |
| 16 | 30. 59 | 14 | 31. 13 | 14 | 31. 27 | 14 | 31. 41 | 13 | 31. 53 | 12 | 32. 6 | 12 | 32. 17 | 11 | 32. 28 | 11 |
| 17 | 31. 12 | 15 | 31. 27 | 14 | 31. 41 | 14 | 31. 55 | 13 | 32. 8 | 12 | 32. 20 | 12 | 32. 32 | 11 | 32. 43 | 10 |
| 18 | 31. 26 | 14 | 31. 41 | 14 | 31. 55 | 14 | 32. 9 | 13 | 32. 22 | 12 | 32. 34 | 12 | 32. 46 | 11 | 32. 57 | 11 |
| 19 | 31. 40 | 15 | 31. 55 | 14 | 32. 9 | 14 | 32. 23 | 13 | 32. 36 | 12 | 32. 48 | 12 | 33. 0 | 11 | 33. 11 | 11 |
| 20 | 31. 53 | 15 | 32. 8 | 15 | 32. 23 | 14 | 32. 36 | 14 | 32. 50 | 13 | 33. 2 | 12 | 33. 14 | 11 | 33. 25 | 11 |
| 21 | 32. 7 | 15 | 32. 22 | 15 | 32. 37 | 13 | 32. 50 | 14 | 33. 4 | 13 | 33. 16 | 12 | 33. 28 | 12 | 33. 40 | 11 |
| 22 | 32. 21 | 15 | 32. 36 | 14 | 32. 50 | 14 | 33. 4 | 14 | 33. 18 | 13 | 33. 29 | 12 | 33. 40 | 11 | 33. 54 | 11 |
| 23 | 32. 34 | 15 | 32. 49 | 15 | 33. 4 | 14 | 33. 18 | 14 | 33. 32 | 13 | 33. 45 | 12 | 33. 57 | 12 | 34. 8 | 11 |
| 24 | 32. 49 | 15 | 33. 3 | 14 | 33. 18 | 14 | 33. 32 | 14 | 33. 46 | 13 | 33. 59 | 12 | 34. 11 | 12 | 34. 23 | 11 |
| 25 | 33. 1 | 16 | 33. 17 | 15 | 33. 32 | 14 | 33. 46 | 14 | 34. 0 | 14 | 34. 13 | 12 | 34. 25 | 12 | 34. 37 | 11 |
| 26 | 33. 15 | 15 | 33. 30 | 16 | 33. 46 | 14 | 34. 0 | 14 | 34. 14 | 13 | 34. 27 | 12 | 34. 39 | 12 | 34. 51 | 11 |
| 27 | 33. 28 | 16 | 33. 44 | 15 | 33. 59 | 15 | 34. 14 | 14 | 34. 28 | 13 | 34. 41 | 13 | 34. 54 | 11 | 35. 5 | 12 |
| 28 | 33. 44 | 15 | 33. 58 | 16 | 34. 13 | 15 | 34. 28 | 14 | 34. 42 | 14 | 34. 55 | 13 | 35. 8 | 12 | 35. 20 | 11 |
| 29 | 33. 56 | 16 | 34. 12 | 15 | 34. 27 | 15 | 34. 42 | 14 | 34. 56 | 13 | 35. 9 | 13 | 35. 22 | 12 | 35. 34 | 11 |
| 30 | 34. 9 | 17 | 34. 26 | 16 | 34. 41 | 15 | 34. 56 | 14 | 35. 10 | 13 | 35. 23 | 13 | 35. 36 | 13 | 35. 49 | 11 |
| 31 | 34. 23 | 16 | 34. 39 | 16 | 34. 55 | 14 | 35. 9 | 15 | 35. 24 | 13 | 35. 37 | 13 | 35. 50 | 13 | 36. 3 | 12 |
| 32 | 34. 39 | 17 | 34. 53 | 15 | 35. 8 | 15 | 35. 23 | 15 | 35. 38 | 13 | 35. 51 | 13 | 36. 4 | 13 | 36. 17 | 12 |
| 33 | 34. 56 | 16 | 35. 9 | 16 | 35. 22 | 15 | 35. 37 | 15 | 35. 52 | 13 | 36. 5 | 14 | 36. 19 | 13 | 36. 31 | 12 |
| 34 | 35. 12 | 17 | 35. 25 | 16 | 35. 38 | 15 | 35. 52 | 14 | 36. 6 | 14 | 36. 20 | 13 | 36. 33 | 13 | 36. 45 | 12 |
| 35 | 35. 29 | 17 | 35. 42 | 16 | 35. 58 | 16 | 36. 14 | 15 | 36. 29 | 14 | 36. 43 | 14 | 36. 57 | 13 | 37. 10 | 13 |
| 36 | 35. 46 | 17 | 35. 59 | 17 | 36. 16 | 16 | 36. 32 | 15 | 36. 47 | 14 | 37. 1 | 14 | 37. 15 | 13 | 37. 28 | 13 |
| 37 | 36. 3 | 17 | 36. 16 | 17 | 36. 33 | 16 | 36. 49 | 15 | 37. 4 | 14 | 37. 18 | 14 | 37. 32 | 13 | 37. 45 | 13 |
| 38 | 36. 20 | 17 | 36. 33 | 17 | 36. 50 | 16 | 37. 6 | 16 | 37. 22 | 14 | 37. 36 | 14 | 37. 50 | 14 | 38. 4 | 13 |
| 39 | 36. 37 | 18 | 36. 50 | 17 | 37. 7 | 17 | 37. 23 | 16 | 37. 39 | 15 | 37. 54 | 14 | 38. 8 | 14 | 38. 22 | 13 |
| 40 | 36. 55 | 17 | 37. 7 | 17 | 37. 24 | 17 | 37. 40 | 16 | 37. 56 | 15 | 38. 11 | 14 | 38. 25 | 14 | 38. 39 | 13 |
| 41 | 37. 12 | 18 | 37. 24 | 17 | 37. 41 | 17 | 37. 57 | 16 | 38. 13 | 15 | 38. 28 | 14 | 38. 42 | 14 | 38. 56 | 13 |
| 42 | 37. 30 | 18 | 37. 41 | 17 | 37. 58 | 17 | 38. 14 | 16 | 38. 30 | 15 | 38. 45 | 14 | 38. 59 | 14 | 39. 13 | 13 |
| 43 | 37. 48 | 18 | 37. 58 | 18 | 38. 16 | 17 | 38. 31 | 17 | 38. 48 | 15 | 39. 3 | 15 | 39. 17 | 14 | 39. 31 | 14 |
| 44 | 38. 6 | 18 | 38. 16 | 18 | 38. 34 | 17 | 38. 48 | 17 | 39. 5 | 16 | 39. 21 | 15 | 39. 36 | 14 | 39. 50 | 14 |
| 45 | 38. 24 | 18 | 38. 34 | 18 | 38. 52 | 17 | 39. 5 | 17 | 39. 22 | 16 | 39. 38 | 15 | 39. 53 | 14 | 40. 7 | 14 |
| 46 | 38. 42 | 18 | 38. 52 | 18 | 39. 10 | 18 | 39. 22 | 17 | 39. 39 | 16 | 39. 55 | 16 | 40. 11 | 15 | 40. 26 | 14 |
| 47 | 39. 0 | 18 | 39. 10 | 18 | 39. 28 | 18 | 39. 40 | 17 | 39. 56 | 17 | 40. 13 | 16 | 40. 29 | 15 | 40. 44 | 14 |
| 48 | 39. 18 | 18 | 39. 28 | 18 | 39. 46 | 18 | 39. 57 | 18 | 40. 13 | 17 | 40. 30 | 16 | 40. 47 | 15 | 41. 2 | 14 |
| 49 | 39. 36 | 18 | 39. 46 | 18 | 40. 4 | 18 | 40. 15 | 18 | 40. 31 | 17 | 40. 47 | 17 | 41. 4 | 16 | 41. 20 | 15 |
| 50 | 39. 54 | 18 | 40. 4 | 18 | 40. 22 | 18 | 40. 33 | 18 | 40. 48 | 17 | 41. 4 | 17 | 41. 20 | 16 | 41. 35 | 15 |
| 51 | 40. 12 | 18 | 40. 22 | 18 | 40. 40 | 18 | 40. 51 | 18 | 41. 5 | 17 | 41. 21 | 17 | 41. 36 | 16 | 41. 50 | 15 |
| 52 | 40. 30 | 18 | 40. 40 | 18 | 40. 58 | 18 | 41. 9 | 18 | 41. 22 | 18 | 41. 38 | 17 | 41. 52 | 16 | 42. 5 | 15 |
| 53 | 40. 48 | 18 | 40. 58 | 18 | 41. 16 | 18 | 41. 27 | 18 | 41. 40 | 18 | 41. 55 | 17 | 42. 9 | 17 | 42. 20 | 15 |
| 54 | 41. 6 | 18 | 41. 16 | 18 | 41. 34 | 18 | 41. 45 | 18 | 41. 58 | 18 | 42. 12 | 17 | 42. 26 | 16 | 42. 35 | 15 |

Proportional parts for Complement of Declination.

| ′ | 9 | 13′ | 17′ |
|---|---|---|---|
| 1 | 0, 2 | 0, 2 | 0, 3 |
| 2 | 0, 3 | 0, 4 | 0, 5 |
| 3 | 0, 5 | 0, 7 | 0, 8 |
| 4 | 0, 6 | 0, 9 | 1, 1 |
| 5 | 0, 8 | 1, 1 | 1, 4 |
| 6 | 0, 9 | 1, 3 | 1, 7 |
| 7 | 1, 1 | 1, 5 | 2, 0 |
| 8 | 1, 2 | 1, 7 | 2, 3 |
| 9 | 1, 4 | 2, 0 | 2, 6 |
| 10 | 1, 5 | 2, 2 | 2, 9 |
| 20 | 3, 0 | 4, 5 | 5, 7 |
| 30 | 4, 5 | 6, 8 | 8, 6 |
| 40 | 6, 0 | 9, 0 | 11, 5 |
| 50 | 7, 5 | 11, 3 | 14, 4 |

| ″ | 9 | 13′ | 17′ |
|---|---|---|---|
| 1 | 0, 2 | 0, 2 | 0, 3 |
| 2 | 0, 3 | 0, 4 | 0, 6 |
| 3 | 0, 5 | 0, 7 | 0, 9 |
| 4 | 0, 7 | 0, 9 | 1, 2 |
| 5 | 0, 8 | 1, 1 | 1, 4 |
| 6 | 1, 0 | 1, 4 | 1, 8 |
| 7 | 1, 2 | 1, 6 | 2, 1 |
| 8 | 1, 3 | 1, 8 | 2, 4 |
| 9 | 1, 5 | 2, 1 | 2, 7 |
| 10 | 1, 7 | 2, 3 | 3, 0 |
| 20 | 3, 3 | 4, 7 | 6, 0 |
| 30 | 5, 0 | 7, 0 | 9, 0 |
| 40 | 6, 7 | 9, 3 | 12, 0 |
| 50 | 8, 3 | 11, 7 | 15, 0 |

| ″ | 11′ | 15 | 19 |
|---|---|---|---|
| 1 | 0, 2 | 0, 3 | 0, 3 |
| 2 | 0, 4 | 0, 5 | 0, 6 |
| 3 | 0, 6 | 0, 8 | 1, 0 |
| 4 | 0, 7 | 1, 0 | 1, 3 |
| 5 | 0, 9 | 1, 3 | 1, 6 |
| 6 | 1, 1 | 1, 5 | 1, 9 |
| 7 | 1, 3 | 1, 8 | 2, 2 |
| 8 | 1, 5 | 2, 0 | 2, 5 |
| 9 | 1, 7 | 2, 3 | 2, 9 |
| 10 | 1, 8 | 2, 5 | 3, 2 |
| 20 | 3, 7 | 5, 0 | 6, 5 |
| 30 | 5, 5 | 7, 5 | 9, 7 |
| 40 | 7, 3 | 10, 0 | 13, 0 |
| 50 | 9, 2 | 12, 5 | 16, 2 |

| ″ | 13 | 18 | 23 |
|---|---|---|---|
| 1 | 0, 2 | 0, 3 | 0, 4 |
| 2 | 0, 4 | 0, 5 | 0, 8 |
| 3 | 0, 6 | 0, 8 | 1, 0 |
| 4 | 0, 8 | 1, 1 | 1, 3 |
| 5 | 1, 0 | 1, 3 | 1, 7 |
| 6 | 1, 2 | 1, 6 | 2, 0 |
| 7 | 1, 4 | 1, 9 | 2, 3 |
| 8 | 1, 6 | 2, 1 | 2, 7 |
| 9 | 1, 8 | 2, 4 | 3, 0 |
| 10 | 2, 0 | 2, 7 | 3, 3 |
| 20 | 4, 0 | 5, 3 | 6, 7 |
| 30 | 6, 0 | 8, 0 | 10, 0 |
| 40 | 8, 0 | 10, 7 | 13, 3 |
| 50 | 10, 0 | 13, 3 | 16, 7 |

Proportional parts to Second of Interval.

| d | c | a |
|---|---|---|
| ′ | ′ | ′ |
| 0 | 0 | 0 |
| 0 | 0 | 1 |
| 0 | 0 | 1 |
| 0 | 0 | 2 |
| 0 | 0 | 2 |
| 0 | 1 | 3 |
| 0 | 1 | 3 |
| 0 | 1 | 4 |
| 0 | 1 | 4 |
| 0 | 1 | 5 |
| 0 | 2 | 5 |
| 0 | 2 | 6 |
| 0 | 2 | 6 |
| 0 | 2 | 7 |
| 0 | 2 | 7 |
| 0 | 3 | 8 |
| 0 | 3 | 8 |
| 0 | 3 | 9 |
| 0 | 3 | 9 |
| 0 | 4 | 10 |
| 0 | 4 | 10 |
| 0 | 4 | 11 |
| 0 | 4 | 11 |
| 0 | 5 | 12 |
| 0 | 5 | 12 |
| 0 | 5 | 13 |
| 0 | 5 | 13 |
| 0 | 6 | 14 |
| 0 | 6 | 14 |
| 0 | 6 | 15 |
| 0 | 6 | 15 |
| 0 | 7 | 16 |
| 0 | 7 | 16 |
| 0 | 7 | 17 |
| 0 | 7 | 17 |
| 0 | 8 | 18 |
| 0 | 8 | 18 |
| 0 | 8 | 19 |
| 0 | 8 | 19 |
| 0 | 9 | 20 |
| 0 | 9 | 20 |
| 0 | 9 | 21 |
| 0 | 9 | 21 |
| 0 | 10 | 22 |
| 0 | 10 | 22 |
| 0 | 10 | 23 |
| 0 | 10 | 23 |
| 0 | 11 | 24 |
| 0 | 11 | 24 |
| 0 | 11 | 25 |
| 0 | 11 | 25 |
| 0 | 12 | 26 |
| 0 | 12 | 26 |
| 0 | 12 | 27 |
| 0 | 12 | 27 |
| 0 | 13 | 28 |
| 0 | 13 | 28 |
| 0 | 13 | 29 |
| 0 | 13 | 29 |
| 0 | 14 | 30 |
| 0 | 14 | 30 |
| 0 | 14 | 31 |
| 0 | 14 | 31 |
| 0 | 15 | 32 |
| 0 | 15 | 32 |
| 0 | 15 | 33 |
| 0 | 15 | 33 |
| 0 | 16 | 34 |
| 0 | 16 | 34 |
| 0 | 16 | 35 |
| 0 | 16 | 35 |
| 0 | 17 | 36 |
| 0 | 17 | 36 |
| 0 | 17 | 37 |
| 0 | 17 | 37 |
| 0 | 18 | 38 |
| 0 | 18 | 38 |
| 0 | 18 | 39 |
| 0 | 18 | 39 |
| 0 | 19 | 40 |
| 0 | 19 | 40 |
| 0 | 19 | 41 |
| 0 | 19 | 41 |
| 0 | 20 | 42 |
| 0 | 20 | 42 |
| 0 | 20 | 43 |
| 0 | 20 | 43 |
| 0 | 21 | 44 |
| 0 | 21 | 44 |
| 0 | 21 | 45 |
| 0 | 21 | 45 |
| 0 | 22 | 46 |
| 0 | 22 | 46 |
| 0 | 22 | 47 |
| 0 | 22 | 47 |
| 0 | 23 | 48 |
| 0 | 23 | 48 |
| 0 | 23 | 49 |
| 0 | 23 | 49 |
| 0 | 24 | 50 |
| 0 | 24 | 50 |
| 0 | 24 | 51 |
| 0 | 24 | 51 |
| 0 | 25 | 52 |
| 0 | 25 | 52 |
| 0 | 25 | 53 |
| 0 | 25 | 53 |
| 0 | 26 | 54 |
| 0 | 26 | 54 |
| 0 | 26 | 55 |
| 0 | 26 | 55 |
| 0 | 27 | 56 |
| 0 | 27 | 56 |
| 0 | 27 | 57 |
| 0 | 27 | 57 |
| 0 | 28 | 58 |
| 0 | 28 | 58 |
| 0 | 28 | 59 |
| 0 | 28 | 59 |
| 0 | 29 | 60 |

Declination.

| m | 16° | D | 17° | D | 18° | D | 19° | D | 20° | D | 21° | D | 22° | D | 23° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 4 13 | 14 | 4 30 | 15 | 4 48 | 16 | 5 6 | 17 | 5 24 | 18 | 5 43 | 19 | 6 2 | 20 | 6 22 | 21 |
| 1 | 4 15 | 14 | 4 32 | 15 | 4 50 | 16 | 5 8 | 17 | 5 27 | 18 | 5 45 | 19 | 6 4 | 20 | 6 24 | 21 |
| 2 | 4 16 | 14 | 4 34 | 15 | 4 52 | 16 | 5 10 | 17 | 5 29 | 18 | 5 47 | 19 | 6 6 | 20 | 6 26 | 21 |
| 3 | 4 18 | 14 | 4 36 | 15 | 4 54 | 16 | 5 12 | 17 | 5 31 | 18 | 5 49 | 19 | 6 8 | 20 | 6 28 | 21 |
| 4 | 4 20 | 14 | 4 38 | 15 | 4 56 | 16 | 5 14 | 17 | 5 33 | 18 | 5 51 | 19 | 6 10 | 20 | 6 30 | 21 |
| 5 | 4 21 | 14 | 4 39 | 15 | 4 58 | 16 | 5 16 | 17 | 5 35 | 18 | 5 53 | 19 | 6 12 | 20 | 6 32 | 21 |
| 6 | 4 23 | 14 | 4 41 | 15 | 5 0 | 16 | 5 18 | 17 | 5 37 | 18 | 5 55 | 19 | 6 14 | 20 | 6 34 | 21 |
| 7 | 4 25 | 14 | 4 43 | 15 | 5 2 | 16 | 5 20 | 17 | 5 39 | 18 | 5 57 | 19 | 6 16 | 20 | 6 36 | 21 |
| 8 | 4 27 | 14 | 4 45 | 15 | 5 4 | 16 | 5 22 | 17 | 5 41 | 18 | 5 59 | 19 | 6 18 | 20 | 6 38 | 21 |
| 9 | 4 28 | 14 | 4 46 | 15 | 5 6 | 16 | 5 24 | 17 | 5 43 | 18 | 6 1 | 19 | 6 20 | 20 | 6 40 | 21 |
| 10 | 4 30 | 14 | 4 48 | 15 | 5 8 | 16 | 5 26 | 17 | 5 45 | 18 | 6 3 | 19 | 6 22 | 20 | 6 42 | 21 |
| 11 | 4 32 | 14 | 4 50 | 15 | 5 10 | 16 | 5 28 | 17 | 5 47 | 18 | 6 5 | 19 | 6 24 | 20 | 6 44 | 21 |
| 12 | 4 34 | 14 | 4 52 | 15 | 5 12 | 16 | 5 30 | 17 | 5 49 | 18 | 6 7 | 19 | 6 26 | 20 | 6 46 | 21 |
| 13 | 4 35 | 14 | 4 53 | 15 | 5 14 | 16 | 5 32 | 17 | 5 51 | 18 | 6 9 | 19 | 6 28 | 20 | 6 48 | 21 |
| 14 | 4 37 | 14 | 4 55 | 15 | 5 16 | 16 | 5 34 | 17 | 5 53 | 18 | 6 11 | 19 | 6 30 | 20 | 6 50 | 21 |
| 15 | 4 39 | 14 | 4 57 | 15 | 5 18 | 16 | 5 36 | 17 | 5 55 | 18 | 6 13 | 19 | 6 32 | 20 | 6 52 | 21 |
| 16 | 4 41 | 14 | 4 59 | 15 | 5 20 | 16 | 5 38 | 17 | 5 57 | 18 | 6 15 | 19 | 6 34 | 20 | 6 54 | 21 |
| 17 | 4 42 | 14 | 5 0 | 15 | 5 22 | 16 | 5 40 | 17 | 5 59 | 18 | 6 17 | 19 | 6 36 | 20 | 6 56 | 21 |
| 18 | 4 44 | 14 | 5 2 | 15 | 5 24 | 16 | 5 42 | 17 | 6 1 | 18 | 6 19 | 19 | 6 38 | 20 | 6 58 | 21 |
| 19 | 4 46 | 14 | 5 4 | 15 | 5 26 | 16 | 5 44 | 17 | 6 3 | 18 | 6 21 | 19 | 6 40 | 20 | 7 0 | 21 |
| 20 | 4 48 | 14 | 5 6 | 15 | 5 28 | 16 | 5 46 | 17 | 6 5 | 18 | 6 23 | 19 | 6 42 | 20 | 7 2 | 21 |
| 21 | 4 49 | 14 | 5 7 | 15 | 5 30 | 16 | 5 48 | 17 | 6 7 | 18 | 6 25 | 19 | 6 44 | 20 | 7 4 | 21 |
| 22 | 4 51 | 14 | 5 9 | 15 | 5 32 | 16 | 5 50 | 17 | 6 9 | 18 | 6 27 | 19 | 6 46 | 20 | 7 6 | 21 |
| 23 | 4 53 | 14 | 5 11 | 15 | 5 34 | 16 | 5 52 | 17 | 6 11 | 18 | 6 29 | 19 | 6 48 | 20 | 7 8 | 21 |
| 24 | 4 55 | 14 | 5 13 | 15 | 5 36 | 16 | 5 54 | 17 | 6 13 | 18 | 6 31 | 19 | 6 50 | 20 | 7 10 | 21 |
| 25 | 4 56 | 14 | 5 14 | 15 | 5 38 | 16 | 5 56 | 17 | 6 15 | 18 | 6 33 | 19 | 6 52 | 20 | 7 12 | 21 |
| 26 | 4 58 | 14 | 5 16 | 15 | 5 40 | 16 | 5 58 | 17 | 6 17 | 18 | 6 35 | 19 | 6 54 | 20 | 7 14 | 21 |
| 27 | 5 0 | 14 | 5 18 | 15 | 5 42 | 16 | 6 0 | 17 | 6 19 | 18 | 6 37 | 19 | 6 56 | 20 | 7 16 | 21 |
| 28 | 5 2 | 14 | 5 20 | 15 | 5 44 | 16 | 6 2 | 17 | 6 21 | 18 | 6 39 | 19 | 6 58 | 20 | 7 18 | 21 |
| 29 | 5 3 | 14 | 5 21 | 15 | 5 46 | 16 | 6 4 | 17 | 6 23 | 18 | 6 41 | 19 | 7 0 | 20 | 7 20 | 21 |
| 30 | 5 5 | 14 | 5 23 | 15 | 5 48 | 16 | 6 6 | 17 | 6 25 | 18 | 6 43 | 19 | 7 2 | 20 | 7 22 | 21 |
| 31 | 5 7 | 14 | 5 25 | 15 | 5 50 | 16 | 6 8 | 17 | 6 27 | 18 | 6 45 | 19 | 7 4 | 20 | 7 24 | 21 |
| 32 | 5 9 | 14 | 5 27 | 15 | 5 52 | 16 | 6 10 | 17 | 6 29 | 18 | 6 47 | 19 | 7 6 | 20 | 7 26 | 21 |
| 33 | 5 10 | 14 | 5 28 | 15 | 5 54 | 16 | 6 12 | 17 | 6 31 | 18 | 6 49 | 19 | 7 8 | 20 | 7 28 | 21 |
| 34 | 5 12 | 14 | 5 30 | 15 | 5 56 | 16 | 6 14 | 17 | 6 33 | 18 | 6 51 | 19 | 7 10 | 20 | 7 30 | 21 |
| 35 | 5 14 | 14 | 5 32 | 15 | 5 58 | 16 | 6 16 | 17 | 6 35 | 18 | 6 53 | 19 | 7 12 | 20 | 7 32 | 21 |
| 36 | 5 16 | 14 | 5 34 | 15 | 6 0 | 16 | 6 18 | 17 | 6 37 | 18 | 6 55 | 19 | 7 14 | 20 | 7 34 | 21 |
| 37 | 5 17 | 14 | 5 35 | 15 | 6 2 | 16 | 6 20 | 17 | 6 39 | 18 | 6 57 | 19 | 7 16 | 20 | 7 36 | 21 |
| 38 | 5 19 | 14 | 5 37 | 15 | 6 4 | 16 | 6 22 | 17 | 6 41 | 18 | 6 59 | 19 | 7 18 | 20 | 7 38 | 21 |
| 39 | 5 21 | 14 | 5 39 | 15 | 6 6 | 16 | 6 24 | 17 | 6 43 | 18 | 7 1 | 19 | 7 20 | 20 | 7 40 | 21 |
| 40 | 5 23 | 14 | 5 41 | 15 | 6 8 | 16 | 6 26 | 17 | 6 45 | 18 | 7 3 | 19 | 7 22 | 20 | 7 42 | 21 |
| 41 | 5 24 | 14 | 5 42 | 15 | 6 10 | 16 | 6 28 | 17 | 6 47 | 18 | 7 5 | 19 | 7 24 | 20 | 7 44 | 21 |
| 42 | 5 26 | 14 | 5 44 | 15 | 6 12 | 16 | 6 30 | 17 | 6 49 | 18 | 7 7 | 19 | 7 26 | 20 | 7 46 | 21 |
| 43 | 5 28 | 14 | 5 46 | 15 | 6 14 | 16 | 6 32 | 17 | 6 51 | 18 | 7 9 | 19 | 7 28 | 20 | 7 48 | 21 |
| 44 | 5 30 | 14 | 5 48 | 15 | 6 16 | 16 | 6 34 | 17 | 6 53 | 18 | 7 11 | 19 | 7 30 | 20 | 7 50 | 21 |
| 45 | 5 31 | 14 | 5 49 | 15 | 6 18 | 16 | 6 36 | 17 | 6 55 | 18 | 7 13 | 19 | 7 32 | 20 | 7 52 | 21 |
| 46 | 5 33 | 14 | 5 51 | 15 | 6 20 | 16 | 6 38 | 17 | 6 57 | 18 | 7 15 | 19 | 7 34 | 20 | 7 54 | 21 |
| 47 | 5 35 | 14 | 5 53 | 15 | 6 22 | 16 | 6 40 | 17 | 6 59 | 18 | 7 17 | 19 | 7 36 | 20 | 7 56 | 21 |
| 48 | 5 37 | 14 | 5 55 | 15 | 6 24 | 16 | 6 42 | 17 | 7 1 | 18 | 7 19 | 19 | 7 38 | 20 | 7 58 | 21 |
| 49 | 5 38 | 14 | 5 56 | 15 | 6 26 | 16 | 6 44 | 17 | 7 3 | 18 | 7 21 | 19 | 7 40 | 20 | 8 0 | 21 |
| 50 | 5 40 | 14 | 5 58 | 15 | 6 28 | 16 | 6 46 | 17 | 7 5 | 18 | 7 23 | 19 | 7 42 | 20 | 8 2 | 21 |
| 51 | 5 42 | 14 | 6 0 | 15 | 6 30 | 16 | 6 48 | 17 | 7 7 | 18 | 7 25 | 19 | 7 44 | 20 | 8 4 | 21 |
| 52 | 5 44 | 14 | 6 2 | 15 | 6 32 | 16 | 6 50 | 17 | 7 9 | 18 | 7 27 | 19 | 7 46 | 20 | 8 6 | 21 |
| 53 | 5 45 | 14 | 6 3 | 15 | 6 34 | 16 | 6 52 | 17 | 7 11 | 18 | 7 29 | 19 | 7 48 | 20 | 8 8 | 21 |
| 54 | 5 47 | 14 | 6 5 | 15 | 6 36 | 16 | 6 54 | 17 | 7 13 | 18 | 7 31 | 19 | 7 50 | 20 | 8 10 | 21 |
| 55 | 5 49 | 14 | 6 7 | 15 | 6 38 | 16 | 6 56 | 17 | 7 15 | 18 | 7 33 | 19 | 7 52 | 20 | 8 12 | 21 |
| 56 | 5 51 | 14 | 6 9 | 15 | 6 40 | 16 | 6 58 | 17 | 7 17 | 18 | 7 35 | 19 | 7 54 | 20 | 8 14 | 21 |
| 57 | 5 52 | 14 | 6 10 | 15 | 6 42 | 16 | 7 0 | 17 | 7 19 | 18 | 7 37 | 19 | 7 56 | 20 | 8 16 | 21 |
| 58 | 5 54 | 14 | 6 12 | 15 | 6 44 | 16 | 7 2 | 17 | 7 21 | 18 | 7 39 | 19 | 7 58 | 20 | 8 18 | 21 |
| 59 | 5 56 | 14 | 6 14 | 15 | 6 46 | 16 | 7 4 | 17 | 7 23 | 18 | 7 41 | 19 | 8 0 | 20 | 8 20 | 21 |
| 60 | 5 58 | 14 | 6 16 | 15 | 6 48 | 16 | 7 6 | 17 | 7 25 | 18 | 7 43 | 19 | 8 2 | 20 | 8 22 | 21 |

Proportional parts for Declination.

| d | 0 | 15 | 30 |
|---|---|---|---|
| ′ | ″ | ″ | ″ |
| 0 | 0 | 0 | 0 |
| 1 | 0 | 0 | 0 |
| 2 | 0 | 0 | 0 |
| 3 | 0 | 0 | 1 |
| 4 | 0 | 1 | 1 |
| 5 | 0 | 1 | 1 |
| 6 | 1 | 1 | 1 |
| 7 | 1 | 1 | 2 |
| 8 | 1 | 1 | 2 |
| 9 | 1 | 2 | 2 |
| 10 | 1 | 2 | 3 |
| 11 | 1 | 2 | 3 |
| 12 | 1 | 2 | 3 |
| 13 | 1 | 2 | 4 |
| 14 | 1 | 3 | 4 |
| 15 | 1 | 3 | 4 |
| 16 | 1 | 3 | 5 |
| 17 | 1 | 3 | 5 |
| 18 | 1 | 3 | 5 |
| 19 | 1 | 4 | 6 |
| 20 | 1 | 4 | 6 |
| 21 | 1 | 4 | 6 |
| 22 | 1 | 4 | 7 |
| 23 | 1 | 4 | 7 |
| 24 | 1 | 4 | 7 |
| 25 | 1 | 5 | 8 |
| 26 | 1 | 5 | 8 |
| 27 | 1 | 5 | 8 |
| 28 | 1 | 5 | 9 |
| 29 | 1 | 5 | 9 |
| 30 | 1 | 5 | 9 |
| 31 | 1 | 6 | 10 |
| 32 | 1 | 6 | 10 |
| 33 | 1 | 6 | 10 |
| 34 | 1 | 6 | 11 |
| 35 | 1 | 6 | 11 |
| 36 | 1 | 6 | 11 |
| 37 | 1 | 7 | 12 |
| 38 | 1 | 7 | 12 |
| 39 | 1 | 7 | 12 |
| 40 | 1 | 7 | 13 |
| 41 | 1 | 7 | 13 |
| 42 | 1 | 7 | 13 |
| 43 | 1 | 8 | 14 |
| 44 | 1 | 8 | 14 |
| 45 | 1 | 8 | 14 |
| 46 | 1 | 8 | 15 |
| 47 | 1 | 8 | 15 |
| 48 | 1 | 8 | 15 |
| 49 | 1 | 9 | 16 |
| 50 | 1 | 9 | 16 |
| 51 | 1 | 9 | 16 |
| 52 | 1 | 9 | 17 |
| 53 | 1 | 9 | 17 |
| 54 | 1 | 9 | 17 |
| 55 | 1 | 10 | 18 |
| 56 | 1 | 10 | 18 |
| 57 | 1 | 10 | 18 |
| 58 | 1 | 10 | 19 |
| 59 | 1 | 10 | 19 |
| 60 | 1 | 10 | 19 |

Proportional parts for seconds of Increase.

| a | b | c |
|---|---|---|
| ′ | ″ | ″ |
| 0 | 0 | 0 |
| 1 | 0 | 1 |
| 2 | 0 | 2 |
| 3 | 0 | 3 |
| 4 | 0 | 4 |
| 5 | 0 | 5 |
| 6 | 0 | 6 |
| 7 | 0 | 7 |
| 8 | 0 | 8 |
| 9 | 0 | 9 |
| 10 | 0 | 10 |
| 11 | 0 | 11 |
| 12 | 0 | 12 |
| 13 | 0 | 13 |
| 14 | 0 | 14 |
| 15 | 0 | 15 |
| 16 | 0 | 16 |
| 17 | 0 | 17 |
| 18 | 0 | 18 |
| 19 | 0 | 19 |
| 20 | 0 | 20 |
| 21 | 0 | 21 |
| 22 | 0 | 22 |
| 23 | 0 | 23 |
| 24 | 0 | 24 |
| 25 | 0 | 25 |
| 26 | 0 | 26 |
| 27 | 0 | 27 |
| 28 | 0 | 28 |
| 29 | 0 | 29 |
| 30 | 0 | 30 |
| 31 | 0 | 31 |
| 32 | 0 | 32 |
| 33 | 0 | 33 |
| 34 | 0 | 34 |
| 35 | 0 | 35 |
| 36 | 0 | 36 |
| 37 | 0 | 37 |
| 38 | 0 | 38 |
| 39 | 0 | 39 |
| 40 | 0 | 40 |
| 41 | 0 | 41 |
| 42 | 0 | 42 |
| 43 | 0 | 43 |
| 44 | 0 | 44 |
| 45 | 0 | 45 |
| 46 | 0 | 46 |
| 47 | 0 | 47 |
| 48 | 0 | 48 |
| 49 | 0 | 49 |
| 50 | 0 | 50 |
| 51 | 0 | 51 |
| 52 | 0 | 52 |
| 53 | 0 | 53 |
| 54 | 0 | 54 |
| 55 | 0 | 55 |
| 56 | 0 | 56 |
| 57 | 0 | 57 |
| 58 | 0 | 58 |
| 59 | 0 | 59 |
| 60 | 1 | 0 |

Complement of Declination.

| Min. | 82° | D | 83° | D | 84° | D | 85° | D | 86° | D | 87° | D | 88° | D | 89° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ |
| 0 | | | 44. 39 | 7 | 44. 44 | 5 | 44. 49 | 4 | 44. 53 | 3 | 44. 56 | 2 | 44. 58 | 2 | 45. 0 | 0 |
| 1 | | | 44. 54 | 7 | 44. 59 | 5 | 45. 4 | 4 | 45. 8 | 3 | 45. 11 | 2 | 45. 13 | 2 | 45. 15 | 0 |
| 2 | | | 45. 9 | 7 | 45. 14 | 5 | 45. 19 | 4 | 45. 23 | 3 | 45. 26 | 2 | 45. 28 | 2 | 45. 30 | 0 |
| 3 | | | 45. 23 | 6 | 45. 29 | 5 | 45. 34 | 4 | 45. 38 | 3 | 45. 41 | 2 | 45. 43 | 2 | 45. 45 | 0 |
| 4 | | | 45. 38 | 6 | 45. 44 | 5 | 45. 49 | 4 | 45. 53 | 3 | 45. 56 | 2 | 45. 58 | 2 | 46. 0 | 0 |
| 5 | | | 45. 53 | 7 | 45. 59 | 5 | 46. 4 | 4 | 46. 8 | 3 | 46. 11 | 2 | 46. 13 | 2 | 46. 15 | 0 |
| 6 | | | 46. 8 | 7 | 46. 14 | 5 | 46. 19 | 4 | 46. 23 | 3 | 46. 26 | 2 | 46. 28 | 2 | 46. 30 | 0 |
| 7 | | | 46. 23 | 7 | 46. 29 | 5 | 46. 34 | 4 | 46. 38 | 3 | 46. 41 | 2 | 46. 43 | 2 | 46. 45 | 0 |
| 8 | | | 46. 38 | 7 | 46. 44 | 5 | 46. 49 | 4 | 46. 53 | 3 | 46. 56 | 2 | 46. 58 | 2 | 47. 0 | 0 |
| 9 | | | 46. 53 | 7 | 46. 59 | 5 | 47. 4 | 4 | 47. 8 | 3 | 47. 11 | 2 | 47. 13 | 2 | 47. 15 | 0 |
| 10 | | | 47. 7 | 6 | 47. 13 | 5 | 47. 18 | 4 | 47. 23 | 3 | 47. 26 | 2 | 47. 28 | 2 | 47. 30 | 0 |
| 11 | | | 47. 22 | 7 | 47. 28 | 5 | 47. 33 | 4 | 47. 38 | 3 | 47. 41 | 2 | 47. 43 | 2 | 47. 45 | 0 |
| 12 | | | 47. 37 | 7 | 47. 43 | 5 | 47. 48 | 4 | 47. 53 | 3 | 47. 56 | 2 | 47. 58 | 2 | 48. 0 | 0 |
| 13 | | | 47. 52 | 7 | 47. 58 | 5 | 48. 3 | 4 | 48. 8 | 3 | 48. 11 | 2 | 48. 13 | 2 | 48. 15 | 0 |
| 14 | | | 48. 7 | 7 | 48. 13 | 5 | 48. 18 | 4 | 48. 22 | 4 | 48. 26 | 2 | 48. 28 | 2 | 48. 30 | 0 |
| 15 | | | 48. 22 | 7 | 48. 28 | 5 | 48. 33 | 4 | 48. 37 | 4 | 48. 41 | 2 | 48. 43 | 2 | 48. 45 | 0 |
| 16 | | | 48. 37 | 7 | 48. 43 | 5 | 48. 48 | 4 | 48. 52 | 4 | 48. 56 | 2 | 48. 58 | 2 | 49. 0 | 0 |
| 17 | | | 48. 52 | 8 | 48. 58 | 5 | 49. 3 | 4 | 49. 7 | 4 | 49. 11 | 2 | 49. 13 | 2 | 49. 15 | 0 |
| 18 | | | 49. 6 | 7 | 49. 13 | 5 | 49. 18 | 4 | 49. 22 | 4 | 49. 26 | 2 | 49. 28 | 2 | 49. 30 | 0 |
| 19 | | | 49. 21 | 7 | 49. 28 | 5 | 49. 33 | 4 | 49. 37 | 4 | 49. 41 | 2 | 49. 43 | 2 | 49. 45 | 0 |
| 20 | | | 49. 36 | 7 | 49. 42 | 6 | 49. 48 | 4 | 49. 52 | 4 | 49. 56 | 2 | 49. 58 | 1 | 49. 59 | 1 |
| 21 | | | 49. 51 | 7 | 49. 57 | 6 | 50. 3 | 4 | 50. 7 | 4 | 50. 11 | 2 | 50. 13 | 1 | 50. 14 | 1 |
| 22 | 49. 59 | | 50. 6 | 7 | 50. 12 | 6 | 50. 18 | 4 | 50. 22 | 4 | 50. 26 | 2 | 50. 28 | 1 | 50. 29 | 1 |
| 23 | 50. 13 | | 50. 21 | 8 | 50. 27 | 6 | 50. 33 | 4 | 50. 37 | 4 | 50. 41 | 2 | 50. 43 | 1 | 50. 44 | 1 |
| 24 | 50. 28 | | 50. 36 | 8 | 50. 42 | 6 | 50. 48 | 4 | 50. 52 | 4 | 50. 56 | 2 | 50. 58 | 1 | 50. 59 | 1 |
| 25 | 50. 43 | | 50. 50 | 7 | 50. 57 | 7 | 51. 2 | 5 | 51. 7 | 3 | 51. 10 | 3 | 51. 13 | 1 | 51. 14 | 1 |
| 26 | 50. 58 | | 51. 5 | 7 | 51. 12 | 7 | 51. 17 | 5 | 51. 22 | 3 | 51. 25 | 3 | 51. 28 | 1 | 51. 29 | 1 |
| 27 | 51. 13 | | 51. 20 | 7 | 51. 27 | 7 | 51. 32 | 5 | 51. 37 | 3 | 51. 40 | 3 | 51. 43 | 1 | 51. 44 | 1 |
| 28 | 51. 27 | | 51. 35 | 8 | 51. 42 | 7 | 51. 47 | 5 | 51. 52 | 3 | 51. 55 | 3 | 51. 58 | 1 | 51. 59 | 1 |
| 29 | 51. 42 | | 51. 50 | 8 | 51. 57 | 7 | 52. 2 | 5 | 52. 7 | 3 | 52. 10 | 3 | 52. 13 | 1 | 52. 14 | 1 |
| 30 | 51. 57 | | 52. 5 | 8 | 52. 11 | 6 | 52. 17 | 5 | 52. 22 | 3 | 52. 25 | 3 | 52. 28 | 1 | 52. 29 | 1 |
| 31 | 52. 12 | | 52. 20 | 8 | 52. 26 | 6 | 52. 32 | 5 | 52. 37 | 3 | 52. 40 | 3 | 52. 43 | 1 | 52. 44 | 1 |
| 32 | 52. 27 | | 52. 34 | 7 | 52. 41 | 7 | 52. 47 | 5 | 52. 52 | 3 | 52. 55 | 3 | 52. 58 | 1 | 52. 59 | 1 |
| 33 | 52. 41 | | 52. 49 | 8 | 52. 56 | 7 | 53. 2 | 5 | 53. 7 | 3 | 53. 10 | 3 | 53. 13 | 1 | 53. 14 | 1 |
| 34 | 52. 56 | | 53. 4 | 8 | 53. 11 | 7 | 53. 17 | 5 | 53. 22 | 3 | 53. 25 | 3 | 53. 28 | 1 | 53. 29 | 1 |
| 35 | 53. 11 | | 53. 19 | 8 | 53. 26 | 7 | 53. 32 | 5 | 53. 37 | 3 | 53. 40 | 3 | 53. 43 | 1 | 53. 44 | 1 |
| 36 | 53. 26 | | 53. 34 | 8 | 53. 41 | 7 | 53. 47 | 5 | 53. 51 | 4 | 53. 55 | 3 | 53. 58 | 1 | 53. 59 | 1 |
| 37 | 53. 41 | | 53. 49 | 8 | 53. 56 | 7 | 54. 2 | 5 | 54. 6 | 4 | 54. 10 | 3 | 54. 13 | 1 | 54. 14 | 1 |
| 38 | 53. 56 | | 54. 4 | 8 | 54. 11 | 7 | 54. 17 | 5 | 54. 21 | 4 | 54. 25 | 3 | 54. 28 | 1 | 54. 29 | 1 |
| 39 | 54. 11 | | 54. 18 | 8 | 54. 26 | 8 | 54. 31 | 5 | 54. 36 | 4 | 54. 40 | 3 | 54. 43 | 1 | 54. 44 | 1 |
| 40 | 54. 26 | | 54. 33 | 8 | 54. 40 | 7 | 54. 46 | 6 | 54. 51 | 4 | 54. 55 | 3 | 54. 58 | 1 | 54. 59 | 1 |
| 41 | 54. 41 | | 54. 48 | 8 | 54. 55 | 7 | 55. 1 | 6 | 55. 6 | 4 | 55. 10 | 3 | 55. 13 | 1 | 55. 14 | 1 |
| 42 | 54. 56 | | 55. 3 | 8 | 55. 10 | 7 | 55. 16 | 6 | 55. 21 | 4 | 55. 25 | 3 | 55. 28 | 1 | 55. 29 | 1 |
| 43 | 55. 11 | | 55. 18 | 9 | 55. 25 | 7 | 55. 31 | 6 | 55. 36 | 4 | 55. 40 | 3 | 55. 43 | 1 | 55. 44 | 1 |
| 44 | 55. 26 | | 55. 33 | 9 | 55. 40 | 7 | 55. 46 | 6 | 55. 51 | 4 | 55. 55 | 3 | 55. 58 | 1 | 55. 59 | 1 |
| 45 | 55. 41 | | 55. 48 | 9 | 55. 55 | 7 | 56. 1 | 6 | 56. 6 | 4 | 56. 10 | 3 | 56. 13 | 1 | 56. 14 | 1 |
| 46 | 55. 56 | | 56. 3 | 9 | 56. 10 | 8 | 56. 16 | 6 | 56. 21 | 4 | 56. 25 | 3 | 56. 28 | 1 | 56. 29 | 1 |
| 47 | 56. 11 | | 56. 18 | 9 | 56. 25 | 8 | 56. 31 | 6 | 56. 36 | 4 | 56. 40 | 3 | 56. 43 | 1 | 56. 44 | 1 |
| 48 | 56. 26 | | 56. 33 | 9 | 56. 40 | 8 | 56. 46 | 6 | 56. 51 | 4 | 56. 55 | 3 | 56. 58 | 1 | 56. 59 | 1 |
| 49 | 56. 41 | | 56. 48 | 9 | 56. 55 | 8 | 57. 1 | 6 | 57. 6 | 4 | 57. 10 | 3 | 57. 13 | 1 | 57. 14 | 1 |
| 50 | 56. 56 | | 57. 3 | 9 | 57. 10 | 8 | 57. 16 | 7 | 57. 21 | 5 | 57. 25 | 3 | 57. 28 | 1 | 57. 29 | 1 |
| 51 | 57. 11 | | 57. 18 | 9 | 57. 25 | 8 | 57. 31 | 7 | 57. 36 | 5 | 57. 40 | 3 | 57. 43 | 1 | 57. 44 | 1 |
| 52 | 57. 26 | | 57. 33 | 9 | 57. 40 | 8 | 57. 46 | 7 | 57. 51 | 5 | 57. 55 | 3 | 57. 58 | 1 | 57. 59 | 1 |
| 53 | 57. 41 | | 57. 48 | 9 | 57. 55 | 8 | 58. 1 | 7 | 58. 6 | 5 | 58. 10 | 3 | 58. 13 | 1 | 58. 14 | 1 |
| 54 | 57. 56 | | 58. 3 | 9 | 58. 10 | 8 | 58. 16 | 7 | 58. 21 | 5 | 58. 25 | 3 | 58. 28 | 1 | 58. 29 | 1 |
| 55 | 58. 11 | | 58. 18 | 9 | 58. 25 | 8 | 58. 31 | 7 | 58. 36 | 5 | 58. 40 | 3 | 58. 43 | 1 | 58. 44 | 1 |
| 56 | 58. 26 | | 58. 33 | 9 | 58. 40 | 8 | 58. 46 | 7 | 58. 51 | 5 | 58. 55 | 3 | 58. 58 | 1 | 58. 59 | 1 |
| 57 | 58. 41 | | 58. 48 | 9 | 58. 55 | 8 | 59. 1 | 7 | 59. 6 | 5 | 59. 10 | 3 | 59. 13 | 1 | 59. 14 | 1 |
| 58 | 58. 56 | | 59. 3 | 9 | 59. 10 | 8 | 59. 16 | 7 | 59. 21 | 5 | 59. 25 | 3 | 59. 28 | 1 | 59. 29 | 1 |
| 59 | 59. 11 | | 59. 18 | 9 | 59. 25 | 8 | 59. 31 | 7 | 59. 36 | 5 | 59. 40 | 3 | 59. 43 | 1 | 59. 44 | 1 |
| 60 | 59. 26 | | 59. 33 | 9 | 59. 40 | 8 | 59. 46 | 7 | 59. 51 | 5 | 59. 55 | 3 | 59. 58 | 1 | 59. 59 | 1 |

Proportional parts for Complement of Declination.

| add | 1′ | 2 | 3 |
|---|---|---|---|
| ′ | ′ | ″ | ″ |
| 1 | 0, 0 | 0 | 0 |
| 2 | 0, 0 | 0 | 1 |
| 3 | 0, 1 | 0 | 1 |
| 4 | 0, 1 | 0 | 1 |
| 5 | 0, 1 | 0 | 1 |
| 6 | 0, 1 | 0 | 1 |
| 7 | 0, 1 | 0 | 1 |
| 8 | 0, 1 | 0 | 1 |
| 9 | 0, 2 | 0 | 2 |
| 10 | 0, 2 | 0 | 2 |
| 20 | 0, 3 | 0 | 3 |
| 30 | 0, 5 | 0 | 5 |
| 40 | 0, 7 | 0 | 7 |
| 50 | 0, 8 | 0 | 8 |
| 60 | 1′ | 1 | 0 |
| 1 | 0, 0 | 0, 1 | 0, 1 |
| 2 | 0, 1 | 0, 2 | 0, 2 |
| 3 | 0, 1 | 0, 2 | 0, 3 |
| 4 | 0, 1 | 0, 3 | 0, 4 |
| 5 | 0, 2 | 0, 3 | 0, 5 |
| 6 | 0, 2 | 0, 4 | 0, 6 |
| 7 | 0, 2 | 0, 5 | 0, 7 |
| 8 | 0, 3 | 0, 5 | 0, 8 |
| 9 | 0, 3 | 0, 6 | 0, 9 |
| 10 | 0, 3 | 0, 7 | 0, 10 |
| 20 | 0, 7 | 0, 13 | 0, 20 |
| 30 | 1, 0 | 1, 0 | 1, 0 |
| 40 | 1, 3 | 1, 6 | 1, 10 |
| 50 | 1, 7 | 1, 13 | 1, 20 |
| 60 | 2′ | 2 | 3 |
| 1 | 0, 1 | 0, 2 | 0, 3 |
| 2 | 0, 1 | 0, 3 | 0, 5 |
| 3 | 0, 2 | 0, 5 | 0, 8 |
| 4 | 0, 3 | 0, 7 | 0, 11 |
| 5 | 0, 4 | 0, 8 | 0, 13 |
| 6 | 0, 5 | 0, 10 | 0, 16 |
| 7 | 0, 6 | 0, 12 | 0, 19 |
| 8 | 0, 7 | 0, 13 | 0, 21 |
| 9 | 0, 8 | 0, 15 | 0, 24 |
| 10 | 0, 8 | 0, 17 | 0, 27 |
| 20 | 0, 17 | 0, 33 | 0, 53 |
| 30 | 1, 5 | 2, 0 | 2, 20 |
| 40 | 2, 2 | 2, 27 | 3, 47 |
| 50 | 2, 10 | 3, 13 | 4, 13 |
| 60 | 3′ | 3 | 4 |

Declination.

| d | t | 3h | 0° | D | 1° | D | 2° | D | 3° | D | 4° | D | 5° | D | 6° | D | 7° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | m | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ |
| | | 0 | 0. 0 | 25 | 0. 25 | 25 | 0. 50 | 25 | 1. 15 | 24 | 1. 39 | 25 | 2. 4 | 25 | 2. 29 | 24 | 2. 55 | 25 |
| | | 1 | 0. 0 | 25 | 0. 25 | 25 | 0. 50 | 25 | 1. 15 | 25 | 1. 40 | 25 | 2. 5 | 25 | 2. 30 | 24 | 2. 54 | 25 |
| | | 2 | 0. 0 | 25 | 0. 25 | 25 | 0. 50 | 25 | 1. 15 | 26 | 1. 41 | 25 | 2. 6 | 25 | 2. 31 | 25 | 2. 54 | 24 |
| | | 3 | 0. 0 | 25 | 0. 25 | 26 | 0. 51 | 25 | 1. 16 | 25 | 1. 41 | 25 | 2. 6 | 26 | 2. 32 | 25 | 2. 55 | 25 |
| | | 4 | 0. 0 | 25 | 0. 25 | 26 | 0. 51 | 25 | 1. 16 | 26 | 1. 42 | 25 | 2. 7 | 25 | 2. 32 | 26 | 2. 56 | 25 |
| | | 5 | 0. 0 | 26 | 0. 26 | 25 | 0. 51 | 26 | 1. 17 | 25 | 1. 42 | 26 | 2. 8 | 25 | 2. 33 | 26 | 2. 57 | 25 |
| | | 6 | 0. 0 | 26 | 0. 26 | 26 | 0. 52 | 25 | 1. 17 | 26 | 1. 43 | 26 | 2. 9 | 25 | 2. 34 | 26 | 3. 0 | 25 |
| | | 7 | 0. 0 | 26 | 0. 26 | 26 | 0. 52 | 26 | 1. 18 | 26 | 1. 44 | 25 | 2. 9 | 26 | 2. 35 | 26 | 3. 1 | 26 |
| | | 8 | 0. 0 | 26 | 0. 26 | 26 | 0. 52 | 26 | 1. 18 | 26 | 1. 44 | 26 | 2. 10 | 26 | 2. 36 | 26 | 3. 2 | 26 |
| | | 9 | 0. 0 | 26 | 0. 26 | 27 | 0. 53 | 26 | 1. 19 | 26 | 1. 45 | 26 | 2. 11 | 26 | 2. 37 | 26 | 3. 3 | 26 |
| | | 10 | 0. 0 | 26 | 0. 26 | 27 | 0. 53 | 26 | 1. 19 | 26 | 1. 45 | 27 | 2. 12 | 26 | 2. 38 | 26 | 3. 4 | 26 |
| | | 11 | 0. 0 | 27 | 0. 27 | 26 | 0. 53 | 27 | 1. 20 | 26 | 1. 46 | 27 | 2. 13 | 26 | 2. 39 | 27 | 3. 5 | 26 |
| | | 12 | 0. 0 | 27 | 0. 27 | 26 | 0. 53 | 27 | 1. 20 | 27 | 1. 47 | 26 | 2. 13 | 27 | 2. 40 | 27 | 3. 6 | 27 |
| | | 13 | 0. 0 | 27 | 0. 27 | 27 | 0. 54 | 27 | 1. 21 | 26 | 1. 47 | 27 | 2. 14 | 27 | 2. 41 | 27 | 3. 7 | 27 |
| | | 14 | 0. 0 | 27 | 0. 27 | 27 | 0. 54 | 27 | 1. 21 | 27 | 1. 48 | 27 | 2. 15 | 27 | 2. 42 | 27 | 3. 8 | 27 |
| | | 15 | 0. 0 | 27 | 0. 27 | 27 | 0. 54 | 28 | 1. 22 | 27 | 1. 49 | 27 | 2. 16 | 27 | 2. 43 | 27 | 3. 10 | 27 |
| | | 16 | 0. 0 | 27 | 0. 27 | 28 | 0. 55 | 27 | 1. 22 | 27 | 1. 49 | 27 | 2. 16 | 27 | 2. 44 | 27 | 3. 11 | 27 |
| | | 17 | 0. 0 | 27 | 0. 27 | 28 | 0. 55 | 27 | 1. 22 | 27 | 1. 50 | 27 | 2. 17 | 27 | 2. 45 | 27 | 3. 12 | 27 |
| | | 18 | 0. 0 | 28 | 0. 28 | 27 | 0. 55 | 28 | 1. 23 | 27 | 1. 50 | 27 | 2. 18 | 27 | 2. 46 | 27 | 3. 13 | 27 |
| | | 19 | 0. 0 | 28 | 0. 28 | 28 | 0. 56 | 27 | 1. 23 | 28 | 1. 51 | 27 | 2. 19 | 27 | 2. 46 | 27 | 3. 14 | 27 |
| | 0. 7 | 20 | 0. 0 | 28 | 0. 28 | 28 | 0. 56 | 28 | 1. 24 | 28 | 1. 52 | 27 | 2. 20 | 28 | 2. 47 | 28 | 3. 15 | 28 |
| | 0. 7 | 21 | 0. 0 | 28 | 0. 28 | 28 | 0. 56 | 28 | 1. 24 | 28 | 1. 53 | 28 | 2. 21 | 28 | 2. 48 | 28 | 3. 16 | 28 |
| | 0. 7 | 22 | 0. 0 | 28 | 0. 28 | 29 | 0. 57 | 28 | 1. 25 | 28 | 1. 54 | 28 | 2. 22 | 28 | 2. 49 | 28 | 3. 17 | 28 |
| | 0. 8 | 23 | 0. 0 | 28 | 0. 28 | 29 | 0. 57 | 28 | 1. 25 | 29 | 1. 54 | 28 | 2. 22 | 28 | 2. 50 | 28 | 3. 18 | 28 |
| | 0. 8 | 24 | 0. 0 | 29 | 0. 29 | 28 | 0. 57 | 29 | 1. 26 | 28 | 1. 55 | 29 | 2. 23 | 29 | 2. 51 | 29 | 3. 19 | 28 |
| | 0. 8 | 25 | 0. 0 | 29 | 0. 29 | 29 | 0. 58 | 28 | 1. 26 | 29 | 1. 56 | 28 | 2. 24 | 29 | 2. 52 | 28 | 3. 20 | 29 |
| | 0. 9 | 26 | 0. 0 | 29 | 0. 29 | 29 | 0. 58 | 29 | 1. 27 | 29 | 1. 56 | 29 | 2. 25 | 29 | 2. 53 | 29 | 3. 21 | 29 |
| | 0. 9 | 27 | 0. 0 | 29 | 0. 29 | 29 | 0. 58 | 29 | 1. 27 | 29 | 1. 57 | 29 | 2. 25 | 29 | 2. 54 | 29 | 3. 22 | 29 |
| | | 28 | 0. 0 | 29 | 0. 29 | 30 | 0. 59 | 29 | 1. 28 | 30 | 1. 58 | 29 | 2. 26 | 29 | 2. 55 | 29 | 3. 23 | 29 |
| | | 29 | 0. 0 | 29 | 0. 29 | 30 | 0. 59 | 30 | 1. 28 | 30 | 1. 58 | 30 | 2. 27 | 30 | 2. 56 | 30 | 3. 24 | 30 |
| | | 30 | 0. 0 | 30 | 0. 30 | 30 | 1. 0 | 30 | 1. 29 | 30 | 1. 59 | 30 | 2. 28 | 30 | 2. 57 | 30 | 3. 25 | 30 |
| | | 31 | 0. 0 | 30 | 0. 30 | 30 | 1. 0 | 30 | 1. 30 | 30 | 2. 0 | 30 | 2. 29 | 30 | 2. 58 | 30 | 3. 26 | 30 |
| | | 32 | 0. 0 | 30 | 0. 30 | 31 | 1. 1 | 30 | 1. 30 | 31 | 2. 1 | 30 | 2. 30 | 31 | 2. 59 | 30 | 3. 27 | 31 |
| | | 33 | 0. 0 | 31 | 0. 31 | 31 | 1. 1 | 31 | 1. 31 | 31 | 2. 1 | 31 | 2. 31 | 31 | 3. 0 | 31 | 3. 28 | 31 |
| | | 34 | 0. 0 | 31 | 0. 31 | 31 | 1. 2 | 31 | 1. 32 | 31 | 2. 2 | 31 | 2. 32 | 31 | 3. 1 | 31 | 3. 29 | 31 |
| | | 35 | 0. 0 | 31 | 0. 31 | 32 | 1. 2 | 32 | 1. 32 | 32 | 2. 3 | 31 | 2. 33 | 32 | 3. 2 | 32 | 3. 30 | 32 |
| | | 36 | 0. 0 | 32 | 0. 32 | 32 | 1. 3 | 32 | 1. 33 | 32 | 2. 4 | 32 | 2. 34 | 32 | 3. 3 | 32 | 3. 31 | 32 |
| | | 37 | 0. 0 | 32 | 0. 32 | 32 | 1. 3 | 32 | 1. 34 | 32 | 2. 4 | 32 | 2. 35 | 32 | 3. 4 | 32 | 3. 32 | 32 |
| | | 38 | 0. 0 | 32 | 0. 32 | 33 | 1. 4 | 32 | 1. 34 | 33 | 2. 5 | 32 | 2. 36 | 33 | 3. 5 | 33 | 3. 33 | 33 |
| | | 39 | 0. 0 | 33 | 0. 33 | 33 | 1. 4 | 33 | 1. 35 | 33 | 2. 6 | 33 | 2. 37 | 33 | 3. 6 | 33 | 3. 34 | 33 |
| | | 40 | 0. 0 | 33 | 0. 33 | 34 | 1. 5 | 33 | 1. 36 | 34 | 2. 7 | 33 | 2. 38 | 34 | 3. 7 | 34 | 3. 35 | 34 |
| | | 41 | 0. 0 | 34 | 0. 34 | 34 | 1. 6 | 34 | 1. 37 | 34 | 2. 8 | 34 | 2. 39 | 34 | 3. 8 | 34 | 3. 36 | 34 |
| | | 42 | 0. 0 | 34 | 0. 34 | 34 | 1. 6 | 34 | 1. 38 | 34 | 2. 8 | 34 | 2. 40 | 34 | 3. 9 | 34 | 3. 37 | 34 |
| | | 43 | 0. 0 | 34 | 0. 34 | 35 | 1. 7 | 34 | 1. 38 | 35 | 2. 9 | 34 | 2. 41 | 35 | 3. 10 | 35 | 3. 38 | 35 |
| | | 44 | 0. 0 | 35 | 0. 35 | 35 | 1. 7 | 35 | 1. 39 | 35 | 2. 10 | 35 | 2. 42 | 35 | 3. 11 | 35 | 3. 39 | 35 |
| | | 45 | 0. 0 | 35 | 0. 35 | 36 | 1. 8 | 35 | 1. 40 | 36 | 2. 11 | 35 | 2. 43 | 36 | 3. 12 | 36 | 3. 40 | 36 |
| | | 46 | 0. 0 | 36 | 0. 36 | 36 | 1. 9 | 36 | 1. 41 | 36 | 2. 12 | 36 | 2. 44 | 36 | 3. 13 | 36 | 3. 41 | 36 |
| | | 47 | 0. 0 | 36 | 0. 36 | 36 | 1. 9 | 36 | 1. 42 | 36 | 2. 12 | 36 | 2. 45 | 36 | 3. 14 | 36 | 3. 42 | 36 |
| | | 48 | 0. 0 | 36 | 0. 36 | 37 | 1. 10 | 36 | 1. 42 | 37 | 2. 13 | 36 | 2. 46 | 37 | 3. 15 | 37 | 3. 43 | 37 |
| | | 49 | 0. 0 | 37 | 0. 37 | 37 | 1. 10 | 37 | 1. 43 | 37 | 2. 14 | 37 | 2. 47 | 37 | 3. 16 | 37 | 3. 44 | 37 |
| | | 50 | 0. 0 | 37 | 0. 37 | 38 | 1. 11 | 37 | 1. 44 | 38 | 2. 15 | 37 | 2. 48 | 38 | 3. 17 | 38 | 3. 45 | 38 |
| | | 51 | 0. 0 | 38 | 0. 38 | 38 | 1. 12 | 38 | 1. 45 | 38 | 2. 16 | 38 | 2. 49 | 38 | 3. 18 | 38 | 3. 46 | 38 |
| | | 52 | 0. 0 | 38 | 0. 38 | 38 | 1. 12 | 38 | 1. 46 | 38 | 2. 16 | 38 | 2. 50 | 38 | 3. 19 | 38 | 3. 47 | 38 |
| | | 53 | 0. 0 | 38 | 0. 38 | 39 | 1. 13 | 38 | 1. 46 | 39 | 2. 17 | 38 | 2. 51 | 39 | 3. 20 | 39 | 3. 48 | 39 |
| | | 54 | 0. 0 | 39 | 0. 39 | 39 | 1. 13 | 39 | 1. 47 | 39 | 2. 18 | 39 | 2. 52 | 39 | 3. 21 | 39 | 3. 49 | 39 |
| | | 55 | 0. 0 | 39 | 0. 39 | 40 | 1. 14 | 39 | 1. 48 | 40 | 2. 19 | 39 | 2. 53 | 40 | 3. 22 | 40 | 3. 50 | 40 |
| | | 56 | 0. 0 | 40 | 0. 40 | 40 | 1. 15 | 40 | 1. 49 | 40 | 2. 20 | 40 | 2. 54 | 40 | 3. 23 | 40 | 3. 51 | 40 |
| | | 57 | 0. 0 | 40 | 0. 40 | 40 | 1. 15 | 40 | 1. 50 | 40 | 2. 20 | 40 | 2. 55 | 40 | 3. 24 | 40 | 3. 52 | 40 |
| | | 58 | 0. 0 | 40 | 0. 40 | 41 | 1. 16 | 40 | 1. 50 | 41 | 2. 21 | 40 | 2. 56 | 41 | 3. 25 | 41 | 3. 53 | 41 |
| | | 59 | 0. 0 | 41 | 0. 41 | 41 | 1. 16 | 41 | 1. 51 | 41 | 2. 22 | 41 | 2. 57 | 41 | 3. 26 | 41 | 3. 54 | 41 |
| | | 60 | 0. 0 | 41 | 0. 41 | 42 | 1. 17 | 41 | 1. 52 | 42 | 2. 23 | 41 | 2. 58 | 42 | 3. 27 | 42 | 3. 55 | 42 |

Proportional parts for Declination.

| ′ | 24 | 28 | 32 |
|---|---|---|---|
| | ′ | ′ | ′ |
| 1 | 0, 4 | 0, 5 | 0, 5 |
| 2 | 0, 8 | 1, 0 | 1, 1 |
| 3 | 1, 2 | 1, 4 | 1, 7 |
| 4 | 1, 6 | 1, 9 | 2, 2 |
| 5 | 2, 0 | 2, 3 | 2, 7 |
| 6 | 2, 4 | 2, 8 | 3, 2 |
| 7 | 2, 8 | 3, 3 | 3, 7 |
| 8 | 3, 2 | 3, 7 | 4, 3 |
| 9 | 3, 6 | 4, 2 | 4, 8 |
| 10 | 4, 0 | 4, 7 | 5, 3 |
| | | | |
| ′ | 25 | 29 | 33 |
| | ′ | ′ | ′ |
| 1 | 0, 4 | 0, 5 | 0, 6 |
| 2 | 0, 8 | 1, 0 | 1, 1 |
| 3 | 1, 3 | 1, 5 | 1, 7 |
| 4 | 1, 7 | 1, 9 | 2, 2 |
| 5 | 2, 1 | 2, 4 | 2, 8 |
| 6 | 2, 5 | 2, 9 | 3, 3 |
| 7 | 2, 9 | 3, 4 | 3, 9 |
| 8 | 3, 3 | 3, 8 | 4, 4 |
| 9 | 3, 7 | 4, 3 | 4, 9 |
| 10 | 4, 1 | 4, 8 | 5, 5 |
| 0 | 8, 2 | 9, 7 | 11, 0 |
| 30 | 12, 3 | 14, 5 | 16, 5 |
| 40 | 16, 4 | 19, 3 | 22, 0 |
| 50 | 20, 5 | 24, 2 | 27, 5 |
| | | | |
| ′ | 26 | 30 | 34 |
| | ′ | ′ | ′ |
| 1 | 0, 4 | 0, 5 | 0, 6 |
| 2 | 0, 9 | 1, 0 | 1, 1 |
| 3 | 1, 3 | 1, 5 | 1, 7 |
| 4 | 1, 7 | 2, 0 | 2, 3 |
| 5 | 2, 2 | 2, 5 | 2, 8 |
| 6 | 2, 6 | 3, 0 | 3, 4 |
| 7 | 3, 0 | 3, 5 | 4, 0 |
| 8 | 3, 5 | 4, 0 | 4, 5 |
| 9 | 3, 9 | 4, 5 | 5, 1 |
| 10 | 4, 3 | 5, 0 | 5, 7 |
| 0 | 8, 7 | 10, 0 | 11, 4 |
| 30 | 13, 0 | 15, 0 | 17, 1 |
| 40 | 17, 3 | 20, 0 | 22, 8 |
| 50 | 21, 7 | 25, 0 | 28, 5 |
| | | | |
| ′ | 27 | 31 | 35 |
| | ′ | ′ | ′ |
| 1 | 0, 5 | 0, 6 | 0, 6 |
| 2 | 0, 9 | 1, 0 | 1, 2 |
| 3 | 1, 4 | 1, 6 | 1, 8 |
| 4 | 1, 8 | 2, 1 | 2, 4 |
| 5 | 2, 3 | 2, 6 | 2, 9 |
| 6 | 2, 7 | 3, 1 | 3, 5 |
| 7 | 3, 2 | 3, 7 | 4, 1 |
| 8 | 3, 6 | 4, 2 | 4, 7 |
| 9 | 4, 1 | 4, 7 | 5, 3 |
| 10 | 4, 5 | 5, 2 | 5, 9 |
| 0 | 9, 0 | 10, 4 | 11, 8 |
| 30 | 13, 5 | 15, 6 | 17, 7 |
| 40 | 18, 0 | 20, 8 | 23, 6 |
| 50 | 22, 5 | 26, 0 | 29, 5 |
| | | | |
| ′ | 28 | 32 | 36 |
| | ′ | ′ | ′ |
| 1 | 0, 5 | 0, 6 | 0, 6 |
| 2 | 0, 9 | 1, 1 | 1, 2 |
| 3 | 1, 4 | 1, 6 | 1, 8 |
| 4 | 1, 9 | 2, 1 | 2, 4 |
| 5 | 2, 3 | 2, 7 | 3, 0 |
| 6 | 2, 8 | 3, 2 | 3, 6 |
| 7 | 3, 3 | 3, 8 | 4, 2 |
| 8 | 3, 7 | 4, 3 | 4, 8 |
| 9 | 4, 2 | 4, 8 | 5, 4 |
| 10 | 4, 7 | 5, 4 | 6, 0 |
| 0 | 9, 3 | 10, 7 | 12, 1 |
| 30 | 14, 0 | 16, 1 | 18, 2 |
| 40 | 18, 7 | 21, 5 | 24, 3 |
| 50 | 23, 3 | 26, 9 | 30, 4 |

Proportional parts of Interval.

| a | e | n |
|---|---|---|
| ′ | ′ | ′ |
| 0, 0 | 0, 0 | 0 |
| 0, 2 | 0, 2 | 1 |
| 0, 4 | 0, 4 | 2 |
| 0, 6 | 0, 6 | 3 |
| 0, 8 | 0, 8 | 4 |
| 1, 0 | 1, 0 | 5 |
| 1, 2 | 1, 2 | 6 |
| 1, 4 | 1, 4 | 7 |
| 1, 6 | 1, 6 | 8 |
| 1, 8 | 1, 8 | 9 |
| 2, 0 | 2, 0 | 10 |
| 2, 2 | 2, 2 | 11 |
| 2, 4 | 2, 4 | 12 |
| 2, 6 | 2, 6 | 13 |
| 2, 8 | 2, 8 | 14 |
| 3, 0 | 3, 0 | 15 |
| 3, 2 | 3, 2 | 16 |
| 3, 4 | 3, 4 | 17 |
| 3, 6 | 3, 6 | 18 |
| 3, 8 | 3, 8 | 19 |
| 4, 0 | 4, 0 | 20 |
| 4, 2 | 4, 2 | 21 |
| 4, 4 | 4, 4 | 22 |
| 4, 6 | 4, 6 | 23 |
| 4, 8 | 4, 8 | 24 |
| 5, 0 | 5, 0 | 25 |
| 5, 2 | 5, 2 | 26 |
| 5, 4 | 5, 4 | 27 |
| 5, 6 | 5, 6 | 28 |
| 5, 8 | 5, 8 | 29 |
| 6, 0 | 6, 0 | 30 |
| 6, 2 | 6, 2 | 31 |
| 6, 4 | 6, 4 | 32 |
| 6, 6 | 6, 6 | 33 |
| 6, 8 | 6, 8 | 34 |
| 7, 0 | 7, 0 | 35 |
| 7, 2 | 7, 2 | 36 |
| 7, 4 | 7, 4 | 37 |
| 7, 6 | 7, 6 | 38 |
| 7, 8 | 7, 8 | 39 |
| 8, 0 | 8, 0 | 40 |
| 8, 2 | 8, 2 | 41 |
| 8, 4 | 8, 4 | 42 |
| 8, 6 | 8, 6 | 43 |
| 8, 8 | 8, 8 | 44 |
| 9, 0 | 9, 0 | 45 |
| 9, 2 | 9, 2 | 46 |
| 9, 4 | 9, 4 | 47 |
| 9, 6 | 9, 6 | 48 |
| 9, 8 | 9, 8 | 49 |
| 10, 0 | 10, 0 | 50 |
| 10, 2 | 10, 2 | 51 |
| 10, 4 | 10, 4 | 52 |
| 10, 6 | 10, 6 | 53 |
| 10, 8 | 10, 8 | 54 |
| 11, 0 | 11, 0 | 55 |
| 11, 2 | 11, 1 | 56 |
| 11, 4 | 11, 3 | 57 |
| 11, 6 | 11, 5 | 58 |
| 11, 8 | 11, 7 | 59 |

Complement of Declination.

| m | 74° | D | 75° | D | 76° | D | 77° | D | 78° | D | 79° | D | 80° | D | 81° | D | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 43. 10 | e | 13 43. 23 | e | 13 43. 36 | e | 11 43. 47 | a | 11 43. 58 | | 44. 8 | a | 9 44. 17 | a | 8 44. 25 | | 1 |
| 1 | 43. 24 | a | 14 43. 38 | a | 12 43. 50 | a | 12 44. 2 | a | 11 44. 13 | | 44. 23 | c | 8 44. 31 | a | 9 44. 40 | a | 2 |
| 2 | 43. 39 | e | 13 43. 52 | e | 13 44. 5 | e | 11 44. 16 | a | 11 44. 27 | | 44. 37 | a | 9 44. 46 | a | 9 44. 55 | a | 3 |
| 3 | 43. 53 | e | 13 44. 6 | a | 13 44. 19 | a | 12 44. 31 | a | 11 44. 41 | | 44. 52 | a | 9 45. 1 | a | 8 45. 9 | a | 4 |
| 4 | 44. 7 | a | 14 44. 21 | e | 13 44. 34 | e | 12 44. 46 | a | 11 44. 56 | | 45. 7 | c | 9 45. 16 | c | 8 45. 24 | a | 5 |
| 5 | 44. 22 | e | 13 44. 35 | a | 13 44. 48 | a | 12 45. 0 | a | 11 45. 11 | | 45. 21 | a | 9 45. 30 | a | 9 45. 39 | a | 7 |
| 6 | 44. 36 | a | 14 44. 50 | e | 13 45. 3 | e | 12 45. 15 | e | 11 45. 26 | | 45. 36 | c | 9 45. 45 | a | 9 45. 54 | e | 7 |
| 7 | 44. 50 | a | 14 45. 4 | e | 13 45. 17 | e | 12 45. 29 | a | 11 45. 40 | | 45. 50 | a | 10 46. 0 | a | 8 46. 8 | a | 8 |
| 8 | 45. 5 | e | 13 45. 18 | a | 13 45. 31 | e | 13 45. 44 | e | 11 45. 55 | | 46. 5 | a | 10 46. 15 | c | 8 46. 23 | a | 8 |
| 9 | 45. 19 | a | 14 45. 33 | a | 12 45. 45 | e | 13 45. 58 | e | 11 46. 9 | | 46. 20 | a | 9 46. 29 | a | 9 46. 38 | a | 8 |
| 10 | | | | | | | | | | | | | | | | | 20 |
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Declination.

Proportional parts for Seconds of Interval

| a | e | n |
|---|---|---|
| ′ | ′ | ′ |
| 0, 0 | 0, 0 | 0, 0 |
| 0, 3 | 0, 2 | 0, 2 |
| 0, 5 | 0, 5 | 0, 4 |
| 0, 7 | 0, 7 | 0, 7 |
| 1, 0 | 0, 9 | 0, 9 |
| 1, 3 | 1, 2 | 1, 1 |
| 1, 5 | 1, 4 | 1, 3 |
| 1, 8 | 1, 6 | 1, 5 |
| 2, 0 | 1, 9 | 1, 7 |
| 2, 3 | 2, 1 | 1, 9 |
| 2, 5 | 2, 3 | 2, 1 |
| 2, 8 | 2, 6 | 2, 4 |
| 3, 0 | 2, 8 | 2, 6 |
| 3, 3 | 3, 0 | 2, 8 |
| 3, 5 | 3, 3 | 3, 0 |
| 3, 8 | 3, 5 | 3, 3 |
| 4, 0 | 3, 7 | 3, 5 |
| 4, 3 | 4, 0 | 3, 7 |
| 4, 5 | 4, 2 | 3, 9 |
| 4, 8 | 4, 4 | 4, 1 |
| 5, 0 | 4, 7 | 4, 3 |
| 5, 3 | 4, 9 | 4, 5 |
| 5, 5 | 5, 1 | 4, 7 |
| 5, 8 | 5, 4 | 4, 9 |
| 6, 0 | 5, 6 | 5, 2 |
| 6, 3 | 5, 8 | 5, 4 |
| 6, 5 | 6, 1 | 5, 6 |
| 6, 8 | 6, 3 | 5, 8 |
| 7, 0 | 6, 5 | 6, 0 |
| 7, 3 | 6, 8 | 6, 2 |
| 7, 5 | 7, 0 | 6, 4 |
| 7, 8 | 7, 2 | 6, 6 |
| 8, 0 | 7, 5 | 6, 8 |
| 8, 3 | 7, 7 | 7, 0 |
| 8, 5 | 7, 9 | 7, 2 |
| 8, 8 | 8, 1 | 7, 4 |
| 9, 0 | 8, 4 | 7, 6 |
| 9, 3 | 8, 6 | 7, 8 |
| 9, 5 | 8, 8 | 8, 0 |
| 9, 8 | 9, 1 | 8, 2 |
| 10, 0 | 9, 3 | 8, 4 |
| 10, 3 | 9, 5 | 8, 6 |
| 10, 5 | 9, 8 | 8, 8 |
| 10, 8 | 10, 0 | 9, 1 |
| 11, 0 | 10, 2 | 9, 3 |
| 11, 3 | 10, 5 | 9, 5 |
| 11, 5 | 10, 7 | 9, 7 |
| 11, 8 | 10, 9 | 9, 9 |
| 12, 0 | 11, 2 | 10, 1 |
| 12, 3 | 11, 4 | 10, 3 |
| 12, 5 | 11, 6 | 10, 5 |
| 12, 8 | 11, 9 | 10, 7 |
| 13, 0 | 12, 1 | 10, 9 |
| 13, 3 | 12, 3 | 11, 1 |
| 13, 5 | 12, 6 | 11, 3 |
| 13, 8 | 12, 8 | 11, 5 |
| 14, 0 | 13, 0 | 11, 7 |
| 14, 3 | 13, 2 | 11, 9 |
| 14, 5 | 13, 5 | 12, 1 |
| 14, 8 | 13, 7 | 12, 3 |
| 15, 0 | 13, 9 | 12, 5 |

Complement of Declination

| 3h | 66° | D | 67° | D | 68° | D | 69° | D | 70° | D | 71° | D | 72° | D | 73° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | |
| 0 | 20. 56 | n | 19. 41. 15 | c | 19. 41. 34 | c | 18. 41. 52 | c | 17. 42. 9 | c | 17. 42. 26 | c | 15. 42. 41 | c | 15. 42. 56 | c |
| 1 | | | | | | | | | | | | | | | | |
| 2 | 41. 22 | n | 20. 41. 43 | c | 19. 42. 1 | n | 18. 42. 20 | n | 17. 42. 37 | c | 17. 42. 54 | c | 15. 43. 9 | a | 16. 43. 25 | c |
| 3 | 41. 36 | c | 20. 41. 56 | c | 19. 42. 15 | c | 18. 42. 33 | c | 18. 42. 51 | c | 17. 43. 8 | c | 16. 43. 24 | c | 15. 43. 39 | c |
| 4 | 41. 50 | c | 20. 42. 10 | c | 19. 42. 29 | c | 18. 42. 47 | c | 18. 43. 5 | c | 17. 43. 22 | c | 16. 43. 38 | c | 15. 43. 53 | c |
| 5 | 42. 3 | c | 20. 42. 23 | c | 20. 42. 43 | n | 18. 43. 1 | c | 18. 43. 19 | c | 17. 43. 36 | c | 16. 43. 52 | c | 15. 44. 7 | c |
| 6 | 42. 17 | n | 20. 42. 37 | c | 19. 42. 56 | c | 19. 43. 15 | c | 18. 43. 33 | c | 17. 43. 50 | c | 16. 44. 6 | c | 15. 44. 21 | a |
| 7 | 42. 30 | c | 20. 42. 50 | c | 20. 43. 10 | c | 19. 43. 29 | c | 18. 43. 47 | c | 17. 44. 4 | c | 16. 44. 20 | c | 16. 44. 36 | c |
| 8 | 42. 44 | n | 20. 43. 4 | c | 20. 43. 24 | n | 19. 43. 43 | n | 18. 44. 1 | c | 17. 44. 18 | c | 16. 44. 34 | c | 16. 44. 50 | c |
| 9 | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | |
| 11 | 43. 24 | c | 21. 43. 45 | n | 20. 44. 5 | c | 19. 44. 24 | c | 19. 44. 43 | c | 17. 45. 0 | c | 17. 45. 17 | c | 16. 45. 33 | c |
| 12 | 43. 38 | n | 20. 43. 58 | c | 21. 44. 19 | n | 19. 44. 38 | c | 19. 44. 57 | n | 17. 45. 14 | c | 17. 45. 31 | c | 16. 45. 47 | c |
| 13 | 43. 51 | c | 21. 44. 12 | c | 20. 44. 32 | c | 20. 44. 52 | c | 18. 45. 10 | c | 18. 45. 28 | c | 17. 45. 45 | c | 16. 46. 1 | c |
| 14 | 44. 5 | c | 21. 44. 26 | c | 20. 44. 46 | c | 20. 45. 6 | n | 18. 45. 24 | c | 18. 45. 42 | c | 17. 45. 59 | | | |
| 15 | 44. 18 | n | 21. 44. 39 | c | 21. 45. 0 | c | 19. 45. 19 | c | 19. 45. 38 | c | 18. 45. 56 | c | 17. 46. 13 | | | |
| 16 | 44. 31 | n | 22. 44. 53 | n | 21. 45. 14 | n | 19. 45. 33 | c | 19. 45. 52 | c | 18. 46. 10 | c | 17. 46. 27 | a | | |
| 17 | 44. 45 | | 21. 45. 6 | c | 21. 45. 27 | c | 20. 45. 47 | c | 19. 46. 6 | c | 18. 46. 24 | c | 18. 46. 42 | c | | |
| 18 | 44. 58 | c | 22. 45. 20 | c | 21. 45. 41 | c | 20. 46. 1 | c | 19. 46. 20 | c | 18. 46. 38 | c | 18. 46. 56 | c | | |
| 19 | 45. 12 | | 22. 45. 34 | c | 21. 45. 55 | c | 20. 46. 15 | c | 19. 46. 34 | c | 18. 46. 53 | c | 18. 47. 10 | | | |
| 20 | | | | | | | | | | | | | | | | |
| 21 | | | | | | | | | | | | | | | | |
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| 23 | | | | | | | | | | | | | | | | |
| 24 | 46. 16 | n | 22. 46. 41 | n | 22. 47. 3 | n | 21. 47. 24 | c | 20. 47. 44 | c | 18. 48. 2 | c | 18. 48. 20 | | | |
| 25 | 46. 33 | c | 23. 46. 55 | c | 22. 47. 17 | n | 21. 47. 38 | c | 19. 47. 57 | n | 19. 48. 16 | c | 18. 48. 34 | a | | |
| 26 | | | | | | | | | | | | | | | | |
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| 28 | | | | | | | | | | | | | | | | |
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| 33 | | | | | | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | | | |
| 35 | 48. 47 | | 23. 48. 11 | | 23. 48. 24 | | 22. 48. 57 | | 21. 49. 10 | | 20. 49. 26 | | 20. 49. 40 | | 19. 49. 54 | |
| 36 | 49. 0 | n | 23. 49. 24 | n | 23. 49. 47 | n | 22. 49. 9 | c | 21. 50. 30 | c | 20. 50. 50 | c | 20. 51. 10 | c | 18. 51. 28 | c |
| 37 | 49. 14 | c | 23. 49. 38 | n | 23. 50. 1 | c | 22. 50. 23 | c | 21. 50. 44 | c | 20. 51. 4 | c | 20. 51. 24 | c | 18. 51. 42 | c |
| 38 | 49. 27 | n | 24. 49. 51 | | 24. 50. 15 | c | 23. 50. 37 | c | 21. 50. 58 | c | 20. 51. 18 | c | 20. 51. 38 | c | 18. 51. 56 | c |
| 39 | 49. 41 | c | 24. 50. 5 | c | 23. 50. 28 | n | 23. 50. 51 | c | 21. 51. 12 | c | 20. 51. 32 | c | 20. 51. 52 | c | 18. 52. 10 | c |
| 40 | | | | | | | | | | | | | | | | |
| 41 | | | | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | |
| 45 | | | | | | | | | | | | | | | | |
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| 51 | | | | | | | | | | | | | | | | |
| 52 | | | | | | | | | | | | | | | | |
| 53 | | | | | | | | | | | | | | | | |
| 54 | | | | | | | | | | | | | | | | |
| 55 | 53. 15 | n | 26. 55. 41 | c | 25. 56. 7 | | | | | | | | | | | |
| 56 | 53. 28 | n | 27. 53. 55 | c | 25. 56. 54 | | | | | | | | | | | |
| 57 | | | | | | | | | | | | | | | | |
| 58 | | | | | | | | | | | | | | | | |
| 59 | | | | | | | | | | | | | | | | |
| 60 | 54. 6 | | 27. 54. 35 | | 26. 57. 3 | | | | | | | | | | | |

Proportional parts for Complement of Declination.

| ′ | 14′ | 18′ | 22′ | 26′ |
|---|---|---|---|---|
| 1 | 0, 2 | 0, 3 | 0, 4 | 0, 5 |
| 2 | 0, 5 | 0, 6 | 0, 7 | 0, 9 |
| 3 | 0, 7 | 0, 9 | 1, 1 | 1, 3 |
| 4 | 0, 9 | 1, 2 | 1, 5 | 1, 7 |
| 5 | 1, 2 | 1, 5 | 1, 8 | 2, 1 |
| 6 | 1, 4 | 1, 8 | 2, 2 | 2, 6 |
| 7 | 1, 6 | 2, 1 | 2, 6 | 3, 0 |
| 8 | 1, 9 | 2, 4 | 2, 9 | 3, 4 |
| 9 | 2, 1 | 2, 7 | 3, 3 | 3, 9 |
| 10 | 2, 3 | 3, 0 | 3, 7 | 4, 3 |
| | | | | |
| 40 | 9, 3 | 12, 0 | 14, 7 | 17, 3 |
| 50 | 11, 7 | 15, 0 | 18, 3 | 21, 6 |
| ′ | 15′ | 19′ | 23′ | 27′ |



Proportional parts for Seconds of Interval.

Interval

Complement of Declination.

Proportional parts for Complement of Declination, additive.

| ″ | ″ | ″ | ′ | 1° | D | 2° | D | 3° | D | 4° | D | 5° | D | 6° | D | 7° | D | 8° | D | ′ | 1′ | 5′ | 9′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | 1 | | | |
| | | | | | | | | | | | | | | | | | | | | 2 | | | |
| | | | | | | | | | | | | | | | | | | | | 3 | | | |
| | | | | | | | | | | | | | | | | | | | | 4 | | | |
| | | | | | | | | | | | | | | | | | | | | 5 | | 0, | |
| | | | | | | | | | | | | | | | | | | | | 6 | | 0, | 9 |
| | | | | | | | | | | | | | | | | | | | | 7 | | 0, | 1 |
| | | | | | | | | | | | | | | | | | | | | 8 | | 0, | 2 |
| | | | | | | | | | | | | | | | | | | | | 9 | 0, | 0, | 4 |
| | | | | | | | | | | | | | | | | | | | | 10 | 0, | 0, | 5 |
| | | | | | | | | | | | | | | | | | | | | 20 | 0, | 1, | 0 |
| | | | | | | | | | | | | | | | | | | | | 30 | | 1, | 5 |
| | | | | | | | | | | | | | | | | | | | | 40 | | 2, | |
| | | | | | | | | | | | | | | | | | | | | 50 | | 2, | |
| | | | | | | | | | | | | | | | | | | | | ′ | 4 | | 11 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | 1 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 2 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 3 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 4 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 5 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 6 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 7 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 8 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 9 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 10 | 0, | 1, | |
| | | | | | | | | | | | | | | | | | | | | 20 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 30 | 1, | 3, | 5, |
| | | | | | | | | | | | | | | | | | | | | 40 | 1, | 4, | 6, |
| | | | | | | | | | | | | | | | | | | | | 50 | 1, | 5, | 8, |
| | | | | | | | | | | | | | | | | | | | | ′ | 3 | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | 1 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 2 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 3 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 4 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 5 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 6 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 7 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 8 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 9 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 10 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 20 | 1, | | |
| | | | | | | | | | | | | | | | | | | | | 30 | 1, | | |
| | | | | | | | | | | | | | | | | | | | | 40 | 2, | | |
| | | | | | | | | | | | | | | | | | | | | 50 | 2, | | |
| | | | | | | | | | | | | | | | | | | | | ′ | 4 | | 11 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | 1 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 2 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 3 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 4 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 5 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 6 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 7 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 8 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 9 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 10 | 0, | | |
| | | | | | | | | | | | | | | | | | | | | 20 | 1, | | |
| | | | | | | | | | | | | | | | | | | | | 30 | 1, | | |
| | | | | | | | | | | | | | | | | | | | | 40 | 2, | | |
| | | | | | | | | | | | | | | | | | | | | 50 | 2, | | |

| Prop. parts | | Interval | Declination. | | | | | | | | | | | | | | | | Proportional parts for Declination: additive | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| a | c | 4h | 0° | D | 1° | D | 2° | D | 3° | D | 4° | D | 5 | D | 6′ | D | 7° | D | ′ | 34′ | 38′ | 42′ |
| | | m | | | | | | | | | | | | | | | | | | | | |
| 0, 0 | 0, 0 | 0 | 0. 0 | 35 | 0. 35 | 34 | 1. 9 a | 35 | 1. 44 | 34 | 2. 18 a | 35 | 2. 53 | 34 | 3. 27 a | 34 | 4. 1 | | 1 | 0, 6 | 0, 6 | 0, 7 |
| 0, 0 | 0, 0 | 1 | 0. 0 | 35 | 0. 35 | 35 | 1. 10 | 34 | 1. 44 a | 35 | 2. 19 a | 35 | 2. 54 | 34 | 3. 28 a | 35 | 4. 3 | 34 | 2 | 1, 1 | 1, 3 | 1, 4 |
| 0, 0 | 0, 1 | 2 | 0. 0 | 35 | 0. 35 | 35 | 1. 10 | 35 | 1. 45 | 35 | 2. 20 a | 35 | 2. 55 | 34 | 3. 29 a | 35 | 4. 4 | 34 | 3 | 1, 7 | 1, 9 | 2, 1 |
| 0, 1 | 0, 1 | 3 | 0. 0 | 35 | 0. 35 | 35 | 1. 10 | 35 | 1. 45 | 35 | 2. 20 a | 35 | 2. 55 | 35 | 3. 30 a | 35 | 4. 5 | 35 | 4 | 2, 3 | 2, 5 | 2, 8 |
| 0, 1 | 0, 1 | 4 | 0. 0 | 35 | 0. 35 c | 36 | 1. 11 a | 35 | 1. 46 a | 35 | 2. 21 a | 35 | 2. 56 | 35 | 3. 31 a | 35 | 4. 6 | 35 | 5 | 2, 8 | 3, 2 | 3, 5 |
| 0, 1 | 0, 2 | 5 | 0. 0 | 36 | 0. 36 | 35 | 1. 11 | 35 | 1. 46 a | 36 | 2. 22 a | 35 | 2. 57 | 35 | 3. 32 a | 36 | 4. 8 | 35 | 6 | 3, 4 | 3, 8 | 4, 2 |
| 0, 1 | 0, 2 | 6 | 0. 0 | 36 | 0. 36 | 36 | 1. 11 a | 36 | 1. 47 a | 36 | 2. 23 a | 35 | 2. 58 | 36 | 3. 33 a | 35 | 4. 9 | 35 | 7 | 4, 0 | 4, 4 | 4, 9 |
| 0, 1 | 0, 2 | 7 | 0. 0 | 36 | 0. 36 | 36 | 1. 12 a | 36 | 1. 48 a | 35 | 2. 23 a | 36 | 2. 58 | 36 | 3. 33 a | 35 | 4. 10 | 35 | 8 | 4, 5 | 5, 1 | 5, 6 |
| 0, 1 | 0, 3 | 8 | 0. 0 | 36 | 0. 36 | 36 | 1. 12 | 36 | 1. 48 a | 36 | 2. 24 a | 36 | 2. 59 | 36 | 3. 34 a | 35 | 4. 11 | 35 | 9 | 5, 1 | 5, 7 | 6, 3 |
| 0, 2 | 0, 3 | 9 | 0. 0 | 36 | 0. 36 | 36 | 1. 12 | 37 | 1. 49 a | 36 | 2. 25 a | 36 | 3. 1 | 36 | 3. 35 a | 36 | 4. 13 | 36 | 10 | 5, 7 | 6, 3 | 7, 0 |
| 0, 2 | 0, 3 | 10 | 0. 0 | 36 | 0. 36 a | 37 | 1. 13 | 36 | 1. 49 a | 36 | 2. 25 a | 37 | 3. 2 | 37 | 3. 36 a | 36 | 4. 14 | 36 | 20 | 11, 3 | 12, 7 | 14, 0 |
| 0, 2 | 0, 4 | 11 | 0. 0 | 37 | 0. 37 a | 37 | 1. 13 a | 37 | 1. 50 a | 36 | 2. 26 a | 37 | 3. 3 | 37 | 3. 37 a | 36 | 4. 15 | 36 | 30 | 17, 0 | 19, 0 | 21, 0 |
| 0, 2 | 0, 4 | 12 | 0. 0 | 37 | 0. 37 | 37 | 1. 14 | 36 | 1. 50 a | 37 | 2. 27 a | 36 | 3. 3 | 37 | 3. 38 a | 36 | 4. 16 | 36 | 40 | 22, 7 | 25, 3 | 28, 0 |
| 0, 2 | 0, 4 | 13 | 0. 0 | 37 | 0. 37 | 37 | 1. 14 | 37 | 1. 51 a | 37 | 2. 28 a | 36 | 3. 4 | 37 | 3. 41 a | 37 | 4. 18 | 36 | 50 | 28, 3 | 31, 7 | 35, 0 |
| 0, 2 | 0, 5 | 14 | 0. 0 | 37 | 0. 37 | 37 | 1. 14 a | 37 | 1. 51 a | 37 | 2. 28 a | 37 | 3. 5 | 37 | 3. 42 a | 37 | 4. 19 | 36 | ′ | 35′ | 39′ | 43′ |
| 0, 3 | 0, 5 | 15 | 0. 0 | 37 | 0. 37 | 38 | 1. 15 a | 37 | 1. 52 a | 37 | 2. 29 a | 37 | 3. 6 | 37 | 3. 43 a | 37 | 4. 20 | 37 | 1 | 0, 6 | 0, 7 | 0, 7 |
| 0, 3 | 0, 5 | 16 | 0. 0 | 37 | 0. 37 a | 38 | 1. 15 a | 37 | 1. 52 a | 38 | 2. 30 a | 37 | 3. 7 | 37 | 3. 44 a | 37 | 4. 21 | 37 | 2 | 1, 2 | 1, 3 | 1, 4 |
| 0, 3 | 0, 6 | 17 | 0. 0 | 38 | 0. 38 a | 37 | 1. 15 a | 38 | 1. 53 a | 37 | 2. 30 a | 38 | 3. 8 | 37 | 3. 45 a | 38 | 4. 23 | 37 | 3 | 1, 8 | 2, 0 | 2, 2 |
| 0, 3 | 0, 6 | 18 | 0. 0 | 38 | 0. 38 | 38 | 1. 16 | 37 | 1. 53 a | 38 | 2. 31 a | 38 | 3. 9 | 37 | 3. 46 a | 38 | 4. 24 | 37 | 4 | 2, 3 | 2, 6 | 2, 9 |
| 0, 3 | 0, 6 | 19 | 0. 0 | 38 | 0. 38 | 38 | 1. 16 | 38 | 1. 54 a | 38 | 2. 32 a | 38 | 3. 10 | 37 | 3. 47 a | 38 | 4. 25 | 38 | 5 | 2, 9 | 3, 3 | 3, 6 |
| 0, 3 | 0, 7 | 20 | 0. 0 | 38 | 0. 38 | 38 | 1. 16 a | 39 | 1. 55 a | 38 | 2. 33 a | 38 | 3. 11 | 38 | 3. 48 a | 37 | 4. 26 | 38 | 6 | 3, 5 | 3, 9 | 4, 3 |
| 0, 4 | 0, 7 | 21 | 0. 0 | 38 | 0. 38 a | 39 | 1. 17 a | 38 | 1. 55 a | 38 | 2. 33 a | 39 | 3. 12 | 38 | 3. 50 a | 38 | 4. 28 | 37 | 7 | 4, 1 | 4, 6 | 5, 0 |
| 0, 4 | 0, 7 | 22 | 0. 0 | 39 | 0. 39 | 38 | 1. 17 a | 39 | 1. 56 a | 38 | 2. 34 a | 39 | 3. 13 | 38 | 3. 51 a | 38 | 4. 29 | 38 | 8 | 4, 7 | 5, 2 | 5, 7 |
| 0, 4 | 0, 8 | 23 | 0. 0 | 39 | 0. 39 | 39 | 1. 18 a | 38 | 1. 56 a | 39 | 2. 35 a | 38 | 3. 13 | 39 | 3. 52 a | 38 | 4. 30 | 38 | 9 | 5, 3 | 5, 9 | 6, 5 |
| 0, 4 | 0, 8 | 24 | 0. 0 | 39 | 0. 39 | 39 | 1. 18 | 39 | 1. 57 a | 39 | 2. 36 a | 38 | 3. 14 | 39 | 3. 53 a | 38 | 4. 31 | 38 | 10 | 5, 8 | 6, 5 | 7, 2 |
| 0, 4 | 0, 8 | 25 | 0. 0 | 39 | 0. 39 | 39 | 1. 18 a | 39 | 1. 57 a | 39 | 2. 36 a | 39 | 3. 15 | 39 | 3. 54 a | 39 | 4. 33 | 39 | 20 | 11, 7 | 13, 0 | 14, 3 |
| 0, 4 | 0, 9 | 26 | 0. 0 | 39 | 0. 39 | 39 | 1. 19 a | 39 | 1. 58 a | 39 | 2. 37 a | 39 | 3. 16 | 39 | 3. 55 a | 39 | 4. 34 | 39 | 30 | 17, 5 | 19, 5 | 21, 5 |
| 0, 5 | 0, 9 | 27 | 0. 0 | 40 | 0. 40 a | 39 | 1. 19 | 39 | 1. 58 a | 40 | 2. 38 a | 39 | 3. 17 | 39 | 3. 56 a | 39 | 4. 35 | 39 | 40 | 23, 3 | 26, 0 | 28, 7 |
| 0, 5 | 0, 9 | 28 | 0. 0 | 40 | 0. 40 | 39 | 1. 19 a | 40 | 1. 59 a | 40 | 2. 39 a | 39 | 3. 18 | 40 | 3. 57 a | 40 | 4. 37 | 39 | 50 | 29, 2 | 32, 5 | 35, 8 |
| 0, 5 | 1, 0 | 29 | 0. 0 | 40 | 0. 40 | 40 | 1. 20 | 40 | 2. 0 a | 39 | 2. 39 a | 40 | 3. 19 a | 40 | 3. 58 a | 39 | 4. 38 | 40 | ′ | 36′ | 40′ | 44′ |
| 0, 5 | 1, 0 | 30 | 0. 0 | 40 | 0. 40 | 40 | 1. 20 a | 40 | 2. 0 a | 40 | 2. 40 a | 40 | 3. 20 a | 40 | 4. 0 a | 40 | 4. 39 | 40 | 1 | 0, 6 | 0, 7 | 0, 7 |
| 0, 5 | 1, 0 | 31 | 0. 0 | 40 | 0. 40 | 40 | 1. 21 a | 40 | 2. 1 a | 40 | 2. 41 a | 40 | 3. 21 a | 40 | 4. 1 a | 40 | 4. 41 | 40 | 2 | 1, 2 | 1, 3 | 1, 5 |
| 0, 5 | 1, 1 | 32 | 0. 0 | 40 | 0. 40 | 41 | 1. 21 | 40 | 2. 1 a | 41 | 2. 42 a | 40 | 3. 22 a | 40 | 4. 2 a | 40 | 4. 42 | 40 | 3 | 1, 8 | 2, 0 | 2, 2 |
| 0, 6 | 1, 1 | 33 | 0. 0 | 40 | 0. 41 a | 41 | 1. 21 a | 41 | 2. 2 a | 40 | 2. 42 a | 41 | 3. 23 a | 40 | 4. 3 a | 41 | 4. 43 | 40 | 4 | 2, 4 | 2, 7 | 2, 9 |
| 0, 6 | 1, 1 | 34 | 0. 0 | 40 | 0. 41 | 41 | 1. 22 a | 40 | 2. 2 a | 41 | 2. 43 a | 41 | 3. 24 a | 40 | 4. 4 a | 41 | 4. 45 | 41 | 5 | 3, 0 | 3, 3 | 3, 7 |
| 0, 6 | 1, 2 | 35 | 0. 0 | 41 | 0. 41 | 41 | 1. 22 | 41 | 2. 3 a | 41 | 2. 44 a | 41 | 3. 25 a | 41 | 4. 5 a | 41 | 4. 46 | 41 | 6 | 3, 6 | 4, 0 | 4, 4 |
| 0, 6 | 1, 2 | 36 | 0. 0 | 41 | 0. 41 | 41 | 1. 23 a | 42 | 2. 4 | 41 | 2. 45 a | 41 | 3. 26 a | 41 | 4. 6 a | 41 | 4. 47 | 41 | 7 | 4, 2 | 4, 7 | 5, 1 |
| 0, 6 | 1, 3 | 37 | 0. 0 | 41 | 0. 41 | 41 | 1. 23 | 41 | 2. 4 a | 41 | 2. 45 a | 42 | 3. 27 a | 41 | 4. 7 a | 41 | 4. 49 | 41 | 8 | 4, 8 | 5, 3 | 5, 9 |
| 0, 6 | 1, 3 | 38 | 0. 0 | 42 | 0. 42 a | 41 | 1. 23 a | 42 | 2. 5 | 41 | 2. 46 a | 42 | 3. 28 a | 41 | 4. 8 a | 41 | 4. 50 | 41 | 9 | 5, 4 | 6, 0 | 6, 6 |
| 0, 7 | 1, 3 | 39 | 0. 0 | 42 | 0. 42 | 41 | 1. 24 a | 41 | 2. 5 a | 42 | 2. 47 a | 41 | 3. 29 a | 41 | 4. 9 a | 41 | 4. 51 | 41 | 10 | 6, 0 | 6, 7 | 7, 3 |
| 0, 7 | 1, 3 | 40 | 0. 0 | 42 | 0. 42 | 42 | 1. 24 | 42 | 2. 6 a | 42 | 2. 48 a | 41 | 3. 30 a | 41 | 4. 10 a | 42 | 4. 53 | 41 | 20 | 12, 0 | 13, 3 | 14, 7 |
| 0, 7 | 1, 4 | 41 | 0. 0 | 42 | 0. 42 | 42 | 1. 25 a | 42 | 2. 6 a | 42 | 2. 49 a | 42 | 3. 31 a | 42 | 4. 11 a | 42 | 4. 54 | 42 | 30 | 18, 0 | 20, 0 | 22, 0 |
| 0, 7 | 1, 4 | 42 | 0. 0 | 42 | 0. 42 | 42 | 1. 25 a | 42 | 2. 7 a | 42 | 2. 49 a | 42 | 3. 31 a | 42 | 4. 12 a | 42 | 4. 55 | 42 | 40 | 24, 0 | 26, 7 | 29, 3 |
| 0, 7 | 1, 4 | 43 | 0. 0 | 42 | 0. 43 a | 42 | 1. 25 | 43 | 2. 8 a | 42 | 2. 50 a | 42 | 3. 32 a | 42 | 4. 13 a | 42 | 4. 57 | 42 | 50 | 30, 0 | 33, 3 | 36, 7 |
| 0, 7 | 1, 5 | 44 | 0. 0 | 42 | 0. 43 | 42 | 1. 26 a | 42 | 2. 8 a | 43 | 2. 51 a | 42 | 3. 33 a | 42 | 4. 14 a | 42 | 4. 58 | 42 | ′ | 37′ | 41′ | 45′ |
| 0, 8 | 1, 5 | 45 | 0. 0 | 43 | 0. 43 | 43 | 1. 26 | 43 | 2. 9 a | 42 | 2. 52 a | 43 | 3. 34 a | 43 | 4. 15 a | 43 | 4. 59 | 43 | 1 | 0, 6 | 0, 7 | 0, 8 |
| 0, 8 | 1, 5 | 46 | 0. 0 | 43 | 0. 43 | 43 | 1. 27 a | 42 | 2. 9 a | 43 | 2. 53 a | 43 | 3. 35 a | 43 | 4. 16 a | 43 | 5. 1 | 43 | 2 | 1, 2 | 1, 4 | 1, 5 |
| 0, 8 | 1, 6 | 47 | 0. 0 | 43 | 0. 43 a | 43 | 1. 27 | 43 | 2. 10 a | 43 | 2. 53 a | 43 | 3. 36 a | 43 | 4. 17 a | 43 | 5. 2 | 43 | 3 | 1, 9 | 2, 1 | 2, 3 |
| 0, 8 | 1, 6 | 48 | 0. 0 | 43 | 0. 43 | 43 | 1. 27 a | 43 | 2. 11 a | 43 | 2. 54 a | 43 | 3. 37 a | 43 | 4. 18 a | 43 | 5. 4 | 43 | 4 | 2, 5 | 2, 7 | 3, 0 |
| 0, 8 | 1, 6 | 49 | 0. 0 | 44 | 0. 44 | 43 | 1. 28 a | 43 | 2. 11 a | 44 | 2. 55 a | 43 | 3. 38 a | 43 | 4. 19 a | 43 | 5. 5 | 43 | 5 | 3, 1 | 3, 4 | 3, 8 |
| 0, 8 | 1, 7 | 50 | 0. 0 | 44 | 0. 44 | 44 | 1. 28 | 44 | 2. 12 a | 44 | 2. 56 a | 44 | 3. 39 a | 44 | 4. 20 a | 44 | 5. 6 | 44 | 6 | 3, 7 | 4, 1 | 4, 5 |
| 0, 9 | 1, 7 | 51 | 0. 0 | 44 | 0. 44 | 44 | 1. 28 | 44 | 2. 12 a | 44 | 2. 56 a | 44 | 3. 40 a | 44 | 4. 21 a | 44 | 5. 8 | 44 | 7 | 4, 3 | 4, 8 | 5, 3 |
| 0, 9 | 1, 7 | 52 | 0. 0 | 44 | 0. 44 a | 44 | 1. 29 a | 44 | 2. 13 a | 44 | 2. 57 a | 44 | 3. 41 a | 44 | 4. 22 a | 44 | 5. 9 | 44 | 8 | 4, 9 | 5, 5 | 6, 0 |
| 0, 9 | 1, 8 | 53 | 0. 0 | 45 | 0. 45 a | 44 | 1. 29 a | 45 | 2. 14 a | 44 | 2. 58 a | 44 | 3. 42 a | 44 | 4. 23 a | 44 | 5. 11 | 44 | 9 | 5, 6 | 6, 2 | 6, 8 |
| 0, 9 | 1, 8 | 54 | 0. 0 | 45 | 0. 45 | 45 | 1. 30 a | 44 | 2. 14 a | 45 | 2. 59 a | 44 | 3. 43 a | 44 | 4. 24 a | 44 | 5. 12 | 44 | 10 | 6, 2 | 6, 8 | 7, 5 |
| 1, 0 | 1, 8 | 55 | 0. 0 | 45 | 0. 45 | 45 | 1. 30 | 45 | 2. 15 a | 45 | 3. 0 a | 44 | 3. 44 a | 45 | 4. 25 a | 44 | 5. 13 | 45 | 20 | 12, 3 | 13, 7 | 15, 0 |
| 1, 0 | 1, 9 | 56 | 0. 0 | 45 | 0. 45 | 46 | 1. 30 a | 46 | 2. 16 a | 45 | 3. 1 a | 45 | 3. 45 a | 45 | 4. 26 a | 45 | 5. 14 | 45 | 30 | 18, 5 | 20, 5 | 22, 5 |
| 1, 0 | 1, 9 | 57 | 0. 0 | 45 | 0. 45 | 46 | 1. 31 | 46 | 2. 16 a | 45 | 3. 1 a | 46 | 3. 46 a | 45 | 4. 27 a | 45 | 5. 15 | 45 | 40 | 24, 7 | 27, 3 | 30, 0 |
| 1, 0 | 1, 9 | 58 | 0. 0 | 46 | 0. 46 a | 46 | 1. 31 a | 46 | 2. 17 a | 46 | 3. 2 a | 46 | 3. 47 a | 46 | 4. 28 a | 45 | 5. 16 | 46 | 50 | 30, 8 | 34, 2 | 37, 5 |
| 1, 0 | 2, 0 | 59 | 0. 0 | 46 | 0. 46 | 46 | 1. 32 | 46 | 2. 18 a | 46 | 3. 3 a | 46 | 3. 48 a | 46 | 4. 29 a | 46 | 5. 17 | 46 | | | | |

Proportional parts for Seconds of Interval.

Complement of Declination.

| h | 74° | D | 75° | D | 76° | D | 77° | D | 78° | D | 79° | D | 80° | D | 81° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4h | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | | ′ ″ | |
| | 57. 56 | c | 58. 14 | c | 58. 31 | a | 58. 47 | a | 59. 3 | c | 59. 17 | a | 59. 29 | a | 59. 41 | c |
| | 58. 10 | c | 58. 28 | a | 58. 46 | c | 59. 2 | a | 59. 17 | a | 59. 31 | a | 59. 44 | a | 59. 55 | a |
| | 58. 24 | c | 58. 42 | | 59. 0 | | 59. 17 | | 59. 32 | | 59. 46 | | 59. 59 | | 60. 10 | |
| | 58. 38 | a | 58. 57 | c | 59. 15 | c | 59. 31 | a | 59. 47 | a | 60. 1 | a | 60. 13 | a | 60. 25 | a |
| | 58. 53 | c | 59. 11 | c | 59. 29 | a | 59. 46 | c | 60. 1 | a | 60. 15 | a | 60. 28 | a | 60. 40 | a |
| | 59. 7 | c | 59. 26 | c | 59. 44 | c | 60. 0 | a | 60. 16 | c | 60. 30 | c | 60. 43 | c | 60. 55 | c |
| | 59. 21 | c | 59. 40 | c | 59. 58 | c | 60. 15 | c | 60. 30 | a | 60. 44 | a | 60. 57 | a | 61. 9 | a |
| | | | | | | | 60. 29 | | 60. 45 | | 60. 59 | | 61. 12 | | 61. 24 | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

Proportional parts for Interval.

| d | c | d |
|---|---|---|
| ′ | ′ | ′ |
| 0, 0 | 0, 0 | 0, 0 |
| 0, 0 | 0, 0 | 0, 1 |
| 0, 0 | 0, 1 | 0, 1 |
| 0, 1 | 0, 1 | 0, 2 |
| 0, 1 | 0, 2 | 0, 3 |
| 0, 1 | 0, 2 | 0, 3 |
| 0, 1 | 0, 2 | 0, 4 |
| 0, 1 | 0, 3 | 0, 4 |
| 0, 2 | 0, 3 | 0, 5 |
| 0, 2 | 0, 3 | 0, 5 |
| 0, 2 | 0, 4 | 0, 6 |
| 0, 2 | 0, 4 | 0, 6 |
| 0, 2 | 0, 4 | 0, 7 |
| 0, 2 | 0, 5 | 0, 7 |
| 0, 3 | 0, 5 | 0, 8 |
| 0, 3 | 0, 5 | 0, 8 |
| 0, 3 | 0, 6 | 0, 9 |
| 0, 3 | 0, 6 | 0, 9 |
| 0, 3 | 0, 6 | 1, 0 |
| 0, 3 | 0, 7 | 1, 0 |
| 0, 4 | 0, 7 | 1, 1 |
| 0, 4 | 0, 7 | 1, 1 |
| 0, 4 | 0, 8 | 1, 2 |
| 0, 4 | 0, 8 | 1, 2 |
| 0, 4 | 0, 8 | 1, 3 |
| 0, 4 | 0, 9 | 1, 3 |
| 0, 5 | 0, 9 | 1, 4 |
| 0, 5 | 0, 9 | 1, 4 |
| 0, 5 | 1, 0 | 1, 5 |
| 0, 5 | 1, 0 | 1, 5 |
| 0, 5 | 1, 1 | 1, 6 |
| 0, 6 | 1, 1 | 1, 6 |
| 0, 6 | 1, 1 | 1, 7 |
| 0, 6 | 1, 1 | 1, 7 |
| 0, 6 | 1, 2 | 1, 8 |
| 0, 6 | 1, 2 | 1, 8 |
| 0, 6 | 1, 2 | 1, 9 |
| 0, 7 | 1, 3 | 1, 9 |
| 0, 7 | 1, 3 | 2, 0 |
| 0, 7 | 1, 3 | 2, 0 |
| 0, 7 | 1, 4 | 2, 1 |
| 0, 7 | 1, 4 | 2, 1 |
| 0, 8 | 1, 4 | 2, 2 |
| 0, 8 | 1, 5 | 2, 2 |
| 0, 8 | 1, 5 | 2, 3 |
| 0, 8 | 1, 5 | 2, 3 |
| 0, 8 | 1, 6 | 2, 4 |
| 0, 9 | 1, 6 | 2, 4 |
| 0, 9 | 1, 6 | 2, 5 |
| 0, 9 | 1, 7 | 2, 5 |
| 0, 9 | 1, 7 | 2, 6 |
| 0, 9 | 1, 7 | 2, 6 |
| 1, 0 | 1, 8 | 2, 7 |
| 1, 0 | 1, 8 | 2, 7 |
| 1, 0 | 1, 8 | 2, 8 |
| 1, 0 | 1, 9 | 2, 8 |
| 1, 1 | 1, 9 | 2, 9 |
| 1, 1 | 1, 9 | 2, 9 |
| 1, 1 | 2, 0 | 3, 0 |

| Interval | Declination. 8° | D | 9° | D | 10° | D | 11° | D | 12° | D | 13° | D | 14° | D | 15° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| $4^h$ | | | | | | | | | | | | | | | | |
| m | ° ′ | | ′ | | ′ | | ′ | | ′ | | ′ | | ′ | | ′ | |
| 0 | 4 36 | a | 34 | | 5. 10 | | 5. 44 | | 6. 17 | | 6. 50 | | 7. 22 | | 7. 55 | |
| 1 | 4 37 | a | 34 | | 5. 11 | | 5. 45 | | 6. 18 | | 6. 51 | | 7. 24 | | 7. 57 | |
| 2 | 4 38 | c | 35 | | 5. 13 | | 5. 47 | | 6. 21 | | 6. 54 | | 7. 27 | | 8. 00 | |
| 3 | 4 40 | a | 34 | | 5. 14 | | 5. 48 | | 6. 22 | | 6. 55 | | 7. 28 | | 8. 01 | |
| 4 | 4 41 | c | 35 | | 5. 16 | | 5. 50 | | 6. 24 | | 6. 57 | | 7. 30 | | 8. 03 | |
| 5 | 4 43 | a | 34 | | 5. 17 | | 5. 51 | | 6. 25 | | 6. 58 | | 7. 31 | | 8. 04 | |
| 6 | 4 44 | a | 33 | | 5. 18 | | 5. 52 | | 6. 26 | | 6. 59 | | 7. 32 | | 8. 05 | |
| 7 | 4 45 | c | 36 | | 5. 20 | | 5. 54 | | 6. 28 | | 7. 01 | | 7. 34 | | 8. 07 | |
| 8 | 4 47 | a | 35 | | 5. 21 | | 5. 55 | | 6. 29 | | 7. 02 | | 7. 35 | | 8. 08 | |
| 9 | 4 48 | c | 36 | | 5. 23 | | 5. 57 | | 6. 31 | | 7. 04 | | 7. 37 | | 8. 10 | |
| 10 | 4 50 | a | 35 | | 5. 24 | | 5. 58 | | 6. 32 | | 7. 05 | | 7. 38 | | 8. 11 | |
| 11 | 4 51 | a | 36 | | 5. 26 | | 6. 00 | | 6. 34 | | 7. 07 | | 7. 40 | | 8. 13 | |
| 12 | 4 52 | c | 36 | | 5. 27 | | 6. 01 | | 6. 35 | | 7. 08 | | 7. 41 | | 8. 14 | |
| 13 | 4 54 | a | 36 | | 5. 29 | | 6. 03 | | 6. 37 | | 7. 10 | | 7. 43 | | 8. 16 | |
| 14 | 4 55 | c | 37 | | 5. 30 | | 6. 04 | | 6. 38 | | 7. 11 | | 7. 44 | | 8. 17 | |
| 15 | 4 57 | a | 36 | | 5. 32 | | 6. 06 | | 6. 40 | | 7. 13 | | 7. 46 | | 8. 19 | |
| 16 | 4 58 | c | 37 | | 5. 33 | | 6. 07 | | 6. 41 | | 7. 14 | | 7. 47 | | 8. 20 | |
| 17 | 5 0 | a | 37 | | 5. 35 | | 6. 09 | | 6. 43 | | 7. 16 | | 7. 49 | | 8. 22 | |
| 18 | 5 1 | a | 37 | | 5. 36 | | 6. 10 | | 6. 44 | | 7. 17 | | 7. 50 | | 8. 23 | |
| 19 | 5 3 | c | 37 | | 5. 38 | | 6. 12 | | 6. 46 | | 7. 19 | | 7. 52 | | 8. 25 | |
| 20 | 5 4 | a | 37 | | 5. 39 | | 6. 13 | | 6. 47 | | 7. 20 | | 7. 53 | | 8. 26 | |
| 21 | 5 5 | c | 38 | | 5. 41 | | 6. 15 | | 6. 49 | | 7. 22 | | 7. 55 | | 8. 28 | |
| 22 | 5 7 | a | 38 | | 5. 42 | | 6. 16 | | 6. 50 | | 7. 23 | | 7. 56 | | 8. 29 | |
| 23 | 5 8 | a | 38 | | 5. 44 | | 6. 18 | | 6. 52 | | 7. 25 | | 7. 58 | | 8. 31 | |
| 24 | 5 10 | c | 38 | | 5. 45 | | 6. 19 | | 6. 53 | | 7. 26 | | 7. 59 | | 8. 32 | |
| 25 | 5 11 | c | 39 | | 5. 47 | | 6. 21 | | 6. 55 | | 7. 28 | | 8. 01 | | 8. 34 | |
| 26 | 5 13 | a | 38 | | 5. 48 | | 6. 22 | | 6. 56 | | 7. 29 | | 8. 02 | | 8. 35 | |
| 27 | 5 14 | c | 39 | | 5. 50 | | 6. 24 | | 6. 58 | | 7. 31 | | 8. 04 | | 8. 37 | |
| 28 | 5 16 | c | 39 | | 5. 51 | | 6. 25 | | 6. 59 | | 7. 32 | | 8. 05 | | 8. 38 | |
| 29 | 5 17 | a | 39 | | 5. 53 | | 6. 27 | | 7. 01 | | 7. 34 | | 8. 07 | | 8. 40 | |
| 30 | 5 19 | a | 39 | | 5. 54 | | 6. 28 | | 7. 02 | | 7. 35 | | 8. 08 | | 8. 41 | |
| 31 | 5 20 | c | 40 | | 5. 56 | | 6. 30 | | 7. 04 | | 7. 37 | | 8. 10 | | 8. 43 | |
| 32 | 5 22 | a | 39 | | 5. 57 | | 6. 31 | | 7. 05 | | 7. 38 | | 8. 11 | | 8. 44 | |
| 33 | 5 23 | c | 40 | | 5. 59 | | 6. 33 | | 7. 07 | | 7. 40 | | 8. 13 | | 8. 46 | |
| 34 | 5 25 | a | 40 | | 6. 00 | | 6. 34 | | 7. 08 | | 7. 41 | | 8. 14 | | 8. 47 | |
| 35 | 5 26 | c | 40 | | 6. 02 | | 6. 36 | | 7. 10 | | 7. 43 | | 8. 16 | | 8. 49 | |
| 36 | 5 28 | a | 40 | | 6. 03 | | 6. 37 | | 7. 11 | | 7. 44 | | 8. 17 | | 8. 50 | |
| 37 | 5 29 | c | 41 | | 6. 05 | | 6. 39 | | 7. 13 | | 7. 46 | | 8. 19 | | 8. 52 | |
| 38 | 5 31 | a | 41 | | 6. 06 | | 6. 40 | | 7. 14 | | 7. 47 | | 8. 20 | | 8. 53 | |
| 39 | 5 32 | c | 41 | | 6. 08 | | 6. 42 | | 7. 16 | | 7. 49 | | 8. 22 | | 8. 55 | |
| 40 | 5 34 | a | 41 | | 6. 09 | | 6. 43 | | 7. 17 | | 7. 50 | | 8. 23 | | 8. 56 | |
| 41 | 5 35 | c | 42 | | 6. 11 | | 6. 45 | | 7. 19 | | 7. 52 | | 8. 25 | | 8. 58 | |
| 42 | 5 37 | c | 42 | | 6. 12 | | 6. 46 | | 7. 20 | | 7. 53 | | 8. 26 | | 8. 59 | |
| 43 | 5 39 | a | 41 | | 6. 14 | | 6. 48 | | 7. 22 | | 7. 55 | | 8. 28 | | 9. 01 | |
| 44 | 5 40 | c | 42 | | 6. 15 | | 6. 49 | | 7. 23 | | 7. 56 | | 8. 29 | | 9. 02 | |
| 45 | 5 42 | a | 42 | | 6. 17 | | 6. 51 | | 7. 25 | | 7. 58 | | 8. 31 | | 9. 04 | |
| 46 | 5 43 | c | 43 | | 6. 18 | | 6. 52 | | 7. 26 | | 7. 59 | | 8. 32 | | 9. 05 | |
| 47 | 5 45 | a | 42 | | 6. 20 | | 6. 54 | | 7. 28 | | 8. 01 | | 8. 34 | | 9. 07 | |
| 48 | 5 46 | c | 43 | | 6. 21 | | 6. 55 | | 7. 29 | | 8. 02 | | 8. 35 | | 9. 08 | |
| 49 | 5 48 | c | 43 | | 6. 23 | | 6. 57 | | 7. 31 | | 8. 04 | | 8. 37 | | 9. 10 | |
| 50 | 5 49 | c | 44 | | 6. 24 | | 6. 58 | | 7. 32 | | 8. 05 | | 8. 38 | | 9. 11 | |
| 51 | 5 51 | c | 43 | | 6. 26 | | 7. 00 | | 7. 34 | | 8. 07 | | 8. 40 | | 9. 13 | |
| 52 | 5 53 | a | 43 | | 6. 27 | | 7. 01 | | 7. 35 | | 8. 08 | | 8. 41 | | 9. 14 | |
| 53 | 5 54 | c | 44 | | 6. 29 | | 7. 03 | | 7. 37 | | 8. 10 | | 8. 43 | | 9. 16 | |
| 54 | 5 56 | c | 44 | | 6. 30 | | 7. 04 | | 7. 38 | | 8. 11 | | 8. 44 | | 9. 17 | |
| 55 | 5 58 | a | 44 | | 6. 32 | | 7. 06 | | 7. 40 | | 8. 13 | | 8. 46 | | 9. 19 | |
| 56 | 5 59 | c | 44 | | 6. 33 | | 7. 07 | | 7. 41 | | 8. 14 | | 8. 47 | | 9. 20 | |
| 57 | 6 1 | a | 44 | | 6. 35 | | 7. 09 | | 7. 43 | | 8. 16 | | 8. 49 | | 9. 22 | |
| 58 | 6 2 | c | 45 | | 6. 36 | | 7. 10 | | 7. 44 | | 8. 17 | | 8. 50 | | 9. 23 | |
| 59 | 6 4 | c | 45 | | 6. 38 | | 7. 12 | | 7. 46 | | 8. 19 | | 8. 52 | | 9. 25 | |

Proportional parts for Declination. additive

| ′ | 35′ | 37′ | 41′ |
|---|---|---|---|
| | ′ | ′ | ′ |
| 0 | 0, 6 | 0, 6 | 0, 7 |
| 1 | 1, 1 | 1, 3 | 1, 4 |
| 1 | 1, 7 | 1, 9 | 2, 1 |
| 2 | 2, 2 | 2, 5 | 2, 7 |
| 2 | 2, 8 | 3, 1 | 3, 4 |
| 3 | 3, 3 | 3, 7 | 4, 1 |
| 3 | 3, 9 | 4, 3 | 4, 8 |
| 4 | 4, 4 | 4, 9 | 5, 5 |
| 5 | 5, 0 | 5, 6 | 6, 2 |
| 5 | 5, 5 | 6, 2 | 6, 8 |
| 11 | 0 | 3 | 3, 7 |
| 16 | 6, 5 | 8, 5 | 0, 5 |
| 22 | 0 | 4. 7 | 7, 3 |
| 27 | 5 | 10. 8 | 4, 2 |
| | 34′ | 38′ | 42′ |
| | ′ | ′ | ′ |
| 0 | 0, 6 | 0, 6 | 0, 7 |
| 1 | 1, 1 | 1, 3 | 1, 4 |
| 1 | 1, 7 | 1, 9 | 2, 1 |
| 2 | 2, 3 | 2, 5 | 2, 8 |
| 2 | 2, 8 | 3, 2 | 3, 5 |
| 3 | 3, 4 | 3, 8 | 4, 2 |
| 4 | 4 0 | 4, 4 | 4, 9 |
| 4 | 4, 5 | 5, 1 | 5, 7 |

Proportional parts for Seconds of Interval.

| a | c | n |
|---|---|---|
| ′ | ′ | ′ |
| 0, 0 | 0, 0 | 0, 0 |
| 0, 3 | 0, 2 | 0, 2 |
| 0, 5 | 0, 5 | 0, 4 |
| 0, 8 | 0, 7 | 0, 7 |
| 1, 0 | 0, 9 | 0, 9 |
| 1, 3 | 1, — | 1, 1 |
| 1, 5 | 1, 1 | 1, 3 |
| 1, 8 | 1, 4 | 1, 5 |
| 2, 0 | 1, — | 1, 7 |
| 2, 3 | 2, 1 | 2, 0 |
| 2, 5 | 2, 3 | 2, 2 |
| 2, 8 | 2, 6 | 2, 4 |
| 3, 0 | 2, 8 | 2, 6 |
| 3, 3 | 3, 0 | 2, 8 |
| 3, 5 | 3, 3 | 3, 0 |
| 3, 8 | 3, 5 | 3, 3 |
| 4, 0 | 3, 7 | 3, 5 |
| 4, 3 | 4, 0 | 3, 7 |
| 4, 5 | 4, 2 | 3, 9 |
| 4, 8 | 4, 4 | 4, 1 |
| 5, 0 | 4, 7 | 4, 3 |
| 5, 3 | 4, 9 | 4, 6 |
| 5, 5 | 5, 1 | 4, 8 |
| 5, 8 | 5, 4 | 5, 0 |
| 6, 0 | 5, 6 | 5, 2 |
| 6, 3 | 5, 8 | 5, 4 |
| 6, 5 | 6, 1 | 5, 6 |
| 6, 8 | 6, 3 | 5, 9 |
| 7, 0 | 6, 5 | 6, 1 |
| 7, 3 | 6, 8 | 6, 3 |
| 7, 5 | 7, 0 | 6, 5 |
| 7, 8 | 7, 2 | 6, 7 |
| 8, 0 | 7, 5 | 6, 9 |
| 8, 3 | 7, 7 | 7, 2 |
| 8, 5 | 7, 9 | 7, 4 |
| 8, — | 8, — | 7, — |
| 8, — | 8, — | 7, — |
| 8, — | 8, — | 7, — |
| 8, — | 8, — | 7, — |
| 9, — | 8, — | 7, — |
| 9, — | 8, — | 7, — |
| 9, — | 8, — | 7, — |
| 9, — | 8, — | 7, — |
| 9, — | 8, — | 7, — |
| 9, — | 8, — | 7, — |
| 9, — | 8, — | 7, — |
| 9, — | 8, — | 7, — |
| 9, — | 8, — | 7, — |
| 10, 0 | 9, 3 | 8, 7 |
| 10, — | 9, — | 8, — |
| 10, 5 | 9, 8 | 9, 1 |
| 10, 8 | 10, 0 | 9, 3 |
| 11, 0 | 10, 3 | 9, 5 |
| 11, — | 10, — | 9, — |
| 11, 5 | 10, 7 | 10, 0 |
| 11, 8 | 11, 0 | 10, 2 |
| 12, 0 | 11, 2 | 10, 4 |
| 12, — | 11, — | 10, — |
| 12, 5 | 11, 7 | 10, 8 |
| 12, 8 | 11, 9 | 11, 1 |
| 13, 0 | 12, 1 | 11, 3 |
| 13, — | 12, — | 11, — |
| 13, 5 | 12, 6 | 11, 7 |
| 13, 8 | 12, 8 | 11, 9 |
| 14, 0 | 13, 1 | 12, 1 |
| 14, — | 13, — | 12, — |
| 14, — | 13, — | 12, — |
| 14, 8 | 13, 8 | 12, 8 |

Complement of Declination.

| 4h | 66° | D | 67° | D | 68° | D | 69° | D | 70° | D | 71° | D | 72° | D | 73° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | |
| 0 | 54. 21 | c | 54. 48 | c | 55. 14 | c | 55. 39 | c | 56. 3 | c | 56. 26 | c | 56. 47 | c | 57. 8 | c |
| 1 | 54. 35 | n | 55. 1 | n | 55. 28 | n | 55. 53 | n | 56. 17 | n | 56. 40 | n | 57. 1 | n | 57. 22 | n |
| 2 | 54. 49 | n | 55. 15 | c | 55. 41 | c | 56. 7 | n | 56. 31 | n | 56. 53 | c | 57. 15 | c | 57. 36 | c |
| 3 | 55. 1 | c | 55. 29 | n | 55. 55 | c | 56. 20 | c | 56. 44 | c | 57. 7 | c | 57. 29 | c | 57. 50 | c |
| 4 | 55. 15 | n | 55. 42 | c | 56. 9 | n | 56. 34 | c | 56. 58 | c | 57. 21 | c | 57. 43 | c | 58. 4 | c |
| 5 | 55. 28 | n | 55. 55 | c | 56. 22 | c | 56. 47 | c | 57. 12 | c | 57. 35 | c | 57. 57 | c | 58. 18 | c |
| 6 | 55. 41 | c | 56. 9 | c | 56. 36 | n | 57. 1 | c | 57. 26 | c | 57. 49 | c | 58. 11 | a | 58. 33 | c |
| 7 | 55. 55 | n | 56. 23 | n | 56. 49 | c | 57. 15 | c | 57. 40 | n | 58. 3 | c | 58. 26 | a | 58. 47 | c |
| 8 | 56. 8 | n | 56. 36 | n | 57. 3 | c | 57. 29 | c | 57. 53 | c | 58. 17 | c | 58. 40 | c | 59. 1 | c |
| 9 | 56. 21 | n | 56. 49 | n | 57. 17 | n | 57. 43 | n | 58. 7 | c | 58. 31 | c | 58. 54 | c | 59. 15 | c |
| 10 | 56. 35 | n | 57. 3 | n | 57. 30 | c | 57. 56 | n | 58. 21 | c | 58. 45 | c | 59. 8 | c | 59. 29 | c |
| 11 | 56. 48 | n | 57. 16 | n | 57. 44 | n | 58. 10 | c | 58. 35 | c | 58. 59 | c | 59. 22 | c | 59. 43 | c |
| 12 | 57. 1 | n | 57. 30 | n | 57. 57 | n | 58. 23 | n | 58. 49 | n | 59. 13 | c | 59. 36 | c | 59. 57 | c |
| 13 | 57. 15 | c | 57. 43 | n | 58. 11 | n | 58. 37 | c | 59. 2 | c | 59. 27 | c | 59. 50 | c | 60. 11 | c |
| 14 | 57. 28 | n | 57. 57 | c | 58. 24 | n | 58. 51 | c | 59. 16 | c | 59. 41 | c | 60. 4 | c | 60. 26 | a |
| 15 | 57. 41 | n | 58. 10 | n | 58. 38 | c | 59. 4 | c | 59. 30 | c | 59. 54 | n | 60. 18 | c | 60. 40 | c |
| 16 | 57. 54 | n | 58. 23 | n | 58. 51 | n | 59. 18 | c | 59. 44 | c | 60. 8 | c | 60. 32 | c | 60. 54 | c |
| 17 | 58. 8 | c | 58. 37 | c | 59. 5 | c | 59. 32 | c | 59. 58 | n | 60. 22 | c | 60. 46 | c | 61. 8 | c |
| 18 | 58. 21 | c | 58. 50 | c | 59. 18 | c | 59. 45 | c | 60. 11 | c | 60. 36 | c | 61. 0 | c | 61. 22 | c |
| 19 | 58. 35 | c | 59. 4 | c | 59. 32 | c | 59. 59 | c | 60. 25 | c | 60. 50 | c | 61. 14 | c | 61. 39 | c |
| 20 | 58. 48 | n | 59. 17 | c | 59. 46 | n | 60. 13 | n | 60. 39 | c | 61. 4 | c | 61. 28 | c | 61. 50 | c |
| 21 | 59. 1 | n | 59. 31 | n | 59. 59 | c | 60. 26 | n | 60. 53 | n | 61. 18 | c | 61. 42 | c | 62. 4 | c |
| 22 | 59. 14 | n | 59. 44 | n | 60. 13 | n | 60. 40 | c | 61. 6 | c | 61. 32 | c | 61. 56 | c | 62. 18 | a |
| 23 | 59. 27 | n | 59. 57 | n | 60. 26 | n | 60. 54 | c | 61. 20 | c | 61. 46 | c | 62. 10 | c | 62. 33 | c |
| 24 | 59. 40 | c | 60. 11 | c | 60. 40 | c | 61. 7 | n | 61. 34 | c | 61. 59 | n | 62. 24 | c | 62. 47 | c |
| 25 | 59. 54 | n | 60. 24 | n | 60. 53 | n | 61. 21 | c | 61. 48 | c | 62. 13 | c | 62. 38 | c | 63. 1 | c |
| 26 | 60. 7 | n | 60. 37 | n | 61. 7 | n | 61. 35 | n | 62. 2 | n | 62. 27 | c | 62. 52 | c | 63. 15 | c |
| 27 | 60. 20 | c | 60. 51 | n | 61. 20 | c | 61. 48 | n | 62. 15 | n | 62. 41 | c | 63. 6 | c | 63. 29 | c |
| 28 | 60. 34 | n | 61. 4 | n | 61. 34 | c | 62. 2 | c | 62. 29 | c | 62. 55 | c | 63. 20 | c | 63. 43 | c |
| 29 | 60. 47 | n | 61. 17 | n | 61. 47 | c | 62. 16 | c | 62. 43 | c | 63. 9 | c | 63. 34 | c | 63. 57 | c |
| 30 | 61. 0 | n | 61. 31 | n | 62. 1 | c | 62. 29 | c | 62. 57 | n | 63. 23 | n | 63. 48 | n | 64. 11 | c |
| 31 | 61. 13 | n | 61. 44 | n | 62. 14 | n | 62. 43 | n | 63. 10 | c | 63. 36 | c | 64. 1 | n | 64. 25 | c |
| 32 | 61. 26 | n | 61. 57 | n | 62. 28 | n | 62. 56 | n | 63. 24 | c | 63. 50 | c | 64. 15 | c | 64. 39 | c |
| 33 | 61. 40 | n | 62. 11 | n | 62. 41 | n | 63. 10 | n | 63. 38 | n | 64. 4 | c | 64. 29 | c | 64. 53 | c |
| 34 | 61. 53 | n | 62. 24 | n | 62. 55 | n | 63. 24 | n | 63. 51 | n | 64. 18 | c | 64. 43 | c | 65. 7 | c |
| 35 | 62. 6 | n | 62. 38 | n | 63. 8 | n | 63. 37 | n | 64. 5 | c | 64. 32 | c | 64. 57 | c | 65. 21 | c |
| 36 | 62. 19 | n | 62. 51 | n | 63. 22 | c | 63. 51 | c | 64. 19 | c | 64. 46 | c | 65. 11 | c | 65. 36 | a |
| 37 | 62. 33 | n | 63. 4 | n | 63. 35 | n | 64. 4 | n | 64. 33 | n | 65. 0 | c | 65. 25 | c | 65. 50 | c |
| 38 | 62. 46 | n | 63. 17 | n | 63. 48 | n | 64. 18 | n | 64. 46 | n | 65. 13 | c | 65. 39 | c | 66. 4 | c |
| 39 | 62. 59 | n | 63. 30 | n | 64. 2 | n | 64. 32 | n | 65. 0 | n | 65. 27 | c | 65. 53 | c | 66. 18 | c |
| 40 | 63. 12 | n | 63. 44 | n | 64. 15 | c | 64. 45 | c | 65. 14 | n | 65. 41 | c | 66. 7 | c | 66. 32 | c |
| 41 | 63. 25 | n | 63. 57 | n | 64. 29 | c | 64. 59 | c | 65. 27 | n | 65. 55 | c | 66. 21 | c | 66. 46 | c |
| 42 | 63. 38 | n | 64. 11 | n | 64. 42 | c | 65. 12 | c | 65. 41 | c | 66. 9 | c | 66. 35 | c | 67. 0 | c |
| 43 | 63. 51 | c | 64. 24 | n | 64. 56 | c | 65. 26 | n | 65. 55 | c | 66. 23 | n | 66. 49 | c | 67. 14 | c |
| 44 | 64. 5 | c | 64. 37 | c | 65. 9 | c | 65. 39 | n | 66. 9 | n | 66. 36 | c | 67. 3 | c | 67. 28 | c |
| 45 | 64. 18 | c | 64. 51 | c | 65. 23 | c | 65. 53 | c | 66. 23 | c | 66. 50 | c | 67. 17 | c | 67. 42 | c |
| 46 | 64. 31 | n | 65. 4 | n | 65. 36 | n | 66. 7 | c | 66. 36 | c | 67. 4 | c | 67. 31 | c | 67. 56 | c |
| 47 | 64. 44 | n | 65. 17 | n | 65. 49 | c | 66. 20 | n | 66. 50 | n | 67. 18 | c | 67. 45 | c | 68. 10 | c |
| 48 | 64. 57 | n | 65. 31 | n | 66. 3 | n | 66. 34 | n | 67. 3 | c | 67. 32 | n | 67. 59 | n | 68. 24 | c |
| 49 | 65. 11 | n | 65. 44 | n | 66. 16 | n | 66. 47 | n | 67. 17 | c | 67. 45 | c | 68. 12 | c | 68. 38 | c |
| 50 | 65. 24 | n | 65. 57 | n | 66. 30 | n | 67. 1 | n | 67. 31 | n | 67. 59 | c | 68. 26 | c | 68. 52 | c |
| 51 | 65. 37 | n | 66. 10 | n | 66. 43 | n | 67. 14 | c | 67. 44 | c | 68. 13 | c | 68. 40 | c | 69. 6 | c |
| 52 | 65. 50 | n | 66. 24 | n | 66. 56 | c | 67. 28 | n | 67. 58 | c | 68. 27 | c | 68. 54 | c | 69. 20 | c |
| 53 | 66. 3 | n | 66. 37 | n | 67. 10 | n | 67. 41 | n | 68. 12 | n | 68. 41 | c | 69. 8 | c | 69. 34 | c |
| 54 | 66. 16 | n | 66. 50 | n | 67. 23 | n | 67. 55 | n | 68. 25 | n | 68. 54 | n | 69. 22 | c | 69. 48 | c |
| 55 | 66. 29 | n | 67. 4 | n | 67. 37 | n | 68. 9 | n | 68. 39 | c | 69. 8 | c | 69. 36 | c | 70. 2 | c |
| 56 | 66. 42 | n | 67. 17 | n | 67. 50 | n | 68. 22 | n | 68. 53 | n | 69. 22 | c | 69. 50 | c | 70. 16 | c |
| 57 | 66. 55 | n | 67. 30 | n | 68. 3 | n | 68. 35 | n | 69. 6 | n | 69. 36 | c | 70. 4 | c | 70. 30 | c |
| 58 | 67. 7 | n | 67. 43 | n | 68. 17 | n | 68. 49 | n | 69. 20 | c | 69. 49 | c | 70. 18 | c | 70. 44 | c |
| 59 | 67. 22 | n | 67. 56 | n | 68. 30 | n | 69. 3 | n | 69. 34 | n | 70. 3 | c | 70. 31 | c | 70. 58 | c |

Proportional parts for Complement of Declination.

| ′ | 19′ | 23′ | 27′ | 31′ | 35′ |
|---|---|---|---|---|---|
| 1 | 0, 3 | 0, 4 | 0, 5 | 0, 5 | 0, 6 |
| 2 | 0, 6 | 0, 8 | 1, 0 | 1, 1 | 1, 2 |
| 3 | 1, 0 | 1, 2 | 1, 4 | 1, 6 | 1, 8 |
| 4 | 1, 3 | 1, 5 | 1, 8 | 2, 1 | 2, 3 |
| 5 | 1, 7 | 1, 9 | 2, 3 | 2, 6 | 2, 9 |
| 6 | 1, 9 | 2, 3 | 2, 7 | 3, 1 | 3, 5 |
| 7 | 2, 3 | 2, 7 | 3, 2 | 3, 6 | 4, 1 |
| 8 | 2, 5 | 3, 1 | 3, 6 | 4, 1 | 4, 7 |
| 9 | 2, 8 | 3, 5 | 4, 1 | 4, 7 | 5, 3 |
| 10 | 3, 2 | 3, 8 | 4, 5 | 5, 2 | 5, 8 |
| 20 | 6, 3 | 7, 7 | 9, 0 | 10, 3 | 11, 7 |
| 30 | 9, 5 | 11, 5 | 13, 5 | 15, 5 | 17, 5 |
| 40 | 12, 7 | 15, 3 | 18, — | 20, 7 | 23, 3 |
| 50 | 15, 8 | 19, 2 | 22, 5 | 25, 8 | 29, 2 |

| ′ | 20 | 24 | 28 | 32 | 36 |
|---|---|---|---|---|---|
| 1 | 0, 3 | 0, 4 | 0, 5 | 0, 5 | 0, 6 |
| 2 | 0, 7 | 0, 8 | 1, 0 | 1, 1 | 1, 2 |
| 3 | 1, 0 | 1, 2 | 1, 4 | 1, 6 | 1, 8 |
| 4 | 1, 3 | 1, 6 | 1, 9 | 2, 1 | 2, 4 |
| 5 | 1, 7 | 2, 0 | 2, 3 | 2, 7 | 3, 0 |
| 6 | 2, 0 | 2, 4 | 2, 8 | 3, 2 | 3, 6 |
| 7 | 2, 3 | 2, 8 | 3, 3 | 3, 7 | 4, 2 |
| 8 | 2, 7 | 3, 2 | 3, 7 | 4, 3 | 4, 8 |
| 9 | 3, 0 | 3, 6 | 4, 2 | 4, 8 | 5, 4 |
| 10 | 3, 3 | 4, 0 | 4, 7 | 5, 3 | 6, 0 |
| 20 | 6, 7 | 8, 0 | 9, 3 | 10, 7 | 12, 0 |
| 30 | 10, 0 | 12, 0 | 14, 0 | 16, 0 | 18, 0 |
| 40 | 13, 3 | 16, — | 18, 7 | 21, 3 | 24, — |
| 50 | 16, 7 | 20, — | 23, 3 | 26, 7 | 30, — |

| ′ | 21′ | 25′ | 29′ | 33′ | 37′ |
|---|---|---|---|---|---|
| 1 | 0, 4 | 0, 4 | 0, 5 | 0, 6 | 0, 6 |
| 2 | 0, 7 | 0, 8 | 1, 0 | 1, 1 | 1, 2 |
| 3 | 1, 1 | 1, 3 | 1, 5 | 1, 7 | 1, 9 |
| 4 | 1, 4 | 1, 7 | 1, 10 | 2, 2 | 2, 5 |
| 5 | 1, 8 | 2, 1 | 2, 4 | 2, 8 | 3, 1 |
| 6 | 2, 1 | 2, 5 | 2, 10 | 3, 3 | 3, 7 |
| 7 | 2, 5 | 2, 9 | 3, 4 | 3, 9 | 4, 4 |
| 8 | 2, 8 | 3, 3 | 3, 9 | 4, 4 | 4, 10 |
| 9 | 3, 2 | 3, 7 | 4, 3 | 4, 10 | 5, 5 |
| 10 | 3, 5 | 4, 2 | 4, 8 | 5, 5 | 6, 1 |
| 20 | 7, 0 | 8, 4 | 9, 7 | 11, 1 | 12, 5 |
| 30 | 10, 5 | 12, 5 | 14, 5 | 16, 5 | 18, 5 |
| 40 | 14, 0 | 16, — | 19, 3 | 22, 1 | 25, — |
| 50 | 17, 5 | 20, 10 | 24, 2 | 27, 5 | 30, 10 |

| ′ | 22 | 26 | 30 | 34 | 38 |
|---|---|---|---|---|---|
| 1 | 0, 4 | 0, 4 | 0, 5 | 0, 6 | 0, 6 |
| 2 | 0, 7 | 0, 8 | 1, 0 | 1, 1 | 1, 2 |
| 3 | 1, 1 | 1, 3 | 1, 5 | 1, 7 | 1, 9 |
| 4 | 1, 4 | 1, 7 | 2, 0 | 2, 2 | 2, 5 |
| 5 | 1, 8 | 2, 1 | 2, 4 | 2, 8 | 3, 1 |
| 6 | 2, 1 | 2, 5 | 2, 10 | 3, 3 | 3, 7 |
| 7 | 2, 5 | 2, 9 | 3, 4 | 3, 9 | 4, 4 |
| 8 | 2, 8 | 3, 3 | 3, 9 | 4, 4 | 4, 10 |
| 9 | 3, 2 | 3, 7 | 4, 3 | 4, 10 | 5, 5 |
| 10 | 3, 5 | 4, 2 | 4, 8 | 5, 5 | 6, 1 |
| 20 | 7, 0 | 8, 4 | 9, 7 | 11, 1 | 12, 5 |
| 30 | 10, 5 | 12, 5 | 14, 5 | 16, 5 | 18, 5 |
| 40 | 14, 0 | 16, — | 19, 3 | 22, 1 | 25, — |
| 50 | 17, 5 | 20, 10 | 24, 2 | 27, 5 | 30, 10 |

Proportional parts for Seconds of Interval.

Declination.

Proportional parts for Declination.

| a | a' | a | a' | D | 16° | D | 17° | D | 18° | D | 19° | D | 20° | D | 21° | D | 22° | D | 23° | D | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | ″ | ′ | ″ | ′ | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | | | | |
| 0.0 | 0.0 | 0.0 | 0.0 | 0 | 0. 0 | 60 | 0. 0 | 60 | 0. 0 | 60 | 0. 0 | 60 | 0. 0 | 60 | 0. 0 | 60 | 0. 0 | 60 | 0. 0 | 60 | 1 | 0 | 0 | 0 |
| 0.0 | 0.1 | 0.0 | 0.1 | 1 | 0. 1 | 59 | 0. 1 | 59 | 0. 1 | 59 | 0. 1 | 59 | 0. 1 | 59 | 0. 1 | 59 | 0. 1 | 59 | 0. 1 | 59 | 2 | 0 | 0 | 0 |
| 0.0 | 0.2 | 0.0 | 0.2 | 2 | 0. 2 | 58 | 0. 2 | 58 | 0. 2 | 58 | 0. 2 | 58 | 0. 2 | 58 | 0. 2 | 58 | 0. 2 | 58 | 0. 2 | 58 | 3 | 0 | 0 | 0 |
| 0.0 | 0.3 | 0.0 | 0.3 | 3 | 0. 3 | 57 | 0. 3 | 57 | 0. 3 | 57 | 0. 3 | 57 | 0. 3 | 57 | 0. 3 | 57 | 0. 3 | 57 | 0. 3 | 57 | 4 | 0 | 0 | 0 |
| 0.0 | 0.4 | 0.0 | 0.4 | 4 | 0. 4 | 56 | 0. 4 | 56 | 0. 4 | 56 | 0. 4 | 56 | 0. 4 | 56 | 0. 4 | 56 | 0. 4 | 56 | 0. 4 | 56 | 5 | 0 | 0 | 0 |
| 0.0 | 0.5 | 0.0 | 0.5 | 5 | 0. 5 | 55 | 0. 5 | 55 | 0. 5 | 55 | 0. 5 | 55 | 0. 5 | 55 | 0. 5 | 55 | 0. 5 | 55 | 0. 5 | 55 | 6 | 0 | 0 | 0 |
| 0.0 | 0.6 | 0.0 | 0.6 | 6 | 0. 6 | 54 | 0. 6 | 54 | 0. 6 | 54 | 0. 6 | 54 | 0. 6 | 54 | 0. 6 | 54 | 0. 6 | 54 | 0. 6 | 54 | 7 | 0 | 0 | 0 |
| 0.0 | 0.7 | 0.0 | 0.7 | 7 | 0. 7 | 53 | 0. 7 | 53 | 0. 7 | 53 | 0. 7 | 53 | 0. 7 | 53 | 0. 7 | 53 | 0. 7 | 53 | 0. 7 | 53 | 8 | 0 | 0 | 0 |
| 0.0 | 0.8 | 0.0 | 0.8 | 8 | 0. 8 | 52 | 0. 8 | 52 | 0. 8 | 52 | 0. 8 | 52 | 0. 8 | 52 | 0. 8 | 52 | 0. 8 | 52 | 0. 8 | 52 | 9 | 0 | 0 | 0 |
| 0.0 | 0.9 | 0.0 | 0.9 | 9 | 0. 9 | 51 | 0. 9 | 51 | 0. 9 | 51 | 0. 9 | 51 | 0. 9 | 51 | 0. 9 | 51 | 0. 9 | 51 | 0. 9 | 51 | 10 | 0 | 0 | 0 |
| 0.0 | 0.10 | 0.0 | 0.10 | 10 | 0. 10 | 50 | 0. 10 | 50 | 0. 10 | 50 | 0. 10 | 50 | 0. 10 | 50 | 0. 10 | 50 | 0. 10 | 50 | 0. 10 | 50 | 11 | 0 | 0 | 0 |
| 0.0 | 0.11 | 0.0 | 0.11 | 11 | 0. 11 | 49 | 0. 11 | 49 | 0. 11 | 49 | 0. 11 | 49 | 0. 11 | 49 | 0. 11 | 49 | 0. 11 | 49 | 0. 11 | 49 | 12 | 0 | 0 | 0 |
| 0.0 | 0.12 | 0.0 | 0.12 | 12 | 0. 12 | 48 | 0. 12 | 48 | 0. 12 | 48 | 0. 12 | 48 | 0. 12 | 48 | 0. 12 | 48 | 0. 12 | 48 | 0. 12 | 48 | 13 | 0 | 0 | 0 |
| 0.0 | 0.13 | 0.0 | 0.13 | 13 | 0. 13 | 47 | 0. 13 | 47 | 0. 13 | 47 | 0. 13 | 47 | 0. 13 | 47 | 0. 13 | 47 | 0. 13 | 47 | 0. 13 | 47 | 14 | 0 | 0 | 0 |
| 0.0 | 0.14 | 0.0 | 0.14 | 14 | 0. 14 | 46 | 0. 14 | 46 | 0. 14 | 46 | 0. 14 | 46 | 0. 14 | 46 | 0. 14 | 46 | 0. 14 | 46 | 0. 14 | 46 | 15 | 0 | 0 | 0 |
| 0.0 | 0.15 | 0.0 | 0.15 | 15 | 0. 15 | 45 | 0. 15 | 45 | 0. 15 | 45 | 0. 15 | 45 | 0. 15 | 45 | 0. 15 | 45 | 0. 15 | 45 | 0. 15 | 45 | 16 | 0 | 0 | 0 |
| 0.0 | 0.16 | 0.0 | 0.16 | 16 | 0. 16 | 44 | 0. 16 | 44 | 0. 16 | 44 | 0. 16 | 44 | 0. 16 | 44 | 0. 16 | 44 | 0. 16 | 44 | 0. 16 | 44 | 17 | 0 | 0 | 0 |
| 0.0 | 0.17 | 0.0 | 0.17 | 17 | 0. 17 | 43 | 0. 17 | 43 | 0. 17 | 43 | 0. 17 | 43 | 0. 17 | 43 | 0. 17 | 43 | 0. 17 | 43 | 0. 17 | 43 | 18 | 0 | 0 | 0 |
| 0.0 | 0.18 | 0.0 | 0.18 | 18 | 0. 18 | 42 | 0. 18 | 42 | 0. 18 | 42 | 0. 18 | 42 | 0. 18 | 42 | 0. 18 | 42 | 0. 18 | 42 | 0. 18 | 42 | 19 | 0 | 0 | 0 |
| 0.0 | 0.19 | 0.0 | 0.19 | 19 | 0. 19 | 41 | 0. 19 | 41 | 0. 19 | 41 | 0. 19 | 41 | 0. 19 | 41 | 0. 19 | 41 | 0. 19 | 41 | 0. 19 | 41 | 20 | 0 | 0 | 0 |
| 0.0 | 0.20 | 0.0 | 0.20 | 20 | 0. 20 | 40 | 0. 20 | 40 | 0. 20 | 40 | 0. 20 | 40 | 0. 20 | 40 | 0. 20 | 40 | 0. 20 | 40 | 0. 20 | 40 | 21 | 0 | 0 | 0 |
| 0.0 | 0.21 | 0.0 | 0.21 | 21 | 0. 21 | 39 | 0. 21 | 39 | 0. 21 | 39 | 0. 21 | 39 | 0. 21 | 39 | 0. 21 | 39 | 0. 21 | 39 | 0. 21 | 39 | 22 | 0 | 0 | 0 |
| 0.0 | 0.22 | 0.0 | 0.22 | 22 | 0. 22 | 38 | 0. 22 | 38 | 0. 22 | 38 | 0. 22 | 38 | 0. 22 | 38 | 0. 22 | 38 | 0. 22 | 38 | 0. 22 | 38 | 23 | 0 | 0 | 0 |
| 0.0 | 0.23 | 0.0 | 0.23 | 23 | 0. 23 | 37 | 0. 23 | 37 | 0. 23 | 37 | 0. 23 | 37 | 0. 23 | 37 | 0. 23 | 37 | 0. 23 | 37 | 0. 23 | 37 | 24 | 0 | 0 | 0 |
| 0.0 | 0.24 | 0.0 | 0.24 | 24 | 0. 24 | 36 | 0. 24 | 36 | 0. 24 | 36 | 0. 24 | 36 | 0. 24 | 36 | 0. 24 | 36 | 0. 24 | 36 | 0. 24 | 36 | 25 | 0 | 0 | 0 |
| 0.0 | 0.25 | 0.0 | 0.25 | 25 | 0. 25 | 35 | 0. 25 | 35 | 0. 25 | 35 | 0. 25 | 35 | 0. 25 | 35 | 0. 25 | 35 | 0. 25 | 35 | 0. 25 | 35 | 26 | 0 | 0 | 0 |
| 0.0 | 0.26 | 0.0 | 0.26 | 26 | 0. 26 | 34 | 0. 26 | 34 | 0. 26 | 34 | 0. 26 | 34 | 0. 26 | 34 | 0. 26 | 34 | 0. 26 | 34 | 0. 26 | 34 | 27 | 0 | 0 | 0 |
| 0.0 | 0.27 | 0.0 | 0.27 | 27 | 0. 27 | 33 | 0. 27 | 33 | 0. 27 | 33 | 0. 27 | 33 | 0. 27 | 33 | 0. 27 | 33 | 0. 27 | 33 | 0. 27 | 33 | 28 | 0 | 0 | 0 |
| 0.0 | 0.28 | 0.0 | 0.28 | 28 | 0. 28 | 32 | 0. 28 | 32 | 0. 28 | 32 | 0. 28 | 32 | 0. 28 | 32 | 0. 28 | 32 | 0. 28 | 32 | 0. 28 | 32 | 29 | 0 | 0 | 0 |
| 0.0 | 0.29 | 0.0 | 0.29 | 29 | 0. 29 | 31 | 0. 29 | 31 | 0. 29 | 31 | 0. 29 | 31 | 0. 29 | 31 | 0. 29 | 31 | 0. 29 | 31 | 0. 29 | 31 | 30 | 0 | 0 | 0 |
| 0.0 | 0.30 | 0.0 | 0.30 | 30 | 0. 30 | 30 | 0. 30 | 30 | 0. 30 | 30 | 0. 30 | 30 | 0. 30 | 30 | 0. 30 | 30 | 0. 30 | 30 | 0. 30 | 30 | 31 | 0 | 0 | 0 |
| 0.0 | 0.31 | 0.0 | 0.31 | 31 | 0. 31 | 29 | 0. 31 | 29 | 0. 31 | 29 | 0. 31 | 29 | 0. 31 | 29 | 0. 31 | 29 | 0. 31 | 29 | 0. 31 | 29 | 32 | 0 | 0 | 0 |
| 0.0 | 0.32 | 0.0 | 0.32 | 32 | 0. 32 | 28 | 0. 32 | 28 | 0. 32 | 28 | 0. 32 | 28 | 0. 32 | 28 | 0. 32 | 28 | 0. 32 | 28 | 0. 32 | 28 | 33 | 0 | 0 | 0 |
| 0.0 | 0.33 | 0.0 | 0.33 | 33 | 0. 33 | 27 | 0. 33 | 27 | 0. 33 | 27 | 0. 33 | 27 | 0. 33 | 27 | 0. 33 | 27 | 0. 33 | 27 | 0. 33 | 27 | 34 | 0 | 0 | 0 |
| 0.0 | 0.34 | 0.0 | 0.34 | 34 | 0. 34 | 26 | 0. 34 | 26 | 0. 34 | 26 | 0. 34 | 26 | 0. 34 | 26 | 0. 34 | 26 | 0. 34 | 26 | 0. 34 | 26 | 35 | 0 | 0 | 0 |
| 0.0 | 0.35 | 0.0 | 0.35 | 35 | 0. 35 | 25 | 0. 35 | 25 | 0. 35 | 25 | 0. 35 | 25 | 0. 35 | 25 | 0. 35 | 25 | 0. 35 | 25 | 0. 35 | 25 | 36 | 0 | 0 | 0 |
| 0.0 | 0.36 | 0.0 | 0.36 | 36 | 0. 36 | 24 | 0. 36 | 24 | 0. 36 | 24 | 0. 36 | 24 | 0. 36 | 24 | 0. 36 | 24 | 0. 36 | 24 | 0. 36 | 24 | 37 | 0 | 0 | 0 |
| 0.0 | 0.37 | 0.0 | 0.37 | 37 | 0. 37 | 23 | 0. 37 | 23 | 0. 37 | 23 | 0. 37 | 23 | 0. 37 | 23 | 0. 37 | 23 | 0. 37 | 23 | 0. 37 | 23 | 38 | 0 | 0 | 0 |
| 0.0 | 0.38 | 0.0 | 0.38 | 38 | 0. 38 | 22 | 0. 38 | 22 | 0. 38 | 22 | 0. 38 | 22 | 0. 38 | 22 | 0. 38 | 22 | 0. 38 | 22 | 0. 38 | 22 | 39 | 0 | 0 | 0 |
| 0.0 | 0.39 | 0.0 | 0.39 | 39 | 0. 39 | 21 | 0. 39 | 21 | 0. 39 | 21 | 0. 39 | 21 | 0. 39 | 21 | 0. 39 | 21 | 0. 39 | 21 | 0. 39 | 21 | 40 | 0 | 0 | 0 |
| 0.0 | 0.40 | 0.0 | 0.40 | 40 | 0. 40 | 20 | 0. 40 | 20 | 0. 40 | 20 | 0. 40 | 20 | 0. 40 | 20 | 0. 40 | 20 | 0. 40 | 20 | 0. 40 | 20 | 41 | 0 | 0 | 0 |
| 0.0 | 0.41 | 0.0 | 0.41 | 41 | 0. 41 | 19 | 0. 41 | 19 | 0. 41 | 19 | 0. 41 | 19 | 0. 41 | 19 | 0. 41 | 19 | 0. 41 | 19 | 0. 41 | 19 | 42 | 0 | 0 | 0 |
| 0.0 | 0.42 | 0.0 | 0.42 | 42 | 0. 42 | 18 | 0. 42 | 18 | 0. 42 | 18 | 0. 42 | 18 | 0. 42 | 18 | 0. 42 | 18 | 0. 42 | 18 | 0. 42 | 18 | 43 | 0 | 0 | 0 |
| 0.0 | 0.43 | 0.0 | 0.43 | 43 | 0. 43 | 17 | 0. 43 | 17 | 0. 43 | 17 | 0. 43 | 17 | 0. 43 | 17 | 0. 43 | 17 | 0. 43 | 17 | 0. 43 | 17 | 44 | 0 | 0 | 0 |
| 0.0 | 0.44 | 0.0 | 0.44 | 44 | 0. 44 | 16 | 0. 44 | 16 | 0. 44 | 16 | 0. 44 | 16 | 0. 44 | 16 | 0. 44 | 16 | 0. 44 | 16 | 0. 44 | 16 | 45 | 0 | 0 | 0 |
| 0.0 | 0.45 | 0.0 | 0.45 | 45 | 0. 45 | 15 | 0. 45 | 15 | 0. 45 | 15 | 0. 45 | 15 | 0. 45 | 15 | 0. 45 | 15 | 0. 45 | 15 | 0. 45 | 15 | 46 | 0 | 0 | 0 |
| 0.0 | 0.46 | 0.0 | 0.46 | 46 | 0. 46 | 14 | 0. 46 | 14 | 0. 46 | 14 | 0. 46 | 14 | 0. 46 | 14 | 0. 46 | 14 | 0. 46 | 14 | 0. 46 | 14 | 47 | 0 | 0 | 0 |
| 0.0 | 0.47 | 0.0 | 0.47 | 47 | 0. 47 | 13 | 0. 47 | 13 | 0. 47 | 13 | 0. 47 | 13 | 0. 47 | 13 | 0. 47 | 13 | 0. 47 | 13 | 0. 47 | 13 | 48 | 0 | 0 | 0 |
| 0.0 | 0.48 | 0.0 | 0.48 | 48 | 0. 48 | 12 | 0. 48 | 12 | 0. 48 | 12 | 0. 48 | 12 | 0. 48 | 12 | 0. 48 | 12 | 0. 48 | 12 | 0. 48 | 12 | 49 | 0 | 0 | 0 |
| 0.0 | 0.49 | 0.0 | 0.49 | 49 | 0. 49 | 11 | 0. 49 | 11 | 0. 49 | 11 | 0. 49 | 11 | 0. 49 | 11 | 0. 49 | 11 | 0. 49 | 11 | 0. 49 | 11 | 50 | 0 | 0 | 0 |
| 0.0 | 0.50 | 0.0 | 0.50 | 50 | 0. 50 | 10 | 0. 50 | 10 | 0. 50 | 10 | 0. 50 | 10 | 0. 50 | 10 | 0. 50 | 10 | 0. 50 | 10 | 0. 50 | 10 | 51 | 0 | 0 | 0 |
| 0.0 | 0.51 | 0.0 | 0.51 | 51 | 0. 51 | 9 | 0. 51 | 9 | 0. 51 | 9 | 0. 51 | 9 | 0. 51 | 9 | 0. 51 | 9 | 0. 51 | 9 | 0. 51 | 9 | 52 | 0 | 0 | 0 |
| 0.0 | 0.52 | 0.0 | 0.52 | 52 | 0. 52 | 8 | 0. 52 | 8 | 0. 52 | 8 | 0. 52 | 8 | 0. 52 | 8 | 0. 52 | 8 | 0. 52 | 8 | 0. 52 | 8 | 53 | 0 | 0 | 0 |
| 0.0 | 0.53 | 0.0 | 0.53 | 53 | 0. 53 | 7 | 0. 53 | 7 | 0. 53 | 7 | 0. 53 | 7 | 0. 53 | 7 | 0. 53 | 7 | 0. 53 | 7 | 0. 53 | 7 | 54 | 0 | 0 | 0 |
| 0.0 | 0.54 | 0.0 | 0.54 | 54 | 0. 54 | 6 | 0. 54 | 6 | 0. 54 | 6 | 0. 54 | 6 | 0. 54 | 6 | 0. 54 | 6 | 0. 54 | 6 | 0. 54 | 6 | 55 | 0 | 0 | 0 |
| 0.0 | 0.55 | 0.0 | 0.55 | 55 | 0. 55 | 5 | 0. 55 | 5 | 0. 55 | 5 | 0. 55 | 5 | 0. 55 | 5 | 0. 55 | 5 | 0. 55 | 5 | 0. 55 | 5 | 56 | 0 | 0 | 0 |
| 0.0 | 0.56 | 0.0 | 0.56 | 56 | 0. 56 | 4 | 0. 56 | 4 | 0. 56 | 4 | 0. 56 | 4 | 0. 56 | 4 | 0. 56 | 4 | 0. 56 | 4 | 0. 56 | 4 | 57 | 0 | 0 | 0 |
| 0.0 | 0.57 | 0.0 | 0.57 | 57 | 0. 57 | 3 | 0. 57 | 3 | 0. 57 | 3 | 0. 57 | 3 | 0. 57 | 3 | 0. 57 | 3 | 0. 57 | 3 | 0. 57 | 3 | 58 | 0 | 0 | 0 |
| 0.0 | 0.58 | 0.0 | 0.58 | 58 | 0. 58 | 2 | 0. 58 | 2 | 0. 58 | 2 | 0. 58 | 2 | 0. 58 | 2 | 0. 58 | 2 | 0. 58 | 2 | 0. 58 | 2 | 59 | 0 | 0 | 0 |
| 0.0 | 0.59 | 0.0 | 0.59 | 59 | 0. 59 | 1 | 0. 59 | 1 | 0. 59 | 1 | 0. 59 | 1 | 0. 59 | 1 | 0. 59 | 1 | 0. 59 | 1 | 0. 59 | 1 | 60 | 0 | 0 | 0 |
| 0.0 | 0.60 | 0.0 | 0.60 | 60 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | 0 | 1. 0 | 0 | | | | |

Proportional parts for Seconds of Interval. additive

| a | e | n |
|---|---|---|
| 0,0 | 0,0 | 0,0 |
| 0,1 | 0,1 | 0,1 |
| 0,2 | 0,2 | 0,2 |
| 0,3 | 0,3 | 0,3 |
| 0,4 | 0,4 | 0,4 |
| 0,5 | 0,5 | 0,5 |
| 0,6 | 0,6 | 0,6 |
| 0,7 | 0,7 | 0,7 |
| 0,8 | 0,8 | 0,8 |
| 0,9 | 0,9 | 0,9 |
| 1,0 | 1,0 | 1,0 |
| 1,1 | 1,1 | 1,1 |
| 1,2 | 1,2 | 1,2 |
| 1,3 | 1,3 | 1,3 |
| 1,4 | 1,4 | 1,4 |
| 1,5 | 1,5 | 1,5 |
| 1,6 | 1,6 | 1,6 |
| 1,7 | 1,7 | 1,7 |
| 1,8 | 1,8 | 1,8 |
| 1,9 | 1,9 | 1,9 |
| 2,0 | 2,0 | 2,0 |
| 2,1 | 2,1 | 2,1 |
| 2,2 | 2,2 | 2,2 |
| 2,3 | 2,3 | 2,3 |
| 2,4 | 2,4 | 2,4 |
| 2,5 | 2,5 | 2,5 |
| 2,6 | 2,6 | 2,6 |
| 2,7 | 2,7 | 2,7 |
| 2,8 | 2,8 | 2,8 |
| 2,9 | 2,9 | 2,9 |
| 3,0 | 3,0 | 3,0 |
| 3,1 | 3,1 | 3,1 |
| 3,2 | 3,2 | 3,2 |
| 3,3 | 3,3 | 3,3 |
| 3,4 | 3,4 | 3,4 |
| 3,5 | 3,5 | 3,5 |
| 3,6 | 3,6 | 3,6 |
| 3,7 | 3,7 | 3,7 |
| 3,8 | 3,8 | 3,8 |
| 3,9 | 3,9 | 3,9 |
| 4,0 | 4,0 | 4,0 |
| 4,1 | 4,1 | 4,1 |
| 4,2 | 4,2 | 4,2 |
| 4,3 | 4,3 | 4,3 |
| 4,4 | 4,4 | 4,4 |
| 4,5 | 4,5 | 4,5 |
| 4,6 | 4,6 | 4,6 |
| 4,7 | 4,7 | 4,7 |
| 4,8 | 4,8 | 4,8 |
| 4,9 | 4,9 | 4,9 |
| 5,0 | 5,0 | 5,0 |
| 5,1 | 5,1 | 5,1 |
| 5,2 | 5,2 | 5,2 |
| 5,3 | 5,3 | 5,3 |
| 5,4 | 5,4 | 5,4 |
| 5,5 | 5,5 | 5,5 |
| 5,6 | 5,6 | 5,6 |
| 5,7 | 5,7 | 5,7 |
| 5,8 | 5,8 | 5,8 |
| 5,9 | 5,9 | 5,9 |
| 6,0 | 6,0 | 6,0 |
| 6,1 | 6,1 | 6,1 |
| 6,2 | 6,2 | 6,2 |
| 6,3 | 6,3 | 6,3 |
| 6,4 | 6,4 | 6,4 |
| 6,5 | 6,5 | 6,5 |
| 6,6 | 6,6 | 6,6 |
| 6,7 | 6,7 | 6,7 |
| 6,8 | 6,8 | 6,8 |
| 6,9 | 6,9 | 6,9 |
| 7,0 | 7,0 | 7,0 |
| 7,1 | 7,1 | 7,1 |
| 7,2 | 7,2 | 7,2 |
| 7,3 | 7,3 | 7,3 |
| 7,4 | 7,4 | 7,4 |
| 7,5 | 7,5 | 7,5 |
| 7,6 | 7,6 | 7,6 |
| 7,7 | 7,7 | 7,7 |
| 7,8 | 7,8 | 7,8 |
| 7,9 | 7,9 | 7,9 |
| 8,0 | 8,0 | 8,0 |
| 8,1 | 8,1 | 8,1 |
| 8,2 | 8,2 | 8,2 |
| 8,3 | 8,3 | 8,3 |
| 8,4 | 8,4 | 8,4 |
| 8,5 | 8,5 | 8,5 |
| 8,6 | 8,6 | 8,6 |
| 8,7 | 8,7 | 8,7 |
| 8,8 | 8,8 | 8,8 |
| 8,9 | 8,9 | 8,9 |
| 9,0 | 9,0 | 9,0 |
| 9,1 | 9,1 | 9,1 |
| 9,2 | 9,2 | 9,2 |
| 9,3 | 9,3 | 9,3 |
| 9,4 | 9,4 | 9,4 |
| 9,5 | 9,5 | 9,5 |
| 9,6 | 9,6 | 9,6 |
| 9,7 | 9,7 | 9,7 |
| 9,8 | 9,8 | 9,8 |
| 9,9 | 9,9 | 9,9 |
| 10,0 | 10,0 | 10,0 |
| 10,1 | 10,1 | 10,1 |
| 10,2 | 10,2 | 10,2 |
| 10,3 | 10,3 | 10,3 |
| 10,4 | 10,4 | 10,4 |
| 10,5 | 10,5 | 10,5 |
| 10,6 | 10,6 | 10,6 |
| 10,7 | 10,7 | 10,7 |
| 10,8 | 10,8 | 10,8 |
| 10,9 | 10,9 | 10,9 |
| 11,0 | 11,0 | 11,0 |
| 11,1 | 11,1 | 11,1 |
| 11,2 | 11,2 | 11,2 |
| 11,3 | 11,3 | 11,3 |
| 11,4 | 11,4 | 11,4 |
| 11,5 | 11,5 | 11,5 |
| 11,6 | 11,6 | 11,6 |
| 11,7 | 11,7 | 11,7 |
| 11,8 | 11,8 | 11,8 |
| 11,9 | 11,9 | 11,9 |
| 12,0 | 12,0 | 12,0 |
| 12,1 | 12,1 | 12,1 |
| 12,2 | 12,2 | 12,2 |
| 12,3 | 12,3 | 12,3 |
| 12,4 | 12,4 | 12,4 |
| 12,5 | 12,5 | 12,5 |
| 12,6 | 12,6 | 12,6 |
| 12,7 | 12,7 | 12,7 |
| 12,8 | 12,8 | 12,8 |
| 12,9 | 12,9 | 12,9 |
| 13,0 | 13,0 | 13,0 |
| 13,1 | 13,1 | 13,1 |
| 13,2 | 13,2 | 13,2 |
| 13,3 | 13,3 | 13,3 |
| 13,4 | 13,4 | 13,4 |
| 13,5 | 13,5 | 13,5 |
| 13,6 | 13,6 | 13,6 |
| 13,7 | 13,7 | 13,7 |
| 13,8 | 13,8 | 13,8 |
| 13,9 | 13,9 | 13,9 |
| 14,0 | 14,0 | 14,0 |
| 14,1 | 14,1 | 14,1 |
| 14,2 | 14,2 | 14,2 |
| 14,3 | 14,3 | 14,3 |
| 14,4 | 14,4 | 14,4 |
| 14,5 | 14,5 | 14,5 |
| 14,6 | 14,6 | 14,6 |
| 14,7 | 14,7 | 14,7 |
| 14,8 | 14,8 | 14,8 |
| 14,9 | 14,9 | 14,9 |

Complement of Declination.

| Interval | 82° | D | 83° | D | 84° | D | 85° | D | 86° | D | 87° | D | 88° | D | 89° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| h m | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ | ° ′ | ′ |
| 0 0 | 74. 0 | 12 | 74. 21 | 10 | 74. 31 | 9 | 74. 40 | 7 | 74. 47 | 6 | 74. 53 | 4 | 74. 57 | 2 | 74. 59 | 1 |
| 0 1 | 74. 12 | 12 | 74. 33 | 10 | 74. 43 | 9 | 74. 52 | 7 | 74. 59 | 6 | 75. 5 | 4 | 75. 9 | 2 | 75. 11 | 1 |
| 0 2 | 74. 24 | 12 | 74. 45 | 10 | 74. 55 | 9 | 75. 4 | 7 | 75. 11 | 6 | 75. 17 | 4 | 75. 21 | 2 | 75. 23 | 1 |
| 0 3 | 74. 36 | 12 | 74. 57 | 10 | 75. 7 | 9 | 75. 16 | 7 | 75. 23 | 6 | 75. 29 | 4 | 75. 33 | 2 | 75. 35 | 1 |
| 0 4 | 74. 48 | 12 | 75. 9 | 10 | 75. 19 | 9 | 75. 28 | 7 | 75. 35 | 6 | 75. 41 | 4 | 75. 45 | 2 | 75. 47 | 1 |
| 0 5 | 75. 0 | 12 | 75. 21 | 10 | 75. 31 | 9 | 75. 40 | 7 | 75. 47 | 6 | 75. 53 | 4 | 75. 57 | 2 | 75. 59 | 1 |
| 0 6 | 75. 12 | 12 | 75. 33 | 10 | 75. 43 | 9 | 75. 52 | 7 | 75. 59 | 6 | 76. 5 | 4 | 76. 9 | 2 | 76. 11 | 1 |
| 0 7 | 75. 24 | 12 | 75. 45 | 10 | 75. 55 | 9 | 76. 4 | 7 | 76. 11 | 6 | 76. 17 | 4 | 76. 21 | 2 | 76. 23 | 1 |
| 0 8 | 75. 36 | 12 | 75. 57 | 10 | 76. 7 | 9 | 76. 16 | 7 | 76. 23 | 6 | 76. 29 | 4 | 76. 33 | 2 | 76. 35 | 1 |
| 0 9 | 75. 48 | 12 | 76. 9 | 10 | 76. 19 | 9 | 76. 28 | 7 | 76. 35 | 6 | 76. 41 | 4 | 76. 45 | 2 | 76. 47 | 1 |
| 0 10 | 76. 0 | 12 | 76. 21 | 10 | 76. 31 | 9 | 76. 40 | 7 | 76. 47 | 6 | 76. 53 | 4 | 76. 57 | 2 | 76. 59 | 1 |
| 0 11 | 76. 12 | 12 | 76. 33 | 10 | 76. 43 | 9 | 76. 52 | 7 | 76. 59 | 6 | 77. 5 | 4 | 77. 9 | 2 | 77. 11 | 1 |
| 0 12 | 76. 24 | 12 | 76. 45 | 10 | 76. 55 | 9 | 77. 4 | 7 | 77. 11 | 6 | 77. 17 | 4 | 77. 21 | 2 | 77. 23 | 1 |
| 0 13 | 76. 36 | 12 | 76. 57 | 10 | 77. 7 | 9 | 77. 16 | 7 | 77. 23 | 6 | 77. 29 | 4 | 77. 33 | 2 | 77. 35 | 1 |
| 0 14 | 76. 48 | 12 | 77. 9 | 10 | 77. 19 | 9 | 77. 28 | 7 | 77. 35 | 6 | 77. 41 | 4 | 77. 45 | 2 | 77. 47 | 1 |
| 0 15 | 77. 0 | 12 | 77. 21 | 10 | 77. 31 | 9 | 77. 40 | 7 | 77. 47 | 6 | 77. 53 | 4 | 77. 57 | 2 | 77. 59 | 1 |
| 0 16 | 77. 12 | 12 | 77. 33 | 10 | 77. 43 | 9 | 77. 52 | 7 | 77. 59 | 6 | 78. 5 | 4 | 78. 9 | 2 | 78. 11 | 1 |
| 0 17 | 77. 24 | 12 | 77. 45 | 10 | 77. 55 | 9 | 78. 4 | 7 | 78. 11 | 6 | 78. 17 | 4 | 78. 21 | 2 | 78. 23 | 1 |
| 0 18 | 77. 36 | 12 | 77. 57 | 10 | 78. 7 | 9 | 78. 16 | 7 | 78. 23 | 6 | 78. 29 | 4 | 78. 33 | 2 | 78. 35 | 1 |
| 0 19 | 77. 48 | 12 | 78. 9 | 10 | 78. 19 | 9 | 78. 28 | 7 | 78. 35 | 6 | 78. 41 | 4 | 78. 45 | 2 | 78. 47 | 1 |
| 0 20 | 78. 0 | 12 | 78. 21 | 10 | 78. 31 | 9 | 78. 40 | 7 | 78. 47 | 6 | 78. 53 | 4 | 78. 57 | 2 | 78. 59 | 1 |
| 0 21 | 78. 12 | 12 | 78. 33 | 10 | 78. 43 | 9 | 78. 52 | 7 | 78. 59 | 6 | 79. 5 | 4 | 79. 9 | 2 | 79. 11 | 1 |
| 0 22 | 78. 24 | 12 | 78. 45 | 10 | 78. 55 | 9 | 79. 4 | 7 | 79. 11 | 6 | 79. 17 | 4 | 79. 21 | 2 | 79. 23 | 1 |
| 0 23 | 78. 36 | 12 | 78. 57 | 10 | 79. 7 | 9 | 79. 16 | 7 | 79. 23 | 6 | 79. 29 | 4 | 79. 33 | 2 | 79. 35 | 1 |
| 0 24 | 78. 48 | 12 | 79. 9 | 10 | 79. 19 | 9 | 79. 28 | 7 | 79. 35 | 6 | 79. 41 | 4 | 79. 45 | 2 | 79. 47 | 1 |
| 0 25 | 79. 0 | 12 | 79. 21 | 10 | 79. 31 | 9 | 79. 40 | 7 | 79. 47 | 6 | 79. 53 | 4 | 79. 57 | 2 | 79. 59 | 1 |
| 0 26 | 79. 12 | 12 | 79. 33 | 10 | 79. 43 | 9 | 79. 52 | 7 | 79. 59 | 6 | 80. 5 | 4 | 80. 9 | 2 | 80. 11 | 1 |
| 0 27 | 79. 24 | 12 | 79. 45 | 10 | 79. 55 | 9 | 80. 4 | 7 | 80. 11 | 6 | 80. 17 | 4 | 80. 21 | 2 | 80. 23 | 1 |
| 0 28 | 79. 36 | 12 | 79. 57 | 10 | 80. 7 | 9 | 80. 16 | 7 | 80. 23 | 6 | 80. 29 | 4 | 80. 33 | 2 | 80. 35 | 1 |
| 0 29 | 79. 48 | 12 | 80. 9 | 10 | 80. 19 | 9 | 80. 28 | 7 | 80. 35 | 6 | 80. 41 | 4 | 80. 45 | 2 | 80. 47 | 1 |
| 0 30 | 80. 0 | 12 | 80. 21 | 10 | 80. 31 | 9 | 80. 40 | 7 | 80. 47 | 6 | 80. 53 | 4 | 80. 57 | 2 | 80. 59 | 1 |
| 0 31 | 80. 12 | 12 | 80. 33 | 10 | 80. 43 | 9 | 80. 52 | 7 | 80. 59 | 6 | 81. 5 | 4 | 81. 9 | 2 | 81. 11 | 1 |
| 0 32 | 80. 24 | 12 | 80. 45 | 10 | 80. 55 | 9 | 81. 4 | 7 | 81. 11 | 6 | 81. 17 | 4 | 81. 21 | 2 | 81. 23 | 1 |
| 0 33 | 80. 36 | 12 | 80. 57 | 10 | 81. 7 | 9 | 81. 16 | 7 | 81. 23 | 6 | 81. 29 | 4 | 81. 33 | 2 | 81. 35 | 1 |
| 0 34 | 80. 48 | 12 | 81. 9 | 10 | 81. 19 | 9 | 81. 28 | 7 | 81. 35 | 6 | 81. 41 | 4 | 81. 45 | 2 | 81. 47 | 1 |
| 0 35 | 81. 0 | 12 | 81. 21 | 10 | 81. 31 | 9 | 81. 40 | 7 | 81. 47 | 6 | 81. 53 | 4 | 81. 57 | 2 | 81. 59 | 1 |
| 0 36 | 81. 12 | 12 | 81. 33 | 10 | 81. 43 | 9 | 81. 52 | 7 | 81. 59 | 6 | 82. 5 | 4 | 82. 9 | 2 | 82. 11 | 1 |
| 0 37 | 81. 24 | 12 | 81. 45 | 10 | 81. 55 | 9 | 82. 4 | 7 | 82. 11 | 6 | 82. 17 | 4 | 82. 21 | 2 | 82. 23 | 1 |
| 0 38 | 81. 36 | 12 | 81. 57 | 10 | 82. 7 | 9 | 82. 16 | 7 | 82. 23 | 6 | 82. 29 | 4 | 82. 33 | 2 | 82. 35 | 1 |
| 0 39 | 81. 48 | 12 | 82. 9 | 10 | 82. 19 | 9 | 82. 28 | 7 | 82. 35 | 6 | 82. 41 | 4 | 82. 45 | 2 | 82. 47 | 1 |
| 0 40 | 82. 0 | 12 | 82. 21 | 10 | 82. 31 | 9 | 82. 40 | 7 | 82. 47 | 6 | 82. 53 | 4 | 82. 57 | 2 | 82. 59 | 1 |
| 0 41 | 82. 12 | 12 | 82. 33 | 10 | 82. 43 | 9 | 82. 52 | 7 | 82. 59 | 6 | 83. 5 | 4 | 83. 9 | 2 | 83. 11 | 1 |
| 0 42 | 82. 24 | 12 | 82. 45 | 10 | 82. 55 | 9 | 83. 4 | 7 | 83. 11 | 6 | 83. 17 | 4 | 83. 21 | 2 | 83. 23 | 1 |
| 0 43 | 82. 36 | 12 | 82. 57 | 10 | 83. 7 | 9 | 83. 16 | 7 | 83. 23 | 6 | 83. 29 | 4 | 83. 33 | 2 | 83. 35 | 1 |
| 0 44 | 82. 48 | 12 | 83. 9 | 10 | 83. 19 | 9 | 83. 28 | 7 | 83. 35 | 6 | 83. 41 | 4 | 83. 45 | 2 | 83. 47 | 1 |
| 0 45 | 83. 0 | 12 | 83. 21 | 10 | 83. 31 | 9 | 83. 40 | 7 | 83. 47 | 6 | 83. 53 | 4 | 83. 57 | 2 | 83. 59 | 1 |
| 0 46 | 83. 12 | 12 | 83. 33 | 10 | 83. 43 | 9 | 83. 52 | 7 | 83. 59 | 6 | 84. 5 | 4 | 84. 9 | 2 | 84. 11 | 1 |
| 0 47 | 83. 24 | 12 | 83. 45 | 10 | 83. 55 | 9 | 84. 4 | 7 | 84. 11 | 6 | 84. 17 | 4 | 84. 21 | 2 | 84. 23 | 1 |
| 0 48 | 83. 36 | 12 | 83. 57 | 10 | 84. 7 | 9 | 84. 16 | 7 | 84. 23 | 6 | 84. 29 | 4 | 84. 33 | 2 | 84. 35 | 1 |
| 0 49 | 83. 48 | 12 | 84. 9 | 10 | 84. 19 | 9 | 84. 28 | 7 | 84. 35 | 6 | 84. 41 | 4 | 84. 45 | 2 | 84. 47 | 1 |
| 0 50 | 84. 0 | 12 | 84. 21 | 10 | 84. 31 | 9 | 84. 40 | 7 | 84. 47 | 6 | 84. 53 | 4 | 84. 57 | 2 | 84. 59 | 1 |
| 0 51 | 84. 12 | 12 | 84. 33 | 10 | 84. 43 | 9 | 84. 52 | 7 | 84. 59 | 6 | 85. 5 | 4 | 85. 9 | 2 | 85. 11 | 1 |
| 0 52 | 84. 24 | 12 | 84. 45 | 10 | 84. 55 | 9 | 85. 4 | 7 | 85. 11 | 6 | 85. 17 | 4 | 85. 21 | 2 | 85. 23 | 1 |
| 0 53 | 84. 36 | 12 | 84. 57 | 10 | 85. 7 | 9 | 85. 16 | 7 | 85. 23 | 6 | 85. 29 | 4 | 85. 33 | 2 | 85. 35 | 1 |
| 0 54 | 84. 48 | 12 | 85. 9 | 10 | 85. 19 | 9 | 85. 28 | 7 | 85. 35 | 6 | 85. 41 | 4 | 85. 45 | 2 | 85. 47 | 1 |
| 0 55 | 85. 0 | 12 | 85. 21 | 10 | 85. 31 | 9 | 85. 40 | 7 | 85. 47 | 6 | 85. 53 | 4 | 85. 57 | 2 | 85. 59 | 1 |
| 0 56 | 85. 12 | 12 | 85. 33 | 10 | 85. 43 | 9 | 85. 52 | 7 | 85. 59 | 6 | 86. 5 | 4 | 86. 9 | 2 | 86. 11 | 1 |
| 0 57 | 85. 24 | 12 | 85. 45 | 10 | 85. 55 | 9 | 86. 4 | 7 | 86. 11 | 6 | 86. 17 | 4 | 86. 21 | 2 | 86. 23 | 1 |
| 0 58 | 85. 36 | 12 | 85. 57 | 10 | 86. 7 | 9 | 86. 16 | 7 | 86. 23 | 6 | 86. 29 | 4 | 86. 33 | 2 | 86. 35 | 1 |
| 0 59 | 85. 48 | 12 | 86. 9 | 10 | 86. 19 | 9 | 86. 28 | 7 | 86. 35 | 6 | 86. 41 | 4 | 86. 45 | 2 | 86. 47 | 1 |
| 1 0 | 86. 0 | 12 | 86. 21 | 10 | 86. 31 | 9 | 86. 40 | 7 | 86. 47 | 6 | 86. 53 | 4 | 86. 57 | 2 | 86. 59 | 1 |
| 1 1 | 86. 12 | 12 | 86. 33 | 10 | 86. 43 | 9 | 86. 52 | 7 | 86. 59 | 6 | 87. 5 | 4 | 87. 9 | 2 | 87. 11 | 1 |
| 1 2 | 86. 24 | 12 | 86. 45 | 10 | 86. 55 | 9 | 87. 4 | 7 | 87. 11 | 6 | 87. 17 | 4 | 87. 21 | 2 | 87. 23 | 1 |
| 1 3 | 86. 36 | 12 | 86. 57 | 10 | 87. 7 | 9 | 87. 16 | 7 | 87. 23 | 6 | 87. 29 | 4 | 87. 33 | 2 | 87. 35 | 1 |
| 1 4 | 86. 48 | 12 | 87. 9 | 10 | 87. 19 | 9 | 87. 28 | 7 | 87. 35 | 6 | 87. 41 | 4 | 87. 45 | 2 | 87. 47 | 1 |
| 1 5 | 87. 0 | 12 | 87. 21 | 10 | 87. 31 | 9 | 87. 40 | 7 | 87. 47 | 6 | 87. 53 | 4 | 87. 57 | 2 | 87. 59 | 1 |
| 1 6 | 87. 12 | 12 | 87. 33 | 10 | 87. 43 | 9 | 87. 52 | 7 | 87. 59 | 6 | 88. 5 | 4 | 88. 9 | 2 | 88. 11 | 1 |
| 1 7 | 87. 24 | 12 | 87. 45 | 10 | 87. 55 | 9 | 88. 4 | 7 | 88. 11 | 6 | 88. 17 | 4 | 88. 21 | 2 | 88. 23 | 1 |
| 1 8 | 87. 36 | 12 | 87. 57 | 10 | 88. 7 | 9 | 88. 16 | 7 | 88. 23 | 6 | 88. 29 | 4 | 88. 33 | 2 | 88. 35 | 1 |
| 1 9 | 87. 48 | 12 | 88. 9 | 10 | 88. 19 | 9 | 88. 28 | 7 | 88. 35 | 6 | 88. 41 | 4 | 88. 45 | 2 | 88. 47 | 1 |
| 1 10 | 88. 0 | 12 | 88. 21 | 10 | 88. 31 | 9 | 88. 40 | 7 | 88. 47 | 6 | 88. 53 | 4 | 88. 57 | 2 | 88. 59 | 1 |
| 1 11 | 88. 12 | 12 | 88. 33 | 10 | 88. 43 | 9 | 88. 52 | 7 | 88. 59 | 6 | 89. 5 | 4 | 89. 9 | 2 | 89. 11 | 1 |
| 1 12 | 88. 24 | 12 | 88. 45 | 10 | 88. 55 | 9 | 89. 4 | 7 | 89. 11 | 6 | 89. 17 | 4 | 89. 21 | 2 | 89. 23 | 1 |
| 1 13 | 88. 36 | 12 | 88. 57 | 10 | 89. 7 | 9 | 89. 16 | 7 | 89. 23 | 6 | 89. 29 | 4 | 89. 33 | 2 | 89. 35 | 1 |
| 1 14 | 88. 48 | 12 | 89. 9 | 10 | 89. 19 | 9 | 89. 28 | 7 | 89. 35 | 6 | 89. 41 | 4 | 89. 45 | 2 | 89. 47 | 1 |
| 1 15 | 89. 0 | 12 | 89. 21 | 10 | 89. 31 | 9 | 89. 40 | 7 | 89. 47 | 6 | 89. 53 | 4 | 89. 57 | 2 | 89. 59 | 1 |

Proportional parts for Complement of Declination. additive

| . | 1′ | 5′ | 9′ | 13′ |
|---|---|---|---|---|
| 1 | 0, 0 | 0, 1 | 0, 2 | 0, 3 |
| 2 | 0, 1 | 0, 1 | 0, 3 | 0, 4 |
| 3 | 0, 1 | 0, 2 | 0, 4 | 0, 6 |
| 4 | 0, 1 | 0, 3 | 0, 5 | 0, 8 |
| 5 | 0, 1 | 0, 4 | 0, 7 | 1, 0 |
| 6 | 0, 1 | 0, 5 | 0, 9 | 1, 3 |
| 7 | 0, 1 | 0, 6 | 1, 1 | 1, 5 |
| 8 | 0, 1 | 0, 7 | 1, 2 | 1, 7 |
| 9 | 0, 2 | 0, 8 | 1, 4 | 2, 0 |
| 10 | 0, 2 | 0, 8 | 1, 5 | 2, 2 |
| 20 | 0, 3 | 1, 7 | 3, 0 | 4, 3 |
| 30 | 0, 5 | 2, 5 | 4, 5 | 6, 5 |
| 40 | 0, 6 | 3, 3 | 6, 0 | 8, 7 |
| 50 | 0, 8 | 4, 2 | 7, 5 | 10, 8 |
| . | 2 | 6 | 11 | 15 |
| 1 | 0, 1 | 0, 1 | 0, 2 | 0, 3 |
| 2 | 0, 1 | 0, 2 | 0, 3 | 0, 5 |
| 3 | 0, 1 | 0, 3 | 0, 5 | 0, 8 |
| 4 | 0, 1 | 0, 4 | 0, 7 | 0, 10 |
| 5 | 0, 2 | 0, 5 | 0, 8 | 1, 1 |
| 6 | 0, 2 | 0, 6 | 1, 0 | 1, 4 |
| 7 | 0, 2 | 0, 7 | 1, 2 | 1, 6 |
| 8 | 0, 3 | 0, 8 | 1, 3 | 1, 9 |
| 9 | 0, 3 | 0, 9 | 1, 5 | 2, 1 |
| 10 | 0, 3 | 1, 0 | 1, 6 | 2, 4 |
| 20 | 0, 7 | 2, 0 | 3, 3 | 4, 7 |
| 30 | 1, 0 | 3, 0 | 5, 0 | 7, 0 |
| 40 | 1, 3 | 4, 0 | 6, 7 | 9, 3 |
| 50 | 1, 7 | 5, 0 | 8, 3 | 11, 7 |
| . | 3 | 7 | 11 | 15 |
| 1 | 0, 1 | 0, 1 | 0, 2 | 0, 3 |
| 2 | 0, 1 | 0, 2 | 0, 4 | 0, 6 |
| 3 | 0, 2 | 0, 4 | 0, 6 | 0, 9 |
| 4 | 0, 2 | 0, 5 | 0, 9 | 1, 2 |
| 5 | 0, 3 | 0, 7 | 1, 1 | 1, 5 |
| 6 | 0, 4 | 0, 8 | 1, 3 | 1, 8 |
| 7 | 0, 4 | 0, 9 | 1, 5 | 2, 1 |
| 8 | 0, 4 | 1, 0 | 1, 7 | 2, 4 |
| 9 | 0, 5 | 1, 1 | 1, 9 | 2, 7 |
| 10 | 0, 5 | 1, 2 | 2, 0 | 3, 0 |
| 20 | 1, 1 | 2, 3 | 4, 0 | 6, 0 |
| 30 | 1, 6 | 3, 5 | 6, 0 | 9, 0 |
| 40 | 2, 0 | 4, 7 | 7, 3 | 12, 0 |
| 50 | 2, 5 | 5, 8 | 9, 2 | 15, 0 |
| . | 4 | 8 | 12 | 18 |
| 1 | 0, 1 | 0, 1 | 0, 2 | 0, 3 |
| 2 | 0, 1 | 0, 2 | 0, 4 | 0, 6 |
| 3 | 0, 2 | 0, 4 | 0, 7 | 0, 9 |
| 4 | 0, 2 | 0, 5 | 0, 9 | 1, 2 |
| 5 | 0, 3 | 0, 7 | 1, 1 | 1, 5 |
| 6 | 0, 4 | 0, 8 | 1, 3 | 1, 8 |
| 7 | 0, 5 | 0, 9 | 1, 5 | 2, 1 |
| 8 | 0, 5 | 1, 0 | 1, 7 | 2, 4 |
| 9 | 0, 6 | 1, 1 | 1, 9 | 2, 7 |
| 10 | 0, 6 | 1, 2 | 2, 0 | 3, 0 |
| 20 | 1, 3 | 2, 5 | 4, 0 | 6, 0 |
| 30 | 1, 9 | 3, 7 | 6, 0 | 9, 0 |
| 40 | 2, 6 | 5, 0 | 8, 0 | 12, 0 |
| 50 | 3, 3 | 6, 2 | 10, 0 | 15, 0 |

Prop. parts for Seconds of Interval. Subtractive

| a | e |
|---|---|
| | ′ |
| 0, 0 | 0, 0 |
| 0, 0 | 0, 0 |
| 0, 0 | 0, 1 |
| 0, 1 | 0, 1 |
| 0, 1 | 0, 1 |
| 0, 1 | 0, 2 |
| 0, 1 | 0, 2 |
| 0, 1 | 0, 2 |
| 0, 1 | 0, 3 |
| 0, 2 | 0, 3 |
| 0, 2 | 0, 3 |
| 0, 2 | 0, 4 |
| 0, 2 | 0, 4 |
| 0, 2 | 0, 4 |
| 0, 2 | 0, 5 |
| 0, 3 | 0, 5 |
| 0, 3 | 0, 5 |
| 0, 3 | 0, 6 |
| 0, 3 | 0, 6 |
| 0, 3 | 0, 6 |
| 0, 3 | 0, 7 |
| 0, 4 | 0, 7 |
| 0, 4 | 0, 7 |
| 0, 4 | 0, 8 |
| 0, 4 | 0, 8 |
| 0, 4 | 0, 8 |
| 0, 4 | 0, 9 |
| 0, 5 | 0, 9 |
| 0, 5 | 0, 9 |
| 0, 5 | 1, 0 |
| 0, 5 | 1, 0 |
| 0, 5 | 1, 0 |
| 0, 5 | 1, 1 |
| 0, 6 | 1, 1 |
| 0, 6 | 1, 1 |
| 0, 6 | 1, 2 |
| 0, 6 | 1, 2 |
| 0, 6 | 1, 2 |
| 0, 6 | 1, 3 |
| 0, 7 | 1, 3 |
| 0, 7 | 1, 3 |
| 0, 7 | 1, 4 |
| 0, 7 | 1, 4 |
| 0, 7 | 1, 4 |
| 0, 7 | 1, 5 |
| 0, 8 | 1, 5 |
| 0, 8 | 1, 5 |
| 0, 8 | 1, 6 |
| 0, 8 | 1, 6 |
| 0, 8 | 1, 6 |
| 0, 8 | 1, 7 |
| 0, 9 | 1, 7 |
| 0, 9 | 1, 7 |
| 0, 9 | 1, 8 |
| 0, 9 | 1, 8 |
| 1, 0 | 1, 8 |
| 1, 0 | 1, 9 |
| 1, 0 | 1, 9 |
| 1, 0 | 1, 9 |
| 1, 0 | 2, 0 |

Declination.

| Interval 5h m | 0° ′ | D | 1° ′ | D | 2° ′ | D | 3° ′ | D | 4° ′ | D | 5° ′ | D | 6° ′ | D | 7° ′ | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0. 0 | 46 | 0. 46 | 46 | 1. 32 | 46 | 2. 18 | a 46 | 3 4 | a 46 | 3. 56 | 45 | 4. 35 | 45 | 5. 21 | 45 |
| 1 | 0. 0 | 46 | 0. 46 | 47 | 1. 32 | a 47 | 2. 19 | 46 | 3. 5 | 46 | 3. 51 | a 45 | 4. 30 | 45 | 5. 25 | 45 |
| 2 | 0. 0 | 46 | 0. 46 | a 47 | 1. 33 | a 46 | 2. 19 | a 46 | 3 5 | a 46 | 3. 52 | 46 | 4. 38 | 45 | 5. 25 | 45 |
| 3 | 0. 0 | 47 | 0. 47 | 46 | 1. 33 | a 47 | 2. 20 | 46 | 3. 6 | a 46 | 3. 53 | 46 | 4. 39 | 45 | 5. 26 | 45 |
| 4 | 0. 0 | 47 | 0. 47 | 47 | 1. 34 | 46 | 2. 20 | a 47 | 3 7 | a 46 | 3. 54 | 46 | 4. 40 | 45 | 5. 27 | 45 |
| 5 | 0. 0 | 47 | 0. 47 | 47 | 1. 34 | a 47 | 2. 21 | a 47 | 3 8 | a 47 | 3. 55 | 46 | 4. 41 | 46 | 5. 28 | 46 |
| 6 | 0. 0 | 47 | 0. 47 | 48 | 1. 35 | 47 | 2. 22 | 47 | 3 9 | a 47 | 3. 56 | 47 | 4. 43 | 46 | 5. 29 | 46 |
| 7 | 0. 0 | 48 | 0. 48 | a 47 | 1. 35 | 47 | 2. 22 | a 48 | 3 10 | a 47 | 3. 57 | 47 | 4. 44 | 47 | 5. 30 | 46 |
| 8 | 0. 0 | 48 | 0. 48 | 47 | 1. 35 | a 48 | 2. 23 | a 48 | 3 11 | a 47 | 3. 58 | 47 | 4. 45 | 47 | 5. 31 | 47 |
| 9 | 0. 0 | 48 | 0. 48 | 48 | 1. 36 | a 48 | 2. 24 | 47 | 3. 11 | a 48 | 3. 59 | 47 | 4. 46 | 47 | 5. 34 | 47 |
| 10 | 0. 0 | 48 | 0. 48 | 48 | 1. 36 | a 48 | 2. 24 | a 48 | 3 12 | a 48 | 4 0 | a 48 | 4. 48 | 48 | 5. 35 | 48 |
| 11 | 0. 0 | 48 | 0. 48 | 49 | 1. 37 | 48 | 2. 25 | a 48 | 3 13 | a 48 | 4 1 | a 48 | 4. 49 | 48 | 5. 37 | 48 |
| 12 | 0. 0 | 49 | 0. 49 | a 48 | 1. 37 | a 49 | 2. 26 | 48 | 3 14 | a 48 | 4 2 | a 48 | 4 5 | 48 | 5. 38 | 48 |
| 13 | 0. 0 | 49 | 0. 49 | 49 | 1. 38 | 48 | 2. 26 | a 49 | 3 15 | a 49 | 4 3 | a 49 | 4 52 | 49 | 5. 41 | 49 |
| 14 | 0. 0 | 49 | 0. 49 | 49 | 1. 38 | 49 | 2. 27 | a 49 | 3 16 | a 49 | 4 4 | a 49 | 4 53 | 49 | 5 | 49 |
| 15 | 0. 0 | 49 | 0. 49 | 50 | 1. 38 | a 50 | 2. 28 | a 49 | 3 17 | a 49 | 4 5 | a 49 | 4 54 | 49 | 5. 43 | 49 |
| 16 | 0. 0 | 49 | 0. 49 | a 50 | 1. 39 | 49 | 2. 28 | a 49 | 3 17 | a 49 | 4 7 | 49 | 4 55 | 49 | 5. 44 | 49 |
| 17 | 0. 0 | 50 | 0. 50 | 49 | 1. 39 | 50 | 2. 29 | a 49 | 3 18 | a 50 | 4 8 | 49 | 4 57 | 49 | 5. 46 | 49 |
| 18 | 0. 0 | 50 | 0. 50 | 50 | 1. 40 | a 50 | 2. 30 | a 49 | 3 19 | a 50 | 4 9 | 49 | 4 58 | 49 | 5. 47 | 49 |
| 19 | 0. 0 | 50 | 0. 50 | 50 | 1. 40 | 50 | 2. 30 | a 50 | 3. 20 | a 50 | 4. 10 | 49 | 4. 59 | 49 | 5. 49 | 49 |
| 20 | 0. 0 | 50 | 0. 50 | a 51 | 1. 41 | 50 | 2. 31 | a 50 | 3. 21 | a 50 | 4 11 | 50 | 5. 1 | 49 | 5. 50 | 49 |
| 21 | 0. 0 | 51 | 0. 51 | a 50 | 1. 41 | 51 | 2. 32 | a 50 | 3. 22 | a 50 | 4. 12 | a 50 | 5. 2 | 50 | 5. 52 | 50 |
| 22 | 0. 0 | 51 | 0. 51 | 51 | 1. 42 | a 50 | 2. 32 | a 51 | 3. 23 | a 50 | 4. 13 | a 50 | 5. 3 | 50 | 5. 53 | 50 |
| 23 | 0. 0 | 51 | 0. 51 | 51 | 1. 42 | 51 | 2. 33 | a 51 | 3. 24 | a 51 | 4. 14 | 50 | 5. 5 | 50 | 5 | 50 |
| 24 | 0. 0 | 51 | 0. 51 | 51 | 1. 42 | 51 | 2. 34 | a 51 | 3. 25 | a 51 | 4. 15 | 51 | 5 6 | 50 | 5. 57 | 50 |
| 25 | 0. 0 | 51 | 0. 51 | 52 | 1. 43 | 51 | 2. 34 | a 51 | 3. 25 | a 51 | 4 17 | 50 | 5. 7 | 51 | 5. 58 | 51 |
| 26 | 0. 0 | 52 | 0. 52 | a 51 | 1. 43 | 52 | 2. 35 | a 51 | 3. 26 | a 51 | 4. 18 | 51 | 5. 9 | 51 | 5 | 51 |
| 27 | 0. 0 | 52 | 0. 52 | 52 | 1. 44 | a 52 | 2. 36 | a 51 | 3. 27 | a 51 | 4. 19 | 51 | 5. 10 | 51 | 6. 1 | 51 |
| 28 | 0. 0 | 52 | 0. 52 | 52 | 1. 44 | 52 | 2. 36 | a 52 | 3. 28 | a 52 | 4. 20 | 51 | 5. 12 | 51 | 6. 2 | 51 |
| 29 | 0. 0 | 52 | 0. 52 | 53 | 1. 45 | a 52 | 2. 37 | a 52 | 3. 29 | a 52 | 4. 21 | 52 | 5. 13 | 51 | 6. 3 | 51 |
| 30 | 0. 0 | 53 | 0. 53 | a 52 | 1. 45 | a 53 | 2. 38 | 52 | 3. 30 | a 52 | 4. 22 | 52 | 5. 14 | 52 | 6. 4 | 52 |
| 31 | 0. 0 | 53 | 0. 53 | 53 | 1. 46 | a 52 | 2. 38 | a 53 | 3. 31 | a 53 | 4. 23 | 52 | 5. 16 | 52 | 6. 6 | 52 |
| 32 | 0. 0 | 53 | 0. 53 | 53 | 1. 46 | a 53 | 2. 39 | a 53 | 3. 32 | a 53 | 4. 24 | 53 | 5. 17 | 52 | 6. 7 | 52 |
| 33 | 0. 0 | 53 | 0. 53 | a 54 | 1. 47 | 53 | 2. 40 | a 53 | 3. 33 | a 53 | 4. 25 | 53 | 5. 18 | 53 | 6. 8 | 53 |
| 34 | 0. 0 | 54 | 0. 54 | 53 | 1. 47 | a 53 | 2. 40 | a 53 | 3. 34 | a 53 | 4. 26 | 53 | 5. 19 | 53 | 6. 9 | 53 |
| 35 | 0. 0 | 54 | 0. 54 | 54 | 1. 48 | a 54 | 2. 41 | a 54 | 3. 35 | a 54 | 4. 27 | 53 | 5. 21 | 53 | 6. 11 | 53 |
| 36 | 0. 0 | 54 | 0. 54 | 54 | 1. 48 | 54 | 2. 42 | a 54 | 3. 36 | a 54 | 4. 28 | a 54 | 5. 22 | 53 | 6. 12 | 53 |
| 37 | 0. 0 | 54 | 0. 54 | 54 | 1. 48 | 54 | 2. 43 | a 54 | 3. 37 | a 54 | 4. 29 | a 54 | 5. 24 | 54 | 6. 13 | 54 |
| 38 | 0. 0 | 54 | 0. 54 | a 55 | 1. 49 | a 54 | 2. 43 | a 54 | 3. 38 | a 54 | 4. 30 | a 54 | 5. 25 | 54 | 6. 14 | 54 |
| 39 | 0. 0 | 55 | 0. 55 | 54 | 1. 49 | a 55 | 2. 44 | a 54 | 3. 39 | a 54 | 4. 31 | a 54 | 5. 27 | 54 | 6. 16 | 54 |
| 40 | 0. 0 | 55 | 0. 55 | 55 | 1. 50 | a 55 | 2. 45 | a 54 | 3. 40 | a 54 | 4 32 | a 54 | 5. 28 | 54 | 6. 17 | 54 |
| 41 | 0. 0 | 55 | 0. 55 | 55 | 1. 50 | 55 | 2. 45 | a 55 | 3. 41 | a 55 | 4 33 | a 55 | 5. 30 | 54 | 6. 18 | 54 |
| 42 | 0. 0 | 55 | 0. 55 | a 56 | 1. 51 | a 55 | 2. 46 | a 55 | 3. 41 | a 55 | 4 34 | a 55 | 5. 31 | 54 | 6. 20 | 54 |
| 43 | 0. 0 | 56 | 0. 56 | 55 | 1. 51 | 56 | 2. 47 | a 55 | 3. 42 | a 55 | 4 35 | a 55 | 5. 33 | 54 | 6. 21 | 54 |
| 44 | 0. 0 | 56 | 0. 56 | 56 | 1. 52 | a 55 | 2. 48 | a 55 | 3. 43 | a 55 | 4 36 | a 55 | 5. 34 | 54 | 6. 22 | 54 |
| 45 | 0. 0 | 56 | 0. 56 | 56 | 1. 52 | 56 | 2. 48 | a 56 | 3. 44 | a 56 | 4 37 | a 56 | 5. 35 | 55 | 6. 23 | 55 |
| 46 | 0. 0 | 56 | 0. 56 | a 57 | 1. 53 | a 56 | 2. 49 | a 56 | 3. 45 | a 56 | 4 41 | a 56 | 5. 37 | 55 | 6. 25 | 55 |
| 47 | 0. 0 | 57 | 0. 57 | 56 | 1. 53 | a 57 | 2. 50 | a 56 | 3. 46 | a 56 | 4 42 | a 56 | 5. 38 | 55 | 6. 26 | 55 |
| 48 | 0. 0 | 57 | 0. 57 | a 57 | 1. 54 | a 56 | 2. 51 | a 57 | 3. 47 | a 57 | 4 44 | a 56 | 5. 40 | 55 | 6. 27 | 55 |
| 49 | 0. 0 | 57 | 0. 57 | 57 | 1. 54 | a 57 | 2. 51 | a 57 | 3. 48 | a 57 | 4 45 | a 57 | 5. 41 | 56 | 6. 28 | 56 |
| 50 | 0. 0 | 57 | 0. 57 | a 58 | 1. 55 | a 57 | 2. 52 | a 57 | 3. 49 | a 57 | 4 46 | a 57 | 5. 43 | 56 | 6. 30 | 56 |
| 51 | 0. 0 | 58 | 0. 58 | a 57 | 1. 55 | a 58 | 2. 53 | a 57 | 3. 50 | a 57 | 4 47 | a 57 | 5. 44 | 56 | 6. 31 | 56 |
| 52 | 0. 0 | 58 | 0. 58 | 58 | 1. 56 | a 57 | 2. 54 | a 58 | 3. 51 | a 58 | 4 48 | a 57 | 5. 46 | a 57 | 6. 32 | 57 |
| 53 | 0. 0 | 58 | 0. 58 | 58 | 1. 56 | 58 | 2. 54 | a 58 | 3. 52 | a 58 | 4 49 | a 58 | 5. 47 | 57 | 6. 33 | 57 |
| 54 | 0. 0 | 58 | 0. 58 | a 59 | 1. 57 | a 58 | 2. 55 | a 58 | 3. 53 | a 58 | 4 50 | a 58 | 5. 49 | 57 | 6. 35 | 57 |
| 55 | 0. 0 | 59 | 0. 59 | 58 | 1. 57 | 59 | 2. 56 | a 59 | 3. 54 | a 59 | 4 51 | a 58 | 5. 50 | 57 | 6. 36 | 57 |
| 56 | 0. 0 | 59 | 0. 59 | 59 | 1. 58 | 59 | 2. 57 | a 59 | 3. 55 | a 59 | 4 52 | a 59 | 5. 52 | 58 | 6. 37 | 58 |
| 57 | 0. 0 | 59 | 0. 59 | 59 | 1. 58 | 59 | 2. 57 | a 59 | 3. 56 | a 59 | 4 53 | a 59 | 5. 53 | 58 | 6. 38 | 58 |
| 58 | 0. 0 | 59 | 0. 59 | 59 | 1. 59 | 59 | 2. 58 | a 59 | 3. 57 | a 59 | 4 54 | a 59 | 5. 54 | 58 | 6. 40 | 58 |
| 59 | 0. 0 | 59 | 0. 59 | 60 | 1. 59 | 60 | 2. 59 | a 60 | 3. 58 | a 60 | 4 55 | a 60 | 5. 56 | 58 | 6. 41 | 58 |

Proportional parts for Declination.

| 43 | 44 | 45 | 46 | 47 |
|---|---|---|---|---|
| | | | | |
| 1 | | | | |
| 2 | 1, 5 | 1, 6 | 1, 7 | 1, 7 |
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Proportional parts of Latitude.

Complement of Declination.

| a | a | a | 74° | D | 75° | D | 76° | D | 77° | D | 78° | D | 79° | D | 80° | D | 81° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ′ | | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | | ° ′ | |
| 0, 0 | | | 71. 33 | 14 | 72. 19 | 14 | 73. 5 | 14 | 73. 46 | 14 | 74. 28 | 14 | 75. 10 | 14 | 75. 52 | 14 | 76. 35 | 14 |
| 0, 3 | 1 | | 71. 47 | 14 | 72. 33 | 14 | 73. 20 | 14 | 74. 0 | 14 | 74. 42 | 14 | 75. 24 | 14 | 76. 6 | 14 | 76. 49 | 14 |
| 0, 5 | 2 | | 72. 1 | 14 | 72. 47 | 14 | 73. 34 | 14 | 74. 15 | 14 | 74. 57 | 14 | 75. 38 | 14 | 76. 20 | 14 | 77. 3 | 14 |
| 0, 8 | 3 | | 72. 15 | 14 | 73. 1 | 14 | 73. 49 | 14 | 74. 29 | 14 | 75. 11 | 14 | 75. 53 | 14 | 76. 35 | 14 | 77. 17 | 14 |
| 1, 0 | 4 | | 72. 29 | 14 | 73. 15 | 14 | 74. 3 | 14 | 74. 44 | 14 | 75. 26 | 14 | 76. 8 | 14 | 76. 50 | 14 | 77. 32 | 14 |
| 1, 3 | 5 | | 72. 43 | 14 | 73. 29 | 14 | 74. 17 | 14 | 74. 58 | 14 | 75. 40 | 14 | 76. 22 | 14 | 77. 4 | 14 | 77. 46 | 14 |
| 1, 5 | 6 | | 72. 57 | 14 | 73. 43 | 14 | 74. 31 | 14 | 75. 13 | 14 | 75. 55 | 14 | 76. 37 | 14 | 77. 19 | 14 | 78. 1 | 14 |
| 1, 8 | 7 | | 73. 11 | 14 | 73. 57 | 14 | 74. 45 | 14 | 75. 27 | 14 | 76. 9 | 14 | 76. 51 | 14 | 77. 33 | 14 | 78. 15 | 14 |
| 2, 0 | 8 | | 73. 25 | 14 | 74. 11 | 14 | 74. 59 | 14 | 75. 41 | 14 | 76. 23 | 14 | 77. 5 | 14 | 77. 47 | 14 | 78. 29 | 14 |
| 2, 3 | | | 73. 39 | | 74. 25 | | 75. 13 | | 75. 55 | | 76. 37 | | 77. 19 | | 78. 1 | | 78. 43 | |
| 2, 5 | | | | | | | | | 76. 9 | | | | | | | | | |
| 2, 8 | | | | | | | | | 76. 23 | | | | | | | | | |
| 3, 0 | | | | | | | | | 76. 37 | | | | | | | | | |
| 3, 3 | | | | | | | | | 76. 51 | | | | | | | | | |
| 3, 5 | | | | | | | | | 77. 5 | | | | | | | | | |
| 3, 8 | | | 75. 8 | | | | | | 77. 19 | | | | | | | | | |
| 4, 0 | | | 75. 22 | | | | | | 77. 33 | | | | | | | | | |
| 4, 3 | | | 75. 36 | | | | | | 77. 47 | | | | | | | | | |
| 4, 5 | | | 75. 50 | | | | | | 78. 2 | | | | | | | | | |
| 4, 8 | | | 76. 5 | | | | | | 78. 16 | | | | | | | | | |
| 5, 0 | | | 76. 19 | | | | | | 78. 31 | | | | | | | | | |
| 5, 3 | | | 76. 33 | | | | | | 78. 45 | | | | | | | | | |
| 5, 5 | | | 76. 47 | | | | | | 79. 0 | | | | | | | | | |
| 5, 8 | | | 77. 2 | | | | | | 79. 14 | | | | | | | | | |
| 6, 0 | | | 77. 16 | | | | | | 79. 28 | | | | | | | | | |
| 6, 3 | | | 77. 30 | | | | | | 79. 43 | | | | | | | | | |
| 6, 5 | | | 77. 44 | | | | | | 79. 57 | | | | | | | | | |
| 6, 8 | | | 77. 58 | | | | | | 80. 11 | | | | | | | | | |
| 7, 0 | | | 78. 12 | | | | | | 80. 26 | | | | | | | | | |
| 7, 3 | | | 78. 26 | | | | | | 80. 40 | | | | | | | | | |
| 7, 5 | | | 78. 40 | | | | | | 80. 54 | | | | | | | | | |
| 7, 8 | | | 78. 54 | | | | | | 81. 9 | | | | | | | | | |
| 8, 0 | | | 79. 8 | | | | | | 81. 23 | | | | | | | | | |
| 8, 3 | | | 79. 22 | | | | | | 81. 37 | | | | | | | | | |
| 8, 5 | | | 79. 36 | | | | | | 81. 52 | | | | | | | | | |
| 8, 8 | | | 79. 50 | | | | | | 82. 6 | | | | | | | | | |
| 9, 0 | | | 80. 4 | | | | | | 82. 20 | | | | | | | | | |
| 9, 3 | | | 80. 18 | | | | | | 82. 35 | | | | | | | | | |
| 9, 5 | | | 80. 32 | | | | | | 82. 49 | | | | | | | | | |
| 9, 8 | | | 80. 46 | | | | | | 83. 3 | | | | | | | | | |
| 10, 0 | | | 81. 0 | | | | | | 83. 17 | | | | | | | | | |
| 10, 3 | | | 81. 14 | | | | | | 83. 32 | | | | | | | | | |
| 10, 5 | | | 81. 28 | | | | | | 83. 46 | | | | | | | | | |
| 10, 8 | | | 81. 42 | | | | | | 84. 0 | | | | | | | | | |
| 11, 0 | | | 81. 56 | | | | | | 84. 14 | | | | | | | | | |
| 11, 3 | | | 82. 10 | | | | | | 84. 29 | | | | | | | | | |
| 11, 5 | | | 82. 24 | | | | | | 84. 43 | | | | | | | | | |
| 11, 8 | | | 82. 38 | | | | | | 84. 57 | | | | | | | | | |
| 12, 0 | | | 82. 51 | | | | | | 85. 12 | | | | | | | | | |
| 12, 3 | | | 83. 5 | | | | | | 85. 26 | | | | | | | | | |
| 12, 5 | | | 83. 19 | | | | | | 85. 40 | | | | | | | | | |
| 12, 8 | | | 83. 33 | | | | | | 85. 54 | | | | | | | | | |
| 13, 0 | | | 83. 47 | | | | | | 86. 9 | | | | | | | | | |
| 13, 3 | | | 84. 1 | | | | | | 86. 23 | | | | | | | | | |
| 13, 5 | | | 84. 15 | | | | | | 86. 37 | | | | | | | | | |
| 13, 8 | | | 84. 29 | | | | | | 86. 51 | | | | | | | | | |
| 14, 0 | | | 84. 43 | | | | | | 87. 6 | | | | | | | | | |
| 14, 3 | | | 84. 57 | | | | | | 87. 20 | | | | | | | | | |
| 14, 5 | | | 85. 12 | | | | | | 87. 34 | | | | | | | | | |
| 14, 8 | | | 85. 26 | | | | | | 87. 48 | | | | | | | | | |

Proportional parts for Complement of Declination.
*additive*

| ′ | 13′ | 17′ | 21′ | 25′ | 29′ |
|---|---|---|---|---|---|
| 1 | 0, 2 | 0, 3 | 0, 4 | 0, 4 | 0, |
| 2 | 0, 4 | 0, 6 | 0, 7 | 0, 8 | 1, |
| 3 | 0, 7 | 0, 9 | 1, 1 | 1, 3 | 1, |
| 4 | 0, 9 | 1, 1 | 1, 4 | 1, 7 | 1, |
| 5 | 1, 1 | 1, 4 | 1, 8 | 2, 1 | 2, |
| 6 | 1, 3 | 1, 7 | 2, 1 | 2, 5 | 2, |
| 7 | 1, 5 | 2, 0 | 2, 5 | 2, 9 | 3, |
| 8 | 1, 7 | 2, 3 | 2, 8 | 3, 3 | 3, |
| 9 | 2, 0 | 2, 6 | 3, 2 | 3, 8 | 4, |
| 10 | 2, 2 | 2, 8 | 3, 5 | 4, 2 | 4, |
| 20 | 4, 3 | 5, 7 | 7, 0 | 8, 3 | 9, |
| 30 | 6, 5 | 8, 5 | 10, 5 | 12, 5 | 14, |
| 40 | 8, 7 | 11, 3 | 14, 0 | 16, 7 | 19, |
| 50 | 10, 8 | 14, 2 | 17, 5 | 20, 8 | 24, |
| ′ | 14′ | 18′ | 22′ | 26′ | 30 |
| 1 | 0, 2 | 0, 3 | 0, 4 | 0, 4 | 0, |
| 2 | 0, 5 | 0, 6 | 0, 7 | 0, 9 | 1, |
| 3 | 0, 7 | 0, 9 | 1, 1 | 1, 3 | 1, |
| 4 | 0, 9 | 1, 2 | 1, 5 | 1, 7 | 2, |
| 5 | 1, 2 | 1, 5 | 1, 8 | 2, 2 | 2, |
| 6 | 1, 4 | 1, 8 | 2, 2 | 2, 6 | 3, |
| 7 | 1, 6 | 2, 1 | 2, 6 | 3, 0 | 3, |
| 8 | 1, 9 | 2, 4 | 2, 9 | 3, 5 | 4, |
| 9 | 2, 1 | 2, 7 | 3, 3 | 3, 9 | 4, |
| 10 | 2, 3 | 3, 0 | 3, 7 | 4, 3 | 5, |
| 20 | 4, 7 | 6, 0 | 7, 3 | 8, 7 | 10, |
| 30 | 7, 0 | 9, 0 | 11, 0 | 13, 0 | 15, |
| 40 | 9, 3 | 12, 0 | 14, 7 | 17, 3 | 20, |
| 50 | 11, 7 | 15, 0 | 18, 3 | 21, 7 | 25, |
| | 15′ | 19′ | 23′ | 27′ | 31 |
| 1 | 0, 3 | 0, 3 | 0, 4 | 0, 5 | 0, |
| 2 | 0, 5 | 0, 6 | 0, 8 | 0, 9 | 1, |
| 3 | 0, 8 | 1, 0 | 1, 2 | 1, 4 | 1, |
| 4 | 1, 0 | 1, 3 | 1, 5 | 1, 8 | 2, |
| 5 | 1, 3 | 1, 6 | 1, 9 | 2, 3 | 2, |
| 6 | 1, 5 | 1, 9 | 2, 3 | 2, 7 | 3, |
| 7 | 1, 8 | 2, 2 | 2, 7 | 3, 2 | 3, |
| 8 | 2, 0 | 2, 5 | 3, 1 | 3, 6 | 4, |
| 9 | 2, 3 | 2, 9 | 3, 5 | 4, 1 | |
| | 2, 5 | 3, 2 | 3, | 4, 5 | |
| | 5, 0 | 6, 3 | 7, 7 | | |
| | 7, 5 | 9, 5 | 11, | | |
| | 10, 0 | 12, 7 | 15, | | |
| | 12, 5 | 15, 8 | 19, | | |
| | 16′ | 20 | 24 | | |
| | 0, 3 | 0, | 0, | | |
| | | 0, | 0, | | |
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| | | 1, | 1, | | |
| | | 1, | 2, | | |
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| | | 2, | 2, | | |
| | | 2, | 3, | | |
| | | 3, | 3, | | |
| | | 3, | 4, | | |
| | | 3, | 4, | | |
| | | 4, | 5, | | |

Proportional parts for Seconds of Interval.

| d | e | n | z |
|---|---|---|---|
| ′ | ′ | ′ | ′ |
| 0,0 | 0,0 | 0,1 | 0,1 |
| 0,0 | 0,1 | 0,1 | 0,1 |
| 0,1 | 0,1 | 0,2 | 0,2 |
| 0,1 | 0,2 | 0,2 | 0,3 |
| 0,1 | 0,2 | 0,3 | 0,3 |
| 0,1 | 0,2 | 0,3 | 0,4 |
| 0,1 | 0,2 | 0,4 | 0,5 |
| 0,1 | 0,3 | 0,4 | 0,5 |
| 0,2 | 0,3 | 0,5 | 0,6 |
| | 0,3 | 0,5 | 0,7 |
| 0,2 | 0,4 | 0,6 | 0,7 |
| 0,2 | 0,4 | 0,6 | 0,8 |
| | 0,4 | 0,7 | 0,9 |
| 0,2 | 0,5 | 0,7 | 0,9 |
| | 0,5 | 0,8 | 1,0 |
| 0,3 | 0,5 | 0,8 | 1,1 |
| 0,3 | 0,6 | 0,9 | 1,1 |
| | 0,6 | 0,9 | 1,2 |
| 0,3 | 0,6 | 1,0 | 1,3 |
| | 0,7 | 1,0 | 1,3 |
| | 0,7 | 1,1 | 1,4 |
| 0,4 | 0,7 | 1,1 | 1,5 |
| | 0,8 | 1,2 | 1,5 |
| | 0,8 | 1,2 | 1,6 |
| | 0,8 | 1,3 | 1,7 |
| | 0,9 | 1,3 | 1,7 |
| | 0,9 | 1,4 | 1,8 |
| 0,5 | 0,9 | 1,4 | 1,9 |
| 0,5 | 1,0 | 1,5 | 1,9 |
| 0,5 | 1,0 | 1,5 | 2,0 |
| 0,5 | 1,0 | 1,6 | 2,1 |
| | 1,1 | 1,6 | 2,1 |
| | 1,1 | 1,7 | 2,2 |
| | 1,1 | 1,7 | 2,3 |
| | 1,2 | 1,8 | 2,3 |
| | 1,2 | 1,8 | 2,4 |
| | 1,2 | 1,9 | 2,5 |
| | 1,3 | 1,9 | 2,5 |
| | 1,3 | 2,0 | 2,6 |
| | 1,3 | 2,0 | 2,7 |
| | 1,4 | 2,1 | 2,7 |
| | 1,4 | 2,1 | 2,8 |
| | 1,4 | 2,2 | 2,9 |
| | 1,5 | 2,2 | 2,9 |
| | 1,5 | 2,3 | 3,0 |
| | 1,5 | 2,3 | 3,1 |
| | 1,6 | 2,4 | 3,1 |
| | 1,6 | 2,4 | 3,2 |
| | 1,6 | 2,5 | 3,3 |
| | 1,7 | 2,5 | 3,3 |
| | 1,7 | 2,6 | 3,4 |
| | 1,7 | 2,6 | 3,5 |
| | 1,8 | 2,7 | 3,5 |
| | 1,8 | 2,7 | 3,6 |
| | 1,8 | 2,8 | 3,7 |
| | 1,9 | 2,8 | 3,7 |
| | 1,9 | 2,9 | 3,8 |
| | 1,9 | 2,9 | 3,9 |
| | 2,0 | 3,0 | 3,9 |
| | 2,0 | 3,0 | 4,0 |
| | 2,1 | 3,1 | 4,1 |
| | 2,1 | 3,1 | 4,2 |
| | 2,1 | 3,2 | 4,2 |
| | 2,2 | 3,2 | 4,3 |
| | 2,2 | 3,3 | 4,4 |
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| | 26,4 | 30,3 | 38,1 |
| | 26,5 | 30,4 | 38,2 |
| | 26,5 | 30,4 | 38,3 |
| | 26,6 | 30,5 | 38,3 |
| | 26,6 | 30,5 | 38,4 |
| | 26,7 | 30,6 | 38,5 |
| | 26,7 | 30,6 | 38,5 |
| | 26,8 | 30,7 | 38,6 |
| | 26,8 | 30,7 | 38,7 |
| | 26,9 | 30,8 | 38,7 |
| | 26,9 | 30,8 | 38,8 |
| | 27,0 | 30,9 | 38,9 |
| | 27,0 | 30,9 | 38,9 |
| | 27,1 | 31,0 | 39,0 |
| | 27,1 | 31,0 | 39,1 |
| | 27,2 | 31,1 | 39,1 |
| | 27,2 | 31,1 | 39,2 |
| | 27,3 | 31,2 | 39,3 |
| | 27,3 | 31,2 | 39,3 |
| | 27,4 | 31,3 | 39,4 |
| | 27,4 | 31,3 | 39,5 |
| | 27,5 | 31,4 | 39,5 |
| | 27,5 | 31,4 | 39,6 |
| | 27,6 | 31,5 | 39,7 |
| | 27,6 | 31,5 | 39,7 |
| | 27,7 | 31,6 | 39,8 |
| | 27,7 | 31,6 | 39,9 |
| | 27,8 | 31,7 | 39,9 |
| | 27,8 | 31,7 | 40,0 |
| | 27,9 | 31,8 | 40,1 |
| | 27,9 | 31,8 | 40,1 |
| | 28,0 | 31,9 | 40,2 |
| | 28,0 | 31,9 | 40,3 |
| | 28,1 | 32,0 | 40,3 |
| | 28,1 | 32,0 | 40,4 |
| | 28,2 | 32,1 | 40,5 |
| | 28,2 | 32,1 | 40,5 |
| | 28,3 | 32,2 | 40,6 |
| | 28,3 | 32,2 | 40,7 |
| | 28,4 | 32,3 | 40,7 |
| | 28,4 | 32,3 | 40,8 |
| | 28,5 | 32,4 | 40,9 |
| | 28,5 | 32,4 | 40,9 |
| | 28,6 | 32,5 | 41,0 |
| | 28,6 | 32,5 | 41,1 |
| | 28,7 | 32,6 | 41,1 |
| | 28,7 | 32,6 | 41,2 |
| | 28,8 | 32,7 | 41,3 |
| | 28,8 | 32,7 | 41,3 |
| | 28,9 | 32,8 | 41,4 |
| | 28,9 | 32,8 | 41,5 |
| | 29,0 | 32,9 | 41,5 |
| | 29,0 | 32,9 | 41,6 |
| | 29,1 | 33,0 | 41,7 |
| | 29,1 | 33,0 | 41,7 |
| | 29,2 | 33,1 | 41,8 |
| | 29,2 | 33,1 | 41,9 |
| | 29,3 | 33,2 | 41,9 |
| | 29,3 | 33,2 | 42,0 |
| | 29,4 | 33,3 | 42,1 |
| | 29,4 | 33,3 | 42,1 |
| | 29,5 | 33,4 | 42,2 |
| | 29,5 | 33,4 | 42,3 |
| | 29,6 | 33,5 | 42,3 |
| | 29,6 | 33,5 | 42,4 |
| | 29,7 | 33,6 | 42,5 |
| | 29,7 | 33,6 | 42,5 |
| | 29,8 | 33,7 | 42,6 |
| | 29,8 | 33,7 | 42,7 |
| | 29,9 | 33,8 | 42,7 |
| | 29,9 | 33,8 | 42,8 |
| | 30,0 | 33,9 | 42,9 |
| | 30,0 | 33,9 | 42,9 |
| | 30,1 | 34,0 | 43,0 |
| | 30,1 | 34,0 | 43,1 |
| | 30,2 | 34,1 | 43,1 |
| | 30,2 | 34,1 | 43,2 |
| | 30,3 | 34,2 | 43,3 |
| | 30,3 | 34,2 | 43,3 |
| | 30,4 | 34,3 | 43,4 |
| | 30,4 | 34,3 | 43,5 |
| | 30,5 | 34,4 | 43,5 |
| | 30,5 | 34,4 | 43,6 |
| | 30,6 | 34,5 | 43,7 |
| | 30,6 | 34,5 | 43,7 |
| | 30,7 | 34,6 | 43,8 |
| | 30,7 | 34,6 | 43,9 |
| | 30,8 | 34,7 | 43,9 |
| | 30,8 | 34,7 | 44,0 |
| | 30,9 | 34,8 | 44,1 |
| | 30,9 | 34,8 | 44,1 |
| | 31,0 | 34,9 | 44,2 |
| | 31,0 | 34,9 | 44,3 |
| | 31,1 | 35,0 | 44,3 |
| | 31,1 | 35,0 | 44,4 |
| | 31,2 | 35,1 | 44,5 |
| | 31,2 | 35,1 | 44,5 |
| | 31,3 | 35,2 | 44,6 |
| | 31,3 | 35,2 | 44,7 |
| | 31,4 | 35,3 | 44,7 |
| | 31,4 | 35,3 | 44,8 |
| | 31,5 | 35,4 | 44,9 |
| | 31,5 | 35,4 | 44,9 |
| | 31,6 | 35,5 | 45,0 |
| | 31,6 | 35,5 | 45,1 |
| | 31,7 | 35,6 | 45,1 |
| | 31,7 | 35,6 | 45,2 |
| | 31,8 | 35,7 | 45,3 |
| | 31,8 | 35,7 | 45,3 |
| | 31,9 | 35,8 | 45,4 |
| | 31,9 | 35,8 | 45,5 |
| | 32,0 | 35,9 | 45,5 |
| | 32,0 | 35,9 | 45,6 |
| | 32,1 | 36,0 | 45,7 |
| | 32,1 | 36,0 | 45,7 |
| | 32,2 | 36,1 | 45,8 |
| | 32,2 | 36,1 | 45,9 |
| | 32,3 | 36,2 | 45,9 |
| | 32,3 | 36,2 | 46,0 |
| | 32,4 | 36,3 | 46,1 |
| | 32,4 | 36,3 | 46,1 |
| | 32,5 | 36,4 | 46,2 |
| | 32,5 | 36,4 | 46,3 |
| | 32,6 | 36,5 | 46,3 |
| | 32,6 | 36,5 | 46,4 |
| | 32,7 | 36,6 | 46,5 |
| | 32,7 | 36,6 | 46,5 |
| | 32,8 | 36,7 | 46,6 |
| | 32,8 | 36,7 | 46,7 |
| | 32,9 | 36,8 | 46,7 |
| | 32,9 | 36,8 | 46,8 |
| | 33,0 | 36,9 | 46,9 |
| | 33,0 | 36,9 | 46,9 |
| | 33,1 | 37,0 | 47,0 |
| | 33,1 | 37,0 | 47,1 |
| | 33,2 | 37,1 | 47,1 |
| | 33,2 | 37,1 | 47,2 |
| | 33,3 | 37,2 | 47,3 |
| | 33,3 | 37,2 | 47,3 |
| | 33,4 | 37,3 | 47,4 |
| | 33,4 | 37,3 | 47,5 |
| | 33,5 | 37,4 | 47,5 |
| | 33,5 | 37,4 | 47,6 |
| | 33,6 | 37,5 | 47,7 |
| | 33,6 | 37,5 | 47,7 |
| | 33,7 | 37,6 | 47,8 |
| | 33,7 | 37,6 | 47,9 |
| | 33,8 | 37,7 | 47,9 |
| | 33,8 | 37,7 | 48,0 |
| | 33,9 | 37,8 | 48,1 |
| | 33,9 | 37,8 | 48,1 |
| | 34,0 | 37,9 | 48,2 |
| | 34,0 | 37,9 | 48,3 |
| | 34,1 | 38,0 | 48,3 |
| | 34,1 | 38,0 | 48,4 |
| | 34,2 | 38,1 | 48,5 |
| | 34,2 | 38,1 | 48,5 |
| | 34,3 | 38,2 | 48,6 |
| | 34,3 | 38,2 | 48,7 |
| | 34,4 | 38,3 | 48,7 |
| | 34,4 | 38,3 | 48,8 |
| | 34,5 | 38,4 | 48,9 |
| | 34,5 | 38,4 | 48,9 |
| | 34,6 | 38,5 | 49,0 |
| | 34,6 | 38,5 | 49,1 |
| | 34,7 | 38,6 | 49,1 |
| | 34,7 | 38,6 | 49,2 |
| | 34,8 | 38,7 | 49,3 |
| | 34,8 | 38,7 | 49,3 |
| | 34,9 | 38,8 | 49,4 |
| | 34,9 | 38,8 | 49,5 |
| | 35,0 | 38,9 | 49,5 |
| | 35,0 | 38,9 | 49,6 |
| | 35,1 | 39,0 | 49,7 |
| | 35,1 | 39,0 | 49,7 |
| | 35,2 | 39,1 | 49,8 |
| | 35,2 | 39,1 | 49,9 |
| | 35,3 | 39,2 | 49,9 |
| | 35,3 | 39,2 | 50,0 |
| | 35,4 | 39

Proportional parts for seconds of Interval.

| 0 | 2 | 4 |
|---|---|---|
| ′ | ′ | ′ |
| 0, 0 | 0, 5 | 1, 0 |
| 0, 1 | 0, 5 | 1, 0 |
| 0, 1 | 0, 5 | 1, 0 |
| 0, 1

Proportional parts for Seconds of Interval. *additive*

| *a* | *e* | *n* |
|---|---|---|
| ′ | ′ | ′ |
| 0,0 | 0,0 | 0,0 |
| 0,1 | 0,1 | 0,1 |
| 0,1 | 0,1 | 0,1 |
| 0,2 | 0,2 | 0,2 |
| 0,2 | 0,3 | 0,3 |
| 0,3 | 0,3 | 0,4 |
| 0,3 | 0,4 | 0,5 |
| 0,4 | 0,5 | 0,6 |
| 0,4 | 0,5 | 0,7 |
| 0,5 | 0,6 | 0,8 |
| 0,5 | 0,7 | 0,8 |
| 0,6 | 0,7 | 0,9 |
| 0,6 | 0,8 | 1,0 |
| 0,7 | 0,9 | 1,1 |
| 0,7 | 0,9 | 1,2 |
| 0,8 | 1,0 | 1,3 |
| 0,8 | 1,1 | 1,3 |
| 0,9 | 1,1 | 1,4 |
| 0,9 | 1,2 | 1,5 |
| 1,0 | 1,3 | 1,6 |
| 1,0 | 1,3 | 1,7 |
| 1,1 | 1,4 | 1,8 |
| 1,1 | 1,5 | 1,8 |
| 1,2 | 1,5 | 1,9 |
| 1,2 | 1,6 | 2,0 |
| 1,3 | 1,7 | 2,1 |
| 1,3 | 1,7 | 2,2 |
| 1,4 | 1,8 | 2,3 |
| 1,4 | 1,9 | 2,3 |
| 1,5 | 1,9 | 2,4 |
| 1,5 | 2,0 | 2,5 |
| 1,6 | 2,1 | 2,6 |
| 1,6 | 2,1 | 2,7 |
| 1,7 | 2,2 | 2,8 |
| 1,7 | 2,3 | 2,8 |
| 1,8 | 2,3 | 2,9 |
| 1,8 | 2,4 | 3,0 |
| 1,9 | 2,4 | 3,1 |
| 1,9 | 2,5 | 3,1 |
| 2,0 | 2,5 | 3,2 |
| 2,0 | 2,6 | 3,3 |
| 2,1 | 2,7 | 3,4 |
| 2,1 | 2,8 | 3,5 |
| 2,2 | 2,8 | 3,6 |
| 2,2 | 2,9 | 3,7 |
| 2,3 | 2,9 | 3,8 |
| 2,3 | 3,0 | 3,8 |
| 2,4 | 3,1 | 3,9 |
| 2,4 | 3,1 | 4,0 |
| 2,5 | 3,2 | 4,1 |
| 2,5 | 3,3 | 4,2 |
| 2,6 | 3,4 | 4,3 |
| 2,6 | 3,5 | 4,3 |
| 2,7 | 3,5 | 4,4 |
| 2,7 | 3,6 | 4,5 |
| 2,8 | 3,7 | 4,6 |
| 2,8 | 3,7 | 4,7 |
| 2,9 | 3,8 | 4,8 |
| 3,0 | 3,9 | 4,9 |

Declination.

| Interval 5h | 16° | D | 17° | D | 18° | D | 19° | D | 20° | D | 21° | D | 22° | D | 23° | D |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| m | ° ′ | ″ | ° ′ | ″ | ° ′ | ″ | ° ′ | ″ | ° ′ | ″ | ° ′ | ″ | ° ′ | ″ | ° ′ | ″ |
| 0 | 11. 57 | a 42 | 12. 39 | a 41 | 13. 20 | a 42 | 14. 2 | a 40 | 14. 42 | a 41 | 15. 23 | a 39 | 16. 2 | e 39 | 16. 41 | n 39 |
| 1 | 12. 0 | a 41 | 12. 41 | a 41 | 13. 24 | e 41 | 14. 5 | e 41 | 14. 46 | e 41 | 15. 27 | a 41 | 16. 6 | e 41 | 16. 46 | n 38 |
| 2 | 12. 3 | a 43 | 12. 45 | e 41 | 13. 27 | e 41 | 14. 9 | e 41 | 14. 50 | e 41 | 15. 31 | e 41 | 16. 11 | e 40 | 16. 50 | e 40 |
| 3 | 12. 6 | a 43 | 12. 49 | e 42 | 13. 31 | e 42 | 14. 13 | e 41 | 14. 54 | e 41 | 15. 34 | e 41 | 16. 15 | e 40 | 16. 54 | e 40 |
| 4 | 12. 9 | a 43 | 12. 52 | e 42 | 13. 34 | e 42 | 14. 16 | e 42 | 14. 58 | e 41 | 15. 38 | e 41 | 16. 19 | e 40 | 16. 59 | e 40 |
| 5 | 12. 12 | a 43 | 12. 55 | e 42 | 13. 38 | a 42 | 14. 20 | e 41 | 15. 1 | e 41 | 15. 42 | e 41 | 16. 23 | e 40 | 17. 3 | e 40 |
| 6 | 12. 15 | e 44 | 12. 59 | a 42 | 13. 41 | e 43 | 14. 24 | a 41 | 15. 5 | e 42 | 15. 47 | e 41 | 16. 27 | e 40 | 17. 7 | e 40 |
| 7 | 12. 19 | a 43 | 13. 2 | e 43 | 13. 45 | e 42 | 14. 27 | e 42 | 15. 9 | e 42 | 15. 51 | e 40 | 16. 31 | n 40 | 17. 11 | n 40 |
| 8 | 12. 22 | a 44 | 13. 6 | e 43 | 13. 48 | a 42 | 14. 31 | e 42 | 15. 13 | e 42 | 15. 55 | e 41 | 16. 36 | e 40 | 17. 16 | n 40 |
| 9 | 12. 25 | a 44 | 13. 9 | e 43 | 13. 52 | e 43 | 14. 35 | e 43 | 15. 17 | e 42 | 15. 59 | e 41 | 16. 40 | e 40 | 17. 20 | n 40 |
| 10 | 12. 28 | a 44 | 13. 13 | e 43 | 13. 56 | e 43 | 14. 39 | e 43 | 15. 21 | e 42 | 16. 3 | e 41 | 16. 44 | e 40 | 17. 25 | e 40 |
| 11 | 12. 32 | a 44 | 13. 16 | e 43 | 13. 59 | e 43 | 14. 42 | e 43 | 15. 25 | e 42 | 16. 7 | e 41 | 16. 48 | e 41 | 17. 29 | e 40 |
| 12 | 12. 35 | a 44 | 13. 19 | e 43 | 14. 3 | e 43 | 14. 46 | e 43 | 15. 29 | e 42 | 16. 11 | e 41 | 16. 53 | e 41 | 17. 33 | n 41 |
| 13 | 12. 38 | a 45 | 13. 23 | e 44 | 14. 7 | e 43 | 14. 50 | e 43 | 15. 33 | e 42 | 16. 15 | e 41 | 16. 57 | e 41 | 17. 38 | n 41 |
| 14 | 12. 41 | e 45 | 13. 26 | e 44 | 14. 10 | e 44 | 14. 54 | e 43 | 15. 37 | e 42 | 16. 19 | e 42 | 17. 1 | e 41 | 17. 42 | n 41 |
| 15 | 12. 45 | a 45 | 13. 30 | e 44 | 14. 14 | a 44 | 14. 58 | e 43 | 15. 41 | e 43 | 16. 23 | e 42 | 17. 5 | e 41 | 17. 47 | n 41 |
| 16 | 12. 48 | a 45 | 13. 33 | e 44 | 14. 17 | e 44 | 15. 1 | e 44 | 15. 45 | e 43 | 16. 27 | e 42 | 17. 10 | e 41 | 17. 51 | n 41 |
| 17 | 12. 51 | a 46 | 13. 37 | e 44 | 14. 21 | e 44 | 15. 5 | e 44 | 15. 49 | e 43 | 16. 31 | e 42 | 17. 14 | e 41 | 17. 56 | n 41 |
| 18 | 12. 55 | e 45 | 13. 40 | e 45 | 14. 25 | e 44 | 15. 9 | e 44 | 15. 53 | e 43 | 16. 35 | e 42 | 17. 18 | e 41 | 18. 0 | n 41 |
| 19 | 12. 58 | a 46 | 13. 44 | e 44 | 14. 28 | e 44 | 15. 13 | e 44 | 15. 57 | e 43 | 16. 39 | e 42 | 17. 23 | e 42 | 18. 5 | e 41 |
| 20 | 13. 1 | e 46 | 13. 47 | e 45 | 14. 32 | e 45 | 15. 17 | e 44 | 16. 1 | e 44 | 16. 43 | e 43 | 17. 27 | e 42 | 18. 9 | e 42 |
| 21 | 13. 5 | a 46 | 13. 51 | e 45 | 14. 36 | e 45 | 15. 21 | e 44 | 16. 5 | e 44 | 16. 48 | e 43 | 17. 31 | e 42 | 18. 13 | e 42 |
| 22 | 13. 8 | a 46 | 13. 54 | e 46 | 14. 40 | e 45 | 15. 25 | e 45 | 16. 9 | e 44 | 16. 52 | e 43 | 17. 36 | e 42 | 18. 18 | e 42 |
| 23 | 13. 11 | e 47 | 13. 58 | a 45 | 14. 43 | e 45 | 15. 28 | e 45 | 16. 13 | e 44 | 16. 57 | e 43 | 17. 40 | e 43 | 18. 23 | e 42 |
| 24 | 13. 15 | a 46 | 14. 1 | e 46 | 14. 47 | e 45 | 15. 32 | e 45 | 16. 17 | e 44 | 17. 1 | e 44 | 17. 45 | e 43 | 18. 27 | e 43 |
| 25 | 13. 18 | e 47 | 14. 5 | a 46 | 14. 51 | e 45 | 15. 36 | e 45 | 16. 21 | e 44 | 17. 5 | e 44 | 17. 49 | e 43 | 18. 32 | e 43 |
| 26 | 13. 22 | a 46 | 14. 8 | e 47 | 14. 55 | e 46 | 15. 40 | e 45 | 16. 25 | e 45 | 17. 9 | e 44 | 17. 53 | e 43 | 18. 36 | e 43 |
| 27 | 13. 25 | a 47 | 14. 12 | e 46 | 14. 58 | e 46 | 15. 44 | e 46 | 16. 29 | e 45 | 17. 13 | e 44 | 17. 58 | e 43 | 18. 41 | e 43 |
| 28 | 13. 28 | e 48 | 14. 16 | a 46 | 15. 2 | e 46 | 15. 48 | e 46 | 16. 33 | e 45 | 17. 18 | e 44 | 18. 2 | e 44 | 18. 45 | e 43 |
| 29 | 13. 32 | a 47 | 14. 19 | e 47 | 15. 6 | e 46 | 15. 51 | e 46 | 16. 37 | e 45 | 17. 22 | e 45 | 18. 7 | e 44 | 18. 50 | e 44 |
| 30 | 13. 35 | e 48 | 14. 23 | a 47 | 15. 10 | e 46 | 15. 55 | e 46 | 16. 41 | e 46 | 17. 26 | e 45 | 18. 11 | e 44 | 18. 54 | e 44 |
| 31 | 13. 39 | a 47 | 14. 26 | e 47 | 15. 14 | e 47 | 15. 59 | e 46 | 16. 45 | e 46 | 17. 30 | e 45 | 18. 15 | e 44 | 18. 59 | e 44 |
| 32 | 13. 42 | a 48 | 14. 30 | e 47 | 15. 17 | e 47 | 16. 4 | e 46 | 16. 49 | e 46 | 17. 34 | e 45 | 18. 20 | e 44 | 19. 3 | e 44 |
| 33 | 13. 45 | a 48 | 14. 34 | e 47 | 15. 21 | e 47 | 16. 8 | e 47 | 16. 53 | e 46 | 17. 38 | e 45 | 18. 24 | e 44 | 19. 8 | e 44 |
| 34 | 13. 49 | a 48 | 14. 37 | e 47 | 15. 25 | e 47 | 16. 12 | e 47 | 16. 57 | e 46 | 17. 43 | e 45 | 18. 28 | e 44 | 19. 12 | e 44 |
| 35 | 13. 52 | a 48 | 14. 41 | e 47 | 15. 29 | e 47 | 16. 16 | e 47 | 17. 1 | e 46 | 17. 47 | e 45 | 18. 33 | e 44 | 19. 17 | e 44 |
| 36 | 13. 56 | a 48 | 14. 45 | e 47 | 15. 33 | e 47 | 16. 20 | e 47 | 17. 5 | e 46 | 17. 51 | e 45 | 18. 37 | e 44 | 19. 21 | e 44 |
| 37 | 14. 0 | a 48 | 14. 49 | e 47 | 15. 37 | e 47 | 16. 24 | e 47 | 17. 9 | e 46 | 17. 55 | e 45 | 18. 41 | e 44 | 19. 25 | e 44 |
| 38 | 14. 3 | a 48 | 14. 52 | e 47 | 15. 41 | e 47 | 16. 28 | e 47 | 17. 13 | e 46 | 17. 59 | e 45 | 18. 45 | e 44 | 19. 30 | e 44 |
| 39 | 14. 7 | a 48 | 14. 56 | e 47 | 15. 45 | e 47 | 16. 32 | e 47 | 17. 17 | e 46 | 18. 3 | e 45 | 18. 50 | e 44 | 19. 34 | e 44 |
| 40 | 14. 10 | a 48 | 15. 0 | e 47 | 15. 49 | e 47 | 16. 37 | e 47 | 17. 22 | e 46 | 18. 8 | e 45 | 18. 54 | e 44 | 19. 38 | e 44 |
| 41 | 14. 14 | a 50 | 15. 4 | a 49 | 15. 53 | e 48 | 16. 41 | e 47 | 17. 28 | n 47 | 18. 15 | n 46 | 19. 1 | n 46 | 19. 47 | n 44 |
| 42 | 14. 17 | e 50 | 15. 7 | e 50 | 15. 57 | e 48 | 16. 45 | e 48 | 17. 33 | e 47 | 18. 20 | n 46 | 19. 6 | n 46 | 19. 52 | e 44 |
| 43 | 14. 21 | e 50 | 15. 11 | e 50 | 16. 1 | e 48 | 16. 49 | e 48 | 17. 37 | e 47 | 18. 24 | e 47 | 19. 11 | n 46 | 19. 56 | e 44 |
| 44 | 14. 25 | e 50 | 15. 15 | e 50 | 16. 5 | e 49 | 16. 53 | e 48 | 17. 41 | e 47 | 18. 28 | e 47 | 19. 15 | e 46 | 20. 1 | e 45 |
| 45 | 14. 29 | e 50 | 15. 19 | e 50 | 16. 9 | e 49 | 16. 57 | e 48 | 17. 45 | e 47 | 18. 33 | e 47 | 19. 20 | e 46 | 20. 6 | e 45 |
| 46 | 14. 32 | e 51 | 15. 23 | e 50 | 16. 13 | e 49 | 17. 2 | e 48 | 17. 50 | e 48 | 18. 38 | e 47 | 19. 25 | e 46 | 20. 11 | n 45 |
| 47 | 14. 36 | e 51 | 15. 27 | e 50 | 16. 17 | e 49 | 17. 6 | e 48 | 17. 54 | e 48 | 18. 42 | e 47 | 19. 29 | e 47 | 20. 16 | n 45 |
| 48 | 14. 39 | e 51 | 15. 31 | e 51 | 16. 21 | e 50 | 17. 10 | e 49 | 17. 58 | e 48 | 18. 47 | e 47 | 19. 34 | e 47 | 20. 21 | n 45 |
| 49 | 14. 43 | e 51 | 15. 35 | e 51 | 16. 25 | e 50 | 17. 14 | e 49 | 18. 2 | e 48 | 18. 51 | e 47 | 19. 38 | e 47 | 20. 26 | n 45 |
| 50 | 14. 47 | e 51 | 15. 38 | e 51 | 16. 29 | e 50 | 17. 19 | e 49 | 18. 6 | e 48 | 18. 55 | e 47 | 19. 43 | e 47 | 20. 31 | n 45 |
| 51 | 14. 51 | e 51 | 15. 42 | e 51 | 16. 33 | e 50 | 17. 23 | e 49 | 18. 12 | n 49 | 19. 1 | n 47 | 19. 48 | e 47 | 20. 36 | n 45 |
| 52 | 14. 54 | e 52 | 15. 46 | e 51 | 16. 37 | e 50 | 17. 27 | e 50 | 18. 17 | n 48 | 19. 5 | n 48 | 19. 53 | e 47 | 20. 40 | n 47 |
| 53 | 14. 58 | e 52 | 15. 50 | e 51 | 16. 41 | e 50 | 17. 31 | n 50 | 18. 21 | n 49 | 19. 10 | n 48 | 19. 57 | e 47 | 20. 45 | n 47 |
| 54 | 15. 2 | e 52 | 15. 54 | e 51 | 16. 45 | e 51 | 17. 36 | e 50 | 18. 26 | n 49 | 19. 14 | n 48 | 20. 2 | e 47 | 20. 50 | n 47 |
| 55 | 15. 6 | e 52 | 15. 58 | e 51 | 16. 49 | n 51 | 17. 40 | e 50 | 18. 30 | n 49 | 19. 19 | n 48 | 20. 7 | e 47 | 20. 55 | n 47 |
| 56 | 15. 9 | e 53 | 16. 2 | e 52 | 16. 54 | e 50 | 17. 44 | n 51 | 18. 35 | n 49 | 19. 23 | n 48 | 20. 11 | e 47 | 20. 59 | n 47 |
| 57 | 15. 13 | e 53 | 16. 6 | e 52 | 16. 58 | e 51 | 17. 49 | n 50 | 18. 39 | n 49 | 19. 28 | n 48 | 20. 16 | e 47 | 21. 4 | n 47 |
| 58 | 15. 17 | e 53 | 16. 10 | e 52 | 17. 2 | e 51 | 17. 53 | n 50 | 18. 44 | n 49 | 19. 32 | n 48 | 20. 20 | e 47 | 21. 9 | n 47 |
| 59 | 15. 21 | e 53 | 16. 14 | e 52 | 17. 6 | e 52 | 17. 58 | n 50 | 18. 48 | n 49 | 19. 37 | n 48 | 20. 25 | e 47 | 21. 13 | n 47 |

Proportional parts for Declination. *a*

| ′ | 38′ | 42′ | 46′ | 50′ |
|---|---|---|---|---|
| 1 | 0,6 | 0,7 | 0,8 | 0,8 |
| 2 | 1,3 | 1,4 | 1,5 | 1,7 |
| 3 | 1,9 | 2,1 | 2,3 | 2,5 |
| 4 | 2,5 | 2,8 | 3,1 | 3,3 |
| 5 | 3,2 | 3,5 | 3,8 | 4,2 |
| 6 | 3,8 | 4,2 | 4,6 | 5,0 |
| 7 | 4,4 | 4,9 | 5,4 | 5,8 |
| 8 | 5,1 | 5,6 | 6,1 | 6,7 |
| 9 | 5,7 | 6,3 | 6,9 | 7,5 |
| 10 | 6,3 | 7,0 | 7,7 | 8,3 |
| 11 | 6,9 | 7,7 | 8,4 | 9,2 |
| 12 | 7,6 | 8,4 | 9,2 | 10,0 |
| 13 | 8,2 | 9,1 | 10,0 | 10,8 |
| 14 | 8,8 | 9,8 | 10,7 | 11,7 |
| 15 | 9,5 | 10,5 | 11,5 | 12,5 |
| 16 | 10,1 | 11,2 | 12,3 | 13,3 |
| 17 | 10,7 | 11,9 | 13,0 | 14,2 |
| 18 | 11,4 | 12,6 | 13,8 | 15,0 |
| 19 | 12,0 | 13,3 | 14,6 | 15,8 |
| 20 | 12,7 | 14,0 | 15,3 | 16,7 |
| 21 | 13,3 | 14,7 | 16,1 | 17,5 |
| 22 | 13,9 | 15,4 | 16,9 | 18,3 |
| 23 | 14,6 | 16,1 | 17,6 | 19,2 |
| 24 | 15,2 | 16,8 | 18,4 | 20,0 |
| 25 | 15,8 | 17,5 | 19,2 | 20,8 |
| 26 | 16,5 | 18,2 | 19,9 | 21,7 |
| 27 | 17,1 | 18,9 | 20,7 | 22,5 |
| 28 | 17,7 | 19,6 | 21,5 | 23,3 |
| 29 | 18,4 | 20,3 | 22,2 | 24,2 |
| 30 | 19,0 | 21,0 | 23,0 | 25,0 |
| 31 | 19,6 | 21,7 | 23,8 | 25,8 |
| 32 | 20,3 | 22,4 | 24,5 | 26,7 |
| 33 | 20,9 | 23,1 | 25,3 | 27,5 |
| 34 | 21,5 | 23,8 | 26,1 | 28,3 |
| 35 | 22,2 | 24,5 | 26,8 | 29,2 |
| 36 | 22,8 | 25,2 | 27,6 | 30,0 |
| 37 | 23,4 | 25,9 | 28,4 | 30,8 |
| 38 | 24,1 | 26,6 | 29,1 | 31,7 |
| 39 | 24,7 | 27,3 | 29,9 | 32,5 |
| 40 | 25,3 | 28,0 | 30,7 | 33,3 |
| 41 | 25,9 | 28,7 | 31,4 | 34,2 |
| 42 | 26,6 | 29,4 | 32,2 | 35,0 |
| 43 | 27,2 | 30,1 | 33,0 | 35,8 |
| 44 | 27,8 | 30,8 | 33,7 | 36,7 |
| 45 | 28,5 | 31,5 | 34,5 | 37,5 |
| 46 | 29,1 | 32,2 | 35,3 | 38,3 |
| 47 | 29,7 | 32,9 | 36,0 | 39,2 |
| 48 | 30,4 | 33,6 | 36,8 | 40,0 |
| 49 | 31,0 | 34,3 | 37,6 | 40,8 |
| 50 | 31,6 | 35,0 | 38,3 | 41,7 |
| 51 | 32,3 | 35,7 | 39,1 | 42,5 |
| 52 | 32,9 | 36,4 | 39,9 | 43,3 |
| 53 | 33,5 | 37,1 | 40,6 | 44,2 |
| 54 | 34,2 | 37,8 | 41,4 | 45,0 |
| 55 | 34,8 | 38,5 | 42,2 | 45,8 |
| 56 | 35,4 | 39,2 | 42,9 | 46,7 |
| 57 | 36,1 | 39,9 | 43,7 | 47,5 |
| 58 | 36,7 | 40,6 | 44,5 | 48,3 |
| 59 | 37,3 | 41,3 | 45,2 | 49,2 |

## Differences between the Sun's Meridional Altitude, and its Altitude *One Minute* before, or after Noon.

| Latitude | Declination of the same Name as the Latitude. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0° | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° | 11° | 12° |
| ° | | | | | | | | | | | | | |
| 0 | * | * | 56, 2 | 37, 4 | 28, 1 | 22, 4 | 18, 7 | 16, 0 | 14, 0 | 12, 4 | 11, 1 | 10, 1 | 9, 2 |
| 1 | * | * | * | 56, 1 | 37, 4 | 28, 0 | 22, 4 | 18, 6 | 15, 9 | 13, 9 | 12, 4 | 11, 1 | 10, 0 |
| 2 | 56, 2 | * | * | * | 56, 1 | 37, 3 | 28, 0 | 22, 3 | 18, 6 | 15, 9 | 13, 9 | 12, 4 | 11, 1 |
| 3 | 37, 4 | 56, 1 | * | * | * | 55, 9 | 37, 2 | 27, 9 | 22, 3 | 18, 5 | 15, 8 | 13, 9 | 12, 4 |
| 4 | 28, 1 | 37, 4 | 56, 1 | * | * | * | 55, 8 | 37, 1 | 27, 8 | 22, 2 | 18, 5 | 15, 8 | 13, 8 |
| 5 | 22, 4 | 28, 0 | 37, 3 | 55, 9 | * | * | * | 55, 6 | 36, 9 | 27, 6 | 22, 1 | 18, 4 | 15, 7 |
| 6 | 18, 7 | 22, 4 | 28, 0 | 37, 2 | 55, 8 | * | * | * | 55, 4 | 36, 8 | 27, 5 | 22, 0 | 18, 3 |
| 7 | 16, 0 | 18, 6 | 22, 3 | 27, 9 | 37, 1 | 55, 6 | * | * | * | 55, 1 | 36, 6 | 27, 4 | 21, 9 |
| 8 | 14, 0 | 16, 0 | 18, 6 | 22, 3 | 27, 8 | 36, 9 | 55, 4 | * | * | * | 54, 9 | 36, 4 | 27, 3 |
| 9 | 12, 4 | 13, 9 | 15, 9 | 18, 5 | 22, 2 | 27, 7 | 36, 8 | 55, 1 | * | * | * | 54, 5 | 36, 2 |
| 10 | 11, 1 | 12, 4 | 13, 9 | 15, 8 | 18, 5 | 22, 1 | 27, 6 | 36, 6 | 54, 9 | * | * | * | 54, 2 |
| 11 | 10, 0 | 11, 1 | 12, 4 | 13, 9 | 15, 8 | 18, 4 | 22, 0 | 27, 4 | 36, 4 | 54, 5 | * | * | * |
| 12 | 9, 2 | 10, 0 | 11, 1 | 12, 4 | 13, 8 | 15, 7 | 18, 3 | 21, 9 | 27, 3 | 36, 2 | 54, 2 | * | * |
| 13 | 8, 5 | 9, 2 | 10, 0 | 11, 1 | 12, 3 | 13, 7 | 15, 6 | 18, 2 | 21, 7 | 27, 1 | 35, 9 | 53, 8 | * |
| 14 | 7, 9 | 8, 5 | 9, 2 | 10, 0 | 11, 0 | 12, 2 | 13, 6 | 15, 5 | 18, 1 | 21, 6 | 26, 9 | 35, 6 | 53, 4 |
| 15 | 7, 4 | 7, 9 | 8, 4 | 9, 2 | 9, 9 | 10, 9 | 12, 1 | 13, 5 | 15, 4 | 17, 9 | 21, 4 | 26, 7 | 35, 4 |
| 16 | 6, 9 | 7, 3 | 7, 8 | 8, 4 | 9, 1 | 9, 8 | 10, 8 | 12, 0 | 13, 4 | 15, 3 | 17, 8 | 21, 2 | 26, 5 |
| 17 | 6, 4 | 6, 8 | 7, 3 | 7, 8 | 8, 3 | 9, 0 | 9, 8 | 10, 7 | 11, 9 | 13, 3 | 15, 2 | 17, 6 | 21, 1 |
| 18 | 6, 0 | 6, 4 | 6, 8 | 7, 2 | 7, 7 | 8, 2 | 8, 9 | 9, 7 | 10, 7 | 11, 8 | 13, 2 | 15, 0 | 17, 5 |
| 19 | 5, 7 | 6, 0 | 6, 4 | 6, 8 | 7, 2 | 7, 7 | 8, 2 | 8, 8 | 9, 7 | 10, 6 | 11, 7 | 13, 1 | 14, 9 |
| 20 | 5, 4 | 5, 7 | 6, 0 | 6, 3 | 6, 7 | 7, 1 | 7, 6 | 8, 2 | 8, 9 | 9, 6 | 10, 5 | 11, 6 | 13, 0 |
| 21 | 5, 1 | 5, 3 | 5, 6 | 5, 9 | 6, 3 | 6, 6 | 7, 1 | 7, 6 | 8, 1 | 8, 7 | 9, 5 | 10, 4 | 11, 5 |
| 22 | 4, 9 | 5, 1 | 5, 3 | 5, 6 | 5, 9 | 6, 2 | 6, 6 | 7, 0 | 7, 5 | 8, 0 | 8, 6 | 9, 4 | 10, 3 |
| 23 | 4, 6 | 4, 8 | 5, 0 | 5, 3 | 5, 5 | 5, 8 | 6, 2 | 6, 5 | 6, 9 | 7, 4 | 7, 9 | 8, 6 | 9, 3 |
| 24 | 4, 4 | 4, 6 | 4, 8 | 5, 0 | 5, 2 | 5, 5 | 5, 8 | 6, 1 | 6, 4 | 6, 8 | 7, 3 | 7, 8 | 8, 4 |
| 25 | 4, 2 | 4, 3 | 4, 5 | 4, 7 | 4, 9 | 5, 2 | 5, 5 | 5, 7 | 6, 0 | 6, 4 | 6, 8 | 7, 2 | 7, 7 |
| 26 | 4, 0 | 4, 1 | 4, 3 | 4, 5 | 4, 7 | 4, 9 | 5, 2 | 5, 4 | 5, 7 | 6, 0 | 6, 3 | 6, 7 | 7, 1 |
| 27 | 3, 8 | 4, 0 | 4, 1 | 4, 3 | 4, 5 | 4, 7 | 4, 9 | 5, 1 | 5, 3 | 5, 6 | 5, 9 | 6, 2 | 6, 6 |
| 28 | 3, 7 | 3, 8 | 4, 0 | 4, 1 | 4, 3 | 4, 4 | 4, 6 | 4, 8 | 5, 0 | 5, 2 | 5, 5 | 5, 8 | 6, 2 |
| 29 | 3, 6 | 3, 7 | 3, 8 | 3, 9 | 4, 1 | 4, 2 | 4, 4 | 4, 5 | 4, 7 | 4, 9 | 5, 2 | 5, 5 | 5, 8 |
| 30 | 3, 4 | 3, 5 | 3, 6 | 3, 7 | 3, 9 | 4, 0 | 4, 2 | 4, 3 | 4, 5 | 4, 7 | 4, 9 | 5, 2 | 5, 5 |
| 31 | 3, 2 | 3, 3 | 3, 4 | 3, 6 | 3, 7 | 3, 8 | 4, 0 | 4, 1 | 4, 3 | 4, 4 | 4, 6 | 4, 8 | 5, 1 |
| 32 | 3, 1 | 3, 2 | 3, 3 | 3, 4 | 3, 5 | 3, 6 | 3, 8 | 3, 9 | 4, 1 | 4, 2 | 4, 4 | 4, 6 | 4, 8 |
| 33 | 3, 0 | 3, 1 | 3, 2 | 3, 3 | 3, 4 | 3, 5 | 3, 6 | 3, 7 | 3, 9 | 4, 0 | 4, 2 | 4, 4 | 4, 5 |
| 34 | 2, 9 | 3, 0 | 3, 1 | 3, 2 | 3, 3 | 3, 4 | 3, 5 | 3, 6 | 3, 7 | 3, 8 | 4, 0 | 4, 1 | 4, 3 |
| 35 | 2, 8 | 2, 8 | 2, 9 | 3, 0 | 3, 1 | 3, 2 | 3, 3 | 3, 4 | 3, 5 | 3, 7 | 3, 8 | 3, 9 | 4, 0 |
| 36 | 2, 7 | 2, 7 | 2, 8 | 2, 9 | 3, 0 | 3, 1 | 3, 2 | 3, 3 | 3, 4 | 3, 5 | 3, 6 | 3, 7 | 3, 8 |
| 37 | 2, 6 | 2, 6 | 2, 7 | 2, 8 | 2, 9 | 3, 0 | 3, 0 | 3, 1 | 3, 2 | 3, 3 | 3, 4 | 3, 5 | 3, 6 |
| 38 | 2, 5 | 2, 5 | 2, 6 | 2, 7 | 2, 8 | 2, 8 | 2, 9 | 3, 0 | 3, 0 | 3, 1 | 3, 2 | 3, 3 | 3, 4 |
| 39 | 2, 4 | 2, 4 | 2, 5 | 2, 6 | 2, 7 | 2, 7 | 2, 8 | 2, 8 | 2, 9 | 3, 0 | 3, 1 | 3, 2 | 3, 3 |
| 40 | 2, 3 | 2, 3 | 2, 4 | 2, 5 | 2, 6 | 2, 6 | 2, 7 | 2, 7 | 2, 8 | 2, 9 | 3, 0 | 3, 1 | 3, 1 |
| 41 | 2, 2 | 2, 3 | 2, 3 | 2, 4 | 2, 5 | 2, 5 | 2, 6 | 2, 6 | 2, 7 | 2, 8 | 2, 8 | 2, 9 | 3, 0 |
| 42 | 2, 2 | 2, 2 | 2, 3 | 2, 3 | 2, 4 | 2, 4 | 2, 5 | 2, 5 | 2, 6 | 2, 7 | 2, 8 | 2, 8 | 2, 9 |
| 43 | 2, 1 | 2, 1 | 2, 2 | 2, 2 | 2, 3 | 2, 3 | 2, 4 | 2, 4 | 2, 5 | 2, 5 | 2, 6 | 2, 7 | 2, 7 |
| 44 | 2, 0 | 2, 0 | 2, 1 | 2, 1 | 2, 2 | 2, 2 | 2, 3 | 2, 3 | 2, 4 | 2, 4 | 2, 5 | 2, 5 | 2, 6 |
| 45 | 1, 9 | 2, 0 | 2, 0 | 2, 1 | 2, 1 | 2, 1 | 2, 2 | 2, 2 | 2, 3 | 2, 3 | 2, 4 | 2, 4 | 2, 5 |
| 46 | 1, 9 | 1, 9 | 2, 0 | 2, 0 | 2, 0 | 2, 0 | 2, 1 | 2, 1 | 2, 2 | 2, 2 | 2, 3 | 2, 3 | 2, 4 |
| 47 | 1, 9 | 1, 9 | 1, 9 | 1, 9 | 1, 9 | 2, 0 | 2, 0 | 2, 0 | 2, 1 | 2, 1 | 2, 2 | 2, 2 | 2, 3 |
| 48 | 1, 8 | 1, 8 | 1, 8 | 1, 8 | 1, 9 | 1, 9 | 2, 0 | 2, 0 | 2, 0 | 2, 0 | 2, 1 | 2, 1 | 2, 2 |
| 49 | 1, 7 | 1, 7 | 1, 8 | 1, 8 | 1, 8 | 1, 8 | 1, 9 | 1, 9 | 1, 9 | 2, 0 | 2, 0 | 2, 0 | 2, 1 |
| 50 | 1, 7 | 1, 7 | 1, 7 | 1, 7 | 1, 8 | 1, 8 | 1, 8 | 1, 8 | 1, 9 | 1, 9 | 1, 9 | 2, 0 | 2, 0 |
| 51 | 1, 5 | 1, 6 | 1, 6 | 1, 6 | 1, 6 | 1, 7 | 1, 7 | 1, 7 | 1, 7 | 1, 7 | 1, 8 | 1, 8 | 1, 8 |
| 52 | 1, 4 | 1, 4 | 1, 5 | 1, 5 | 1, 5 | 1, 5 | 1, 6 | 1, 6 | 1, 6 | 1, 6 | 1, 6 | 1, 7 | 1, 7 |
| 53 | 1, 3 | 1, 3 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 5 | 1, 5 | 1, 5 | 1, 5 | 1, 5 | 1, 6 |
| 54 | 1, 2 | 1, 2 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 4 |
| 55 | 1, 1 | 1, 1 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 3 | 1, 3 | 1, 3 | 1, 3 |
| 56 | 1, 0 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 2 | 1, 2 | 1, 2 |
| 57 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 1 | 1, 1 | 1, 1 |
| 58 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 1, 0 | 1, 0 | 1, 0 |
| 59 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 9 | 0, 9 | 0, 9 | 0, 9 |
| 60 | 0, 7 | 0, 7 | 0, 7 | 0, 7 | 0, 7 | 0, 7 | 0, 7 | 0, 7 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 |

## C. T. XXIII. Differences between the Sun's Meridional Altitude, and its Altitude *One Minute* before, or after Noon.

| Latitude | Declination of the same Name as the Latitude. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13° | 14° | 15° | 16° | 17° | 18° | 19° | 20° | 21° | 22° | 23° | 24° |
| ° | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 0 | 8, 5 | 7, 9 | 7, 4 | 6, 9 | 6, 4 | 6, 0 | 5, 7 | 5, 4 | 5, 1 | 4, 9 | 4, 6 | 4, 4 |
| 1 | 9, 2 | 8, 5 | 7, 9 | 7, 3 | 6, 8 | 6, 4 | 6, 0 | 5, 6 | 5, 3 | 5, 1 | 4, 8 | 4, 6 |
| 2 | 10, 0 | 9, 2 | 8, 4 | 7, 8 | 7, 3 | 6, 8 | 6, 3 | 5, 9 | 5, 6 | 5, 3 | 5, 0 | 4, 8 |
| 3 | 11, 1 | 10, 0 | 9, 2 | 8, 4 | 7, 8 | 7, 2 | 6, 7 | 6, 3 | 5, 9 | 5, 6 | 5, 3 | 5, 0 |
| 4 | 12, 3 | 11, 0 | 9, 9 | 9, 1 | 8, 3 | 7, 7 | 7, 2 | 6, 7 | 6, 3 | 5, 9 | 5, 5 | 5, 2 |
| 5 | 13, 7 | 12, 2 | 10, 9 | 9, 8 | 9, 0 | 8, 2 | 7, 6 | 7, 1 | 6, 7 | 6, 2 | 5, 8 | 5, 5 |
| 6 | 15, 6 | 13, 6 | 12, 1 | 10, 8 | 9, 8 | 8, 9 | 8, 2 | 7, 6 | 7, 1 | 6, 6 | 6, 2 | 5, 8 |
| 7 | 18, 2 | 15, 5 | 13, 5 | 12, 0 | 10, 7 | 9, 7 | 8, 8 | 8, 2 | 7, 6 | 7, 0 | 6, 5 | [illegible] |
| 8 | 21, 7 | 18, 1 | 15, 4 | 13, 4 | 11, 9 | 10, 7 | 9, 7 | 8, 8 | 8, 1 | 7, 5 | [illegible] | [illegible] |
| 9 | 27, 1 | 21, 6 | 17, 9 | 15, 3 | 13, 3 | 11, 8 | 10, 6 | 9, 6 | 8, 7 | 8, 0 | [illegible] | [illegible] |
| 10 | 35, 9 | 26, 9 | 21, 4 | 17, 8 | 15, 2 | 13, 2 | 11, 7 | 10, 5 | 9, 5 | 8, 6 | [illegible] | [illegible] |
| 11 | 53, 8 | 35, 6 | 26, 7 | 21, 2 | 17, 6 | 15, 0 | 13, 1 | 11, 6 | 10, 4 | 9, 4 | 8, 5 | 7, 8 |
| 12 | * | 53, 4 | 35, 4 | 26, 5 | 21, 1 | 17, 5 | 14, 9 | 13, 0 | 11, 5 | 10, 3 | 9, 3 | 8, 4 |
| 13 | * | * | 52, 9 | 35, 1 | 26, 2 | 20, 9 | 17, 3 | 14, 7 | 12, 8 | 11, 3 | 10, 1 | 9, 1 |
| 14 | * | * | * | 52, 5 | 34, 8 | 26, 0 | 20, 7 | 17, 1 | 14, 6 | 12, 7 | 11, 1 | 9, 8 |
| 15 | 52, 9 | * | * | * | 51, 9 | 34, 4 | 25, 7 | 20, 4 | 16, 9 | 14, 4 | 12, 5 | 11, 0 |
| 16 | 35, 1 | 52, 5 | * | * | * | 51, 4 | 34, 0 | 25, 4 | 20, 2 | 16, 7 | 14, 2 | 12, 4 |
| 17 | 26, 2 | 34, 8 | 51, 9 | * | * | * | 50, 8 | 33, 6 | 25, 1 | 20, 0 | 16, 5 | 14, 0 |
| 18 | 20, 9 | 26, 0 | 34, 4 | 51, 4 | * | * | * | 50, 3 | 33, 3 | 24, 8 | 20, 7 | 16, 4 |
| 19 | 17, 3 | 20, 7 | 25, 7 | 34, 0 | 50, 8 | * | * | * | 49, 6 | 32, 8 | 24, 5 | 19, 4 |
| 20 | 14, 7 | 17, 1 | 20, 4 | 25, 4 | 33, 6 | 50, 3 | * | * | * | 49, 0 | 32, 4 | 24, 2 |
| 21 | 12, 8 | 14, 5 | 16, 9 | 20, 2 | 25, 1 | 33, 3 | 49, 6 | * | * | * | 48, 3 | 32, 0 |
| 22 | 11, 3 | 12, 6 | 14, 3 | 16, 8 | 20, 0 | 24, 8 | 32, 8 | 49, 0 | * | * | * | [illegible] |
| 23 | 10, 1 | 11, 1 | 12, 5 | 14, 2 | 16, 5 | 19, 7 | 24, 5 | 32, 4 | 48, 3 | * | * | * |
| 24 | 9, 2 | 10, 0 | 11, 1 | 12, 4 | 14, 0 | 16, 3 | 19, 4 | 24, 2 | 31, 9 | 47, 7 | * | * |
| 25 | 8, 3 | 9, 0 | 9, 9 | 11, 0 | 12, 3 | 13, 8 | 16, 1 | 19, 2 | 23, 8 | 31, 5 | 46, 9 | * |
| 26 | 7, 6 | 8, 2 | 9, 0 | 9, 8 | 10, 8 | 12, 1 | 13, 6 | 15, 9 | 18, 9 | 23, 5 | 31, [illegible] | [illegible] |
| 27 | 7, 0 | 7, 5 | 8, 1 | 8, 8 | 9, 6 | 10, 7 | 11, 9 | 13, 5 | 15, 6 | 18, 6 | 23, 1 | [illegible] |
| 28 | 6, 5 | 6, 9 | 7, 4 | 8, 0 | 8, 7 | 9, 5 | 10, 5 | 11, 7 | 13, 3 | 15, 4 | 18, 3 | 22, 7 |
| 29 | 6, 1 | 6, 5 | 6, 9 | 7, 3 | 7, 9 | 8, 6 | 9, 4 | 10, 3 | 11, 5 | 13, 1 | 15, 1 | 18, 0 |
| 30 | 5, 7 | 6, 0 | 6, 4 | 6, 8 | 7, 3 | 7, 8 | 8, 5 | 9, 2 | 10, 1 | 11, 3 | 12, 9 | 14, 9 |
| 31 | 5, 3 | 5, 6 | 5, 9 | 6, 3 | 6, 7 | 7, 1 | 7, 6 | 8, 3 | 9, 1 | 10, 0 | 11, 1 | [illegible] |
| 32 | 5, 0 | 5, 2 | 5, 5 | 5, 8 | 6, 2 | 6, 6 | 7, 0 | 7, 5 | 8, 2 | 8, 9 | 10, 4 | 10, 9 |
| 33 | 4, 7 | 4, 9 | 5, 1 | 5, 4 | 5, 7 | 6, 1 | 6, 5 | 6, 9 | 7, 4 | 8, 0 | 8, 7 | 9, 5 |
| 34 | 4, 4 | 4, 6 | 4, 8 | 5, 1 | 5, 3 | 5, 6 | 5, 9 | 6, 3 | 6, 8 | 7, 3 | 7, 9 | 8, 5 |
| 35 | 4, 2 | 4, 4 | 4, 6 | 4, 8 | 5, 0 | 5, 2 | 5, 5 | 5, 8 | 6, 2 | 6, 7 | 7, 2 | 7, 7 |
| 36 | 3, 9 | 4, 1 | 4, 3 | 4, 5 | 4, 7 | 4, 9 | 5, 1 | 5, 4 | 5, 7 | 6, 1 | 6, 5 | 7, 0 |
| 37 | 3, 7 | 3, 9 | 4, 0 | 4, 2 | 4, 4 | 4, 6 | 4, 8 | 5, 0 | 5, 3 | 5, 6 | 6, 0 | 6, 5 |
| 38 | 3, 5 | 3, 6 | 3, 8 | 4, 0 | 4, 1 | 4, 3 | 4, 5 | 4, 7 | 4, 9 | 5, 2 | 5, 6 | 6, 0 |
| 39 | 3, 4 | 3, 5 | 3, 6 | 3, 8 | 3, 9 | 4, 1 | 4, 2 | 4, 4 | 4, 6 | 4, 9 | 5, 1 | 5, 5 |
| 40 | 3, 2 | 3, 3 | 3, 4 | 3, 6 | 3, 7 | 3, 8 | 4, 0 | 4, 1 | 4, 3 | 4, 5 | 4, 7 | 5, 0 |
| 41 | 3, 1 | 3, 1 | 3, 2 | 3, 3 | 3, 5 | 3, 6 | 3, 7 | 3, 9 | 4, 0 | 4, 2 | 4, 5 | 4, 6 |
| 42 | 2, 9 | 3, 0 | 3, 0 | 3, 1 | 3, 3 | 3, 5 | 3, 6 | 3, 6 | 3, 8 | 4, 0 | 4, 2 | 4, 3 |
| 43 | 2, 8 | 2, 9 | 2, 9 | 3, 0 | 3, 2 | 3, 3 | 3, 4 | 3, 5 | 3, 6 | 3, 8 | 3, 9 | 4, 0 |
| 44 | 2, 7 | 2, 7 | 2, 8 | 2, 9 | 3, 0 | 3, 1 | 3, 2 | 3, 3 | 3, 4 | 3, 5 | 3, 6 | 3, 8 |
| 45 | 2, 5 | 2, 6 | 2, 7 | 2, 7 | 2, 8 | 2, 9 | 3, 0 | 3, 1 | 3, 2 | 3, 3 | 3, 4 | 3, 5 |
| 46 | 2, 4 | 2, 5 | 2, 5 | 2, 6 | 2, 7 | 2, 8 | 2, 9 | 3, 0 | 3, 0 | 3, 1 | 3, 2 | 3, 3 |
| 47 | 2, 3 | 2, 4 | 2, 4 | 2, 5 | 2, 6 | 2, 6 | 2, 7 | 2, 8 | 2, 8 | 2, 9 | 3, 0 | 3, 2 |
| 48 | 2, 2 | 2, 3 | 2, 3 | 2, 4 | 2, 4 | 2, 5 | 2, 6 | 2, 6 | 2, 7 | 2, 8 | 2, 9 | 3, 0 |
| 49 | 2, 1 | 2, 2 | 2, 2 | 2, 3 | 2, 3 | 2, 4 | 2, 4 | 2, 5 | 2, 6 | 2, 6 | 2, 7 | 2, 8 |
| 50 | 2, 0 | 2, 1 | 2, 1 | 2, 2 | 2, 2 | 2, 3 | 2, 3 | 2, 3 | 2, 4 | 2, 4 | 2, 5 | 2, 6 |
| 52 | 1, 9 | 1, 9 | 1, 9 | 2, 0 | 2, 0 | 2, 1 | 2, 1 | 2, 1 | 2, 2 | 2, 2 | 2, 3 | 2, 4 |
| 54 | 1, 7 | 1, 8 | 1, 8 | 1, 8 | 1, 8 | 1, 9 | 1, 9 | 2, 0 | 2, 0 | 2, 0 | 2, 1 | 2, 1 |
| 56 | 1, 6 | 1, 6 | 1, 6 | 1, 6 | 1, 7 | 1, 7 | 1, 8 | 1, 8 | 1, 8 | 1, 8 | 1, 9 | 1, 9 |
| 58 | 1, 4 | 1, 5 | 1, 5 | 1, 5 | 1, 5 | 1, 6 | 1, 6 | 1, 6 | 1, 6 | 1, 7 | 1, 7 | 1, 7 |
| 60 | 1, 3 | 1, 3 | 1, 3 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 5 | 1, 5 | 1, 5 | 1, [illegible] |
| 62 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 4 |
| 64 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 2 |
| 66 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 1 | 1, 1 | 1, 1 | 1, 1 |
| 68 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 1, 0 | 1, 0 | 1, 0 |
| 70 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 9 | 0, 9 | 0, 9 |

C. T. XXIII. Differences between the Sun's Meridional Altitude, and its Altitude *One Minute* before, or after Noon.

| Latitude | Declination of a contrary Name to the Latitude. | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0° | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° | 11° | 12° |
| | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| | | | | 37. 4 | 28. 1 | 22. 4 | 18. 7 | 16. 1 | 14. 1 | 12. 4 | 11. 1 | 10. 1 | 9. 2 |
| 1 | | | 37. 4 | 28. 1 | 22. 4 | 18. 7 | 16. 1 | 14. 1 | 12. 4 | 11. 1 | 10. 1 | 9. 2 | 8. 5 |
| 2 | | 37. 4 | 28. 1 | 22. 4 | 18. 7 | 16. 0 | 14. 0 | 12. 4 | 11. 2 | 10. 2 | 9. 3 | 8. 6 | 7. 9 |
| 3 | 37. 4 | 28. 1 | 22. 4 | 18. 7 | 16. 0 | 14. 0 | 12. 4 | 11. 2 | 10. 2 | 9. 3 | 8. 6 | 8. 0 | 7. 4 |
| 4 | 28. 1 | 22. 4 | 18. 7 | 16. 0 | 14. 0 | 12. 4 | 11. 2 | 10. 2 | 9. 3 | 8. 6 | 8. 0 | 7. 4 | 7. 0 |
| 5 | 22. 4 | 18. 7 | 16. 0 | 14. 0 | 12. 4 | 11. 2 | 10. 2 | 9. 3 | 8. 6 | 8. 0 | 7. 4 | 6. 9 | 6. 5 |
| 6 | 18. 7 | 16. 0 | 14. 0 | 12. 4 | 11. 2 | 10. 2 | 9. 3 | 8. 5 | 8. 0 | 7. 4 | 6. 9 | 6. 5 | 6. 1 |
| 7 | 16. 0 | 14. 0 | 12. 4 | 11. 2 | 10. 2 | 9. 3 | 8. 5 | 8. 0 | 7. 5 | 7. 0 | 6. 5 | 6. 2 | 5. 8 |
| 8 | 14. 0 | 12. 4 | 11. 2 | 10. 2 | 9. 3 | 8. 5 | 8. 0 | 7. 5 | 7. 0 | 6. 6 | 6. 2 | 5. 9 | 5. 6 |
| 9 | 12. 4 | 11. 2 | 10. 2 | 9. 3 | 8. 5 | 8. 0 | 7. 5 | 7. 0 | 6. 6 | 6. 2 | 5. 9 | 5. 6 | 5. 3 |
| 10 | 11. 2 | 10. 2 | 9. 3 | 8. 5 | 8. 0 | 7. 5 | 7. 0 | 6. 6 | 6. 2 | 5. 9 | 5. 6 | 5. 3 | 5. 0 |
| 11 | 10. 2 | 9. 2 | 8. 5 | 8. 0 | 7. 5 | 7. 0 | 6. 6 | 6. 2 | 5. 9 | 5. 6 | 5. 3 | 5. 1 | 4. 8 |
| 12 | 9. 3 | 8. 5 | 7. 9 | 7. 4 | 7. 0 | 6. 6 | 6. 2 | 5. 9 | 5. 6 | 5. 3 | 5. 1 | 4. 9 | 4. 6 |
| 13 | 8. 5 | 7. 9 | 7. 4 | 6. 9 | 6. 5 | 6. 2 | 5. 9 | 5. 6 | 5. 3 | 5. 1 | 4. 9 | 4. 6 | 4. 4 |
| 14 | 7. 9 | 7. 4 | 6. 9 | 6. 5 | 6. 1 | 5. 8 | 5. 6 | 5. 3 | 5. 1 | 4. 9 | 4. 6 | 4. 4 | 4. 2 |
| 15 | 7. 4 | 6. 9 | 6. 5 | 6. 1 | 5. 8 | 5. 5 | 5. 3 | 5. 0 | 4. 9 | 4. 6 | 4. 4 | 4. 2 | 4. 0 |
| 16 | 6. 9 | 6. 5 | 6. 1 | 5. 8 | 5. 5 | 5. 3 | 5. 0 | 4. 8 | 4. 6 | 4. 4 | 4. 2 | 4. 0 | 3. 9 |
| 17 | 6. 4 | 6. 1 | 5. 8 | 5. 5 | 5. 2 | 5. 0 | 4. 8 | 4. 6 | 4. 4 | 4. 2 | 4. 0 | 3. 9 | 3. 7 |
| 18 | 6. 0 | 5. 8 | 5. 5 | 5. 2 | 4. 9 | 4. 8 | 4. 6 | 4. 4 | 4. 2 | 4. 0 | 3. 9 | 3. 7 | 3. 6 |
| 19 | 5. 7 | 5. 5 | 5. 2 | 4. 9 | 4. 7 | 4. 6 | 4. 4 | 4. 2 | 4. 0 | 3. 9 | 3. 7 | 3. 6 | 3. 5 |
| 20 | 5. 4 | 5. 2 | 4. 9 | 4. 7 | 4. 5 | 4. 4 | 4. 2 | 4. 1 | 3. 9 | 3. 7 | 3. 6 | 3. 5 | 3. 4 |
| 21 | 5. 1 | 4. 9 | 4. 7 | 4. 5 | 4. 3 | 4. 2 | 4. 0 | 3. 9 | 3. 7 | 3. 6 | 3. 5 | 3. 4 | 3. 3 |
| 22 | 4. 9 | 4. 7 | 4. 5 | 4. 3 | 4. 2 | 4. 1 | 3. 9 | 3. 7 | 3. 6 | 3. 5 | 3. 4 | 3. 3 | 3. 2 |
| 23 | 4. 6 | 4. 4 | 4. 3 | 4. 1 | 4. 0 | 3. 9 | 3. 7 | 3. 6 | 3. 5 | 3. 4 | 3. 3 | 3. 2 | 3. 1 |
| 24 | 4. 4 | 4. 2 | 4. 1 | 4. 0 | 3. 8 | 3. 7 | 3. 6 | 3. 5 | 3. 4 | 3. 3 | 3. 2 | 3. 1 | 3. 0 |
| 25 | 4. 2 | 4. 0 | 3. 9 | 3. 8 | 3. 6 | 3. 5 | 3. 4 | 3. 4 | 3. 3 | 3. 2 | 3. 1 | 3. 0 | 2. 9 |
| 26 | 4. 0 | 3. 9 | 3. 8 | 3. 6 | 3. 5 | 3. 4 | 3. 3 | 3. 2 | 3. 2 | 3. 1 | 3. 0 | 2. 9 | 2. 8 |
| 27 | 3. 8 | 3. 7 | 3. 6 | 3. 5 | 3. 4 | 3. 3 | 3. 2 | 3. 1 | 3. 0 | 3. 0 | 2. 9 | 2. 8 | 2. 7 |
| 28 | 3. 7 | 3. 6 | 3. 5 | 3. 4 | 3. 3 | 3. 2 | 3. 1 | 3. 0 | 2. 9 | 2. 8 | 2. 8 | 2. 7 | 2. 6 |
| 29 | 3. 5 | 3. 4 | 3. 4 | 3. 3 | 3. 2 | 3. 1 | 3. 0 | 2. 9 | 2. 8 | 2. 7 | 2. 7 | 2. 6 | 2. 6 |
| 30 | 3. 4 | 3. 3 | 3. 2 | 3. 1 | 3. 0 | 3. 0 | 2. 9 | 2. 8 | 2. 7 | 2. 6 | 2. 6 | 2. 6 | 2. 5 |
| 31 | 3. 3 | 3. 2 | 3. 1 | 3. 0 | 2. 9 | 2. 8 | 2. 8 | 2. 7 | 2. 6 | 2. 6 | 2. 5 | 2. 5 | 2. 5 |
| 32 | 3. 1 | 3. 1 | 3. 0 | 2. 9 | 2. 8 | 2. 7 | 2. 7 | 2. 6 | 2. 6 | 2. 5 | 2. 5 | 2. 4 | 2. 4 |
| 33 | 3. 0 | 3. 0 | 2. 9 | 2. 8 | 2. 7 | 2. 6 | 2. 6 | 2. 5 | 2. 5 | 2. 5 | 2. 4 | 2. 4 | 2. 3 |
| 34 | 2. 9 | 2. 9 | 2. 8 | 2. 7 | 2. 6 | 2. 5 | 2. 5 | 2. 5 | 2. 4 | 2. 4 | 2. 3 | 2. 3 | 2. 2 |
| 35 | 2. 8 | 2. 8 | 2. 7 | 2. 6 | 2. 5 | 2. 5 | 2. 4 | 2. 4 | 2. 4 | 2. 3 | 2. 2 | 2. 2 | 2. 2 |
| 36 | 2. 7 | 2. 7 | 2. 6 | 2. 5 | 2. 5 | 2. 4 | 2. 4 | 2. 3 | 2. 3 | 2. 2 | 2. 2 | 2. 2 | 2. 1 |
| 37 | 2. 6 | 2. 5 | 2. 5 | 2. 4 | 2. 4 | 2. 3 | 2. 3 | 2. 3 | 2. 2 | 2. 2 | 2. 1 | 2. 1 | 2. 1 |
| 38 | 2. 5 | 2. 4 | 2. 4 | 2. 4 | 2. 3 | 2. 3 | 2. 2 | 2. 2 | 2. 1 | 2. 1 | 2. 1 | 2. 0 | 2. 0 |
| 39 | 2. 4 | 2. 3 | 2. 3 | 2. 3 | 2. 2 | 2. 2 | 2. 2 | 2. 2 | 2. 1 | 2. 1 | 2. 0 | 2. 0 | 2. 0 |
| 40 | 2. 3 | 2. 3 | 2. 2 | 2. 2 | 2. 2 | 2. 2 | 2. 1 | 2. 1 | 2. 0 | 2. 0 | 2. 0 | 1. 9 | 1. 9 |
| 41 | 2. 2 | 2. 2 | 2. 2 | 2. 1 | 2. 1 | 2. 1 | 2. 1 | 2. 1 | 2. 0 | 2. 0 | 1. 9 | 1. 9 | 1. 9 |
| 42 | 2. 1 | 2. 1 | 2. 1 | 2. 1 | 2. 0 | 2. 0 | 2. 0 | 1. 9 | 1. 9 | 1. 9 | 1. 8 | 1. 8 | 1. 8 |
| 43 | 2. 1 | 2. 0 | 2. 0 | 2. 0 | 2. 0 | 1. 9 | 1. 9 | 1. 9 | 1. 9 | 1. 8 | 1. 7 | 1. 8 | 1. 8 |
| 44 | 2. 0 | 1. 9 | 1. 9 | 1. 9 | 1. 9 | 1. 9 | 1. 8 | 1. 8 | 1. 8 | 1. 7 | 1. 7 | 1. 7 | 1. 7 |
| 45 | 1. 9 | 1. 9 | 1. 9 | 1. 9 | 1. 9 | 1. 8 | 1. 8 | 1. 8 | 1. 7 | 1. 7 | 1. 7 | 1. 6 | 1. 6 |
| 46 | 1. 9 | 1. 9 | 1. 8 | 1. 8 | 1. 8 | 1. 8 | 1. 7 | 1. 7 | 1. 7 | 1. 7 | 1. 6 | 1. 6 | 1. 6 |
| 47 | 1. 8 | 1. 8 | 1. 8 | 1. 8 | 1. 8 | 1. 7 | 1. 7 | 1. 7 | 1. 7 | 1. 6 | 1. 6 | 1. 6 | 1. 5 |
| 48 | 1. 8 | 1. 8 | 1. 7 | 1. 7 | 1. 7 | 1. 7 | 1. 6 | 1. 6 | 1. 6 | 1. 6 | 1. 5 | 1. 5 | 1. 5 |
| 49 | 1. 7 | 1. 7 | 1. 7 | 1. 7 | 1. 6 | 1. 6 | 1. 6 | 1. 6 | 1. 5 | 1. 5 | 1. 5 | 1. 5 | 1. 4 |
| 50 | 1. 6 | 1. 6 | 1. 6 | 1. 6 | 1. 6 | 1. 5 | 1. 5 | 1. 5 | 1. 5 | 1. 4 | 1. 4 | 1. 4 | 1. 4 |
| 51 | 1. 5 | 1. 5 | 1. 5 | 1. 5 | 1. 5 | 1. 5 | 1. 4 | 1. 4 | 1. 4 | 1. 4 | 1. 4 | 1. 3 | 1. 3 |
| 52 | 1. 4 | 1. 4 | 1. 4 | 1. 4 | 1. 4 | 1. 4 | 1. 3 | 1. 3 | 1. 3 | 1. 3 | 1. 3 | 1. 2 | 1. 2 |
| 53 | 1. 3 | 1. 3 | 1. 3 | 1. 3 | 1. 3 | 1. 3 | 1. 2 | 1. 2 | 1. 2 | 1. 2 | 1. 2 | 1. 2 | 1. 2 |
| 54 | 1. 2 | 1. 2 | 1. 2 | 1. 2 | 1. 2 | 1. 2 | 1. 2 | 1. 1 | 1. 1 | 1. 1 | 1. 1 | 1. 1 | 1. 1 |
| 55 | 1. 1 | 1. 1 | 1. 1 | 1. 1 | 1. 1 | 1. 1 | 1. 1 | 1. 1 | 1. 1 | 1. 0 | 1. 0 | 1. 0 | 1. 0 |
| 56 | 1. 0 | 1. 0 | 1. 0 | 1. 0 | 1. 0 | 1. 0 | 1. 0 | 1. 0 | 1. 0 | 1. 0 | 1. 0 | 1. 0 | 0. 9 |
| 57 | 1. 0 | 1. 0 | 0. 9 | 0. 9 | 0. 9 | 0. 9 | 0. 9 | 0. 9 | 0. 9 | 0. 9 | 0. 9 | 0. 9 | 0. 9 |
| 58 | 0. 9 | 0. 9 | 0. 9 | 0. 9 | 0. 9 | 0. 8 | 0. 8 | 0. 8 | 0. 8 | 0. 8 | 0. 8 | 0. 8 | 0. 8 |
| 59 | 0. 8 | 0. 8 | 0. 8 | 0. 8 | 0. 8 | 0. 8 | 0. 8 | 0. 8 | 0. 8 | 0. 7 | 0. 7 | 0. 7 | 0. 7 |
| 60 | 0. 7 | 0. 7 | 0. 7 | 0. 7 | 0. 7 | 0. 7 | 0. 7 | 0. 7 | 0. 7 | 0. 7 | 0. 7 | 0. 7 | 0. 7 |

## C. T. XXIII. Differences between the Sun's Meridional Altitude, and its Altitude *One Minute* before, or after Noon.

| Latitude | Declination of a contrary Name to the Latitude. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13° | 14° | 15° | 16° | 17° | 18° | 19° | 20° | 21° | 22° | 23° | 24° |
| ° | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 0 | 8, 5 | 7, 9 | 7, 4 | 6, 9 | 6, 4 | 6, 0 | 5, 7 | 5, 4 | 5, 1 | 4, 9 | 4, 6 | 4, 4 |
| 1 | 7, 9 | 7, 4 | 7, 0 | 6, 5 | 6, 1 | 5, 7 | 5, 4 | 5, 2 | 4, 9 | 4, 7 | 4, 4 | 4, 2 |
| 2 | 7, 4 | 7, 0 | 6, 6 | 6, 2 | 5, 8 | 5, 5 | 5, 2 | 5, 0 | 4, 7 | 4, 5 | 4, 3 | 4, 1 |
| 3 | 7, 0 | 6, 6 | 6, 2 | 5, 8 | 5, 5 | 5, 2 | 5, 0 | 4, 7 | 4, 5 | 4, 3 | 4, 1 | 3, 9 |
| 4 | 6, 6 | 6, 2 | 5, 9 | 5, 5 | 5, 2 | 5, 0 | 4, 7 | 4, 5 | 4, 3 | 4, 1 | 3, 9 | 3, 8 |
| 5 | 6, 2 | 5, 8 | 5, 5 | 5, 2 | 5, 0 | 4, 7 | 4, 5 | 4, 3 | 4, 1 | 4, 0 | 3, 8 | 3, 7 |
| 6 | 5, 9 | 5, 5 | 5, 2 | 4, 9 | 4, 7 | 4, 5 | 4, 4 | 4, 2 | 4, 0 | 3, 9 | 3, 7 | 3, 6 |
| 7 | 5, 5 | 5, 2 | 5, 0 | 4, 7 | 4, 5 | 4, 4 | 4, 2 | 4, 0 | 3, 9 | 3, 8 | 3, 6 | 3, 5 |
| 8 | 5, 2 | 5, 0 | 4, 8 | 4, 6 | 4, 4 | 4, 2 | 4, 1 | 3, 9 | 3, 8 | 3, 6 | 3, 5 | 3, 4 |
| 9 | 5, 0 | 4, 8 | 4, 6 | 4, 4 | 4, 2 | 4, 0 | 3, 9 | 3, 8 | 3, 6 | 3, 5 | 3, 4 | 3, 3 |
| 10 | 4, 8 | 4, 6 | 4, 4 | 4, 2 | 4, 0 | 3, 9 | 3, 8 | 3, 6 | 3, 5 | 3, 4 | 3, 3 | 3, 2 |
| 11 | 4, 6 | 4, 4 | 4, 2 | 4, 0 | 3, 9 | 3, 8 | 3, 7 | 3, 5 | 3, 4 | 3, 3 | 3, 2 | 3, 1 |
| 12 | 4, 4 | 4, 3 | 4, 1 | 3, 9 | 3, 8 | 3, 7 | 3, 6 | 3, 4 | 3, 3 | 3, 2 | 3, 1 | 3, 0 |
| 13 | 4, 2 | 4, 1 | 3, 9 | 3, 8 | 3, 7 | 3, 6 | 3, 4 | 3, 3 | 3, 2 | 3, 1 | 3, 0 | 2, 9 |
| 14 | 4, 0 | 3, 9 | 3, 8 | 3, 7 | 3, 6 | 3, 4 | 3, 3 | 3, 2 | 3, 1 | 3, 0 | 2, 9 | 2, 8 |
| 15 | 3, 9 | 3, 8 | 3, 7 | 3, 5 | 3, 4 | 3, 3 | 3, 2 | 3, 1 | 3, 0 | 3, 0 | 2, 9 | 2, 8 |
| 16 | 3, 8 | 3, 7 | 3, 5 | 3, 4 | 3, 3 | 3, 2 | 3, 1 | 3, 0 | 3, 0 | 2, 9 | 2, 8 | 2, 7 |
| 17 | 3, 6 | 3, 5 | 3, 4 | 3, 3 | 3, 2 | 3, 1 | 3, 0 | 3, 0 | 2, 9 | 2, 8 | 2, 7 | 2, 7 |
| 18 | 3, 5 | 3, 4 | 3, 3 | 3, 2 | 3, 1 | 3, 0 | 3, 0 | 2, 9 | 2, 8 | 2, 7 | 2, 7 | 2, 6 |
| 19 | 3, 4 | 3, 3 | 3, 2 | 3, 1 | 3, 0 | 3, 0 | 2, 9 | 2, 8 | 2, 7 | 2, 7 | 2, 6 | 2, 5 |
| 20 | 3, 3 | 3, 2 | 3, 1 | 3, 0 | 2, 9 | 2, 9 | 2, 8 | 2, 7 | 2, 7 | 2, 6 | 2, 5 | 2, 4 |
| 21 | 3, 2 | 3, 1 | 3, 0 | 3, 0 | 2, 9 | 2, 8 | 2, 7 | 2, 7 | 2, 6 | 2, 5 | 2, 4 | 2, 4 |
| 22 | 3, 1 | 3, 0 | 3, 0 | 2, 9 | 2, 8 | 2, 7 | 2, 7 | 2, 6 | 2, 5 | 2, 4 | 2, 4 | 2, 3 |
| 23 | 3, 0 | 2, 9 | 2, 9 | 2, 8 | 2, 7 | 2, 7 | 2, 6 | 2, 5 | 2, 5 | 2, 4 | 2, 3 | 2, 3 |
| 24 | 2, 9 | 2, 8 | 2, 8 | 2, 7 | 2, 7 | 2, 6 | 2, 5 | 2, 4 | 2, 4 | 2, 3 | 2, 3 | 2, 2 |
| 25 | 2, 8 | 2, 7 | 2, 7 | 2, 6 | 2, 6 | 2, 5 | 2, 4 | 2, 4 | 2, 3 | 2, 3 | 2, 2 | 2, 2 |
| 26 | 2, 7 | 2, 7 | 2, 6 | 2, 5 | 2, 5 | 2, 4 | 2, 4 | 2, 3 | 2, 3 | 2, 2 | 2, 2 | 2, 1 |
| 27 | 2, 6 | 2, 6 | 2, 5 | 2, 5 | 2, 4 | 2, 4 | 2, 3 | 2, 3 | 2, 2 | 2, 2 | 2, 1 | 2, 1 |
| 28 | 2, 6 | 2, 5 | 2, 5 | 2, 4 | 2, 4 | 2, 3 | 2, 3 | 2, 2 | 2, 2 | 2, 1 | 2, 1 | 2, 0 |
| 29 | 2, 5 | 2, 5 | 2, 4 | 2, 4 | 2, 3 | 2, 3 | 2, 2 | 2, 2 | 2, 1 | 2, 1 | 2, 0 | 2, 0 |
| 30 | 2, 5 | 2, 4 | 2, 4 | 2, 3 | 2, 3 | 2, 2 | 2, 2 | 2, 1 | 2, 1 | 2, 0 | 2, 0 | 2, 0 |
| 31 | 2, 4 | 2, 3 | 2, 3 | 2, 2 | 2, 2 | 2, 2 | 2, 1 | 2, 1 | 2, 0 | 2, 0 | 2, 0 | 1, 9 |
| 32 | 2, 3 | 2, 3 | 2, 2 | 2, 2 | 2, 1 | 2, 1 | 2, 1 | 2, 0 | 2, 0 | 1, 9 | 1, 9 | 1, 8 |
| 33 | 2, 3 | 2, 2 | 2, 2 | 2, 1 | 2, 1 | 2, 1 | 2, 0 | 2, 0 | 1, 9 | 1, 9 | 1, 8 | 1, 8 |
| 34 | 2, 2 | 2, 1 | 2, 1 | 2, 1 | 2, 0 | 2, 0 | 2, 0 | 1, 9 | 1, 9 | 1, 8 | 1, 8 | 1, 8 |
| 35 | 2, 1 | 2, 1 | 2, 1 | 2, 0 | 2, 0 | 2, 0 | 1, 9 | 1, 9 | 1, 9 | 1, 8 | 1, 8 | 1, 7 |
| 36 | 2, 1 | 2, 0 | 2, 0 | 1, 9 | 1, 9 | 1, 9 | 1, 9 | 1, 8 | 1, 8 | 1, 7 | 1, 7 | 1, 7 |
| 37 | 2, 0 | 2, 0 | 1, 9 | 1, 9 | 1, 9 | 1, 9 | 1, 8 | 1, 8 | 1, 7 | 1, 7 | 1, 7 | 1, 6 |
| 38 | 2, 0 | 1, 9 | 1, 9 | 1, 8 | 1, 8 | 1, 8 | 1, 8 | 1, 7 | 1, 7 | 1, 7 | 1, 6 | 1, 6 |
| 39 | 1, 9 | 1, 9 | 1, 8 | 1, 8 | 1, 8 | 1, 8 | 1, 7 | 1, 7 | 1, 7 | 1, 6 | 1, 6 | 1, 6 |
| 40 | 1, 9 | 1, 8 | 1, 8 | 1, 8 | 1, 8 | 1, 7 | 1, 7 | 1, 7 | 1, 6 | 1, 6 | 1, 5 | 1, 5 |
| 41 | 1, 8 | 1, 8 | 1, 8 | 1, 8 | 1, 7 | 1, 7 | 1, 7 | 1, 6 | 1, 6 | 1, 6 | 1, 5 | 1, 5 |
| 42 | 1, 8 | 1, 7 | 1, 7 | 1, 7 | 1, 7 | 1, 6 | 1, 6 | 1, 6 | 1, 5 | 1, 5 | 1, 5 | 1, 5 |
| 43 | 1, 7 | 1, 7 | 1, 7 | 1, 7 | 1, 6 | 1, 6 | 1, 5 | 1, 5 | 1, 5 | 1, 5 | 1, 5 | 1, 4 |
| 44 | 1, 6 | 1, 6 | 1, 6 | 1, 6 | 1, 6 | 1, 5 | 1, 5 | 1, 5 | 1, 5 | 1, 4 | 1, 4 | 1, 4 |
| 45 | 1, 6 | 1, 6 | 1, 6 | 1, 6 | 1, 5 | 1, 5 | 1, 5 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 4 |
| 46 | 1, 6 | 1, 5 | 1, 5 | 1, 5 | 1, 5 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 3 | 1, 3 |
| 47 | 1, 5 | 1, 5 | 1, 5 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 3 | 1, 3 | 1, 3 |
| 48 | 1, 5 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 3 |
| 49 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 4 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 2 | 1, 2 |
| 50 | 1, 4 | 1, 4 | 1, 4 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 2 | 1, 2 | 1, 2 |
| 52 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 3 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 1 | 1, 1 |
| 54 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 2 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 |
| 56 | 1, 2 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 1 | 1, 0 | 1, 0 |
| 58 | 1, 1 | 1, 1 | 1, 1 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 |
| 60 | 1, 1 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 1, 0 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 |
| 62 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 | 0, 9 |
| 64 | 0, 9 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 |
| 66 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 8 | 0, 7 | 0, 7 | | |
| 68 | 0, 7 | 0, 7 | 0, 7 | 0, 7 | 0, 7 | 0, 7 | 0, 7 | 0, 7 | | | | |
| 70 | 0, 7 | 0, 7 | 0, 7 | 0, 7 | 0, 6 | 0, 6 | | | | | | |

| s | Interval between Noon and the Time of Observation. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | $0^m$ | $1^m$ | $2^m$ | $3^m$ | $4^m$ | $5^m$ | $6^m$ | $7^m$ | $8^m$ | $9^m$ | $10^m$ |
| 0 | 0, 0 | 1, 0 | 4, 0 | 9, 0 | 16, 0 | 25, 0 | 36, 0 | 49, 0 | 64, 0 | 81, 0 | 100, 0 |
| 1 | 0, 0 | 1, 0 | 4, 1 | 9, 1 | 16, 1 | 25, 2 | 36, 2 | 49, 2 | 64, 3 | 81, 3 | 100, 3 |
| 2 | 0, 0 | 1, 1 | 4, 1 | 9, 2 | 16, 2 | 25, 3 | 36, 4 | 49, 5 | 64, 5 | 81, 6 | 100, 7 |
| 3 | 0, 0 | 1, 1 | 4, 2 | 9, 3 | 16, 4 | 25, 5 | 36, 6 | 49, 7 | 64, 8 | 81, 9 | 101, 0 |
| 4 | 0, 0 | 1, 1 | 4, 3 | 9, 4 | 16, 5 | 25, 7 | 36, 8 | 49, 9 | 65, 1 | 82, 2 | 101, 3 |
| 5 | 0, 0 | 1, 2 | 4, 3 | 9, 5 | 16, 7 | 25, 8 | 37, 0 | 50, 2 | 65, 3 | 82, 5 | 101, 7 |
| 6 | 0. 0 | 1, 2 | 4, 4 | 9, 6 | 16, 8 | 26, 0 | 37, 2 | 50, 4 | 65, 6 | 82, 8 | 102, 0 |
| 7 | 0, 0 | 1, 3 | 4, 5 | 9, 7 | 16, 9 | 26, 2 | 37, 4 | 50, 6 | 65, 9 | 83, 1 | 102, 3 |
| 8 | 0, 0 | 1, 3 | 4, 6 | 9, 8 | 17, 1 | 26, 3 | 37, 6 | 50, 9 | 66, 1 | 83, 4 | 102, 7 |
| 9 | 0, 0 | 1, 3 | 4, 6 | 9, 9 | 17. 2 | 26, 5 | 37, 8 | 51, 1 | 66, 4 | 83, 7 | 103, 0 |
| 10 | 0, 0 | 1, 4 | 4, 7 | 10, 0 | 17, 4 | 26, 7 | 38, 0 | 51, 4 | 66, 7 | 84, 0 | 103, 4 |
| 11 | 0, 0 | 1, 4 | 4, 8 | 10, 1 | 17, 5 | 26, 9 | 38, 2 | 51, 6 | 67, 0 | 84, 3 | 103, 7 |
| 12 | 0, 0 | 1, 4 | 4, 8 | 10, 2 | 17, 6 | 27, 0 | 38, 4 | 51, 8 | 67, 2 | 84, 6 | 104, 0 |
| 13 | 0, 0 | 1, 5 | 4, 9 | 10, 3 | 17, 8 | 27, 2 | 38, 6 | 52, 1 | 67, 5 | 84, 9 | 104, 4 |
| 14 | 0, 1 | 1, 5 | 5, 0 | 10, 4 | 17, 9 | 27, 4 | 38, 8 | 52, 3 | 67, 8 | 85, 3 | 104, 7 |
| 15 | 0, 1 | 1, 6 | 5, 1 | 10, 6 | 18, 1 | 27, 6 | 39, 0 | 52, 5 | 68, 1 | 85, 6 | 105, 1 |
| 16 | 0, 1 | 1, 6 | 5, 1 | 10, 7 | 18, 2 | 27, 7 | 39, 3 | 52, 8 | 68, 3 | 85, 9 | 105, 4 |
| 17 | 0, 1 | 1, 6 | 5, 2 | 10, 8 | 18, 3 | 27, 9 | 39, 5 | 53, 1 | 68, 6 | 86, 2 | 105, 7 |
| 18 | 0, 1 | 1, 7 | 5, 3 | 10, 9 | 18, 5 | 28, 1 | 39, 7 | 53, 3 | 68, 9 | 86, 5 | 106, 1 |
| 19 | 0, 1 | 1, 7 | 5, 4 | 11, 0 | 18, 6 | 28, 3 | 39, 9 | 53, 5 | 69, 2 | 86, 8 | 106, 4 |
| 20 | 0, 1 | 1, 8 | 5, 4 | 11, 1 | 18, 8 | 28, 4 | 40, 1 | 53, 8 | 69, 4 | 87, 1 | 106, 8 |
| 21 | 0, 1 | 1, 8 | 5, 5 | 11, 2 | 18, 9 | 28, 6 | 40, 3 | 54, 0 | 69, 7 | 87, 4 | 107, 1 |
| 22 | 0, 1 | 1, 9 | 5, 6 | 11, 3 | 19, 1 | 28, 8 | 40, 5 | 54, 3 | 70, 0 | 87, 7 | 107, 5 |
| 23 | 0, 1 | 1, 9 | 5, 7 | 11, 4 | 19, 2 | 29, 0 | 40, 7 | 54, 5 | 70, 3 | 88, 0 | 107, 8 |
| 24 | 0, 2 | 2, 0 | 5, 8 | 11, 6 | 19, 4 | 29, 2 | 41, 0 | 54, 8 | 70, 6 | 88, 4 | 108, 2 |
| 25 | 0, 2 | 2, 0 | 5, 8 | 11, 7 | 19, 5 | 29, 3 | 41, 2 | 55, 0 | 70, 8 | 88, 7 | 108, 5 |
| 26 | 0, 2 | 2, 1 | 5, 9 | 11, 8 | 19, 7 | 29, 5 | 41, 4 | 55, 3 | 71, 1 | 89, 0 | 108, 9 |
| 27 | 0, 2 | 2, 1 | 6, 0 | 11, 9 | 19, 8 | 29, 7 | 41, 6 | 55, 5 | 71, 4 | 89, 3 | 109, 2 |
| 28 | 0, 2 | 2, 2 | 6, 1 | 12, 0 | 19, 9 | 29, 9 | 41, 8 | 55, 8 | 71, 7 | 89, 6 | 109, 6 |
| 29 | 0. 2 | 2, 2 | 6, 2 | 12, 1 | 20, 1 | 30, 1 | 42, 0 | 56, 0 | 72, 0 | 89, 9 | 109, 9 |
| 30 | 0, 3 | 2, 3 | 6, 3 | 12, 3 | 20, 3 | 30, 3 | 42, 3 | 56, 3 | 72, 3 | 90, 3 | 110, 3 |
| 31 | 0, 3 | 2, 3 | 6, 3 | 12, 4 | 20, 4 | 30, 4 | 42, 5 | 56, 5 | 72, 5 | 90, 6 | 110, 6 |
| 32 | 0, 3 | 2, 4 | 6, 4 | 12, 5 | 20, 5 | 30, 6 | 42, 7 | 56, 7 | 72, 8 | 90, 9 | 111, 0 |
| 33 | 0, 3 | 2, 4 | 6, 5 | 12, 6 | 20, 7 | 30, 8 | 42, 9 | 57, 0 | 73, 1 | 91, 2 | 111, 3 |
| 34 | 0, 3 | 2, 5 | 6, 6 | 12, 7 | 20, 8 | 31, 0 | 43, 1 | 57, 3 | 73, 4 | 91, 5 | 111, 7 |
| 35 | 0, 3 | 2, 5 | 6, 7 | 12, 8 | 21, 0 | 31, 2 | 43, 3 | 57, 5 | 73, 7 | 91, 8 | 112, 0 |
| 36 | 0, 4 | 2, 6 | 6, 8 | 13, 0 | 21, 2 | 31, 4 | 43, 6 | 57, 8 | 74, 0 | 92, 2 | 112, 4 |
| 37 | 0, 4 | 2, 6 | 6, 9 | 13, 1 | 21, 3 | 31, 5 | 43, 8 | 58, 0 | 74, 3 | 92, 5 | 112, 7 |
| 38 | 0, 4 | 2, 7 | 6, 9 | 13, 2 | 21, 5 | 31, 7 | 44, 0 | 58, 3 | 74, 5 | 92, 8 | 113, 1 |
| 39 | 0, 4 | 2, 7 | 7, 0 | 13, 3 | 21, 6 | 31, 9 | 44, 2 | 58, 5 | 74, 8 | 93, 1 | 113, 4 |
| 40 | 0, 4 | 2, 8 | 7, 1 | 13, 4 | 21, 8 | 32, 1 | 44, 4 | 58, 8 | 75, 1 | 93, 4 | 113, 8 |
| 41 | 0, 5 | 2, 8 | 7, 2 | 13, 6 | 21, 9 | 32, 3 | 44, 7 | 59, 0 | 75, 4 | 93, 8 | 114, 1 |
| 42 | 0, 5 | 2, 9 | 7, 3 | 13, 7 | 22, 1 | 32, 5 | 44, 9 | 59, 3 | 75, 7 | 94, 1 | 114, 5 |
| 43 | 0, 5 | 2, 9 | 7, 4 | 13, 8 | 22, 2 | 32, 7 | 45, 1 | 59, 5 | 76, 0 | 94, 4 | 114, 8 |
| 44 | 0, 5 | 3, 0 | 7, 5 | 13, 9 | 22, 4 | 32, 9 | 45, 3 | 59, 8 | 76, 3 | 94, 7 | 115, 2 |
| 45 | 0, 6 | 3, 1 | 7, 6 | 14, 1 | 22, 6 | 33, 1 | 45, 5 | 60, 0 | 76, 6 | 95, 1 | 115, 6 |
| 46 | 0, 6 | 3, 1 | 7, 7 | 14, 2 | 22, 7 | 33, 3 | 45, 8 | 60, 3 | 76, 8 | 95, 4 | 115, 9 |
| 47 | 0, 6 | 3, 2 | 7, 7 | 14, 3 | 22, 9 | 33, 4 | 46, 0 | 60, 6 | 77, 1 | 95, 7 | 116, 3 |
| 48 | 0, 6 | 3, 2 | 7, 8 | 14, 4 | 23, 0 | 33, 6 | 46, 2 | 60, 8 | 77, 4 | 96, 0 | 116, 6 |
| 49 | 0, 7 | 3, 3 | 7, 9 | 14, 6 | 23, 2 | 33, 8 | 46, 5 | 61, 1 | 77, 7 | 96, 4 | 117, 0 |
| 50 | 0, 7 | 3, 4 | 8, 0 | 14, 7 | 23, 4 | 34, 0 | 46, 7 | 61, 4 | 78, 0 | 96, 7 | 117, 4 |
| 51 | 0, 7 | 3, 4 | 8, 1 | 14, 8 | 23, 5 | 34, 2 | 46, 9 | 61, 6 | 78, 3 | 97, 0 | 117, 7 |
| 52 | 0, 8 | 3, 5 | 8, 2 | 15, 0 | 23, 7 | 34, 4 | 47, 2 | 61, 9 | 78, 6 | 97, 4 | 118, 1 |
| 53 | 0, 8 | 3, 5 | 8, 3 | 15, 1 | 23, 8 | 34, 6 | 47, 4 | 62, 1 | 78, 9 | 97, 7 | 118, 4 |
| 54 | 0, 8 | 3, 6 | 8, 4 | 15, 2 | 24, 0 | 34, 8 | 47, 6 | 62, 4 | 79, 2 | 98, 1 | 118, 8 |
| 55 | 0, 8 | 3, 7 | 8, 5 | 15, 3 | 24, 2 | 35, 0 | 47, 8 | 62, 7 | 79, 5 | 98, 3 | 119, 2 |
| 56 | 0, 9 | 3, 7 | 8, 6 | 15, 5 | 24, 3 | 35, 2 | 48, 1 | 62, 9 | 79, 8 | 98, 7 | 119, 5 |
| 57 | 0, 9 | 3, 8 | 8, 7 | 15, 6 | 24, 5 | 35, 4 | 48, 3 | 63, 2 | 80, 1 | 99, 0 | 119, 9 |
| 58 | 0, 9 | 3, 9 | 8, 8 | 15, 7 | 24, 7 | 35, 6 | 48, 5 | 63, 5 | 80, 4 | 99, 3 | 120, 3 |
| 59 | 1, 0 | 3, 9 | 8, 9 | 15, 9 | 24, 8 | 35, 8 | 48, 8 | 63, 7 | 80, 7 | 99, 7 | 120, 6 |

# TABLES

FOR

# SEVERAL PURPOSES.

OR

 Catalogue of Stars, with their right Aſcenſions and Declinations, adapted to the beginning of the Year 1800.

| Names and Situations of the Stars. | Character. | Magnitude. | Right Aſcenſion in Time. | An. Var. in Right Aſcenſion in Time. | Right Aſcention in Degrees. | An. Var. in Right Aſcenſion in Degrees. | Declination. | An. Var. in Declination. |
|---|---|---|---|---|---|---|---|---|
| | | | h m s | s | ° ′ ″ | ″ | ° ′ ″ | ″ |
| Extremity of the wing of Pegaſus, *Algenib*.. | γ | 2 | 0. 2. 56, 98 | +3, 069 | 0. 44. 15 | +46, 04 | 14. 4. 20N | +20, 20 |
| In the head of the Phœnix..... | α | 2 | 0. 16. 21, 40 | +2, 980 | 4. 5. 21 | +44, 70 | 43. 23. 12S | −20, 00 |
| Bright ſtar in the tail of the Whale..... | β | 2 | 0. 33. 32, 08 | +3, 001 | 8. 23. 1 | +45, 02 | 19. 5. 15S | −19, 84 |
| In the girdle of Andromeda..... | β | 2 | 0. 58. 32, 70 | +3, 297 | 14. 38. 11 | +49, 46 | 34. 33. 29N | +19, 41 |
| The ſpring of the river Erida, *Achernar*.... | α | 1 | 1. 30. 15. 1[illegible] | +2. 243 | 22. 33. 46 | +33, 64 | 58. 14. 23S | −18, 53 |
| In the preceding horn of the Ram..... | α | 2, 3 | 1. 55. 55, 58 | +3, 347 | 28. 58. 54 | +50, 20 | 22. 30. 40N | +17, 47 |
| In the neck of the Whale..... | θ | 2 | 2. 6. 14, 20 | +3, 027 | 31. 33. 33 | +45, 41 | 3. 53. 27S | −17, 04 |
| In the jaw of the Whale..... | α | 2 | 2. 51. 50, 19 | +3, 115 | 42. 57. 33 | +46, 73 | 3. 17. 54N | +14, 75 |
| In the head of Meduſa, *Algol*..... | β | 2 | 2. 55. 12, 06 | +3, 846 | 43. 48. 1 | +57, 69 | 40. 10. 28N | +14, 51 |
| The bright ſtar in Perſeus..... | α | 2 | 3. 10. 7, 43 | +4, 203 | 47. 31. 51 | +63, 04 | 49. 8. 15N | +13, 58 |
| The ſouthern eye of the Bull, *Aldebaran*.... | α | 1 | 4. 24. 27, 45 | +3, 426 | 66. 6. 52 | +51, 39 | 16. 5. 43N | + 8, 00 |
| In the left ſhoulder of Auriga, *Capella*..... | α | 1 | 5. 1. 56, 13 | +4, 415 | 75. 29. 2 | +66, 23 | 45. 46. 38N | + 4, 57 |
| The bright foot of Orion, *Rigel*..... | β | 1 | 5. 4. 55, 86 | +2, 876 | 76. 13. 58 | +43, 14 | 8. 26. 29S | − 4, 92 |
| Northern horn of the Bull..... | β | 2 | 5. 13. 39, 49 | +3, 781 | 78. 24. 52 | +56, 71 | 28. 25. 29N | + 3, 91 |
| The weſtern ſhoulder of Orion..... | γ | 2 | 5. 14. 24, 49 | +3, 209 | 78. 36. 7 | +48, 13 | 6. 9. 21N | + 4, 01 |
| Preceding ſtar in the belt of Orion..... | δ | 2 | 5. 21. 48, 24 | +3, 057 | 80. 27. 4 | +45, 86 | 0. 27. 26S | − 3, 37 |
| Bright ſtar in the Dove..... | α | 2 | 5. 32. 25, 17 | +2, 167 | 83. 6. 18 | +32, 50 | 34. 11. 17S | − 2, 44 |
| The eaſtern ſhoulder of Orion..... | ε | 1 | 5. 44. 20, 77 | +3, 243 | 86. 5. 12 | +48, 65 | 1. 21. 29N | + 1, 4[illegible] |
| In the poop of the Ship Argo, *Canopus*..... | α | 1 | 6. 19. 30, 74 | +1, 327 | 94. 52. 41 | +19, 91 | 52. 35. 28S | + 1, 68 |
| In the mouth of the greater Dog, *Sirius*.... | α | 1 | 6. 30. 20. 14 | +2, 653 | 99. 5. 2 | +39, 80 | 16. 26. 56S | + 4, 21 |
| In the back of the greater Dog..... | δ | 2 | 7. 0. 15, 63 | +2, 436 | 105. 3. 54 | +36, 54 | 26. 5. 9S | + 5, 18 |
| In the tail of the greater Dog..... | η | 2 | 7. 16. 10, 77 | +2, 370 | 109. 2. 41 | +35, 55 | 28. 55. 19S | + 6, 51 |
| In the head of the northern Twin, *Caſtor*... | α | 1 | 7. 21. 48, 80 | +3, 853 | 110. 27. 12 | +57, 80 | 32. 18. 46N | − 7, 06 |
| The leſſer Dog, *Procyon*..... | α | 1, 2 | 7. 28. 49, 32 | +3, 142 | 112. 12. 20 | +47, 13 | 5. 43. 43N | − 8, 53 |
| In the head of the ſouthern Twin, *Pollux*... | β | 2 | 7. 33. 3, 30 | +3, 688 | 113. 15. 50 | +55, 32 | 28. 29. 50N | − 7, 93 |
| In the row-lock of the Ship Argo..... | ζ | 2 | 7. 56. 33, 75 | +2, 108 | 119. 8. 26 | +31, 62 | 39. 26. 43S | + 9, 73 |
| In the poop of the Ship Argo..... | γ | 2 | 8. 3. 32, 95 | +1, 848 | 120. 50. 44 | +27, 72 | 46. 45. 5S | +10, 25 |
| In the middle of the Ship Argo..... | δ | 3 | 8. 39. 11, 23 | +1, 656 | 129. 47. 48 | +24, 84 | 53. 58. 38S | +12, 62 |
| In the oars of the Ship Argo..... | β | 1 | 9. 10. 58, 96 | +0, 743 | 137. 44. 44 | +11, 15 | 68. 53. 45S | +14, 83 |
| The heart of the female Hydra..... | α | 2 | 9. 17. 45, 41 | +2, 946 | 139. 26. 21 | +44, 19 | 7. 47. 49S | +15, 10 |
| The Lion's heart, *Regulus*..... | α | 1 | 9. 57. 42, 38 | +3, 212 | 149. 25. 36 | +48, 18 | 12. 56. 25N | −17, 19 |
| Southern ſtar in the ſqu. of the great Bear.. | β | 2 | 10. 49. 39, 56 | +3, 709 | 162. 24. 53 | +55, 63 | 57. 27. 4N | −19, 09 |
| Northern ſtar in the ſqu. of the great Bear.. | α | 2 | 10. 51. 15, 87 | +3, 847 | 162. 48. 58 | +57, 70 | 62. 49. 46N | −19, 13 |
| The Lion's tail..... | β | 1, 2 | 11. 38. 50, 74 | +3, 067 | 174. 42. 41 | +46, 01 | 15. 41. 25N | −20, 04 |
| In the [illegible] of the Croſs..... | α | 1 | 12. 15. 36, 86 | +3, 233 | 183. 54. 13 | +48, 49 | 61. 59. 25S | +20, 00 |
| In the top of the Croſs..... | γ | 2 | 12. 20. 9, 44 | +3, 237 | 185. 2. 21 | +48, 55 | 55. 59. 22S | +19, 97 |
| In the following arm of the Croſs..... | β | 2 | 12. 36. 8, 58 | +3, 405 | 189. 2. 9 | +51, 08 | 58. 35. 37S | +19, 81 |
| The Virgin's Spike..... | α | 1 | 13. 14. 40, 41 | +3, 147 | 198. 40. 6 | +47, 21 | 10. 6. 37S | +18, 80 |
| Laſt ſtar in the tail of the great Bear..... | η | 2 | 13. 39. 39, 79 | +2, 392 | 204. 54. 57 | +35, 88 | 50. 19. 0N | −18, 20 |
| The weſtern foot of the Centaur..... | ε | 1 | 13. 40. 51. 42 | +4. 103 | 207. 27. 51 | +61, 53 | 53. 53. 53S | +17. 8[illegible] |
| In the tail of the Dragon..... | α | 3 | 13. 58. 58, 65 | +1, 625 | 209. 44. 40 | +24, 37 | 65. 20. 8N | −17, 42 |
| The bright ſtar in Bootes, *Arcturus*..... | α | 1 | 14. 6. 32, 46 | +2, 728 | 211. 38. 7 | +40, 92 | 20. 13. 52N | −18, 76 |
| Eaſtern foot of the Centaur..... | α | 1 | 14. 26. 31, 34 | +4, 441 | 216. 37. 50 | +66, 62 | 60. 0. 37S | +16, 13 |
| The ſouthern ſcale of Libra..... | ι | 2 | 14. 39. 50, 21 | +3, 297 | 219. 57. 33 | +49, 45 | 15. 11. 56S | +15, 21 |
| The northern ſcale of Libra..... | β | 2, 3 | 15. 6. 16, 07 | +3, 214 | 226. 34. 1 | +48, 21 | 8. 38. 2S | +13, 83 |
| Bright ſtar in the Crown..... | α | 2, 3 | 15. 29. 13, 36 | +2, 545 | 231. 33. 22 | +38, 18 | 27. 23. 49N | −12, 4[illegible] |
| In the neck of the Serpent..... | α | 2 | 15. 34. 25, 50 | +2, 945 | 233. 36. 22 | +44, 18 | 7. 3. 59N | −11, 7[illegible] |
| The Scorpion's heart, *Antares*..... | α | 1 | 16. 17. 10, 11 | +3, 658 | 244. 17. 32 | +54, 87 | 25. 58. 14S | + 8, 43 |
| In the head of Hercules..... | α | 2, 3 | 17. 5. 31, 95 | +2, 731 | 256. 22. 59 | +40, 97 | 14. 37. 53N | − 4, 48 |
| In the head of Ophiucus..... | α | 2 | 17. 25. 39, 26 | +2, 778 | 261. 24. 49 | +41, 64 | 12. 43. 6N | − 3, 03 |
| In the head of the Dragon..... | γ | 2 | 17. 51. 57, 36 | +1, 389 | 267. 59. 20 | +20, 83 | 51. 31. 5N | − 0, 72 |
| The bright ſtar in the Harp, *Lyra*..... | α | 1 | 18. 30. 9, 92 | +2, 027 | 277. 32. 29 | +30, 40 | 38. 36. 19N | + 2, 91 |
| Bright ſtar in the Eagle, *Atair*..... | α | 1, 2 | 19. 41. 1, 28 | +2, 925 | 295. 15. 19 | +43, 88 | 8. 21. 8N | + 9, 11 |
| The eye of the Peacock..... | α | 2 | 20. 9. 43, 55 | +4, 835 | 302. 25. 53 | +72, 52 | 57. 21. 46S | −10, 69 |
| The tail of the Swan..... | α | 1 | 20. 34. 36, 83 | +2, 038 | 308. 39. 13 | +30, 57 | 44. 34. 18N | +13, 56 |
| The weſtern wing of the Crane..... | α | 2 | 21. 55. 32, 77 | +3, 837 | 328. 53. 11 | +57, 55 | 47. 55. 8S | −17, 14 |
| In the mouth of the ſouth. Fiſh, *Fomalhaut*.. | α | 1, 2 | 22. 46. 34, 12 | +3, 343 | 341. 38. 32 | +50, 15 | 30. 40. 31S | −19, 10 |
| In the ſhoulder of Pegaſus..... | β | 2 | 22. 54. 4, 41 | +2, 874 | 343. 31. 6 | +43, 11 | 26. 59. 55N | +19, 21 |
| In the wing of Pegaſus, *Markab*..... | α | 2 | 22. 54. 48. 28 | +4. 973 | 343. 42. 4 | +74. 58 | 14. 8. 3N | +16. 4[illegible] |
| The head of Andromeda..... | α | 2 | 23. 58. 4, 47 | +3, 070 | 359. 31. 7 | +46, 05 | 27. 59. 14N | +19, 19 |

| Sidereal Days. | Acceleration in Mean Time. | Sidereal Hours. | Acceleration in Mean Time. | Sidereal Minutes | Acceler. in Mean Time. | Sidereal Seconds. | Acceler. in Mean Time |
|---|---|---|---|---|---|---|---|
| | h m s | | m s | | s | | s |
| 1 | 0. 3.55,908 | 1 | 0. 9,829 | 1 | 0,164 | 1 | 0,002 |
| 2 | 0. 7.51,816 | 2 | 0.19,659 | 2 | 0,328 | 2 | 0,005 |
| 3 | 0.11.47,724 | 3 | 0.29,488 | 3 | 0,491 | 3 | 0,008 |
| 4 | 0.15.43,632 | 4 | 0.39,318 | 4 | 0,655 | 4 | 0,011 |
| 5 | 0.19.39,540 | 5 | 0.49,147 | 5 | 0,819 | 5 | 0,014 |
| 6 | 0.23.35,448 | 6 | 0.58,977 | 6 | 0,983 | 6 | 0,016 |
| 7 | 0.27.31,356 | 7 | 1. 8,806 | 7 | 1,147 | 7 | 0,019 |
| 8 | 0.31.27,264 | 8 | 1.18,636 | 8 | 1,311 | 8 | 0,022 |
| 9 | 0.35.23,172 | 9 | 1.28,465 | 9 | 1,474 | 9 | 0,025 |
| 10 | 0.39.19,080 | 10 | 1.38,295 | 10 | 1,638 | 10 | 0,027 |
| 11 | 0.43.14,988 | 11 | 1.48,124 | 11 | 1,802 | 11 | 0,030 |
| 12 | 0.47.10,896 | 12 | 1.57,954 | 12 | 1,966 | 12 | 0,033 |
| 13 | 0.51. 6,804 | 13 | 2. 7,783 | 13 | 2,130 | 13 | 0,036 |
| 14 | 0.55. 2,712 | 14 | 2.17,613 | 14 | 2,294 | 14 | 0,038 |
| 15 | 0.58.58,620 | 15 | 2.27,442 | 15 | 2,457 | 15 | 0,041 |
| 16 | 1. 2.54,528 | 16 | 2.37,272 | 16 | 2,621 | 16 | 0,044 |
| 17 | 1. 6.50,436 | 17 | 2.47,101 | 17 | 2,785 | 17 | 0,046 |
| 18 | 1.10.46,344 | 18 | 2.56,931 | 18 | 2,949 | 18 | 0,049 |
| 19 | 1.14.42,252 | 19 | 3. 6,760 | 19 | 3,113 | 19 | 0,052 |
| 20 | 1.18.38,160 | 20 | 3.16,590 | 20 | 3,277 | 20 | 0,055 |
| 21 | 1.22.34,068 | 21 | 3.26,419 | 21 | 3,440 | 21 | 0,057 |
| 22 | 1.26.29,976 | 22 | 3.36,249 | 22 | 3,604 | 22 | 0,060 |
| 23 | 1.30.25,884 | 23 | 3.46,078 | 23 | 3,768 | 23 | 0,063 |
| 24 | 1.34.21,792 | 24 | 3.55,908 | 24 | 3,932 | 24 | 0,066 |
| 25 | 1.38.17,700 | | | 25 | 4,096 | 25 | 0,068 |
| 26 | 1.42.13,608 | | | 26 | 4,259 | 26 | 0,071 |
| 27 | 1.46. 9,516 | | | 27 | 4,423 | 27 | 0,074 |
| 28 | 1.50. 5,424 | | | 28 | 4,587 | 28 | 0,076 |
| 29 | 1.54. 1,332 | | | 29 | 4,751 | 29 | 0,079 |
| 30 | 1.57.57,240 | | | 30 | 4,915 | 30 | 0,082 |
| 31 | 2. 1.53,148 | | | 31 | 5,079 | 31 | 0,085 |
| 32 | 2. 5.49,056 | | | 32 | 5,242 | 32 | 0,087 |
| 33 | 2. 9.44,964 | | | 33 | 5,406 | 33 | 0,090 |
| 34 | 2.13.40,872 | | | 34 | 5,570 | 34 | 0,093 |
| 35 | 2.17.36,780 | | | 35 | 5,734 | 35 | 0,096 |
| 36 | 2.21.32,688 | | | 36 | 5,898 | 36 | 0,098 |
| 37 | 2.25.28,596 | | | 37 | 6,062 | 37 | 0,101 |
| 38 | 2.29.24,504 | | | 38 | 6,225 | 38 | 0,104 |
| 39 | 2.33.20,412 | | | 39 | 6,389 | 39 | 0,106 |
| 40 | 2.37.16,320 | | | 40 | 6,553 | 40 | 0,109 |
| 41 | 2.41.12,228 | | | 41 | 6,717 | 41 | 0,112 |
| 42 | 2.45. 8,136 | | | 42 | 6,881 | 42 | 0,115 |
| 43 | 2.49. 4,044 | | | 43 | 7,045 | 43 | 0,117 |
| 44 | 2.52.59,952 | | | 44 | 7,208 | 44 | 0,120 |
| 45 | 2.56.55,860 | | | 45 | 7,372 | 45 | 0,123 |
| 46 | 3. 0.51,768 | | | 46 | 7,536 | 46 | 0,126 |
| 47 | 3. 4.47,676 | | | 47 | 7,700 | 47 | 0,128 |
| 48 | 3. 8.43,584 | | | 48 | 7,864 | 48 | 0,131 |
| 49 | 3.12.39,492 | | | 49 | 8,027 | 49 | 0,134 |
| 50 | 3.16.35,400 | | | 50 | 8,191 | 50 | 0,137 |
| 51 | 3.20.31,308 | | | 51 | 8,355 | 51 | 0,139 |
| 52 | 3.24.27,216 | | | 52 | 8,519 | 52 | 0,142 |
| 53 | 3.28.23,124 | | | 53 | 8,683 | 53 | 0,145 |
| 54 | 3.32.19,032 | | | 54 | 8,846 | 54 | 0,147 |
| 55 | 3.36.14,940 | | | 55 | 9,010 | 55 | 0,150 |
| 56 | 3.40.10,848 | | | 56 | 9,174 | 56 | 0,153 |
| 57 | 3.44. 6,756 | | | 57 | 9,338 | 57 | 0,155 |
| 58 | 3.48. 2,664 | | | 58 | 9,502 | 58 | 0,158 |
| 59 | 3.51.58,572 | | | 59 | 9,666 | 59 | 0,161 |

| Mean Time. | Parts of the Equator. |
|---|---|
| h. | ° ′ ″ |
| 1 | 15. 2. 27, 847 |
| 2 | 30. 4. 55, 694 |
| 3 | 45. 7. 23, 541 |
| 4 | 60. 9. 51, 388 |
| 5 | 75. 12. 19, 235 |
| 6 | 90. 14. 47, 081 |
| 7 | 105. 17. 14, 928 |
| 8 | 120. 19. 42, 775 |
| 9 | 135. 22. 10, 622 |
| 10 | 150. 24. 38, 469 |
| 11 | 165. 27. 6, 316 |
| 12 | 180. 29. 34, 163 |
| 13 | 195. 32. 2, 010 |
| 14 | 210. 34. 29, 857 |
| 15 | 225. 36. 57, 703 |
| 16 | 240. 39. 25, 550 |
| 17 | 255. 41. 53, 397 |
| 18 | 270. 44. 21, 244 |
| 19 | 285. 46. 49, 091 |
| 20 | 300. 49. 16, 938 |
| 21 | 315. 51. 44, 784 |
| 22 | 330. 54. 12, 631 |
| 23 | 345. 56. 40, 478 |
| 24 | 360. 59. 8, 325 |

| Mean Time. | Parts of the Equator. |
|---|---|
| m. | ° ′ ″ |
| 1 | 0. 15. 2, 464 |
| 2 | 0. 30. 4, 928 |
| 3 | 0. 45. 7, 392 |
| 4 | 1. 0. 9, 856 |
| 5 | 1. 15. 12, 321 |
| 6 | 1. 30. 14, 785 |
| 7 | 1. 45. 17, 249 |
| 8 | 2. 0. 19, 713 |
| 9 | 2. 15. 22, 177 |
| 10 | 2. 30. 24, 641 |
| 11 | 2. 45. 27, 105 |
| 12 | 3. 0. 29, 569 |
| 13 | 3. 15. 32, 033 |
| 14 | 3. 30. 34, 497 |
| 15 | 3. 45. 36, 962 |
| 16 | 4. 0. 39, 426 |
| 17 | 4. 15. 41, 890 |
| 18 | 4. 30. 44, 354 |
| 19 | 4. 45. 46, 818 |
| 20 | 5. 0. 49, 282 |
| 21 | 5. 15. 51, 746 |
| 22 | 5. 30. 54, 210 |
| 23 | 5. 45. 56, 674 |
| 24 | 6. 0. 59, 138 |
| 25 | 6. 16. 1, 603 |
| 26 | 6. 31. 4, 067 |
| 27 | 6. 46. 6, 531 |
| 28 | 7. 1. 8, 995 |
| 29 | 7. 16. 11, 459 |
| 30 | 7. 31. 13, 923 |
| 31 | 7. 46. 16, 387 |
| 32 | 8. 1. 18, 851 |
| 33 | 8. 16. 21, 315 |
| 34 | 8. 31. 23, 779 |
| 35 | 8. 46. 26, 244 |
| 36 | 9. 1. 28, 708 |
| 37 | 9. 16. 31, 172 |
| 38 | 9. 31. 33, 636 |
| 39 | 9. 46. 36, 100 |
| 40 | 10. 1. 38, 565 |
| 41 | 10. 16. 41, 029 |
| 42 | 10. 31. 43, 493 |
| 43 | 10. 46. 45, 957 |
| 44 | 11. 1. 48, 421 |
| 45 | 11. 16. 50, 885 |
| 46 | 11. 31. 53, 349 |
| 47 | 11. 46. 55, 813 |
| 48 | 12. 1. 58, 277 |
| 49 | 12. 17. 0, 741 |
| 50 | 12. 32. 3, 206 |
| 51 | 12. 47. 5, 670 |
| 52 | 13. 2. 8, 134 |
| 53 | 13. 17. 10, 598 |
| 54 | 13. 32. 13, 062 |
| 55 | 13. 47. 15, 526 |
| 56 | 14. 2. 17, 990 |
| 57 | 14. 17. 20, 454 |
| 58 | 14. 32. 22, 918 |
| 59 | 14. 47. 25, 382 |
| 60 | 15. 2. 27, 847 |

| Mean Time. | Parts of the Equator. |
|---|---|
| s. | ′ ″ |
| 1 | 0. 15, 041 |
| 2 | 0. 30, 082 |
| 3 | 0. 45, 123 |
| 4 | 1. 0, 164 |
| 5 | 1. 15, 205 |
| 6 | 1. 30, 246 |
| 7 | 1. 45, 287 |
| 8 | 2. 0, 328 |
| 9 | 2. 15, 369 |
| 10 | 2. 30, 411 |
| 11 | 2. 45, 452 |
| 12 | 3. 0, 493 |
| 13 | 3. 15, 534 |
| 14 | 3. 30, 575 |
| 15 | 3. 45, 616 |
| 16 | 4. 0, 657 |
| 17 | 4. 15, 698 |
| 18 | 4. 30, 739 |
| 19 | 4. 45, 780 |
| 20 | 5. 0, 821 |
| 21 | 5. 15, 862 |
| 22 | 5. 30, 903 |
| 23 | 5. 45, 944 |
| 24 | 6. 0, 985 |
| 25 | 6. 16, 027 |
| 26 | 6. 31, 068 |
| 27 | 6. 46, 109 |
| 28 | 7. 1, 150 |
| 29 | 7. 16, 191 |
| 30 | 7. 31, 232 |
| 31 | 7. 46, 273 |
| 32 | 8. 1, 314 |
| 33 | 8. 16, 355 |
| 34 | 8. 31, 396 |
| 35 | 8. 46, 437 |
| 36 | 9. 1, 478 |
| 37 | 9. 16, 519 |
| 38 | 9. 31, 560 |
| 39 | 9. 46, 601 |
| 40 | 10. 1, 643 |
| 41 | 10. 16, 684 |
| 42 | 10. 31, 725 |
| 43 | 10. 46, 766 |
| 44 | 11. 1, 807 |
| 45 | 11. 16, 848 |
| 46 | 11. 31, 889 |
| 47 | 11. 46, 930 |
| 48 | 12. 1, 971 |
| 49 | 12. 17, 012 |
| 50 | 12. 32, 053 |
| 51 | 12. 47, 094 |
| 52 | 13. 2, 135 |
| 53 | 13. 17, 176 |
| 54 | 13. 32, 217 |
| 55 | 13. 47, 259 |
| 56 | 14. 2, 300 |
| 57 | 14. 17, 341 |
| 58 | 14. 32, 382 |
| 59 | 14. 47, 423 |
| 60 | 15. 2, 464 |

| [illegible] of Mean Time. | Parts of the Equator. |
|---|---|
| s | ″ |
| 0, 1 | 1, 504 |
| 0, 2 | 3, [illegible] |
| 0, 3 | 4, 512 |
| 0, 4 | 6, [illegible] |
| 0, 5 | 7, 521 |
| 0, 6 | 9, 025 |
| 0, 7 | 10, 529 |
| 0, 8 | 12, 033 |
| 0, 9 | 13, 537 |
| 1, 0 | 15, 041 |
| 0, 01 | 0, 150 |
| 0, 02 | 0, 301 |
| 0, 03 | 0, 451 |
| 0, 04 | 0, 602 |
| 0, 05 | 0, 752 |
| 0, 06 | 0, 903 |
| 0, 07 | 1, 053 |
| 0, 08 | 1, 203 |
| 0, 09 | 1, 354 |
| 0, 10 | 1, 504 |

| Latitude. | Declination of the same Name as the Latitude. | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0° | | 1° | | 2° | | 3° | | 4° | | 5° | | 6° | | 7° | |
| | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. |
| ° | h. m. s. | ° ′ ″ | h. m. s. | ° ′ ″ | h. m. s. | ° ′ ″ | h. m. s. | ° ′ ″ | h. m. s. | ° ′ ″ | h. m. s. | ° ′ ″ | h. m. s. | ° ′ ″ | h. m. s. | ° ′ ″ |
| 0 | 6. 0. 0 | 0. 0. 0 | 6. 0. 0 | 0. 30. 0 | 6. 0. 0 | 1. 0. 0 | 6. 0. 0 | 1. 30. 0 | 6. 0. 0 | 2. 0. 0 | 6. 0. 0 | 2. 30. 0 | 6. 0. 0 | 3. 0. 0 | 6. 0. 0 | 3. 30. 0 |
| 1 | 6. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 4. 42 19. 29 | 0. 30. 0 | 4. 42 19. 29 | 1. 0. 0 | 5. 14 11. 33 | 1. 30. 0 | 5. 22 9. 37 | 2. 0. 0 | 5. 27 8. 14 | 2. 30. 0 | 5. 31 7. 12 | 3. 0. 0 |
| 2 | 6. 0. 0 | 0. 0. 0 | 4. 0 30. 0 | 0. 0. 0 | 0. 0. 0. | 0. 0. 0 | 3. 13 41. 49 | 0. 30. 0 | 4. 0 32. 1 | 1. 0. 0 | 4. 27 23. 37 | 1. 30. 0 | 4. 42 20. 35 | 2. 0. 0 | 4. 54 18. 33 | 2. 30. 0 |
| 3 | 6. 0. 0 | 0. 0. 0 | 4. 42 19. 29 | 0. 30. 0 | 3. 13 41. 49 | 0. 0. 0. | 0. 0. 0. | 0. 0. 0. | 2. 46 48. 37 | 0. 30. 0 | 3. 33 30. 54 | 1. 0. 0 | 4. 0 30. 3 | 1. 30. 0 | 4. 14 25. 27 | 2. 0. 0 |
| 4 | 6. 0. 0 | 0. 0. 0 | 5. 2 14. 20 | 0. 30. 0 | 4. 0 32. 1 | 0. 0. 0. | 2. 46 48. 37 | 0. 30. 0 | 0. 0. 0. | 0. 0. 0. | 2. 26 53. 14 | 1. 0. 0 | 3. 13 41. 54 | 1. 30. 0 | 3. 41 34. 55 | 2. 0. 0 |
| 5 | 6. 0. 0 | 0. 0. 0 | 5. 14 11. 33 | 0. 30. 0 | 4. 26 23. 36 | 0. 0. 0. | 3. 33 30. 54 | 0. 30. 0 | 2. 26 53. 14 | 1. 0. 0 | 0. 0. 0. | 0. 0. 0. | 2. 15 50. 36 | 1. 30. 0 | 2. 58 45. 39 | 2. 0. 0 |
| 6 | 6. 0. 0 | 0. 0. 0 | 5. 22 9. 37 | 0. 30. 0 | 4. 42 19. 30 | 0. 0. 0. | 4. 0 32. 3 | 0. 30. 0 | 3. 13 41. 52 | 1. 0. 0 | 2. 15 50. 37 | 1. 30. 0 | 0. 0. 0. | 0. 0. 0. | 2. 5 50. 4 | 2. 0. 0 |
| 7 | 6. 0. 0 | 0. 0. 0 | 5. 27 8. 14 | 0. 30. 0 | 4. 54 16. 38 | 0. 0. 0. | 4. 16 25. 26 | 0. 30. 0 | 3. 41 34. 55 | 1. 0. 0 | 2. 58 45. 39 | 1. 30. 0 | 2. 5 50. 4 | 2. 0. 0 | 0. 0. 0. | 0. 0. 0. |
| 8 | 6. 0. 0 | 0. 0. 0 | 5. 31 7. 12 | 0. 30. 0 | 5. 2 14. 31 | 0. 0. 0. | 4. 32 22. 5 | 0. 30. 0 | 4. 1 30. 51 | 1. 0. 0 | 3. 26 38. 47 | 1. 30. 0 | 2. 46 48. 41 | 2. 0. 0 | 1. 0 51. 7 | 2. 30. 0 |
| 9 | 6. 0. 0 | 0. 0. 0 | 5. 35 6. 24 | 0. 30. 0 | 5. 9 12. 53 | 0. 0. 0. | 4. 43 19. 33 | 0. 30. 0 | 4. 15 26. 29 | 1. 0. 0 | 3. 46 33. 54 | 1. 30. 0 | 3. 14 41. 54 | 2. 0. 0 | 2. 37 51. 1 | 2. 30. 0 |
| 10 | 6. 0. 0 | 0. 0. 0 | 5. 37 5. 47 | 0. 30. 0 | 5. 14 11. 30 | 0. 0. 0. | 4. 51 17. 34 | 0. 30. 0 | 4. 27 23. 41 | 1. 0. 0 | 4. [illegible] 8 | 1. 30. 0 | 3. 34 37. 1 | 2. 0. 0 | 3. 3 44. 34 | 2. 30. 0 |
| 11 | 6. 0. 0 | 0. 0. 0 | 5. 39 5. 15 | 0. 30. 0 | 5. 19 10. 32 | 0. 0. 0. | 4. 57 15. 53 | 0. 30. 0 | 4. 36 21. 27 | 1. 0. 0 | 4. 1 27. 11 | 1. 30. 0 | 3. 49 33 13 | 2. 0. 0 | 3. 24 39 44 | 2. 30. 0 |
| 12 | 6. 0. 0 | 0. 0. 0 | 5. 41 4. 49 | 0. 30. 0 | 5. 22 9. 45 | 0. 0. 0. | 5. 3 14. 35 | 0. 30. 0 | 4. 43 19. 37 | 1. 0. 0 | 4. 23 24. 47 | 1. 30. 0 | 4. 1 30. 11 | 2. 0. 0 | 3. 38 35. 53 | 2. 30. 0 |
| 13 | 6. 0. 0 | 0. 0. 0 | 5. 43 4. 27 | 0. 30. 0 | 5. 25 8. 56 | 0. 0. 0. | 5. 8 13. 27 | 0. 30. 0 | 4. 47 18. 4 | 1. 0. 0 | 4. 31 22. 4 | 1. 30. 0 | 4. 12 27. 41 | 2. 0. 0 | 3. 51 33 45 | 2. 30. 0 |
| 14 | 6. 0. 0 | 0. 0. 0 | 5. 44 4. 8 | 0. 30. 0 | 5. 28 8. 18 | 0. 0. 0. | 5. 11 12. 32 | 0. 30. 0 | 4. 53 16. 45 | 1. 0. 0 | 4. 38 21. 7 | 1. 30. 0 | 4. 23 [illegible] | 2. 0. 0 | 4. [illegible] 15 | 2. 30. 0 |
| 15 | 6. 0. 0 | 0. 0. 0 | 5. 45 3. 52 | 0. 30. 0 | 5. 31 7. 45 | 0. 0. 0. | 5. 15 11. 42 | 0. 30. 0 | 4. 59 15. 58 | 1. 0. 0 | 4. 44 19. 41 | 1. 30. 0 | 4. 28 23. 45 | 2. 0. 0 | 4. 11 [illegible] 5 | 2. 30. 0 |
| 16 | 6. 0. 0 | 0. 0. 0 | 5. 46 3. 38 | 0. 30. 0 | 5. 32 7. 10 | 0. 0. 0. | 5. 18 10. 57 | 0. 30. 0 | 5. 4 14. 47 | 1. 0. 0 | 4. 49 18. 26 | 1. 30. 0 | 4. 34 22. 17 | 2. 0. 0 | 4. 19 [illegible] 14 | 2. 30. 0 |
| 17 | 6. 0. 0 | 0. 0. 0 | 5. 47 3. 25 | 0. 30. 0 | 5. 34 6. 51 | 0. 0. 0. | 5. 21 10. 16 | 0. 30. 0 | 5. 7 13. 48 | 1. 0. 0 | 4. 53 17. 21 | 1. 30. 0 | 4. 40 [illegible] 57 | 2. 0. 0 | 4. 25 24. 38 | 2. 30. 0 |
| 18 | 6. 0. 0 | 0. 0. 0 | 5. 48 3. 14 | 0. 30. 0 | 5. 35 6 [illegible] | 0. 0. 0. | 5 23 9. 45 | 0. 30. 0 | 5. 10 13. 3 | 1. 0. 0 | 4. 58 16. 21 | 1. 30. 0 | 4. 45 19 44 | 2. 0. 0 | 4. 31 [illegible] 14 | 2. 30. 0 |
| 19 | 6. 0. 0 | 0. 0. 0 | 5. 48 3. 4 | 0. 30. 0 | 5. 37 6 0 | 0. 0. 0. | 5. 25 9. 15 | 0. 30. 0 | 5. 13 12. 22 | 1. 0. 0 | 5. 1 15. 34 | 1. 30. 0 | 4. 49 18. 44 | 2. 0. 0 | 4. 36 21. 50 | 2. 30. 0 |
| 20 | 6. 0. 0 | 0. 0. 0 | 5. 49 2. 55 | 0. 30. 0 | 5. 38 5. 51 | 0. 0. 0. | 5. 27 8. 48 | 0. 30. 0 | 5. 16 11. 47 | 1. 0. 0 | 5. 4 14. 47 | 1. 30. 0 | 4. 53 17. 48 | 2. 0. 0 | 4. 41 [illegible] 52 | 2. 30. 0 |
| 21 | 6. 0. 0 | 0. 0. 0 | 5. 50 2. 47 | 0. 30. 0 | 5. 39 5. 35 | 0. 0. 0. | 5. 29 8. 24 | 0. 30. 0 | 5. 18 11. 13 | 1. 0. 0 | 5. 7 14. 8 | 1. 30. 0 | 4. 57 16. 57 | 2. 0. 0 | 4. 45 [illegible] 53 | 2. 30. 0 |
| 22 | 6. 0. 0 | 0. 0. 0 | 5. 50 2. 40 | 0. 30. 0 | 5. 41 5. 21 | 0. 0. 0. | 5. 30 8. 2 | 0. 30. 0 | 5. 20 10. 44 | 1. 0. 0 | 5. 10 13. 27 | 1. 30. 0 | 5. 0 16. 1 | 2. 0. 0 | 4. 49 [illegible] 50 | 2. 30. 0 |
| 23 | 6. 0. 0 | 0. 0. 0 | 5. 51 2. 34 | 0. 30. 0 | 5. 41 5. 7 | 0. 0. 0. | 5. 32 7. 42 | 0. 30. 0 | 5. 22 10. 17 | 1. 0. 0 | 5. 12 12. 53 | 1. 30. 0 | 5. 3 15. 31 | 2. 0. 0 | 4. 53 [illegible] 17 | 2. 30. 0 |
| 24 | 6. 0. 0 | 0. 0. 0 | 5. 51 2. 28 | 0. 30. 0 | 5. 42 4 55 | 0. 0. 0. | 5. 33 7. 24 | 0. 30. 0 | 5. 24 9. 53 | 1. 0. 0 | 5. 15 [illegible] | 1. 30. 0 | 5. 5 14. 55 | 2. 0. 0 | 4. 56 [illegible] 20 | 2. 30. 0 |
| 25 | 6. 0. 0 | 0. 0. 0 | 5. 51 2. 22 | 0. 30. 0 | 5. 43 4. 44 | 0. 0. 0. | 5. 34 7. 7 | 0. 30. 0 | 5. 26 9. 32 | 1. 0. 0 | 5. 17 11. 54 | 1. 30. 0 | 5. 8 14. 19 | 2. 0. 0 | 4. 59 [illegible] 40 | 2. 30. 0 |
| 26 | 6. 0. 0 | 0. 0. 0 | 5. 52 2. 17 | 0. 30. 0 | 5. 44 4. 34 | 0. 0. 0. | 5. 35 6. 51 | 0. 30. 0 | 5. 27 9. 0 | 1. 0. 0 | 5. 19 11. 28 | 1. 30. 0 | 5. 1 13. 48 | 2. 0. 0 | 5. [illegible] 8 | 2. 30. 0 |
| 27 | 6. 0. 0 | 0. 0. 0 | 5. 52 2. 12 | 0. 30. 0 | 5. 44 4. 2 | 0. 0. 0. | 5. 36 6. 37 | 0. 30. 0 | 5. 28 8. 50 | 1. 0. 0 | 5. 20 11. 4 | 1. 30. 0 | 5. 12 13. 19 | 2. 0. 0 | 5. 4 [illegible] 34 | 2. 30. 0 |
| 28 | 6. 0. 0 | 0. 0. 0 | 5. 52 2. 8 | 0. 30. 0 | 5. 45 4. 16 | 0. 0. 0. | 5. 37 6. 24 | 0. 30. 0 | 5. 30 8. 33 | 1. 0. 0 | 5. 22 10. 43 | 1. 30. 0 | 5. 14 14. 52 | 2. 0. 0 | 5. 7 [illegible] 3 | 2. 30. 0 |
| 29 | 6. 0. 0 | 0. 0. 0 | 5. 53 2. 4 | 0. 30. 0 | 5. 46 4 [illegible] | 0. 0. 0. | 5. 38 6. 12 | 0. 30. 0 | 5. 31 8. 19 | 1. 0. 0 | 5. 24 10. 21 | 1. 30. 0 | 5. 16 [illegible] 27 | 2. 0. 0 | 5. 9 [illegible] 34 | 2. 30. 0 |
| 30 | 6. 0. 0 | 0. 0. 0 | 5. 53 2. 0 | 0. 30. 0 | 5. 47 4 [illegible] | 0. 0. 0. | 5. 39 6. 1 | 0. 30. 0 | 5. 32 8. 1 | 1. 0. 0 | 5. 25 10. [illegible] | 1. 30. 0 | 5. 17 12. 4 | 2. 0. 0 | 5. 11 14. 6 | 2. 30. 0 |
| 31 | 6. 0. 0 | 0. 0. 0 | 5. 53 1. 57 | 0. 30. 0 | 5. 47 3. 53 | 0. 0. 0. | 5. 40 5. 50 | 0. 30. 0 | 5. 33 7. 47 | 1. 0. 0 | 5. 27 9. 45 | 1. 30. 0 | 5. 20 11. 43 | 2. 0. 0 | 5. 13 13. 41 | 2. 30. 0 |
| 32 | 6. 0. 0 | 0. 0. 0 | 5. 54 1. 53 | 0. 30. 0 | 5. 48 3. 47 | 0. 0. 0. | 5. 41 5. 42 | 0. 30. 0 | 5. 34 7. 34 | 1. 0. 0 | 5. 28 9. 28 | 1. 30. 0 | 5. 21 11. 25 | 2. 0. 0 | 5. 15 13. 18 | 2. 30. 0 |
| 33 | 6. 0. 0 | 0. 0. 0 | 5. 54 1. 50 | 0. 30. 0 | 5. 49 3 41 | 0. 0. 0. | 5. 41 5. 31 | 0. 30. 0 | 5. 35 7. 22 | 1. 0. 0 | 5. 29 9. 13 | 1. 30. 0 | 5. 23 11. 4 | 2. 0. 0 | 5. 17 12. 56 | 2. 30. 0 |
| 34 | 6. 0. 0 | 0. 0. 0 | 5. 54 1. 47 | 0. 30. 0 | 5. 49 3 35 | 0. 0. 0. | 5. 42 5. 22 | 0. 30. 0 | 5. 36 7. 1 | 1. 0. 0 | 5. 30 8. 58 | 1. 30. 0 | 5. 24 10. 47 | 2. 0. 0 | 5. 18 12. 35 | 2. 30. 0 |
| 35 | 6. 0. 0 | 0. 0. 0 | 5. 54 1. 44 | 0. 30. 0 | 5. 49 3. 29 | 0. 0. 0. | 5. 43 5. 14 | 0. 30. 0 | 5. 37 6. 50 | 1. 0. 0 | 5. 31 8. 44 | 1. 30. 0 | 5. 25 10. 32 | 2. 0. 0 | 5. 20 12. 16 | 2. 30. 0 |
| 36 | 6. 0. 0 | 0. 0. 0 | 5. 54 1. 42 | 0. 30. 0 | 5. 49 3. 24 | 0. 0. 0. | 5. 43 5. 6 | 0. 30. 0 | 5. 38 6. 40 | 1. 0. 0 | 5. 32 8. 32 | 1. 30. 0 | 5. 27 10. 19 | 2. 0. 0 | 5. 21 11. 58 | 2. 30. 0 |
| 37 | 6. 0. 0 | 0. 0. 0 | 5. 55 1. 40 | 0. 30. 0 | 5. 49 3. 19 | 0. 0. 0. | 5. 44 4. 59 | 0. 30. 0 | 5. 39 6. 30 | 1. 0. 0 | 5. 33 8. 21 | 1. 30. 0 | 5. 28 10. 6 | 2. 0. 0 | 5. 22 11. 41 | 2. 30. 0 |
| 38 | 6. 0. 0 | 0. 0. 0 | 5. 55 1. 37 | 0. 30. 0 | 5. 50 3. 15 | 0. 0. 0. | 5. 45 4. 53 | 0. 30. 0 | 5. 39 6. 21 | 1. 0. 0 | 5. 34 8. 9 | 1. 30. 0 | 5. 29 9. 47 | 2. 0. 0 | 5. 24 11. 24 | 2. 30. 0 |
| 39 | 6. 0. 0 | 0. 0. 0 | 5. 55 1 [illegible] | 0. 30. 0 | 5. 50 3. 11 | 0. 0. 0. | 5. 45 4. 47 | 0. 30. 0 | 5. 40 6. 12 | 1. 0. 0 | 5. 35 7. 57 | 1. 30. 0 | 5. 30 9. 34 | 2. 0. 0 | 5. 25 11. 10 | 2. 30. 0 |
| 40 | 6. 0. 0 | 0. 0. 0 | 5. 55 1. 33 | 0. 30. 0 | 5. 50 3. 7 | 0. 0. 0. | 5. 46 4. 41 | 0. 30. 0 | 5. 41 6. 4 | 1. 0. 0 | 5. 36 7. 46 | 1. 30. 0 | 5. 31 9. 22 | 2. 0. 0 | 5. 27 10. 57 | 2. 30. 0 |
| 41 | 6. 0. 0 | 0. 0. 0 | 5. 55 1. 31 | 0. 30. 0 | 5. 51 3. 3 | 0. 0. 0. | 5. 46 4. 35 | 0. 30. 0 | 5. 42 6. 0 | 1. 0. 0 | 5. 37 7. 38 | 1. 30. 0 | 5. 32 9. 1 | 2. 0. 0 | 5. [illegible] 10. 44 | 2. 30. 0 |
| 42 | 6. 0. 0 | 0. 0. 0 | 5. 56 1. 29 | 0. 30. 0 | 5. 51 2. 59 | 0. 0. 0. | 5. 47 4. 29 | 0. 30. 0 | 5. 42 5. 56 | 1. 0. 0 | 5. 38 7. 30 | 1. 30. 0 | 5. 33 8. 50 | 2. 0. 0 | 5. [illegible] 10. 3 | 2. 30. 0 |
| 43 | 6. 0. 0 | 0. 0. 0 | 5. 56 1. 25 | 0. 30. 0 | 5. 51 2. 56 | 0. 0. 0. | 5. 47 4. 24 | 0. 30. 0 | 5. 43 5. 51 | 1. 0. 0 | 5. 38 7. 24 | 1. 30. 0 | 5. 34 8. 40 | 2. 0. 0 | 5. 30 [illegible] 19 | 2. 30. 0 |
| 44 | 6. 0. 0 | 0. 0. 0 | 5. 56 1. 20 | 0. 30. 0 | 5. [illegible] 2. 53 | 0. 0. 0. | 5. 48 4. 19 | 0. 30. 0 | 5. 43 5. 46 | 1. 0. 0 | 5. 39 7. 17 | 1. 30. 0 | 5. 35 8. 30 | 2. 0. 0 | 5. 31 [illegible] 7 | 2. 30. 0 |
| 45 | 6. 0. 0 | 0. 0. 0 | 5. 56 1. 16 | 0. 30. 0 | 5. 52 2. 50 | 0. 0. 0. | 5. 48 4. 15 | 0. 30. 0 | 5. 44 5. 41 | 1. 0. 0 | 5. 40 7. 9 | 1. 30. 0 | 5. 36 8. 21 | 2. 0. 0 | 5. 32 [illegible] | 2. 30. 0 |
| 46 | 6. 0. 0 | 0. 0. 0 | 5. 56 1. 12 | 0. 30. 0 | 5. 52 2. 47 | 0. 0. 0. | 5. 48 4. 11 | 0. 30. 0 | 5. 45 5. 34 | 1. 0. 0 | 5. 41 6. 59 | 1. 30. 0 | 5. 37 8. 11 | 2. 0. 0 | 5. 33 [illegible] | 2. 30. 0 |
| 47 | 6. 0. 0 | 0. 0. 0 | 5. 56 1. 22 | 0. 30. 0 | 5. 52 2. [illegible] | 0. 0. 0. | 5. 49 4. 0 | 0. 30. 0 | 5. 45 5. 28 | 1. 0. 0 | 5. 41 6. [illegible] | 1. 30. 0 | 5. 38 8. 13 | 2. 0. 0 | 5. [illegible] | 2. 30. 0 |
| 48 | 6. 0. 0 | 0. 0. 0 | 5. 56 1. 21 | 0. 30. 0 | 5. 53 2. 42 | 0. 0. 0. | 5. 49 4. 0 | 0. 30. 0 | 5. 46 5. 23 | 1. 0. 0 | 5. 42 6. 42 | 1. 30. 0 | 5. 38 8. 3 | 2. 0. 0 | 5. [illegible] | 2. 30. 0 |
| 49 | 6. 0. 0 | 0. 0. 0 | 5. 57 1. 17 | 0. 30. 0 | 5. 53 2. 38 | 0. 0. 0. | 5. 50 3. 54 | 0. 30. 0 | 5. 46 5. 18 | 1. 0. 0 | 5. 43 6. 38 | 1. 30. 0 | 5. 39 7. 58 | 2. 0. 0 | 5. 35 [illegible] | 2. 30. 0 |
| 50 | 6. 0. 0 | 0. 0. 0 | 5. 57 1. 13 | 0. 30. 0 | 5. 53 2. 37 | 0. 0. 0. | 5. 50 3. 55 | 0. 30. 0 | 5. 47 5. 13 | 1. 0. 0 | 5. 43 6. 34 | 1. 30. 0 | 5. 40 7. 51 | 2. 0. 0 | 5. 36 [illegible] | 2. 30. 0 |
| 52 | 6. 0. 0 | 0. 0. 0 | 5. 57 1. 17 | 0. 30. 0 | 5. 54 2. 31 | 0. 0. 0. | 5. 51 3. 48 | 0. 30. 0 | 5. 47 5. 3 | 1. 0. 0 | 5. 44 6. 21 | 1. 30. 0 | 5. 41 7. 37 | 2. 0. 0 | 5. 38 [illegible] | 2. 30. 0 |
| 54 | 6. 0. 0 | 0. 0. 0 | 5. 57 1. 14 | 0. 30. 0 | 5. 54 2. 28 | 0. 0. 0. | 5. 51 3. 43 | 0. 30. 0 | 5. 48 4. 57 | 1. 0. 0 | 5. 45 6. 12 | 1. 30. 0 | 5. 42 7. 28 | 2. 0. 0 | 5. 40 [illegible] | 2. 30. 0 |
| 56 | 6. 0. 0 | 0. 0. 0 | [illegible] 1. 10 | 0. 30. 0 | 5. 55 2. 23 | 0. 0. 0. | 5. 52 3. 37 | 0. 30. 0 | 5. 49 4. 50 | 1. 0. 0 | 5. 47 6. [illegible] | 1. 30. 0 | 5. 44 7. [illegible] | 2. 0. 0 | 5. 41 [illegible] | 2. 30. 0 |
| 58 | 6. 0. 0 | 0. 0. 0 | [illegible] 1. 11 | 0. 30. 0 | 5. 55 [illegible] | 0. 0. 0. | 5. 52 3. 31 | 0. 30. 0 | 5. 50 4. 43 | 1. 0. 0 | 5. 47 5. 54 | 1. 30. 0 | 5. 47 7. [illegible] | 2. 0. 0 | 5. 43 [illegible] | 2. 30. 0 |
| 60 | 6. 0. 0 | 0. 0. 0 | 5. 58 1. 6 | 0. 30. 0 | 5. 55 2. 17 | 0. 0. 0. | 5. 53 3. 25 | 0. 30. 0 | 5. 50 4. 37 | 1. 0. 0 | 5. 48 5. 47 | 1. 30. 0 | 5. 46 6. 55 | 2. 0. 0 | 5. 44 [illegible] | 2. 30. 0 |
| 62 | 6. 0. 0 | 0. 0. 0 | 5. 58 1. 8 | 0. 30. 0 | 5. 56 2. 14 | 0. 0. 0. | 5. 54 3. 21 | 0. 30. 0 | 5. 51 4. 31 | 1. 0. 0 | 5. 49 5. 37 | 1. 30. 0 | 5. 47 6. 47 | 2. 0. 0 | 5. 45 [illegible] | 2. 30. 0 |
| 64 | 6. 0. 0 | 0. 0. 0 | 5. 58 1. 7 | 0. 30. 0 | 5. 56 2. 12 | 0. 0. 0. | 5. 54 3. 20 | 0. 30. 0 | 5. 52 4. 27 | 1. 0. 0 | 5. 50 5. 34 | 1. 30. 0 | 5. 48 6. 41 | 2. 0. 0 | 5. 46 [illegible] | 2. 30. 0 |
| 66 | 6. 0. 0 | 0. 0. 0 | [illegible] 1. 6 | 0. 30. 0 | 5. 56 2. 11 | 0. 0. 0. | 5. 55 3. 17 | 0. 30. 0 | 5. 53 4. 24 | 1. 0. 0 | 5. 51 5. 31 | 1. 30. 0 | 5. 49 6. 36 | 2. 0. 0 | 5. 47 [illegible] | 2. 30. 0 |
| 68 | 6. 0. 0 | 0. 0. 0 | 5. 58 1. 5 | 0. 30. 0 | 5. 57 2. 9 | 0. 0. 0. | 5. 55 3. 14 | 0. 30. 0 | 5. 54 4. 19 | 1. 0. 0 | 5. 52 5. [illegible] | 1. 30. 0 | 5. 51 6. 32 | 2. 0. 0 | 5. 49 [illegible] | 2. 30. 0 |
| 70 | 6. 0. 0 | 0. 0. 0 | 5. 59 1. 4 | 0. 30. 0 | 5. 57 2. [illegible] | 0. 0. 0. | 5. 56 3. 13 | 0. 30. 0 | 5. 54 4. 15 | 1. 0. 0 | 5. 54 5. [illegible] | 1. 30. 0 | 5. 53 6. 27 | 2. 0. 0 | 5. 52 [illegible] | 2. 30. 0 |

Declination of the same Name as the Latitude.

| Latitude. | 8° | | 9° | | 10° | | 11° | | 12° | | 13° | | 14° | | 15° | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. | Time from Noon. | Altitude. |
| | h m s | ° ′ | h m s | ° ′ | h m s | ° ′ | h m s | ° ′ | h m s | ° ′ | h m s | ° ′ | h m s | ° ′ | h m s | ° ′ |
| 0 | 6. 0 0 | 0. 0 | 6. 0 0 | 0. 0 | 6. 0 0 | 0. 0 | 6. 0 0 | 0. 0 | 6. 0 0 | 0. 0 | 6. 0 0 | 0. 0 | 6. 0 0 | 0. 0 | 6. 0 0 | 0. 0 |
| 1 | 5. 31 | 7. 12 | 5. 35 | 6. 24 | 5. 37 | 5. 46 | 5. 39 | 5. 15 | 5. 41 | 4. 46 | 5. 43 | 4. 27 | 5. 44 | 4. 8 | 5. 45 | 3. 52 |
| 2 | 5. 2 | 14. 31 | 5. 9 | 12. 53 | 5. 14 | 11. 36 | 5. 19 | 10. 52 | 5. 22 | 9. 44 | 5. 25 | 8. 56 | 5. 28 | 8. 18 | 5. 30 | 7. 45 |
| 3 | 4. 32 | 22. 5 | 4. 43 | 19. 33 | 4. 51 | 17. 32 | 4. 57 | 15. 55 | 5. 3 | 14. 35 | 5. 8 | 13. 27 | 5. 11 | 12. 30 | 5. 15 | 11. 40 |
| 4 | 4. 1 | 30. 0 | 4. 15 | 26. 29 | 4. 27 | 23. 41 | 4. 36 | 21. 27 | 4. 43 | 19. 36 | 4. 49 | 18. 4 | 4. 55 | 16. 45 | 4. 59 | 15. 38 |
| 5 | 3. 16 | 37. 49 | 3. 40 | 33. 52 | 4. 1 | 30. 8 | 4. 13 | 27. 11 | 4. 23 | 24. 47 | 4. 31 | 22. 49 | 4. 38 | 21. 7 | 4. 44 | 19. 41 |
| 6 | 2. 46 | 45. 43 | 3. 14 | 41. 36 | 3. 34 | 37. 1 | 3. 49 | 33. 13 | 4. 1 | 30. 11 | 4. 12 | 27. 41 | 4. 20 | 25. 36 | 4. 28 | 23. 46 |
| 7 | 1. 56 | 61. 7 | 2. 37 | 51. 19 | 3. 3 | 44. 34 | 3. 23 | 39. 42 | 3. 39 | 35. 53 | 3. 51 | 32. 49 | 4. 2 | 30. 15 | 4. 11 | 28. 5 |
| 8 | 0. 0 | 90. 0 | 1. 52 | 62. 52 | 2. 29 | 53. 16 | 2. 55 | 46. 56 | 3. 14 | 42. 1 | 3. 30 | 38. 13 | 3. 43 | 35. 7 | 3. 53 | 32. 31 |
| 9 | 1. 50 | 62. 52 | 2. 0 | 60. 0 | 1. 44 | 54. 16 | 2. 22 | 55. 4 | 2. 47 | 48. 48 | 3. 7 | 44. 4 | 3. 22 | 40. 17 | 3. 35 | 37. 11 |
| 10 | 2. 29 | 53. 16 | 1. 44 | 64. 16 | 0. 0 | 90. 0 | 1. 46 | 65. 31 | 2. 10 | 56. 38 | 2. 41 | 50. 34 | 3. 0 | 45. 54 | 3. 15 | 42. 8 |
| 11 | 2. 55 | 46. 5 | 2. 22 | 55. 4 | 1. 40 | 65. 31 | 0. 0 | 90. 0 | 1. 35 | 66. 34 | 2. 11 | 58. 1 | 2. 35 | 52. 4 | 2. 54 | 47. 36 |
| 12 | 3. 14 | 42. 1 | 2. 47 | 48. 48 | 2. 16 | 59. 38 | 1. 35 | 66. 34 | 0. 0 | 90. 0 | 1. 32 | 67. 33 | 2. 0 | 59. 15 | 2. 32 | 53. 27 |
| 13 | 3. 30 | 38. 13 | 3. 7 | 44. 4 | 2. 41 | 59. 34 | 2. 11 | 58. 1 | 1. 32 | 67. 33 | 0. 0 | 90. 0 | 1. 29 | 68. 25 | 2. 2 | 64. 21 |
| 14 | 3. 43 | 35. 7 | 3. 22 | 40. 17 | 3. 0 | 45. 52 | 2. 35 | 52. 4 | 2. 0 | 59. 15 | 1. 29 | 68. 25 | 0. 0 | 90. 0 | 1. 29 | 69. 11 |
| 15 | 3. 53 | 32. 32 | 3. 35 | 37. 11 | 3. 15 | 42. 8 | 2. 54 | 47. 31 | 2. 30 | 53. 27 | 2. 2 | 60. 22 | 1. 29 | 69. 11 | 0. 0 | 90. 0 |
| 16 | 4. 3 | 30. 26 | 3. 46 | 34. 35 | 3. 28 | 39. 3 | 3. 9 | 43. 45 | 2. 49 | 48. 58 | 2. 26 | 54. 42 | 1. 58 | 61. 22 | 1. 23 | 66. 56 |
| 17 | 4. 11 | 28. 24 | 3. 55 | 32. 21 | 3. 39 | 36. 24 | 3. 22 | 40. 44 | 3. 4 | 45. 50 | 2. 44 | 50. 18 | 2. 21 | 55. 56 | 1. 55 | 62. 17 |
| 18 | 4. 17 | 26. 46 | 4. 3 | 30. 25 | 3. 49 | 34. 11 | 3. 33 | 38. 46 | 3. 17 | 42. 17 | 2. 59 | 46. 43 | 2. 40 | 51. 32 | 2. 18 | 56. 53 |
| 19 | 4. 24 | 25. 18 | 4. 10 | 28. 43 | 3. 57 | 32. 14 | 3. 43 | 35. 53 | 3. 28 | 39. 41 | 3. 12 | 43. 42 | 2. 54 | 48. 8 | 2. 36 | 52. 39 |
| 20 | 4. 29 | 24. 1 | 4. 17 | 27. 13 | 4. 4 | 30. 31 | 3. 51 | 33. 55 | 3. 37 | 37. 26 | 3. 23 | 41. 8 | 3. 7 | 45. 1 | 2. 50 | 49. 11 |
| 21 | 4. 34 | 22. 51 | 4. 23 | 25. 53 | 4. 11 | 28. 50 | 3. 58 | 32. 1 | 3. 46 | 35. 28 | 3. 32 | 38. 53 | 3. 18 | 42. 28 | 3. 3 | 46. 14 |
| 22 | 4. 39 | 21. 46 | 4. 28 | 24. 41 | 4. 16 | 27. 37 | 4. 5 | 30. 37 | 3. 53 | 33. 43 | 3. 41 | 36. 54 | 3. 28 | 40. 14 | 3. 14 | 43. 42 |
| 23 | 4. 43 | 20. 52 | 4. 32 | 23. 36 | 4. 22 | 26. 23 | 4. 11 | 29. 14 | 4. 0 | 32. 0 | 3. 48 | 35. 9 | 3. 36 | 38. 15 | 3. 23 | 41. 29 |
| 24 | 4. 46 | 20. 1 | 4. 37 | 22. 37 | 4. 27 | 25. 14 | 4. 16 | 27. 56 | 4. 6 | 30. 45 | 3. 55 | 33. 35 | 3. 44 | 36. 39 | 3. 32 | 39. 51 |
| 25 | 4. 50 | 19. 14 | 4. 41 | 21. 43 | 4. 31 | 24. 16 | 4. 21 | 26. 53 | 4. 12 | 29. 28 | 4. 1 | 32. 15 | 3. 51 | 34. 55 | 3. 43 | 37. 47 |
| 26 | 4. 53 | 18. 31 | 4. 44 | 20. 54 | 4. 35 | 23. 23 | 4. 26 | 25. 48 | 4. 17 | 28. 16 | 4. 7 | 30. 52 | 3. 57 | 33. 30 | 3. 47 | 36. 11 |
| 27 | 4. 56 | 17. 51 | 4. 48 | 20. 6 | 4. 39 | 22. 29 | 4. 30 | 24. 51 | 4. 21 | 27. 15 | 4. 12 | 29. 42 | 4. 3 | 32. 12 | 3. 53 | 34. 45 |
| 28 | 4. 59 | 17. 15 | 4. 51 | 19. 28 | 4. 43 | 21. 44 | 4. 34 | 23. 56 | 4. 26 | 26. 17 | 4. 17 | 28. 38 | 4. 8 | 31. 1 | 3. 59 | 33. 27 |
| 29 | 5. 1 | 16. 41 | 4. 54 | 18. 46 | 4. 46 | 20. 56 | 4. 38 | 23. 1 | 4. 30 | 25. 24 | 4. 22 | 27. 36 | 4. 13 | 29. 56 | 4. 4 | 32. 10 |
| 30 | 5. 4 | 16. 10 | 4. 58 | 18. 14 | 4. 49 | 20. 19 | 4. 41 | 22. 26 | 4. 34 | 24. 34 | 4. 26 | 26. 44 | 4. 18 | 28. 56 | 4. 9 | 31. 15 |
| 31 | 5. 6 | 15. 41 | 4. 59 | 17. 41 | 4. 52 | 19. 42 | 4. 44 | 21. 45 | 4. 37 | 23. 49 | 4. 30 | 25. 54 | 4. 22 | 28. 1 | 4. 14 | 30. 14 |
| 32 | 5. 8 | 15. 14 | 5. 1 | 17. 1 | 4. 54 | 19. 5 | 4. 48 | 21. 6 | 4. 41 | 23. 6 | 4. 33 | 25. 7 | 4. 26 | 27. 14 | 4. 18 | 29. 14 |
| 33 | 5. 10 | 14. 48 | 5. 4 | 16. 48 | 4. 57 | 18. 50 | 4. 52 | 20. 51 | 4. 44 | 22. 50 | 4. 37 | 24. 54 | 4. 30 | 26. 58 | 4. 22 | 28. 57 |
| 34 | 5. 12 | 14. 25 | 5. 6 | 16. 35 | 4. 59 | 18. 36 | 4. 55 | 19. 37 | 4. 47 | 21. 36 | 4. 40 | 23. 38 | 4. 33 | 25. 38 | 4. 26 | 27. 34 |
| 35 | 5. 14 | 14. 3 | 5. 8 | 15. 57 | 5. 2 | 17. 37 | 4. 58 | 18. 37 | 4. 51 | 20. 25 | 4. 44 | 22. 25 | 4. 37 | 24. 23 | 4. 30 | 26. 19 |
| 36 | 5. 15 | 13. 42 | 5. 10 | 15. 20 | 5. 4 | 17. 11 | 4. 58 | 18. 17 | 4. 54 | 19. 55 | 4. 47 | 21. 52 | 4. 41 | 23. 48 | 4. 34 | 25. 43 |
| 37 | 5. 17 | 13. 22 | 5. 11 | 15. 4 | 5. 6 | 16. 46 | 5. 2 | 17. 58 | 4. 54 | 19. 31 | 4. 49 | 21. 27 | 4. 43 | 23. 23 | 4. 37 | 25. 18 |
| 38 | 5. 18 | 13. 4 | 5. 13 | 14. 43 | 5. 8 | 16. 23 | 5. 3 | 17. 38 | 4. 57 | 19. 11 | 4. 51 | 21. 6 | 4. 46 | 23. 0 | 4. 40 | 24. 54 |
| 39 | 5. 20 | 12. 47 | 5. 15 | 14. 27 | 5. 11 | 16. 1 | 5. 6 | 17. 20 | 5. 0 | 18. 52 | 4. 54 | 20. 47 | 4. 48 | 22. 37 | 4. 43 | 24. 31 |
| 40 | 5. 22 | 12. 31 | 5. 17 | 14. 12 | 5. 13 | 15. 41 | 5. 9 | 17. 1 | 5. 2 | 18. 34 | 4. 56 | 20. 29 | 4. 51 | 22. 17 | 4. 46 | 24. 9 |
| 41 | 5. 24 | 12. 16 | 5. 19 | 13. 57 | 5. 15 | 15. 21 | 5. 11 | 16. 42 | 5. 5 | 18. 15 | 4. 58 | 20. 11 | 4. 53 | 21. 58 | 4. 48 | 23. 48 |
| 42 | 5. 26 | 12. 1 | 5. 21 | 13. 43 | 5. 17 | 15. 3 | 5. 13 | 16. 24 | 5. 8 | 17. 58 | 5. 1 | 19. 54 | 4. 56 | 21. 42 | 4. 51 | 23. 28 |
| 43 | 5. 28 | 11. 47 | 5. 23 | 13. 30 | 5. 19 | 14. 48 | 5. 15 | 16. 7 | 5. 10 | 17. 41 | 5. 3 | 19. 37 | 4. 58 | 21. 25 | 4. 53 | 23. 11 |
| 44 | 5. 30 | 11. 33 | 5. 25 | 13. 16 | 5. 21 | 14. 33 | 5. 17 | 15. 51 | 5. 12 | 17. 24 | 5. 5 | 19. 20 | 5. 0 | 21. 8 | 4. 56 | 22. 54 |
| 45 | 5. 32 | 11. 19 | 5. 27 | 13. 2 | 5. 23 | 14. 19 | 5. 19 | 15. 36 | 5. 14 | 17. 7 | 5. 7 | 19. 3 | 5. 2 | 20. 51 | 4. 58 | 22. 37 |
| 46 | 5. 34 | 11. 5 | 5. 29 | 12. 48 | 5. 25 | 14. 5 | 5. 21 | 15. 22 | 5. 16 | 16. 49 | 5. 9 | 18. 46 | 5. 4 | 20. 34 | 5. 0 | 22. 21 |
| 47 | 5. 36 | 10. 51 | 5. 31 | 12. 34 | 5. 27 | 13. 51 | 5. 23 | 15. 8 | 5. 18 | 16. 31 | 5. 11 | 18. 28 | 5. 6 | 20. 17 | 5. 2 | 22. 4 |
| 48 | 5. 38 | 10. 37 | 5. 33 | 12. 20 | 5. 29 | 13. 37 | 5. 25 | 14. 54 | 5. 20 | 16. 14 | 5. 13 | 18. 11 | 5. 8 | 19. 59 | 5. 4 | 21. 47 |
| 49 | 5. 40 | 10. 23 | 5. 35 | 12. 6 | 5. 31 | 13. 23 | 5. 27 | 14. 39 | 5. 22 | 15. 56 | 5. 15 | 17. 53 | 5. 10 | 19. 42 | 5. 6 | 21. 30 |
| 50 | 5. 42 | 10. 9 | 5. 37 | 11. 51 | 5. 33 | 13. 9 | 5. 29 | 14. 25 | 5. 24 | 15. 42 | 5. 17 | 17. 37 | 5. 12 | 19. 25 | 5. 8 | 21. 13 |
| 52 | 5. 46 | 9. 41 | 5. 41 | 11. 23 | 5. 37 | 12. 44 | 5. 33 | 14. 1 | 5. 28 | 15. 18 | 5. 21 | 17. 7 | 5. 16 | 18. 56 | 5. 12 | 20. 39 |
| 54 | 5. 50 | 9. 13 | 5. 45 | 10. 55 | 5. 41 | 12. 16 | 5. 37 | 13. 34 | 5. 32 | 14. 54 | 5. 25 | 16. 43 | 5. 20 | 18. 31 | 5. 15 | 18. 18 |
| 56 | 5. 54 | 8. 45 | 5. 49 | 10. 27 | 5. 45 | 11. 48 | 5. 41 | 13. 7 | 5. 36 | 14. 27 | 5. 29 | 16. 18 | 5. 24 | 18. 7 | 5. 20 | 19. 57 |
| 58 | 5. 58 | 8. 17 | 5. 53 | 9. 59 | 5. 49 | 11. 21 | 5. 45 | 12. 40 | 5. 40 | 14. 0 | 5. 33 | 15. 53 | 5. 28 | 17. 42 | 5. 24 | 19. 32 |
| 60 | 6. 2 | 7. 49 | 5. 57 | 9. 31 | 5. 53 | 10. 54 | 5. 49 | 12. 13 | 5. 44 | 13. 33 | 5. 37 | 15. 28 | 5. 32 | 17. 17 | 5. 28 | 19. 7 |
| 62 | 6. 6 | 7. 21 | 6. 1 | 9. 3 | 5. 57 | 10. 26 | 5. 53 | 11. 46 | 5. 48 | 13. 6 | 5. 41 | 15. 3 | 5. 36 | 16. 52 | 5. 32 | 18. 42 |
| 64 | 6. 10 | 6. 53 | 6. 5 | 8. 35 | 6. 1 | 9. 58 | 5. 57 | 11. 18 | 5. 52 | 12. 38 | 5. 45 | 14. 37 | 5. 40 | 16. 27 | 5. 36 | 18. 17 |
| 66 | 6. 14 | 6. 25 | 6. 9 | 8. 7 | 6. 5 | 9. 30 | 6. 1 | 10. 50 | 5. 56 | 12. 10 | 5. 49 | 14. 11 | 5. 44 | 16. 2 | 5. 40 | 17. 52 |
| 68 | 6. 18 | 5. 57 | 6. 13 | 7. 39 | 6. 9 | 9. 2 | 6. 5 | 10. 22 | 6. 0 | 11. 42 | 5. 53 | 13. 45 | 5. 48 | 15. 36 | 5. 44 | 17. 27 |
| 70 | 6. 22 | 5. 29 | 6. 17 | 7. 11 | 6. 13 | 8. 34 | 6. 9 | 9. 54 | 6. 4 | 11. 14 | 5. 57 | 13. 18 | 5. 52 | 15. 10 | 5. 48 | 17. 2 |
| 72 | 6. 26 | 5. 1 | 6. 21 | 6. 43 | 6. 17 | 8. 6 | 6. 13 | 9. 26 | 6. 8 | 10. 46 | 6. 1 | 12. 51 | 5. 56 | 14. 44 | 5. 52 | 16. 36 |
| 74 | 6. 30 | 4. 33 | 6. 25 | 6. 15 | 6. 21 | 7. 38 | 6. 17 | 8. 58 | 6. 12 | 10. 18 | 6. 5 | 12. 24 | 6. 0 | 14. 18 | 5. 56 | 16. 10 |
| 76 | 6. 34 | 4. 5 | 6. 29 | 5. 47 | 6. 25 | 7. 10 | 6. 21 | 8. 30 | 6. 16 | 9. 50 | 6. 9 | 11. 57 | 6. 4 | 13. 52 | 6. 0 | 15. 44 |
| 78 | 6. 38 | 3. 37 | 6. 33 | 5. 19 | 6. 29 | 6. 42 | 6. 25 | 8. 2 | 6. 20 | 9. 22 | 6. 13 | 11. 30 | 6. 8 | 13. 26 | 6. 4 | 15. 18 |
| 80 | 6. 42 | 3. 9 | 6. 37 | 4. 51 | 6. 33 | 6. 14 | 6. 29 | 7. 34 | 6. 24 | 8. 54 | 6. 17 | 11. 3 | 6. 12 | 13. 0 | 6. 8 | 14. 52 |
| 82 | 6. 46 | 2. 41 | 6. 41 | 4. 23 | 6. 37 | 5. 46 | 6. 33 | 7. 6 | 6. 28 | 8. 26 | 6. 21 | 10. 36 | 6. 16 | 12. 34 | 6. 12 | 14. 26 |
| 84 | 6. 50 | 2. 13 | 6. 45 | 3. 55 | 6. 41 | 5. 18 | 6. 37 | 6. 38 | 6. 32 | 7. 58 | 6. 25 | 10. 9 | 6. 20 | 12. 8 | 6. 16 | 14. 0 |
| 86 | 6. 54 | 1. 45 | 6. 49 | 3. 27 | 6. 45 | 4. 50 | 6. 41 | 6. 10 | 6. 36 | 7. 30 | 6. 29 | 9. 42 | 6. 24 | 11. 42 | 6. 20 | 13. 34 |
| 88 | 6. 58 | 1. 17 | 6. 53 | 2. 59 | 6. 49 | 4. 22 | 6. 45 | 5. 42 | 6. 40 | 7. 2 | 6. 33 | 9. 15 | 6. 28 | 11. 16 | 6. 24 | 13. 8 |
| 90 | 7. 2 | 0. 49 | 6. 57 | 2. 31 | 6. 53 | 3. 54 | 6. 49 | 5. 14 | 6. 44 | 6. 34 | 6. 37 | 8. 48 | 6. 32 | 10. 50 | 6. 28 | 12. 42 |

Declination of the same Name as the Latitude.

| Latitude. | 16° | | 17° | | 18° | | 19° | | 20° | | 21° | | 22° | | 23° | | 24° | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Time from Noon. | Difference. | Time from Noon. | Alteration. | Time from Noon. | Alteration. | Time from Noon. | Alteration. | Time from Noon. | Alteration. | Time from Noon. | Alteration. | Time from Noon. | Alteration. | Time from Noon. | Alteration. | Time from Noon. | Alteration. |
| ° | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. | h. m. s. |
| 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 | 0. 0. 0 |
| 1 | 5. 4[illegible] | 3. 3[illegible] | 5. 4[illegible] | 3. 14 | 5. 4[illegible] | 3. 4 | 5. 4[illegible] | 2. 55 | 5. 5[illegible] | 2. 47 | 5. 5[illegible] | 2. 4[illegible] | 5. 5[illegible] | 2. 3[illegible] | 5. 5[illegible] | 2. 3[illegible] | 5. 6[illegible] | 2. 2[illegible] |
| 2 | 5. 3[illegible] | 7. 1[illegible] | 5. 3[illegible] | 6. 51 | 5. 3[illegible] | 6. 40 | 5. 3[illegible] | 6. 29 | 5. 3[illegible] | 6. 18 | 5. 3[illegible] | 6. 7 | 5. 4[illegible] | 5. 2[illegible] | 5. 4[illegible] | 5. 2[illegible] | 5. 4[illegible] | 5. 1[illegible] |
| 3 | 5. 1[illegible] | 10. 5[illegible] | 5. 2[illegible] | 10. 1[illegible] | 5. 2[illegible] | 9. 45 | 5. 2[illegible] | 9. 29 | 5. 2[illegible] | 9. 13 | 5. 2[illegible] | 8. 58 | 5. 3[illegible] | 8. 4[illegible] | 5. 3[illegible] | 8. 4[illegible] | 5. 3[illegible] | 7. 2[illegible] |
| 4 | 5. 0[illegible] | 13. 4[illegible] | 5. 1[illegible] | 13. 4[illegible] | 5. 1[illegible] | 12. 5[illegible] | 5. 1[illegible] | 12. 3[illegible] | 5. 1[illegible] | 11. 5[illegible] | 5. 1[illegible] | 11. 2[illegible] | 5. 2[illegible] | 10. 5[illegible] | 5. 2[illegible] | 10. 4[illegible] | 5. 2[illegible] | 10. 2[illegible] |
| 5 | 4. 49 18. 26 | 4. 53 17. 21 | 4. 58 16. 15 | 5. 1 15. 7 | 5. 3 14. 4 | 5. 5 13. 0 | 5. 7 11. 55 | 5. 9 10. 47 | 5. 11 9. 37 | 5. 13 8. 27 | 5. 14 7. 17 | 5. 16 6. 7 | 5. 16 4. 57 | 5. 18 3. 47 | 5. 18 2. 37 | 5. 19 1. 27 | 5. 19 0. 17 | 5. 20 59. 7 |
| 6 | 4. 34 22. 17 | 4. 40 20. 57 | 4. 45 19. 40 | 4. 49 18. 24 | 4. 53 17. 8 | 4. 56 15. 52 | 4. 59 14. 36 | 5. 2 13. 20 | 5. 4 12. 4 | 5. 6 10. 48 | 5. 8 9. 32 | 5. 10 8. 16 | 5. 11 7. 0 | 5. 12 5. 44 | 5. 13 4. 28 | 5. 14 3. 12 | 5. 15 1. 56 | 5. 15 0. 40 |
| 7 | 4. 19 26. 14 | 4. 25 24. 38 | 4. 31 23. 14 | 4. 36 21. 50 | 4. 41 20. 26 | 4. 45 19. 2 | 4. 48 17. 38 | 4. 51 16. 14 | 4. 54 14. 50 | 4. 56 13. 26 | 4. 58 12. 2 | 5. 0 10. 38 | 5. 1 9. 14 | 5. 2 7. 50 | 5. 3 6. 26 | 5. 4 5. 2 | 5. 4 3. 38 | 5. 5 2. 14 |
| 8 | 4. 3 30. 20 | 4. 11 28. 27 | 4. 17 26. 46 | 4. 23 25. 18 | 4. 28 23. 51 | 4. 32 22. 24 | 4. 36 20. 57 | 4. 39 19. 30 | 4. 42 18. 3 | 4. 45 16. 36 | 4. 47 15. 9 | 4. 49 13. 42 | 4. 50 12. 15 | 4. 52 10. 48 | 4. 53 9. 21 | 4. 54 7. 54 | 4. 55 6. 27 | 4. 56 5. 0 |
| 9 | 3. 46 34. 35 | 3. 55 32. 21 | 4. 3 30. 25 | 4. 10 28. 44 | 4. 16 27. 17 | 4. 21 25. 50 | 4. 25 24. 23 | 4. 29 22. 56 | 4. 32 21. 29 | 4. 35 20. 2 | 4. 37 18. 35 | 4. 39 17. 8 | 4. 41 15. 41 | 4. 43 14. 14 | 4. 44 12. 47 | 4. 45 11. 20 | 4. 46 9. 53 | 4. 47 8. 26 |
| 10 | 3. 28 39. 3 | 3. 39 36. 41 | 3. 49 34. 41 | 3. 57 32. 14 | 4. 4 30. 31 | 4. 10 28. 48 | 4. 15 27. 5 | 4. 19 25. 22 | 4. 23 23. 39 | 4. 26 21. 56 | 4. 28 20. 13 | 4. 30 18. 30 | 4. 32 16. 47 | 4. 33 15. 4 | 4. 34 13. 21 | 4. 35 11. 38 | 4. 36 9. 55 | 4. 37 8. 12 |
| 11 | 3. 6 43. 45 | 3. 22 40. 44 | 3. 36 38. 46 | 3. 47 36. 53 | 3. 57 35. 5 | 4. 5 33. 17 | 4. 11 31. 29 | 4. 16 29. 41 | 4. 20 27. 53 | 4. 24 26. 5 | 4. 27 24. 17 | 4. 29 22. 29 | 4. 31 20. 41 | 4. 33 18. 53 | 4. 34 17. 5 | 4. 35 15. 17 | 4. 36 13. 29 | 4. 37 11. 41 |
| 12 | 2. 49 48. 58 | 3. 4 45. 47 | 3. 17 42. 17 | 3. 30 40. 41 | 3. 37 38. 7 | 3. 47 36. 0 | 3. 55 33. 53 | 4. 2 31. 46 | 4. 8 29. 38 | 4. 13 27. 31 | 4. 17 25. 23 | 4. 20 23. 16 | 4. 23 21. 8 | 4. 25 19. 1 | 4. 27 16. 53 | 4. 28 14. 46 | 4. 29 12. 38 | 4. 30 10. 31 |
| 13 | 2. 26 54. 42 | 2. 44 50. 18 | 2. 59 46. 43 | 3. 12 43. 8 | 3. 23 39. 32 | 3. 33 35. 56 | 3. 41 32. 20 | 3. 48 28. 44 | 3. 54 25. 8 | 3. 59 21. 32 | 4. 3 17. 56 | 4. 6 14. 20 | 4. 9 10. 44 | 4. 11 7. 8 | 4. 13 3. 32 | 4. 14 59. 56 | 4. 15 56. 20 | 4. 16 52. 44 |
| 14 | 1. 58 [illegible]. 22 | 2. 21 55. 50 | 2. 41 51. 3 | 2. 57 [illegible] | 3. 10 46. 1 | 3. 21 41. 58 | 3. 30 37. 55 | 3. 38 33. 52 | 3. 45 29. 49 | 3. 50 25. 46 | 3. 55 21. 43 | 3. 59 17. 40 | 4. 2 13. 37 | 4. 4 9. 34 | 4. 6 5. 31 | 4. 7 1. 28 | 4. 8 57. 25 | 4. 9 53. 22 |
| 15 | 1. 23 [illegible]. 53 | 1. 53 [illegible]. 17 | 2. 18 50. 44 | 2. 36 [illegible]. 30 | 2. 52 46. 16 | 3. 5 42. 2 | 3. 16 37. 48 | 3. 26 33. 34 | 3. 34 29. 20 | 3. 41 25. 6 | 3. 47 20. 52 | 3. 52 16. 38 | 3. 56 12. 24 | 4. 0 8. 10 | 4. 2 3. 56 | 4. 4 59. 42 | 4. 5 55. 28 | 4. 6 51. 14 |
| 16 | 0. [illegible]. 0 | 1. 21 [illegible]. 31 | 1. 52 [illegible]. 7 | 2. 14 [illegible]. 51 | 2. 33 47. 31 | 2. 48 43. 12 | 3. 1 38. 53 | 3. 12 34. 34 | 3. 21 30. 15 | 3. 29 25. 56 | 3. 36 21. 37 | 3. 42 17. 18 | 3. 47 12. 59 | 3. 51 8. 40 | 3. 54 4. 21 | 3. 57 0. 2 | 3. 59 55. 43 | 4. 1 51. 24 |
| 17 | 1. 21 [illegible]. 31 | 0. [illegible]. 0 | 1. 19 [illegible]. 7 | 1. 52 [illegible]. 7 | 2. 11 [illegible]. 7 | 2. 27 [illegible]. 8 | 2. 41 [illegible]. 9 | 2. 53 [illegible]. 10 | 3. 4 [illegible]. 11 | 3. 13 [illegible]. 12 | 3. 21 [illegible]. 13 | 3. 28 [illegible]. 14 | 3. 34 [illegible]. 15 | 3. 39 [illegible]. 16 | 3. 44 [illegible]. 17 | 3. 48 [illegible]. 18 | 3. 51 [illegible]. 19 | 3. 54 [illegible]. 20 |
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| 19 | 2. 14 57. 51 | 1. 56 [illegible]. 54 | 1. 17 [illegible]. 30 | 0. [illegible]. 0 | 1. 17 [illegible]. 0 | 1. 45 [illegible]. 1 | 2. 1 [illegible]. 2 | 2. 16 [illegible]. 3 | 2. 29 [illegible]. 4 | 2. 40 [illegible]. 5 | 2. 50 [illegible]. 6 | 2. 59 [illegible]. 7 | 3. 7 [illegible]. 8 | 3. 14 [illegible]. 9 | 3. 20 [illegible]. 10 | 3. 26 [illegible]. 11 | 3. 31 [illegible]. 12 | 3. 36 [illegible]. 13 |
| 20 | 2. 32 53. 43 | 2. 11 [illegible]. 45 | 1. 47 [illegible]. 37 | 1. 16 [illegible]. 0 | 1. 45 [illegible]. 0 | 2. 0 [illegible]. 0 | 1. 14 [illegible]. 37 | 1. 29 [illegible]. 38 | 1. 42 [illegible]. 39 | 1. 53 [illegible]. 40 | 2. 4 [illegible]. 41 | 2. 13 [illegible]. 42 | 2. 21 [illegible]. 43 | 2. 28 [illegible]. 44 | 2. 34 [illegible]. 45 | 2. 40 [illegible]. 46 | 2. 45 [illegible]. 47 | 2. 50 [illegible]. 48 |
| 21 | 2. 47 50. 17 | 2. 8 [illegible]. 44 | 2. 0 [illegible]. 34 | 1. 44 [illegible]. 18 | 1. 14 [illegible]. 38 | 1. 43 [illegible]. 0 | 2. 0 [illegible]. 0 | 1. 14 [illegible]. 38 | 1. 27 [illegible]. 39 | 1. 39 [illegible]. 40 | 1. 49 [illegible]. 41 | 1. 58 [illegible]. 42 | 2. 6 [illegible]. 43 | 2. 13 [illegible]. 44 | 2. 19 [illegible]. 45 | 2. 25 [illegible]. 46 | 2. 30 [illegible]. 47 | 2. 35 [illegible]. 48 |
| 22 | 2. 59 47. 23 | 2. 43 [illegible]. 18 | 2. 26 [illegible]. 34 | 2. 6 [illegible]. 21 | 1. 43 [illegible]. 55 | 1. 13 [illegible]. 28 | 1. 41 [illegible]. 0 | 2. 0 [illegible]. 0 | 1. 13 [illegible]. 28 | 1. 25 [illegible]. 29 | 1. 36 [illegible]. 30 | 1. 45 [illegible]. 31 | 1. 53 [illegible]. 32 | 2. 0 [illegible]. 33 | 2. 7 [illegible]. 34 | 2. 13 [illegible]. 35 | 2. 19 [illegible]. 36 | 2. 24 [illegible]. 37 |
| 23 | 3. 10 14. 53 | 2. 57 [illegible]. 20 | 2. 42 [illegible]. 10 | 2. 23 [illegible]. 20 | 2. 4 [illegible]. 5 | 1. 41 [illegible]. 31 | 1. 14 [illegible]. 28 | 1. 26 [illegible]. 29 | 1. 37 [illegible]. 30 | 1. 47 [illegible]. 31 | 1. 56 [illegible]. 32 | 2. 4 [illegible]. 33 | 2. 11 [illegible]. 34 | 2. 17 [illegible]. 35 | 2. 23 [illegible]. 36 | 2. 28 [illegible]. 37 | 2. 33 [illegible]. 38 | 2. 37 [illegible]. 39 |
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| 25 | 3. 28 40. 43 | 3. 16 [illegible]. 40 | 3. 3 [illegible]. 39 | 2. 48 [illegible]. 23 | 2. 30 [illegible]. 1 | 2. 13 [illegible]. 37 | 1. 54 [illegible]. 13 | 1. 34 [illegible]. 14 | 1. 46 [illegible]. 15 | 1. 57 [illegible]. 16 | 2. 7 [illegible]. 17 | 2. 16 [illegible]. 18 | 2. 24 [illegible]. 19 | 2. 31 [illegible]. 20 | 2. 37 [illegible]. 21 | 2. 42 [illegible]. 22 | 2. 47 [illegible]. 23 | 2. 52 [illegible]. 24 |
| 26 | 3. 36 38. 58 | 3. 25 [illegible]. 58 | 3. 13 [illegible]. 40 | 2. 58 [illegible]. 47 | 2. 40 [illegible]. 51 | 2. 22 [illegible]. 17 | 2. 2 [illegible]. 54 | 1. 43 [illegible]. 55 | 1. 55 [illegible]. 56 | 2. 6 [illegible]. 57 | 2. 16 [illegible]. 58 | 2. 25 [illegible]. 59 | 2. 33 [illegible]. 0 | 2. 40 [illegible]. 1 | 2. 46 [illegible]. 2 | 2. 52 [illegible]. 3 | 2. 57 [illegible]. 4 | 3. 2 [illegible]. 5 |
| 27 | 3. 43 37. 23 | 3. 33 [illegible]. 5 | 3. 22 [illegible]. 54 | 3. 7 [illegible]. 40 | 2. 50 [illegible]. 53 | 2. 32 [illegible]. 58 | 2. 14 [illegible]. 2 | 1. 54 [illegible]. 3 | 2. 5 [illegible]. 4 | 2. 15 [illegible]. 5 | 2. 25 [illegible]. 6 | 2. 34 [illegible]. 7 | 2. 42 [illegible]. 8 | 2. 49 [illegible]. 9 | 2. 55 [illegible]. 10 | 3. 1 [illegible]. 11 | 3. 6 [illegible]. 12 | 3. 11 [illegible]. 13 |
| 28 | 3. 49 35. 57 | 3. 40 [illegible]. 31 | 3. 29 [illegible]. 41 | 3. 16 [illegible]. 54 | 3. 2 [illegible]. 40 | 2. 45 [illegible]. 44 | 2. 27 [illegible]. 49 | 2. 8 [illegible]. 50 | 2. 19 [illegible]. 51 | 2. 29 [illegible]. 52 | 2. 38 [illegible]. 53 | 2. 47 [illegible]. 54 | 2. 55 [illegible]. 55 | 3. 2 [illegible]. 56 | 3. 8 [illegible]. 57 | 3. 14 [illegible]. 58 | 3. 19 [illegible]. 59 | 3. 24 [illegible]. 0 |
| 29 | 3. 55 34. 39 | 3. 46 [illegible]. 5 | 3. 36 [illegible]. 8 | 3. 24 [illegible]. 11 | 3. 10 [illegible]. 54 | 2. 56 [illegible]. 37 | 2. 39 [illegible]. 37 | 2. 21 [illegible]. 37 | 2. 33 [illegible]. 37 | 2. 44 [illegible]. 37 | 2. 54 [illegible]. 37 | 3. 3 [illegible]. 37 | 3. 12 [illegible]. 37 | 3. 20 [illegible]. 37 | 3. 27 [illegible]. 37 | 3. 33 [illegible]. 37 | 3. 39 [illegible]. 37 | 3. 44 [illegible]. 37 |
| 30 | 4. 1 33. 27 | 3. 52 [illegible]. 47 | 3. 43 [illegible]. 1 | 3. 34 [illegible]. 3 | 3. 24 [illegible]. 13 | 3. 13 [illegible]. 47 | 3. 2 [illegible]. 31 | 2. 51 [illegible]. 14 | 2. 39 [illegible]. 15 | 2. 51 [illegible]. 16 | 3. 2 [illegible]. 17 | 3. 12 [illegible]. 18 | 3. 21 [illegible]. 19 | 3. 29 [illegible]. 20 | 3. 36 [illegible]. 21 | 3. 42 [illegible]. 22 | 3. 48 [illegible]. 23 | 3. 53 [illegible]. 24 |
| 31 | 4. 6 32. 21 | 3. 58 [illegible]. 36 | 3. 49 [illegible]. 5 | 3. 40 [illegible]. 1 | 3. 31 [illegible]. 37 | 3. 21 [illegible]. 44 | 3. 11 [illegible]. 0 | 3. 0 [illegible]. 16 | 2. 49 [illegible]. 31 | 3. 0 [illegible]. 32 | 3. 10 [illegible]. 33 | 3. 19 [illegible]. 34 | 3. 28 [illegible]. 35 | 3. 36 [illegible]. 36 | 3. 43 [illegible]. 37 | 3. 49 [illegible]. 38 | 3. 55 [illegible]. 39 | 4. 0 [illegible]. 40 |
| 32 | 4. 11 31. 21 | 4. 3 [illegible]. 20 | 3. 53 [illegible]. 4 | 3. 43 [illegible]. 54 | 3. 33 [illegible]. 40 | 3. 23 [illegible]. 1 | 3. 12 [illegible]. 17 | 3. 1 [illegible]. 33 | 2. 50 [illegible]. 49 | 3. 0 [illegible]. 50 | 3. 10 [illegible]. 51 | 3. 19 [illegible]. 52 | 3. 28 [illegible]. 53 | 3. 36 [illegible]. 54 | 3. 43 [illegible]. 55 | 3. 50 [illegible]. 56 | 3. 56 [illegible]. 57 | 4. 2 [illegible]. 58 |
| 33 | 4. 15 [illegible]. 24 | 4. [illegible]. 28 | 3. [illegible]. 34 | 3. 52 [illegible]. 43 | 3. 41 [illegible]. 54 | 3. 31 [illegible]. 6 | 3. 19 [illegible]. 23 | 3. 6 [illegible]. 40 | 2. 52 [illegible]. 57 | 3. 2 [illegible]. 58 | 3. 12 [illegible]. 59 | 3. 21 [illegible]. 0 | 3. 30 [illegible]. 1 | 3. 38 [illegible]. 2 | 3. 45 [illegible]. 3 | 3. 52 [illegible]. 4 | 3. 58 [illegible]. 5 | 4. 4 [illegible]. 6 |
| 34 | 4. 19 20. 32 | 4. 1 [illegible]. 31 | 3. 53 [illegible]. 33 | 3. 57 [illegible]. 36 | 3. 46 [illegible]. 37 | 3. 34 [illegible]. 43 | 3. 22 [illegible]. 0 | 3. 8 [illegible]. 17 | 2. 54 [illegible]. 34 | 3. 4 [illegible]. 35 | 3. 14 [illegible]. 36 | 3. 23 [illegible]. 37 | 3. 32 [illegible]. 38 | 3. 40 [illegible]. 39 | 3. 47 [illegible]. 40 | 3. 54 [illegible]. 41 | 4. 0 [illegible]. 42 | 4. 6 [illegible]. 43 |
| 35 | 4. 23 28. 43 | 4. 10 [illegible]. 30 | 4. 0 [illegible]. 34 | 3. 50 [illegible]. 33 | 3. 38 [illegible]. 30 | 3. 25 [illegible]. 44 | 3. 12 [illegible]. 0 | 2. 57 [illegible]. 15 | 2. 41 [illegible]. 30 | 2. 53 [illegible]. 31 | 3. 3 [illegible]. 32 | 3. 12 [illegible]. 33 | 3. 21 [illegible]. 34 | 3. 29 [illegible]. 35 | 3. 36 [illegible]. 36 | 3. 43 [illegible]. 37 | 3. 49 [illegible]. 38 | 3. 55 [illegible]. 39 |
| 36 | 4. 27 [illegible]. 58 | 4. [illegible]. 30 | 4. 14 [illegible]. 43 | 4. 7 [illegible]. 31 | 3. [illegible]. 35 | 3. 36 [illegible]. 57 | 3. [illegible]. 0 | 2. 45 [illegible]. 31 | 2. 57 [illegible]. 32 | 3. 8 [illegible]. 33 | 3. 17 [illegible]. 34 | 3. 26 [illegible]. 35 | 3. 34 [illegible]. 36 | 3. 42 [illegible]. 37 | 3. 49 [illegible]. 38 | 3. 55 [illegible]. 39 | 4. 1 [illegible]. 40 | 4. 7 [illegible]. 41 |
| 37 | 4. 31 [illegible]. 14 | 4. [illegible]. 49 | 4. 11 [illegible]. 54 | 4. 4 [illegible]. 44 | 3. 55 [illegible]. 47 | 3. 45 [illegible]. 9 | 3. [illegible]. 0 | 2. 49 [illegible]. 47 | 2. 59 [illegible]. 48 | 3. 10 [illegible]. 49 | 3. 20 [illegible]. 50 | 3. 29 [illegible]. 51 | 3. 37 [illegible]. 52 | 3. 45 [illegible]. 53 | 3. 52 [illegible]. 54 | 3. 58 [illegible]. 55 | 4. 4 [illegible]. 56 | 4. 9 [illegible]. 57 |
| 38 | 4. 34 [illegible]. 36 | 4. [illegible]. 21 | 4. 22 [illegible]. 8 | 4. 14 [illegible]. 57 | 4. 6 [illegible]. 37 | 3. 56 [illegible]. 43 | 3. 45 [illegible]. 0 | 3. 32 [illegible]. 17 | 3. 18 [illegible]. 18 | 3. 29 [illegible]. 19 | 3. 39 [illegible]. 20 | 3. 48 [illegible]. 21 | 3. 56 [illegible]. 22 | 4. 4 [illegible]. 23 | 4. 11 [illegible]. 24 | 4. 17 [illegible]. 25 | 4. 23 [illegible]. 26 | 4. 28 [illegible]. 27 |
| 39 | 4. 37 25. 50 | 4. 24 [illegible]. 41 | 4. 25 [illegible]. 27 | 4. 17 [illegible]. 31 | 4. 8 [illegible]. 0 | 3. 57 [illegible]. 55 | 3. 45 [illegible]. 0 | 3. 32 [illegible]. 35 | 3. 18 [illegible]. 36 | 3. 29 [illegible]. 37 | 3. 39 [illegible]. 38 | 3. 48 [illegible]. 39 | 3. 57 [illegible]. 40 | 4. 5 [illegible]. 41 | 4. 12 [illegible]. 42 | 4. 19 [illegible]. 43 | 4. 25 [illegible]. 44 | 4. 30 [illegible]. 45 |
| 40 | 4. 40 27. 34 | 4. 28 [illegible]. 3 | 4. 28 [illegible]. 43 | 4. 20 [illegible]. 25 | 4. 11 [illegible]. 0 | 3. 59 [illegible]. 57 | 3. 47 [illegible]. 0 | 3. 33 [illegible]. 37 | 3. 19 [illegible]. 38 | 3. 30 [illegible]. 39 | 3. 40 [illegible]. 40 | 3. 49 [illegible]. 41 | 3. 58 [illegible]. 42 | 4. 6 [illegible]. 43 | 4. 13 [illegible]. 44 | 4. 20 [illegible]. 45 | 4. 26 [illegible]. 46 | 4. 31 [illegible]. 47 |
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| 43 | 4. 48 [illegible]. 58 | 4. 38 [illegible]. 14 | 4. 35 [illegible]. 48 | 4. 25 [illegible]. 28 | 4. 15 [illegible]. 0 | 4. 2 [illegible]. 59 | 3. 50 [illegible]. 0 | 3. 36 [illegible]. 40 | 3. 22 [illegible]. 41 | 3. 33 [illegible]. 42 | 3. 43 [illegible]. 43 | 3. 52 [illegible]. 44 | 4. 1 [illegible]. 45 | 4. 9 [illegible]. 46 | 4. 16 [illegible]. 47 | 4. 23 [illegible]. 48 | 4. 29 [illegible]. 49 | 4. 34 [illegible]. 50 |
| 44 | 4. 51 [illegible]. 33 | 4. 41 [illegible]. 37 | 4. 38 [illegible]. 9 | 4. 27 [illegible]. 49 | 4. 17 [illegible]. 0 | 4. 4 [illegible]. 0 | 3. 51 [illegible]. 0 | 3. 37 [illegible]. 41 | 3. 23 [illegible]. 42 | 3. 34 [illegible]. 43 | 3. 44 [illegible]. 44 | 3. 53 [illegible]. 45 | 4. 2 [illegible]. 46 | 4. 10 [illegible]. 47 | 4. 17 [illegible]. 48 | 4. 24 [illegible]. 49 | 4. 30 [illegible]. 50 | 4. 35 [illegible]. 51 |
| 45 | 4. 53 [illegible]. 37 | 4. 44 [illegible]. 23 | 4. 41 [illegible]. 50 | 4. 30 [illegible]. 10 | 4. 19 [illegible]. 0 | 4. 6 [illegible]. 0 | 3. 52 [illegible]. 0 | 3. 38 [illegible]. 42 | 3. 24 [illegible]. 43 | 3. 35 [illegible]. 44 | 3. 45 [illegible]. 45 | 3. 54 [illegible]. 46 | 4. 3 [illegible]. 47 | 4. 11 [illegible]. 48 | 4. 18 [illegible]. 49 | 4. 25 [illegible]. 50 | 4. 31 [illegible]. 51 | 4. 36 [illegible]. 52 |
| 46 | 4. 55 [illegible]. 32 | 4. 47 [illegible]. 8 | 4. 44 [illegible]. 33 | 4. 33 [illegible]. 12 | 4. 22 [illegible]. 0 | 4. 8 [illegible]. 0 | 3. 54 [illegible]. 0 | 3. 40 [illegible]. 43 | 3. 25 [illegible]. 44 | 3. 36 [illegible]. 45 | 3. 46 [illegible]. 46 | 3. 55 [illegible]. 47 | 4. 4 [illegible]. 48 | 4. 12 [illegible]. 49 | 4. 19 [illegible]. 50 | 4. 26 [illegible]. 51 | 4. 32 [illegible]. 52 | 4. 37 [illegible]. 53 |
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| 49 | 5. 2 [illegible]. 42 | 4. 53 [illegible]. 43 | 4. 50 [illegible]. 40 | 4. 39 [illegible]. 40 | 4. 27 [illegible]. 0 | 4. 14 [illegible]. 0 | 4. 0 [illegible]. 0 | 3. 45 [illegible]. 46 | 3. 30 [illegible]. 47 | 3. 40 [illegible]. 48 | 3. 50 [illegible]. 49 | 3. 59 [illegible]. 50 | 4. 8 [illegible]. 51 | 4. 16 [illegible]. 52 | 4. 23 [illegible]. 53 | 4. 30 [illegible]. 54 | 4. 36 [illegible]. 55 | 4. 41 [illegible]. 56 |
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| 51 | 5. [illegible]. 1 | 4. 57 [illegible]. 51 | 4. 54 [illegible]. 47 | 4. 43 [illegible]. 46 | 4. 31 [illegible]. 0 | 4. 18 [illegible]. 0 | 4. 4 [illegible]. 0 | 3. 49 [illegible]. 48 | 3. 34 [illegible]. 49 | 3. 44 [illegible]. 50 | 3. 54 [illegible]. 51 | 4. 3 [illegible]. 52 | 4. 12 [illegible]. 53 | 4. 20 [illegible]. 54 | 4. 27 [illegible]. 55 | 4. 34 [illegible]. 56 | 4. 40 [illegible]. 57 | 4. 45 [illegible]. 58 |
| 52 | 5. [illegible]. 20 | 5. [illegible]. 43 | 5. [illegible]. 5 | 4. 45 [illegible]. 49 | 4. 33 [illegible]. 0 | 4. 20 [illegible]. 0 | 4. 6 [illegible]. 0 | 3. 51 [illegible]. 49 | 3. 36 [illegible]. 50 | 3. 46 [illegible]. 51 | 3. 56 [illegible]. 52 | 4. 5 [illegible]. 53 | 4. 14 [illegible]. 54 | 4. 22 [illegible]. 55 | 4. 29 [illegible]. 56 | 4. 36 [illegible]. 57 | 4. 42 [illegible]. 58 | 4. 47 [illegible]. 59 |
| 53 | 5. [illegible]. 39 | 5. [illegible]. 39 | 5. [illegible]. 25 | 5. [illegible]. 52 | 4. 35 [illegible]. 0 | 4. 22 [illegible]. 0 | 4. 8 [illegible]. 0 | 3. 53 [illegible]. 51 | 3. 38 [illegible]. 52 | 3. 48 [illegible]. 53 | 3. 58 [illegible]. 54 | 4. 7 [illegible]. 55 | 4. 16 [illegible]. 56 | 4. 24 [illegible]. 57 | 4. 31 [illegible]. 58 | 4. 38 [illegible]. 59 | 4. 44 [illegible]. 0 | 4. 49 [illegible]. 1 |
| 54 | 5. 1 [illegible]. 58 | 5. [illegible]. 36 | 5. [illegible]. 46 | 5. [illegible]. 27 | 5. [illegible]. 0 | 4. 40 [illegible]. 0 | 4. 25 [illegible]. 0 | 4. 10 [illegible]. 0 | 3. 55 [illegible]. 53 | 4. 5 [illegible]. 54 | 4. 15 [illegible]. 55 | 4. 24 [illegible]. 56 | 4. 33 [illegible]. 57 | 4. 41 [illegible]. 58 | 4. 48 [illegible]. 59 | 4. 55 [illegible]. 0 | 5. 1 [illegible]. 1 | 5. 6 [illegible]. 2 |
| 55 | 5. 2 [illegible]. 27 | 5. 1 [illegible]. 34 | 5. 1 [illegible]. 7 | 5. [illegible]. 7 | 4. 44 [illegible]. 0 | 4. 29 [illegible]. 0 | 4. 14 [illegible]. 0 | 3. 59 [illegible]. 4 | 4. 14 [illegible]. 5 | 4. 24 [illegible]. 6 | 4. 33 [illegible]. 7 | 4. 42 [illegible]. 8 | 4. 51 [illegible]. 9 | 4. 59 [illegible]. 10 | 5. 6 [illegible]. 11 | 5. 13 [illegible]. 12 | 5. 19 [illegible]. 13 | 5. 24 [illegible]. 14 |
| 56 | 5. 3 [illegible]. 57 | 5. 2 [illegible]. 28 | 5. 1 [illegible]. 48 | 5. [illegible]. 48 | 4. 55 [illegible]. 0 | 4. 39 [illegible]. 0 | 4. 24 [illegible]. 0 | 4. 8 [illegible]. 0 | 4. 23 [illegible]. 17 | 4. 33 [illegible]. 18 | 4. 42 [illegible]. 19 | 4. 51 [illegible]. 20 | 4. 59 [illegible]. 21 | 5. 7 [illegible]. 22 | 5. 14 [illegible]. 23 | 5. 21 [illegible]. 24 | 5. 27 [illegible]. 25 | 5. 32 [illegible]. 26 |
| 57 | 5. 5 [illegible]. 28 | 5. 3 [illegible]. 28 | 5. 2 [illegible]. 48 | 5. 1 [illegible]. 48 | 5. [illegible]. 0 | 4. 48 [illegible]. 0 | 4. 33 [illegible]. 0 | 4. 17 [illegible]. 0 | 4. 2 [illegible]. 0 | 4. 42 [illegible]. 29 | 4. 51 [illegible]. 30 | 4. 59 [illegible]. 31 | 5. 8 [illegible]. 32 | 5. 15 [illegible]. 33 | 5. 22 [illegible]. 34 | 5. 29 [illegible]. 35 | 5. 35 [illegible]. 36 | 5. 40 [illegible]. 37 |
| 58 

## Time answering to a change of *One hundred Minutes* of Altitude, near the Horizon.

| Latitude. | Declination of any Name. | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0° | 3° | 6° | 9° | 12° | 13° | 14° | 15° | 16° | 17° | 18° | 19° | 20° | 21° | 22° | 23° | 24° |
| ° | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ | ′ |
| 2 | 400 | 400 | 402 | 405 | 408 | 410 | 413 | 415 | 417 | 418 | 420 | 423 | 427 | 430 | 432 | 435 | 438 |
| 4 | 400 | 402 | 403 | 405 | 410 | 412 | 413 | 415 | 418 | 420 | 422 | 425 | 428 | 430 | 432 | 435 | 438 |
| 6 | 402 | 403 | 405 | 407 | 412 | 413 | 415 | 417 | 420 | 422 | 423 | 427 | 428 | 432 | 433 | 437 | 440 |
| 8 | 403 | 405 | 407 | 408 | 413 | 415 | 417 | 420 | 422 | 423 | 425 | 428 | 430 | 433 | 437 | 440 | 443 |
| 10 | 407 | 408 | 410 | 412 | 415 | 417 | 420 | 422 | 423 | 427 | 428 | 432 | 433 | 437 | 440 | 443 | 447 |
| 12 | 408 | 410 | 412 | 415 | 418 | 420 | 422 | 423 | 427 | 430 | 432 | 435 | 438 | 440 | 443 | 447 | 450 |
| 14 | 412 | 413 | 415 | 418 | 422 | 423 | 425 | 427 | 430 | 433 | 435 | 438 | 442 | 443 | 447 | 450 | 455 |
| 16 | 417 | 417 | 418 | 422 | 427 | 428 | 430 | 432 | 435 | 438 | 440 | 442 | 445 | 448 | 452 | 455 | 460 |
| 18 | 420 | 422 | 423 | 427 | 432 | 433 | 435 | 437 | 440 | 442 | 445 | 448 | 452 | 455 | 458 | 462 | 467 |
| 20 | 425 | 427 | 428 | 432 | 437 | 438 | 440 | 443 | 447 | 450 | 452 | 455 | 458 | 462 | 465 | 468 | 473 |
| 22 | 432 | 432 | 435 | 438 | 443 | 445 | 447 | 450 | 452 | 455 | 458 | 462 | 465 | 468 | 472 | 475 | 480 |
| 24 | 438 | 438 | 442 | 445 | 450 | 452 | 455 | 457 | 460 | 463 | 467 | 470 | 473 | 477 | 480 | 485 | 490 |
| 26 | 445 | 447 | 448 | 452 | 459 | 460 | 462 | 465 | 468 | 472 | 475 | 478 | 482 | 487 | 490 | 495 | 500 |
| 28 | 453 | 453 | 457 | 460 | 467 | 468 | 472 | 475 | 478 | 482 | 485 | 488 | 492 | 497 | 502 | 507 | 512 |
| 30 | 462 | 463 | 465 | 470 | 477 | 478 | 482 | 485 | 488 | 492 | 495 | 498 | 503 | 508 | 513 | 518 | 525 |
| 32 | 472 | 473 | 475 | 480 | 487 | 490 | 493 | 497 | 500 | 503 | 508 | 512 | 517 | 522 | 527 | 533 | 540 |
| 34 | 482 | 483 | 487 | 492 | 500 | 502 | 505 | 508 | 512 | 517 | 522 | 527 | 532 | 537 | 543 | 550 | 557 |
| 36 | 495 | 495 | 498 | 505 | 513 | 517 | 520 | 523 | 527 | 532 | 537 | 542 | 547 | 553 | 560 | 567 | 575 |
| 38 | 508 | 508 | 512 | 518 | 527 | 530 | 533 | 538 | 543 | 548 | 553 | 557 | 565 | 572 | 578 | 587 | 595 |

Declination of the same Name as the Latitude.

| Latitude | 0° | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° | 11° | 12° | 13° | 14° | 15° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 528 | 528 | 527 | 535 | 543 | 547 | 552 | 557 | | | | | | | | |
| 41 | 531 | 532 | 535 | 548 | 553 | 557 | 562 | 567 | 578 | | | | | | | |
| 42 | 535 | 540 | 545 | 552 | 562 | 567 | 572 | 577 | | | | | | | | |
| 43 | 547 | 548 | 553 | 562 | 572 | 577 | 582 | 587 | | | | | | | | |
| 44 | 557 | 558 | 563 | 572 | 582 | 587 | 592 | 597 | | | | | | | | |
| 45 | 607 | 608 | 613 | 622 | 632 | 637 | 642 | 647 | 652 | | | | | | | |
| 46 | 623 | 628 | 633 | 642 | 652 | 657 | 662 | 667 | | | | | | | | |
| 47 | 637 | 642 | 647 | 656 | 666 | 671 | 676 | 681 | | | | | | | | |
| 48 | 653 | 658 | 663 | 672 | 682 | 687 | 692 | 697 | | | | | | | | |
| 49 | 713 | 718 | 723 | 732 | 742 | 747 | 752 | 757 | | | | | | | | |
| 50 | 727 | 732 | 737 | 746 | 756 | 761 | 766 | 771 | 776 | | | | | | | |
| 51 | 743 | 748 | 753 | 762 | 772 | 777 | 782 | 787 | | | | | | | | |
| 52 | 758 | 763 | 768 | 777 | 787 | 792 | 797 | 802 | | | | | | | | |
| 53 | 813 | 818 | 823 | 832 | 842 | 847 | 852 | 857 | | | | | | | | |
| 54 | 827 | 832 | 837 | 846 | 856 | 861 | 866 | 871 | | | | | | | | |
| 55 | 843 | 848 | 853 | 862 | 872 | 877 | 882 | 887 | | | | | | | | |
| 56 | 858 | 863 | 868 | 877 | 887 | 892 | 897 | 902 | | | | | | | | |
| 57 | 913 | 918 | 923 | 932 | 942 | 947 | 952 | 957 | | | | | | | | |
| 58 | 927 | 932 | 937 | 946 | 956 | 961 | 966 | 971 | | | | | | | | |
| 59 | 943 | 948 | 953 | 962 | 972 | 977 | 982 | 987 | | | | | | | | |
| 60 | 958 | 963 | 968 | 977 | 987 | 992 | 997 | 1002 | | | | | | | | |

Declination of a contrary Name to the Latitude.

| Latitude | 0° | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° | 11° | 12° | 13° | 14° | 15° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 40 | 513 | 513 | 517 | 525 | 535 | 548 | 553 | 558 | 563 | 575 | | | | | | |
| 41 | 528 | 528 | 532 | 541 | 555 | 558 | 563 | 568 | 578 | 585 | | | | | | |
| 42 | 543 | 543 | 548 | 557 | 568 | 573 | 578 | 583 | | 597 | | | | | | |
| 43 | 547 | 548 | 553 | 562 | 573 | 578 | 583 | 588 | | 608 | | | | | | |
| 44 | 557 | 557 | 562 | 572 | 583 | 588 | 593 | 598 | | 620 | | | | | | |
| 45 | 597 | 598 | 603 | 612 | 623 | 628 | 633 | 638 | 643 | 653 | | | | | | |
| 46 | 613 | 618 | 623 | 632 | 643 | 648 | 653 | 658 | | 670 | | | | | | |
| 47 | 627 | 632 | 637 | 646 | 658 | 663 | 668 | 673 | | 685 | | | | | | |
| 48 | 643 | 648 | 653 | 662 | 673 | 678 | 683 | 688 | | 700 | | | | | | |
| 49 | 703 | 708 | 713 | 722 | 733 | 738 | 743 | 748 | | 760 | | | | | | |
| 50 | 718 | 723 | 728 | 737 | 748 | 753 | 758 | 763 | 768 | 780 | | | | | | |
| 51 | 733 | 738 | 743 | 752 | 763 | 768 | 773 | 778 | | 790 | | | | | | |
| 52 | 748 | 753 | 758 | 767 | 778 | 783 | 788 | 793 | | 805 | | | | | | |
| 53 | 803 | 808 | 813 | 822 | 833 | 838 | 843 | 848 | | 860 | | | | | | |
| 54 | 817 | 822 | 827 | 836 | 847 | 852 | 857 | 862 | | 875 | | | | | | |
| 55 | 833 | 838 | 843 | 852 | 863 | 868 | 873 | 878 | | 890 | | | | | | |
| 56 | 848 | 853 | 858 | 867 | 878 | 883 | 888 | 893 | | 905 | | | | | | |
| 57 | 903 | 908 | 913 | 922 | 933 | 938 | 943 | 948 | | 960 | | | | | | |
| 58 | 917 | 922 | 927 | 936 | 947 | 952 | 957 | 962 | | 975 | | | | | | |
| 59 | 933 | 938 | 943 | 952 | 963 | 968 | 973 | 978 | | 990 | | | | | | |
| 60 | 948 | 953 | 958 | 967 | 978 | 983 | 988 | 993 | | 1005 | | | | | | |

| Latitude | Declination of a contrary Name to the Latitude. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° |
| ° | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s |
| 1 | 5. 59. 56 | 5. 59. 52 | 5. 59. 47 | 5. 59. 43 | 5. 59. 39 | 5. 59. 35 | 5. 59. 31 | 5. 59. 26 | 5. 59. 22 |
| 2 | 5. 59. 52 | 5. 59. 43 | 5. 59. 35 | 5. 59. 26 | 5. 59. 18 | 5. 59. 10 | 5. 59. 1 | 5. 58. 53 | 5. 58. 44 |
| 3 | 5. 59. 47 | 5. 59. 35 | 5. 59. 22 | 5. 59. 10 | 5. 58. 57 | 5. 58. 44 | 5. 58. 32 | 5. 58. 19 | 5. 58. 6 |
| 4 | 5. 59. 43 | 5. 59. 26 | 5. 59. 10 | 5. 58. 53 | 5. 58. 36 | 5. 58. 19 | 5. 58. 2 | 5. 57. 45 | 5. 57. 28 |
| 5 | 5. 59. 39 | 5. 59. 18 | 5. 58. 57 | 5. 58. 36 | 5. 58. 15 | 5. 57. 54 | 5. 57. 32 | 5. 57. 11 | 5. 56. 50 |
| 6 | 5. 59. 35 | 5. 59. 10 | 5. 58. 44 | 5. 58. 19 | 5. 57. 54 | 5. 57. 28 | 5. 57. 3 | 5. 56. 37 | 5. 56. 11 |
| 7 | 5. 59. 31 | 5. 59. 1 | 5. 58. 32 | 5. 58. 2 | 5. 57. 32 | 5. 57. 3 | 5. 56. 33 | 5. 56. 3 | 5. 55. 33 |
| 8 | 5. 59. 26 | 5. 58. 53 | 5. 58. 19 | 5. 57. 45 | 5. 57. 11 | 5. 56. 37 | 5. 56. 3 | 5. 55. 28 | 5. 54. 54 |
| 9 | 5. 59. 22 | 5. 58. 44 | 5. 58. 6 | 5. 57. 28 | 5. 56. 50 | 5. 56. 11 | 5. 55. 33 | 5. 54. 54 | 5. 54. 15 |
| 10 | 5. 59. 18 | 5. 58. 35 | 5. 57. 53 | 5. 57. 10 | 5. 56. 28 | 5. 55. 45 | 5. 55. 2 | 5. 54. 19 | 5. 53. 36 |
| 11 | 5. 59. 13 | 5. 58. 27 | 5. 57. 40 | 5. 56. 53 | 5. 56. 6 | 5. 55. 19 | 5. 54. 32 | 5. 53. 44 | 5. 52. 57 |
| 12 | 5. 59. 9 | 5. 58. 18 | 5. 57. 27 | 5. 56. 35 | 5. 55. 44 | 5. 54. 53 | 5. 54. 1 | 5. 53. 9 | 5. 52. 17 |
| 13 | 5. 59. 5 | 5. 58. 9 | 5. 57. 14 | 5. 56. 18 | 5. 55. 22 | 5. 54. 26 | 5. 53. 30 | 5. 52. 34 | 5. 51. 37 |
| 14 | 5. 59. 0 | 5. 58. 0 | 5. 57. 0 | 5. 56. 0 | 5. 55. 0 | 5. 54. 0 | 5. 52. 59 | 5. 51. 58 | 5. 50. 57 |
| 15 | 5. 58. 56 | 5. 57. 51 | 5. 56. 47 | 5. 55. 42 | 5. 54. 38 | 5. 53. 33 | 5. 52. 28 | 5. 51. 22 | 5. 50. 16 |
| 16 | 5. 58. 51 | 5. 57. 42 | 5. 56. 33 | 5. 55. 24 | 5. 54. 15 | 5. 53. 6 | 5. 51. 56 | 5. 50. 46 | 5. 49. 35 |
| 17 | 5. 58. 47 | 5. 57. 33 | 5. 56. 20 | 5. 55. 6 | 5. 53. 52 | 5. 52. 38 | 5. 51. 24 | 5. 50. 9 | 5. 48. 54 |
| 18 | 5. 58. 43 | 5. 57. 24 | 5. 56. 6 | 5. 54. 48 | 5. 53. 29 | 5. 52. 10 | 5. 50. 51 | 5. 49. 32 | 5. 48. 12 |
| 19 | 5. 58. 37 | 5. 57. 15 | 5. 55. 52 | 5. 54. 29 | 5. 53. 6 | 5. 51. 41 | 5. 50. 18 | 5. 48. 54 | 5. 47. 30 |
| 20 | 5. 58. 33 | 5. 57. 5 | 5. 55. 38 | 5. 54. 10 | 5. 52. 42 | 5. 51. 14 | 5. 49. 45 | 5. 48. 16 | 5. 46. 47 |
| 21 | 5. 58. 28 | 5. 56. 56 | 5. 55. 23 | 5. 53. 51 | 5. 52. 18 | 5. 50. 45 | 5. 49. 12 | 5. 47. 38 | 5. 46. 3 |
| 22 | 5. 58. 23 | 5. 56. 46 | 5. 55. 9 | 5. 53. 31 | 5. 51. 54 | 5. 50. 16 | 5. 48. 38 | 5. 46. 59 | 5. 45. 19 |
| 23 | 5. 58. 18 | 5. 56. 36 | 5. 54. 53 | 5. 53. 12 | 5. 51. 29 | 5. 49. 46 | 5. 48. 3 | 5. 46. 19 | 5. 44. 35 |
| 24 | 5. 58. 13 | 5. 56. 26 | 5. 54. 39 | 5. 52. 52 | 5. 51. 4 | 5. 49. 16 | 5. 47. 28 | 5. 45. 39 | 5. 43. 50 |
| 25 | 5. 58. 8 | 5. 56. 16 | 5. 54. 24 | 5. 52. 32 | 5. 50. 37 | 5. 48. 40 | 5. 46. 51 | 5. 44. 58 | 5. 43. 3 |
| 26 | 5. 58. 3 | 5. 56. 6 | 5. 54. 9 | 5. 52. 11 | 5. 50. 13 | 5. 48. 15 | 5. 46. 16 | 5. 44. 17 | 5. 42. 17 |
| 27 | 5. 57. 58 | 5. 55. 55 | 5. 53. 53 | 5. 51. 50 | 5. 49. 47 | 5. 47. 43 | 5. 45. 39 | 5. 43. 34 | 5. 41. 29 |
| 28 | 5. 57. 53 | 5. 55. 45 | 5. 53. 37 | 5. 51. 29 | 5. 49. 20 | 5. 47. 11 | 5. 45. 2 | 5. 42. 51 | 5. 40. 41 |
| 29 | 5. 57. 47 | 5. 55. 34 | 5. 53. 20 | 5. 51. 7 | 5. 48. 53 | 5. 46. 38 | 5. 44. 23 | 5. 42. 8 | 5. 39. 51 |
| 30 | 5. 57. 41 | 5. 55. 23 | 5. 53. 4 | 5. 50. 45 | 5. 48. 25 | 5. 46. 5 | 5. 43. 44 | 5. 41. 23 | 5. 39. 1 |
| 31 | 5. 57. 36 | 5. 55. 12 | 5. 52. 47 | 5. 50. 22 | 5. 47. 57 | 5. 45. 31 | 5. 43. 5 | 5. 40. 37 | 5. 38. 10 |
| 32 | 5. 57. 30 | 5. 55. 0 | 5. 52. 30 | 5. 49. 59 | 5. 47. 28 | 5. 44. 56 | 5. 42. 24 | 5. 39. 51 | 5. 37. 17 |
| 33 | 5. 57. 24 | 5. 54. 48 | 5. 52. 12 | 5. 49. 35 | 5. 46. 59 | 5. 44. 21 | 5. 41. 42 | 5. 39. 3 | 5. 36. 23 |
| 34 | 5. 57. 18 | 5. 54. 36 | 5. 51. 54 | 5. 49. 11 | 5. 46. 28 | 5. 43. 44 | 5. 41. 0 | 5. 38. 14 | 5. 35. 28 |
| 35 | 5. 57. 12 | 5. 54. 24 | 5. 51. 35 | 5. 48. 46 | 5. 45. 57 | 5. 43. 7 | 5. 40. 16 | 5. 37. 25 | 5. 34. 32 |
| 36 | 5. 57. 6 | 5. 54. 11 | 5. 51. 16 | 5. 48. 21 | 5. 45. 25 | 5. 42. 29 | 5. 39. 32 | 5. 36. 33 | 5. 33. 34 |
| 37 | 5. 56. 59 | 5. 53. 58 | 5. 50. 57 | 5. 47. 55 | 5. 44. 53 | 5. 41. 50 | 5. 38. 46 | 5. 35. 41 | 5. 32. 35 |
| 38 | 5. 56. 52 | 5. 53. 45 | 5. 50. 37 | 5. 47. 28 | 5. 44. 19 | 5. 41. 10 | 5. 37. 59 | 5. 34. 47 | 5. 31. 34 |
| 39 | 5. 56. 46 | 5. 53. 31 | 5. 50. 16 | 5. 47. 1 | 5. 43. 45 | 5. 40. 28 | 5. 37. 10 | 5. 33. 52 | 5. 30. 31 |
| 40 | 5. 56. 39 | 5. 53. 17 | 5. 49. 55 | 5. 46. 33 | 5. 43. 10 | 5. 39. 46 | 5. 36. 21 | 5. 32. 54 | 5. 29. 27 |
| 41 | 5. 56. 31 | 5. 53. 3 | 5. 49. 33 | 5. 46. 4 | 5. 42. 33 | 5. 39. 2 | 5. 35. 29 | 5. 31. 55 | 5. 28. 21 |
| 42 | 5. 56. 24 | 5. 52. 48 | 5. 49. 11 | 5. 45. 33 | 5. 41. 56 | 5. 38. 17 | 5. 34. 37 | 5. 30. 55 | 5. 27. 12 |
| 43 | 5. 56. 16 | 5. 52. 32 | 5. 48. 48 | 5. 45. 3 | 5. 41. 17 | 5. 37. 31 | 5. 33. 42 | 5. 29. 53 | 5. 26. 2 |
| 44 | 5. 56. 8 | 5. 52. 16 | 5. 48. 24 | 5. 44. 31 | 5. 40. 37 | 5. 36. 42 | 5. 32. 46 | 5. 28. 48 | 5. 24. 48 |
| 45 | 5. 56. 0 | 5. 52. 0 | 5. 47. 59 | 5. 43. 58 | 5. 39. 55 | 5. 35. 54 | 5. 31. 47 | 5. 27. 41 | 5. 23. 34 |
| 46 | 5. 55. 51 | 5. 51. 43 | 5. 47. 33 | 5. 43. 23 | 5. 39. 12 | 5. 35. 0 | 5. 30. 47 | 5. 26. 32 | 5. 22. 14 |
| 47 | 5. 55. 43 | 5. 51. 25 | 5. 47. 7 | 5. 42. 48 | 5. 38. 28 | 5. 34. 7 | 5. 29. 44 | 5. 25. 20 | 5. 20. 53 |
| 48 | 5. 55. 33 | 5. 51. 6 | 5. 46. 39 | 5. 42. 11 | 5. 37. 42 | 5. 33. 11 | 5. 28. 39 | 5. 24. 5 | 5. 19. 28 |
| 49 | 5. 55. 24 | 5. 50. 48 | 5. 46. 10 | 5. 41. 33 | 5. 36. 54 | 5. 32. 13 | 5. 27. 31 | 5. 22. 47 | 5. 18. 0 |
| 50 | 5. 55. 14 | 5. 50. 27 | 5. 45. 41 | 5. 40. 53 | 5. 36. 4 | 5. 31. 14 | 5. 26. 21 | 5. 21. 26 | 5. 16. 29 |
| 51 | 5. 55. 4 | 5. 50. 7 | 5. 45. 9 | 5. 40. 11 | 5. 35. 11 | 5. 30. 10 | 5. 25. 7 | 5. 20. 1 | 5. 14. 53 |
| 52 | 5. 54. 53 | 5. 49. 45 | 5. 44. 37 | 5. 39. 28 | 5. 34. 17 | 5. 29. 4 | 5. 23. 50 | 5. 18. 33 | 5. 13. 13 |
| 53 | 5. 54. 41 | 5. 49. 23 | 5. 44. 3 | 5. 38. 42 | 5. 33. 21 | 5. 27. 56 | 5. 22. 28 | 5. 17. 0 | 5. 11. 30 |
| 54 | 5. 54. 30 | 5. 48. 59 | 5. 43. 27 | 5. 37. 54 | 5. 32. 20 | 5. 26. 44 | 5. 21. 5 | 5. 15. 23 | 5. 9. 38 |
| 55 | 5. 54. 17 | 5. 48. 34 | 5. 42. 51 | 5. 37. 4 | 5. 31. 17 | 5. 25. 28 | 5. 19. 36 | 5. 13. 41 | 5. 7. 42 |
| 56 | 5. 54. 4 | 5. 48. 8 | 5. 42. 11 | 5. 36. 12 | 5. 30. 11 | 5. 24. 8 | 5. 18. 3 | 5. 11. 54 | 5. 5. 41 |
| 57 | 5. 53. 50 | 5. 47. 40 | 5. 41. 29 | 5. 35. 16 | 5. 29. 2 | 5. 22. 45 | 5. 16. 24 | 5. 10. 0 | 5. 3. 32 |
| 58 | 5. 53. 36 | 5. 47. 11 | 5. 40. 45 | 5. 34. 18 | 5. 27. 48 | 5. 21. 16 | 5. 14. 40 | 5. 8. 0 | 5. 1. 16 |
| 59 | 5. 53. 20 | 5. 46. 40 | 5. 39. 59 | 5. 33. 16 | 5. 26. 31 | 5. 19. 42 | 5. 12. 50 | 5. 5. 54 | 4. 58. 52 |
| 60 | 5. 53. 4 | 5. 46. 8 | 5. 39. 10 | 5. 32. 10 | 5. 25. 8 | 5. 18. 3 | 5. 10. 53 | 5. 3. 39 | 4. 56. 19 |
| 61 | 5. 52. 47 | 5. 45. 33 | 5. 38. 18 | 5. 31. 1 | 5. 23. 40 | 5. 16. 17 | 5. 8. 48 | 5. 1. 15 | 4. 53. 38 |
| 62 | 5. 52. 28 | 5. 44. 56 | 5. 37. 23 | 5. 29. 46 | 5. 22. 7 | 5. 14. 24 | 5. 6. 36 | 4. 58. 42 | 4. 50. 41 |
| 63 | 5. 52. 9 | 5. 44. 17 | 5. 36. 23 | 5. 28. 27 | 5. 20. 27 | 5. 12. 23 | 5. 4. 13 | 4. 55. 57 | 4. 47. 34 |
| 64 | 5. 51. 48 | 5. 43. 35 | 5. 35. 20 | 5. 27. 2 | 5. 18. 40 | 5. 10. 13 | 5. 1. 41 | 4. 53. 1 | 4. 44. 12 |
| 65 | 5. 51. 25 | 5. 42. 49 | 5. 34. 11 | 5. 25. 30 | 5. 16. 45 | 5. 7. 54 | 4. 58. 56 | 4. 49. 50 | 4. 40. 37 |

| Latitu | Declination of a contrary Name to the Latitude. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 10° | 11° | 12° | 13° | 14° | 15° | 16° | 17° | 18° |
| ° | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s |
| 1 | 5.59.18 | 5.59.13 | 5.59. 9 | 5.59. 5 | 5.59. 0 | 5.58.56 | 5.58 51 | 5.58.46 | 5.58.42 |
| 2 | 5.58.35 | 5.58.27 | 5.58.18 | 5.58. 9 | 5.58. 0 | 5.57.51 | 5.57.42 | 5.57.33 | 5.57.24 |
| 3 | 5.57.53 | 5.57.40 | 5.57.27 | 5.57.14 | 5.57. 0 | 5.56.47 | 5.56.33 | 5.56.20 | 5.56 7 |
| 4 | 5.57.10 | 5.56.53 | 5.56.35 | 5.56.18 | 5.56. 0 | 5.55.42 | 5.55.24 | 5.55. 6 | 5.54.48 |
| 5 | 5.56.28 | 5.56. 6 | 5.55.44 | 5.55.22 | 5.55. 0 | 5.54.38 | 5.54.15 | 5.53.52 | 5.53.29 |
| 6 | 5.55.45 | 5.55.19 | 5.54.53 | 5.54.26 | 5.54. 0 | 5.53.33 | 5.53. 6 | 5.52.38 | 5.52.10 |
| 7 | 5.55. 2 | 5.54.32 | 5.54. 1 | 5.53.30 | 5.52.59 | 5.52.28 | 5.51.56 | 5.51.24 | 5.50.51 |
| 8 | 5.54.19 | 5.53.44 | 5.53. 9 | 5.52.34 | 5.51.58 | 5.51.22 | 5.50.46 | 5.50. 9 | 5.49.32 |
| 9 | 5.53.36 | 5.52.57 | 5.52.17 | 5.51.37 | 5.50.57 | 5.50.16 | 5.49.35 | 5.48.54 | 5.48.12 |
| 10 | 5.52.52 | 5.52.10 | 5.51.24 | 5.50.40 | 5.49.55 | 5.49.10 | 5.48.24 | 5.47.38 | 5.46.52 |
| 11 | 5.52. 8 | 5.51.20 | 5.50.32 | 5.49.44 | 5.48.52 | 5.48. 4 | 5.47.12 | 5.46.22 | 5.45.32 |
| 12 | 5.51.24 | 5.50.32 | 5.49.40 | 5.48.46 | 5.47.48 | 5.46.50 | 5.46. 0 | 5.45. 4 | 5.44.10 |
| 13 | 5.50.40 | 5.49.44 | 5.48.44 | 5.47.48 | 5.46.46 | 5.45.48 | 5.44.48 | 5.43.48 | 5.42.48 |
| 14 | 5.49.55 | 5.48.54 | 5.47.48 | 5.46.48 | 5.45.44 | 5.44.40 | 5.43.36 | 5.42.32 | 5.41.22 |
| 15 | 5.49.10 | 5.48. 4 | 5.46.56 | 5.45.48 | 5.44.40 | 5.43.32 | 5.42.28 | 5.41.12 | 5.40. 2 |
| 16 | 5.48.24 | 5.47.14 | 5.46. 0 | 5.44.48 | 5.43.36 | 5.42.24 | 5.41. 8 | 5.39.52 | 5.38.36 |
| 17 | 5.47.38 | 5.46.24 | 5.45. 4 | 5.43.48 | 5.42.32 | 5.41.12 | 5.39.52 | 5.38.32 | 5.37.12 |
| 18 | 5.46.52 | 5.45.32 | 5.44. 8 | 5.42.48 | 5.41.26 | 5.40. 0 | 5.38.36 | 5.37.12 | 5.35.46 |
| 19 | 5.46. 5 | 5.44.40 | 5.43.12 | 5.41.46 | 5.40.20 | 5.38.48 | 5.37.20 | 5.35.50 | 5.34.20 |
| 20 | 5.45.17 | 5.43.48 | 5.42.16 | 5.40.44 | 5.39.12 | 5.37.36 | 5.36. 4 | 5.34.28 | 5.32.52 |
| 21 | 5.44.29 | 5.42.52 | 5.41.16 | 5.39.40 | 5.38. 3 | 5.36.24 | 5.34.44 | 5.33. 4 | 5.31.23 |
| 22 | 5.43.40 | 5.42. 0 | 5.40.16 | 5.38.36 | 5.30.52 | 5.35. 8 | 5.33.24 | 5.31.38 | 5.29.48 |
| 23 | 5.42.50 | 5.41. 4 | 5.39.16 | 5.37.32 | 5.35.40 | 5.33.48 | 5.32. 4 | 5.30.12 | 5.28.16 |
| 24 | 5.41.59 | 5.40. 8 | 5.38.16 | 5.36.24 | 5.34.29 | 5.32.36 | 5.30.40 | 5.28.44 | 5.26.44 |
| 25 | 5.41. 8 | 5.39.12 | 5.37.16 | 5.35.16 | 5.33.16 | 5.31.16 | 5.29.16 | 5.27.12 | 5.25. 9 |
| 26 | 5.40.16 | 5.38.16 | 5.36.12 | 5.34. 8 | 5.32. 3 | 5.29.56 | 5.27.52 | 5.25.40 | 5.23.24 |
| 27 | 5.39.23 | 5.37.16 | 5.35. 8 | 5.33. 0 | 5.30.48 | 5.28.36 | 5.26.24 | 5.24. 8 | 5.21.53 |
| 28 | 5.38.29 | 5.36.16 | 5.34. 4 | 5.31.48 | 5.29.32 | 5.27.16 | 5.24.56 | 5.22.36 | 5.20.12 |
| 29 | 5.37.34 | 5.35.16 | 5.32.56 | 5.30.36 | 5.28.12 | 5.25.52 | 5.23.24 | 5.21. 0 | 5.18.29 |
| 30 | 5.36.38 | 5.34.12 | 5.31.48 | 5.29.22 | 5.26.52 | 5.24.24 | 5.21.52 | 5.19.20 | 5.16.44 |
| 31 | 5.35.40 | 5.33.18 | 5.30.40 | 5.28. 8 | 5.25.32 | 5.22.56 | 5.20.20 | 5.17.40 | 5.14.57 |
| 32 | 5.34.42 | 5.32. 4 | 5.29.28 | 5.26.50 | 5.24. 9 | 5.21.28 | 5.18.44 | 5.15.56 | 5.13. 8 |
| 33 | 5.33.42 | 5.31. 0 | 5.28.16 | 5.25.32 | 5.22.44 | 5.19.56 | 5.17. 4 | 5.14.12 | 5.11.16 |
| 34 | 5.32.41 | 5.29.52 | 5.27. 0 | 5.24.12 | 5.21.16 | 5.18.20 | 5.15.24 | 5.12.24 | 5. 9.20 |
| 35 | 5.31.38 | 5.28.44 | 5.25.44 | 5.22.48 | 5.19.48 | 5.16.44 | 5.13.40 | 5.10.32 | 5. 7.24 |
| 36 | 5.30.33 | 5.27.32 | 5.24.28 | 5.21.24 | 5.18.16 | 5.15. 6 | 5.11.56 | 5. 8.40 | 5. 5.24 |
| 37 | 5.29.27 | 5.26.20 | 5.23. 8 | 5.19.56 | 5.16.40 | 5.13.24 | 5.10. 5 | 5. 6 44 | 5. 3.20 |
| 38 | 5.28.20 | 5.25. 4 | 5.21.44 | 5.18.28 | 5.15. 4 | 5.11.40 | 5. 8.12 | 5. 4.44 | 5. 1.12 |
| 39 | 5.27.10 | 5.23.48 | 5.20.20 | 5.16.56 | 5.13.24 | 5. 9.52 | 5. 6.16 | 5. 2.40 | 4.59. 0 |
| 40 | 5.25.58 | 5.22.28 | 5.18.56 | 5.15.20 | 5.11.40 | 5. 8. 0 | 5. 4.18 | 5. 0.32 | 4.56.44 |
| 41 | 5.24.44 | 5.21. 4 | 5.17 | 5.13. | 5. 9. | 5. 6. | 5. 1.16 | 4.58.28 | 4.55.37 |
| 42 | 5.23. | 5.19. | 5.15 | 5.11. | 5. 8. | 5. 4. | 5. — | 4.56. 4 | 4.53.10 |
| 43 | 5.22. 9 | 5.18.14 | 5.14.16 | 5.10.16 | 5. 6.12 | 5. 2. 8 | 4.57.56 | 4.53 | 4 |
| 44 | 5.20.47 | 5.16.44 | 5.12.36 | 5. 8.28 | 5. 4.16 | 5. 0. 0 | 4.55.40 | 4.51.20 | 4.46.52 |
| 45 | 5.19.23 | 5.15. 8 | 5.10.56 | 5. 6.36 | 5. 2.16 | 4.57.48 | 4.53.20 | 4.48.48 | 4.44. 8 |
| 46 | 5.17.55 | 5.13.32 | 5. 9. 8 | 5. 4.40 | 5. 0. 8 | 4.55.34 | 4.50.56 | 4.46.12 | 4.41.22 |
| 47 | 5.16.24 | 5.11.52 | 5. 7.16 | 5. 2.40 | 4.57.56 | 4.53.12 | 4.48.24 | 4.43.28 | 4.38.28 |
| 48 | 5.14.50 | 5.10. 8 | 5. 5.24 | 5. 0.36 | 4.55.49 | 4.50.44 | 4.45.44 | 4.40.36 | 4.35.24 |
| 49 | 5.13.11 | 5. 8.20 | 5. 3.24 | 4.58.24 | 4.53.20 | 4.48.12 | 4.42.56 | 4.37.36 | 4.32.12 |
| 50 | 5.11.29 | 5. 6.26 | 5. 1.20 | 4.56. 8 | 4.50.52 | 4.45.32 | 4.40. 4 | 4.34.32 | 4.28.52 |
| 51 | 5. 9.42 | 5. 4.28 | 4.59. 8 | 4.53.44 | 4.48.16 | 4.42.44 | 4.37. 4 | 4.31.16 | 4.25.24 |
| 52 | 5. 7.50 | 5. 2.24 | 4.56.52 | 4.51.16 | 4.45.32 | 4.39.48 | 4.33.52 | 4.27.52 | 4.21.44 |
| 53 | 5. 5.52 | 5. 0.12 | 4.54.28 | 4.48.40 | 4.42.44 | 4.36.42 | 4.30.32 | 4.24.16 | 4.17.51 |
| 54 | 5. 3.49 | 4.57.56 | 4.51.57 | 4. | 4. | 4. | 4. | 4. | 4.13.44 |
| 55 | 5. 1.39 | 4.55.32 | 4.49.20 | 4.43. 0 | 4.36.32 | 4.30. 0 | 4.23.20 | 4.16.28 | 4. 9.24 |
| 56 | 4.59.23 | 4.53. 0 | 4.46.32 | 4.39.56 | 4.33.12 | 4.26.24 | 4.19.24 | 4.12.12 | 4. 4.48 |
| 57 | 4.56.59 | 4.50.20 | 4.43.36 | 4.36.44 | 4.29.40 | 4.22.32 | 4.15.12 | 4. 7.40 | 3.59.56 |
| 58 | 4.54.26 | 4.47.30 | 4.40.34 | 4.33.16 | 4.25.56 | 4.18.28 | 4.10.44 | 4. 2.48 | 3.54.40 |
| 59 | 4.51.44 | 4.44.28 | 4.37. 8 | 4.29.36 | 4.21.56 | 4.14. 4 | 4. 6. 0 | 3.57.40 | 3.49. 4 |
| 60 | 4.48.52 | 4.41.20 | 4.33.36 | 4.25.44 | 4.17.40 | 4. 9.24 | 4. 0.54 | 3.52. 8 | 3.43. 0 |
| 61 | 4.45.48 | 4.37.52 | 4.29.48 | 4.21.32 | 4.13. 4 | 4. 4.24 | 3.55.24 | 3.46. 8 | 3.36.28 |
| 62 | 4.42.32 | 4.34.12 | 4.25.44 | 4.17. 4 | 4. 8. 8 | 3.58.56 | 3.49.28 | 3.39.36 | 3.29.20 |
| 63 | 4.39. 1 | 4.30.16 | 4.21.24 | 4.12.12 | 4. 2.40 | 3.53. 4 | 3.43. 0 | 3.32.32 | 3.21.38 |
| 64 | 4.35.13 | 4.26. 4 | 4.16.40 | 4. 6.58 | 3.57. 0 | 3.46.42 | 3.35.56 | 3.24.56 | 3.13.44 |
| 65 | 4.31. 8 | 4.21.28 | 4.11.32 | 4. 1.16 | 3.50.44 | 3.39.44 | 3.28.16 | 3.16.48 | 3. 5.10 |

| Lat. | Declination of a contrary Name to the Latitude. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 19° | 20° | 21° | 22° | 23° | 24° | 25° | 26° | 27° |
| | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s |
| 1 | 5 58 37 | 5 58 33 | 5 58 28 | 5 58 23 | 5 58 18 | 5 58 13 | 5 58 8 | 5 58 2 | 5 57 58 |
| 2 | 5 57 1 | 5 57 5 | 5 46 56 | 5 56 46 | 5 56 36 | 5 56 26 | 5 56 16 | 5 56 6 | 5 55 55 |
| 3 | 5 55 25 | 5 55 18 | 5 55 23 | 5 55 9 | 5 54 58 | 5 54 48 | 5 54 34 | 5 54 24 | 5 54 9 |
| 4 | 5 54 20 | 5 54 1 | 5 53 51 | 5 53 31 | 5 53 14 | 5 53 5 | 5 52 52 | 5 52 32 | 5 52 11 |
| 5 | 5 53 6 | 5 52 47 | 5 52 18 | 5 51 54 | 5 51 20 | 5 51 4 | 5 50 39 | 5 50 15 | 5 49 47 |
| 6 | 5 51 41 | 5 51 14 | 5 50 45 | 5 50 16 | 5 49 47 | 5 49 18 | 5 48 46 | 5 48 15 | 5 47 43 |
| 7 | 5 50 15 | 5 49 45 | 5 49 12 | 5 48 38 | 5 48 3 | 5 47 28 | 5 46 52 | 5 46 16 | 5 45 39 |
| 8 | 5 48 51 | 5 48 17 | 5 47 38 | 5 46 57 | 5 46 19 | 5 45 39 | 5 44 57 | 5 44 17 | 5 43 33 |
| 9 | 5 47 30 | 5 46 44 | 5 46 3 | 5 45 19 | 5 44 35 | 5 43 50 | 5 43 3 | 5 42 17 | 5 41 29 |
| 10 | 5 46 10 | 5 45 17 | 5 44 29 | 5 43 42 | 5 42 50 | 5 41 59 | 5 41 5 | 5 40 11 | 5 39 15 |
| 11 | 5 44 49 | 5 43 51 | 5 42 53 | 5 42 1 | 5 41 4 | 5 40 8 | 5 39 11 | 5 38 10 | 5 37 11 |
| 12 | 5 43 32 | 5 42 27 | 5 41 27 | 5 40 25 | 5 39 18 | 5 38 16 | 5 37 16 | 5 36 11 | 5 35 8 |
| 13 | 5 41 44 | 5 40 44 | 5 39 40 | 5 38 35 | 5 37 30 | 5 36 24 | 5 35 16 | 5 34 8 | 5 33 |
| 14 | 5 40 17 | 5 35 12 | 5 38 2 | 5 36 52 | 5 35 40 | 5 34 32 | 5 33 16 | 5 32 4 | 5 30 48 |
| 15 | 5 38 48 | 5 37 35 | 5 36 24 | 5 35 7 | 5 33 50 | 5 32 36 | 5 31 1 | 5 29 52 | 5 28 31 |
| 16 | 5 37 20 | 5 36 4 | 5 34 44 | 5 33 23 | 5 32 2 | 5 30 40 | 5 29 16 | 5 27 52 | 5 26 24 |
| 17 | 5 35 48 | 5 34 28 | 5 33 4 | 5 31 37 | 5 30 12 | 5 28 44 | 5 27 12 | 5 25 44 | 5 24 8 |
| 18 | 5 34 16 | 5 32 52 | 5 31 24 | 5 29 52 | 5 28 18 | 5 26 44 | 5 25 [illegible] | 5 23 32 | 5 21 52 |
| 19 | 5 32 44 | 5 31 14 | 5 29 30 | 5 28 [illegible] | 5 26 22 | 5 24 44 | 5 23 4 | 5 21 20 | 5 19 36 |
| 20 | 5 31 1 | 5 29 33 | 5 27 52 | 5 26 12 | 5 24 28 | 5 22 40 | 5 20 56 | 5 19 4 | 5 17 10 |
| 21 | 5 29 33 | 5 27 55 | 5 26 8 | 5 24 24 | 5 22 27 | 5 20 37 | 5 18 44 | 5 16 52 | 5 14 52 |
| 22 | 5 28 0 | 5 26 14 | 5 24 20 | 5 22 23 | 5 20 30 | 5 18 32 | 5 16 32 | 5 14 32 | 5 12 32 |
| 23 | 5 26 24 | 5 24 28 | 5 22 30 | 5 20 32 | 5 18 28 | 5 16 24 | 5 14 20 | 5 12 12 | 5 10 6 |
| 24 | 5 24 44 | 5 22 44 | 5 20 40 | 5 18 34 | 5 16 24 | 5 14 16 | 5 12 4 | 5 9 48 | 5 7 32 |
| 25 | 5 23 4 | 5 20 56 | 5 18 [illegible] | 5 16 32 | 5 14 20 | 5 12 4 | 5 9 44 | 5 7 24 | 5 5 [illegible] |
| 26 | 5 21 20 | 5 [illegible] | 5 16 [illegible] | 5 14 32 | 5 12 12 | 5 9 [illegible] | 5 7 [illegible] | 5 4 56 | 5 2 [illegible] |
| 27 | 5 19 32 | 5 17 16 | 5 14 [illegible] | 5 12 20 | 5 10 4 | 5 7 [illegible] | 5 5 [illegible] | 5 2 28 | 4 59 [illegible] |
| 28 | 5 17 40 | 5 15 22 | 5 13 [illegible] | 5 10 24 | 5 7 48 | 5 5 12 | 5 2 [illegible] | 4 59 52 | 4 57 [illegible] |
| 29 | 5 16 [illegible] | 5 [illegible] 28 | 5 11 [illegible] | 5 8 16 | 5 5 32 | 5 2 52 | 5 0 [illegible] | 4 57 12 | 4 54 [illegible] |
| 30 | 5 14 [illegible] | 5 11 28 | 5 9 [illegible] | 5 6 4 | 5 3 12 | 5 0 24 | 4 57 [illegible] | 4 54 36 | 4 51 [illegible] |
| 31 | 5 12 [illegible] | 5 9 [illegible] | 5 7 [illegible] | 5 3 48 | 5 0 52 | 4 57 52 | 4 54 56 | 4 51 52 | 4 48 [illegible] |
| 32 | 5 10 [illegible] | 5 7 14 | 5 [illegible] | 5 1 [illegible] | 4 58 32 | 4 55 24 | 4 52 16 | 4 49 4 | 4 45 [illegible] |
| 33 | 5 8 [illegible] | 5 [illegible] 20 | 5 [illegible] | 4 59 [illegible] | 4 56 [illegible] | 4 54 [illegible] | 4 49 28 | 4 46 12 | 4 42 [illegible] |
| 34 | 5 6 [illegible] | 5 [illegible] | 5 0 [illegible] | 4 56 [illegible] | 4 53 [illegible] | 4 50 [illegible] | 4 46 [illegible] | 4 43 12 | 4 39 [illegible] |
| 35 | 5 4 12 | 5 [illegible] 59 | 4 57 [illegible] | 4 54 [illegible] | 4 50 32 | 4 47 [illegible] | 4 43 48 | 4 40 8 | 4 36 [illegible] |
| 36 | 5 2 4 | 5 [illegible] 40 | 4 55 [illegible] | 4 51 [illegible] | 4 48 8 | 4 44 [illegible] | 4 40 48 | 4 37 0 | 4 33 [illegible] |
| 37 | 4 59 52 | 4 57 [illegible] | 4 52 [illegible] | 4 49 [illegible] | 4 45 [illegible] | 4 41 36 | 4 37 44 | 4 33 44 | 4 29 [illegible] |
| 38 | 4 57 32 | 4 55 36 | 4 50 [illegible] | 4 46 [illegible] | 4 42 32 | 4 38 36 | 4 34 32 | 4 30 24 | 4 25 [illegible] |
| 39 | 4 55 [illegible] | 4 53 28 | 4 47 [illegible] | 4 43 [illegible] | 4 [illegible] 36 | 4 35 28 | 4 31 16 | 4 26 56 | 4 22 32 |
| 40 | 4 52 52 | 4 [illegible] 52 | 4 [illegible] | 4 [illegible] | 4 [illegible] | 4 32 16 | 4 27 52 | 4 23 24 | 4 18 44 |
| 41 | 4 50 [illegible] | 4 48 12 | 4 44 [illegible] | 4 [illegible] | 4 33 [illegible] | 4 28 56 | 4 24 20 | 4 19 40 | 4 14 52 |
| 42 | 4 47 [illegible] | 4 [illegible] | 4 [illegible] | 4 [illegible] | 4 30 [illegible] | 4 25 28 | 4 20 40 | 4 15 [illegible] | 4 10 [illegible] |
| 43 | 4 45 [illegible] | 4 [illegible] | 4 [illegible] | [illegible] | 4 26 [illegible] | 4 [illegible] 53 | 4 16 56 | 4 11 [illegible] | 4 6 [illegible] |
| 44 | 4 42 [illegible] | 4 [illegible] | 4 [illegible] 57 | [illegible] | 4 23 12 | 4 18 8 | 4 [illegible] | 4 7 [illegible] | 4 2 [illegible] |
| 45 | 4 39 28 | 4 [illegible] | 4 [illegible] | 4 [illegible] 40 | 4 19 32 | 4 14 16 | 4 [illegible] | 4 [illegible] | [illegible] 57 [illegible] |
| 46 | 4 36 28 | 4 [illegible] | 4 [illegible] | 4 [illegible] | 4 15 40 | 4 10 12 | 4 [illegible] | 3 57 [illegible] | 3 52 [illegible] |
| 47 | 4 33 24 | 4 [illegible] | 4 [illegible] | 4 17 [illegible] | 4 11 40 | 4 [illegible] 56 | 4 [illegible] | 3 52 [illegible] | 3 47 [illegible] |
| 48 | [illegible] 4 | [illegible] | 4 [illegible] | [illegible] | 4 7 28 | 4 1 28 | [illegible] | 3 47 [illegible] | 3 42 [illegible] |
| 49 | [illegible] 4 | 4 [illegible] | 4 [illegible] | 4 [illegible] 12 | 4 3 [illegible] | 3 [illegible] 44 | 3 50 16 | 3 45 [illegible] | 3 36 [illegible] |
| 50 | [illegible] 6 | 4 17 [illegible] | 4 [illegible] | 4 4 52 | 3 58 [illegible] | 3 51 48 | 3 [illegible] 56 | 3 37 48 | 3 30 [illegible] |
| 51 | [illegible] | 4 [illegible] | 4 [illegible] | 4 [illegible] 16 | 3 53 32 | 3 46 36 | 3 39 [illegible] | 3 31 52 | 3 24 [illegible] |
| 52 | [illegible] | 4 [illegible] | 4 [illegible] | 3 [illegible] 28 | 3 48 [illegible] | 3 41 [illegible] | 3 33 24 | 3 25 28 | 3 17 [illegible] |
| 53 | [illegible] | 4 [illegible] | 3 [illegible] | 3 [illegible] 40 | 3 42 [illegible] | 3 35 [illegible] | 3 27 [illegible] | 3 19 40 | 3 [illegible] |
| 54 | [illegible] | 3 [illegible] | 3 [illegible] | 3 [illegible] | 3 37 [illegible] | 3 28 48 | 3 20 16 | 3 11 20 | 3 [illegible] |
| 55 | 4 [illegible] | 3 [illegible] | 3 [illegible] | 3 [illegible] | 3 [illegible] 44 | 3 22 [illegible] | 3 13 [illegible] | 3 [illegible] 24 | [illegible] |
| 56 | 3 57 [illegible] | 3 [illegible] | 3 [illegible] | 3 [illegible] | 3 24 [illegible] | 3 14 48 | 3 [illegible] | 2 54 [illegible] | [illegible] |
| 57 | 3 51 56 | 3 [illegible] | 3 [illegible] | 3 [illegible] | 3 16 [illegible] | 3 [illegible] 52 | 2 56 28 | 2 45 [illegible] | [illegible] |
| 58 | 3 46 16 | 3 [illegible] | 3 [illegible] | 3 [illegible] | 3 [illegible] 52 | 2 58 12 | 2 46 56 | 2 34 [illegible] | [illegible] |
| 59 | 3 40 [illegible] | 3 [illegible] | 3 [illegible] | 3 [illegible] | 3 [illegible] | 2 48 44 | 2 36 24 | 2 22 [illegible] | [illegible] |
| 60 | 3 33 [illegible] | 3 [illegible] | 3 [illegible] | 3 [illegible] | 2 [illegible] 42 | 2 38 [illegible] | 2 24 32 | 2 [illegible] | [illegible] |
| 61 | [illegible] | 3 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 2 [illegible] 56 | 1 53 [illegible] | [illegible] |
| 62 | [illegible] | 3 [illegible] | 2 [illegible] | 2 [illegible] 8 | 2 [illegible] | 2 12 32 | 1 [illegible] 32 | 1 33 [illegible] | [illegible] |
| 63 | [illegible] | 2 [illegible] | 2 [illegible] | [illegible] | [illegible] | 1 [illegible] | 1 [illegible] 4 | 1 7 [illegible] | [illegible] |
| 64 | [illegible] | 2 [illegible] | 2 [illegible] | 2 [illegible] | 1 [illegible] | 1 36 [illegible] | 1 [illegible] 12 | 0 [illegible] | [illegible] |
| 65 | [illegible] | 2 [illegible] | 2 [illegible] | 1 [illegible] | 1 [illegible] | [illegible] | 0 [illegible] 0 | [illegible] | [illegible] |

| Latitude | Declination of a contrary Name to the Latitude. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 28° | 29° | 30° | 31° | 32° | 33° | 34° | 35° | 36° |
| ° | h m | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s |
| 1 | 5.57.55 | 5.57.47 | 5.57.41 | 5.57.36 | 5.57.30 | 5.57.24 | 5.57.18 | 5.57.12 | 5.57. |
| 2 | 5.55.45 | 5.55.34 | 5.55.23 | 5.55.12 | 5.55. 0 | 5.54. | 5.54.36 | 5.54.24 | 5.54. |
| 3 | 5.53.37 | 5.53.20 | 5.53. 4 | 5.52.47 | 5.52.30 | 5.52. | 5.51.54 | 5.51.35 | 5.51. |
| 4 | 5.51.29 | 5.51. 7 | 5.50.45 | 5.50.22 | 5.49.59 | 5.49.35 | 5.49. | 5.48.46 | 5.48. |
| 5 | 5.49.20 | 5.48.53 | 5.48.25 | 5.47.57 | 5.47.28 | 5.46.58 | 5.46. | 5.45.56 | 5.45.25 |
| 6 | 5.47.11 | 5.46.38 | 5.46. 5 | 5.45.31 | 5.44.56 | 5.44.21 | 5.43. | 5.43. 7 | 5.42.29 |
| 7 | 5.45. 2 | 5.44.23 | 5.43.44 | 5.43. 5 | 5.42. | 5.41. | 5.41. 0 | 5.40.16 | 5.39.32 |
| 8 | 5.42.52 | 5.42. 8 | 5.41.23 | 5.40.37 | 5.39.51 | 5.39. | 5.38.14 | 5.37.26 | 5.36.33 |
| 9 | 5.40.41 | 5.39.51 | 5.39. 1 | 5.38.10 | 5.37.16 | 5.36. | 5.35.28 | 5.34.32 | 5.33.34 |
| 10 | 5.38.29 | 5.37.34 | 5.36.38 | 5.35.40 | 5.34.42 | 5.33. | 5.32.41 | 5.31.38 | 5.30.33 |
| 11 | 5.36.16 | 5.35.16 | 5.34.14 | 5.33.12 | 5.32. 6 | 5.31. | 5.29.52 | 5.28.44 | 5.27.32 |
| 12 | 5.34. 4 | 5.32.56 | 5.31.48 | 5.30.40 | 5.29.28 | 5.28. | 5.27. 2 | 5.25.46 | 5.24.28 |
| 13 | 5.31.48 | 5.30.36 | 5.29.20 | 5.28. 8 | 5.26.48 | 5.25. | 5.24.12 | 5.22.48 | 5.21.24 |
| 14 | 5.29.32 | 5.28.14 | 5.26.52 | 5.25.32 | 5.24. 8 | 5.22. | 5.21.17 | 5.19.48 | 5.18.16 |
| 15 | 5.27.16 | 5.25.50 | 5.24.23 | 5.22.56 | 5.21.28 | 5.19. | 5.18.20 | 5.16.44 | 5.15. 8 |
| 16 | 5.24.56 | 5.23.24 | 5.21.52 | 5.20.20 | 5.18.44 | 5.17. | 5.15.24 | 5.13.40 | 5.11.56 |
| 17 | 5.22.36 | 5.20.58 | 5.19.20 | 5.17.40 | 5.15.56 | 5.14. | 5.12.24 | 5.10.32 | 5. 8.40 |
| 18 | 5.20.12 | 5.18.30 | 5.16.44 | 5.15. 0 | 5.13. 8 | 5.11. | 5. 9.30 | 5. 7.24 | 5. 5.24 |
| 19 | 5.17.48 | 5.16. 0 | 5.14. 8 | 5.12.16 | 5.10.18 | 5. 8. | 5. 6.16 | 5. 4.12 | 5. 2. 4 |
| 20 | 5.15.20 | 5.13.28 | 5.11.28 | 5. 9.28 | 5. 7.24 | 5. 5. | 5. 3. 8 | 5. 0.56 | 4.58.40 |
| 21 | 5.12.52 | 5.10.52 | 5. 8.46 | 5. 6.40 | 5. 4.28 | 5. 2. | 5. 0. 0 | 4.57.36 | 4.55.12 |
| 22 | 5.10.24 | 5. 8.16 | 5. 6. 4 | 5. 3.48 | 5. 1.32 | 4.59. | 4.56.46 | 4.54.16 | 4.51.42 |
| 23 | 5. 7.48 | 5. 5.34 | 5. 3.16 | 5. 0.52 | 4.58.32 | 4.56. | 4.53.28 | 4.50.52 | 4.48. 8 |
| 24 | 5. 5.12 | 5. 2.52 | 5. 0.24 | 4.57.56 | 4.55.22 | 4.52.48 | 4.50. 4 | 4.47.22 | 4.44.28 |
| 25 | 5. 2.36 | 5. 0. 4 | 4.57.32 | 4.54.56 | 4.52.16 | 4.49.34 | 4.46.40 | 4.43.48 | 4.40.48 |
| 26 | 4.59.52 | 4.57.16 | 4.54.36 | 4.51.50 | 4.49. 0 | 4.46.10 | 4.43.12 | 4.40. 8 | 4.37. 0 |
| 27 | 4.57. 8 | 4.54.24 | 4.51.36 | 4.48.40 | 4.45.44 | 4.42.45 | 4.39.36 | 4.36.24 | 4.33. 4 |
| 28 | 4.54.20 | 4.51.28 | 4.48.28 | 4.45.28 | 4.42.22 | 4.39.12 | 4.35.56 | 4.32.36 | 4.29. 4 |
| 29 | 4.51.28 | 4.48.25 | 4.45.20 | 4.42.12 | 4.38.56 | 4.35.36 | 4.32.12 | 4.28.40 | 4. 5. 0 |
| 30 | 4.48.30 | 4.45.20 | 4.42. 8 | 4.38.48 | 4.35.24 | 4.31.56 | 4.28.20 | 4.24.36 | 4.20.48 |
| 31 | 4.45.32 | 4.42.12 | 4.38.48 | 4.35.20 | 4.31.48 | 4.28. 8 | 4.24.20 | 4.20.28 | 4.16.28 |
| 32 | 4.42.24 | 4.38.56 | 4.35.24 | 4.31.48 | 4.28. 4 | 4.24.14 | 4.20.16 | 4.16.12 | 4.12. 0 |
| 33 | 4.39.12 | 4.35.36 | 4.31.56 | 4.28. 8 | 4.24.14 | 4.20.12 | 4.16. 4 | 4.11.48 | 4. 7.24 |
| 34 | 4.35.56 | 4.32.12 | 4.28.20 | 4.24.20 | 4.20.16 | 4.16. 4 | 4.11.44 | 4. 7.16 | 4. 2.32 |
| 35 | 4.32.36 | 4.28.40 | 4.24.36 | 4.20.28 | 4.16.12 | 4.11.48 | 4. 7.16 | 4. 2.32 | 3.57.40 |
| 36 | 4.29. 6 | 4.25. 0 | 4.20.48 | 4.16.28 | 4.12. 0 | 4. 7.24 | 4. 2.28 | 3.57.40 | 3.52.32 |
| 37 | 4.25.33 | 4.21.10 | 4.16.52 | 4.12.20 | 4. 7.40 | 4. 2.48 | 3.57.52 | 3.52.40 | 3.47.12 |
| 38 | 4.21.48 | 4.17.20 | 4.12.44 | 4. 8. 0 | 4. 3. 8 | 3.58. 4 | 3.52.46 | 3.47.20 | 3.41.36 |
| 39 | 4.18. 0 | 4.13.20 | 4. 8.32 | 4. 3.32 | 3.58.28 | 3.53. 4 | 3.47.36 | 3.41.48 | 3.35.52 |
| 40 | 4.14. 0 | 4. 9. 8 | 4. 4. 6 | 3.58.52 | 3.53.32 | 3.47.54 | 3.42. 8 | 3.36. 4 | 3.29.48 |
| 41 | 4. 9.52 | 4. 4.48 | 3.59.52 | 3.54. 4 | 3.48.24 | 3.42.32 | 3.36.28 | 3.30. 2 | 3.23.20 |
| 42 | 4. 5.35 | 4. 0.16 | 3.54.43 | 3.49. 0 | 3.43. 2 | 3.36.52 | 3.30.28 | 3.23.40 | 3.16.32 |
| 43 | 4. 1. 8 | 3.55.32 | 3.49.44 | 3.43.40 | 3.37.28 | 3.30.56 | 3.24. 4 | 3.16.56 | 3. 9.24 |
| 44 | 3.56.26 | 3.50.32 | 3.44.26 | 3.38. 8 | 3.31.32 | 3.24.48 | 3.17.44 | 3. 9.48 | 3. 1.48 |
| 45 | 3.51.32 | 3.45.20 | 3.38.50 | 3.32.16 | 3.25.20 | 3.18. | 3.10.20 | 3. 2.12 | 2.53.36 |
| 46 | 3.46.24 | 3.39.52 | 3.33. 8 | 3.26. 4 | 3.18.44 | 3.10.56 | 3. 2.48 | 2.54. 4 | 2.44.48 |
| 47 | 3.40.56 | 3.34. 0 | 3.27. 0 | 3.19.32 | 3.11.44 | 3. 3. | 2.54.40 | 2.45.20 | 2.35.16 |
| 48 | 3.35.16 | 3. 8. 6 | 3.20.48 | 3.12.32 | 3. 4.14 | 2.55. | 2.45. 6 | 2.35.48 | 2.24.48 |
| 49 | 3.29. 8 | 3. 1.32 | 3.13.32 | 3. 5. 4 | 2.56.12 | 2.46.44 | 2.36.28 | 2.25.20 | 2.13.12 |
| 50 | 3.22.44 | 3. 4.36 | 3. 6. 4 | 2.57. 8 | 2.47.28 | 2.37. 8 | 2.26. 0 | 2.13.44 | 2. 0. 4 |
| 51 | 3.15.22 | 3. 7.12 | 2.58. 4 | 2.48.28 | 2.38. 0 | 2.26.44 | 2.14.44 | 2. 0.36 | 1.44.48 |
| 52 | 3. 8.28 | 2.59.12 | 2.49.24 | 2.38.56 | 2.27.32 | 2.15. 8 | 2. 1.12 | 1.45.20 | 1.26.20 |
| 53 | 3. 0.28 | 2.50.36 | 2.39.56 | 2.28.28 | 2.15.50 | 2. 1.56 | 1.45.56 | 1.26.44 | 1. 1.32 |
| 54 | 2.51.52 | 2.41. 8 | 2.29.32 | 2.16.48 | 2. 2.44 | 1.46.36 | 1.27.16 | 1. 1.52 | 0. 0. 0 |
| 55 | 2.42.22 | 2.30.40 | 2.17.52 | 2. 3.36 | 1.47.12 | 1.27.32 | 1. 2.16 | 0. 0. 0 | |
| 56 | 2.31.52 | 2.18.56 | 2. 4.32 | 1.48. 4 | 1.28.28 | 1. 2.44 | 0. 0. 0 | | |
| 57 | 2.20. 8 | 2. 5.36 | 1.49. 0 | 1.28.12 | 1. 3.12 | 0. 0. 0 | | | |
| 58 | 2. 6.48 | 1.50. 0 | 1.29.56 | 1. 3.44 | 0. 0. 0 | | | | |
| 59 | 1.51. 4 | 1.30.48 | 1. 4.20 | 0. 0. 0 | | | | | |
| 60 | 1.31.44 | 1. 4.56 | 0. 0. 0 | | | | | | |
| 61 | 1. 5.40 | 0. 0. 0 | | | | | | | |

| Latitude | Declination of the same Name as the Latitude. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° |
| | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s |
| ° | | | | | | | | | |
| 1 | 6. 0. 4 | 6. 0. 8 | 6. 0. 13 | 6. 0. 17 | 6. 0. 21 | 6. 0. 25 | 6. 0. 29 | 6. 0. 34 | 6. 0. 38 |
| 2 | 6. 0. 8 | 6. 0. 17 | 6. 0. 25 | 6. 0. 34 | 6. 0. 42 | 6. 0. 50 | 6. 0. 59 | 6. 1. 7 | 6. 1. 16 |
| 3 | 6. 0. 13 | 6. 0. 25 | 6. 0. 38 | 6. 0. 50 | 6. 1. 3 | 6. 1. 16 | 6. 1. 28 | 6. 1. 41 | 6. 1. 54 |
| 4 | 6. 0. 17 | 6. 0. 34 | 6. 0. 50 | 6. 1. 7 | 6. 1. 24 | 6. 1. 41 | 6. 1. 58 | 6. 2. 15 | 6. 2. 32 |
| 5 | 6. 0. 21 | 6. 0. 42 | 6. 1. 3 | 6. 1. 24 | 6. 1. 45 | 6. 2. 6 | 6. 2. 28 | 6. 2. 49 | 6. 3. 10 |
| 6 | 6. 0. 25 | 6. 0. 50 | 6. 1. 16 | 6. 1. 41 | 6. 2. 6 | 6. 2. 32 | 6. 2. 57 | 6. 3. 23 | 6. 3. 49 |
| 7 | 6. 0. 29 | 6. 0. 59 | 6. 1. 28 | 6. 1. 58 | 6. 2. 28 | 6. 2. 57 | 6. 3. 27 | 6. 3. 57 | 6. 4. 27 |
| 8 | 6. 0. 34 | 6. 1. 7 | 6. 1. 41 | 6. 2. 15 | 6. 2. 49 | 6. 3. 23 | 6. 3. 57 | 6. 4. 32 | 6. 5. 6 |
| 9 | 6. 0. 38 | 6. 1. 16 | 6. 1. 54 | 6. 2. 32 | 6. 3. 10 | 6. 3. 49 | 6. 4. 25 | 6. 5. 6 | 6. 5. 45 |
| 10 | 6. 0. 42 | 6. 1. 25 | 6. 2. 7 | 6. 2. 50 | 6. 3. 32 | 6. 4. 15 | 6. 4. 58 | 6. 5. 41 | 6. 6. 24 |
| 11 | 6. 0. 47 | 6. 1. 33 | 6. 2. 20 | 6. 3. 7 | 6. 3. 54 | 6. 4. 41 | 6. 5. 28 | 6. 6. 16 | 6. 7. 3 |
| 12 | 6. 0. 51 | 6. 1. 42 | 6. 2. 33 | 6. 3. 25 | 6. 4. 16 | 6. 5. 7 | 6. 5. 59 | 6. 6. 51 | 6. 7. 43 |
| 13 | 6. 0. 55 | 6. 1. 51 | 6. 2. 46 | 6. 3. 42 | 6. 4. 38 | 6. 5. 34 | 6. 6. 30 | 6. 7. 26 | 6. 8. 23 |
| 14 | 6. 1. 0 | 6. 2. 0 | 6. 3. 0 | 6. 4. 0 | 6. 5. 0 | 6. 6. 0 | 6. 7. 1 | 6. 8. 2 | 6. 9. 3 |
| 15 | 6. 1. 4 | 6. 2. 9 | 6. 3. 13 | 6. 4. 18 | 6. 5. 22 | 6. 6. 27 | 6. 7. 32 | 6. 8. [illegible] | [illegible] |
| 16 | 6. 1. 9 | 6. 2. 18 | 6. 3. 27 | 6. 4. 37 | 6. 5. 45 | 6. 6. 54 | 6. [illegible] | [illegible] | [illegible] |
| 17 | 6. 1. 13 | 6. 2. 27 | 6. 3. 40 | 6. 4. 54 | 6. 6. 8 | 6. 7. 22 | 6. 8. 36 | 6. 9. 51 | 6. 11. 6 |
| 18 | 6. 1. 17 | 6. 2. 36 | 6. 3. 54 | 6. 5. 12 | 6. 6. 31 | 6. 7. 50 | 6. 9. 9 | 6. 10. 28 | 6. 11. 48 |
| 19 | 6. 1. 23 | 6. 2. 45 | 6. 4. 8 | 6. 5. 31 | 6. 6. 54 | 6. 8. 19 | 6. 9. 42 | 6. 11. 6 | 6. 12. 30 |
| 20 | 6. 1. 27 | 6. 2. 55 | 6. 4. 22 | 6. 5. 50 | 6. 7. 18 | 6. 8. 46 | 6. 10. 15 | 6. 11. 44 | 6. 13. 13 |
| 21 | 6. 1. 32 | 6. 3. 4 | 6. 4. 37 | 6. 6. 9 | 6. 7. 42 | 6. 9. 15 | 6. 10. 48 | 6. 12. 22 | 6. 13. 57 |
| 22 | 6. 1. 37 | 6. 3. 14 | 6. 4. 51 | 6. 6. 29 | 6. 8. 6 | 6. 9. 44 | 6. 11. 22 | 6. 13. 1 | 6. 14. 41 |
| 23 | 6. 1. 42 | 6. 3. 24 | 6. 5. 7 | 6. 6. 48 | 6. 8. 31 | 6. 10. 14 | 6. 11. 57 | 6. 13. 41 | 6. 15. 25 |
| 24 | 6. 1. 47 | 6. 3. 34 | 6. 5. 21 | 6. 7. 8 | 6. 8. 56 | 6. 10. 44 | 6. 12. 32 | 6. 14. 21 | 6. 16. 10 |
| 25 | 6. 1. 52 | 6. 3. 44 | 6. 5. 36 | 6. 7. 28 | 6. 9. 21 | 6. 11. 14 | 6. 13. 8 | 6. 15. 2 | 6. 16. 57 |
| 26 | 6. 1. 57 | 6. 3. 54 | 6. 5. 51 | 6. 7. 49 | 6. 9. 47 | 6. 11. 45 | 6. 13. 44 | 6. 15. 43 | 6. 17. 43 |
| 27 | 6. 2. 2 | 6. 4. 5 | 6. 6. 7 | 6. 8. 10 | 6. 10. 13 | 6. 12. 17 | 6. 14. 21 | 6. 16. 26 | 6. 18. 31 |
| 28 | 6. 2. 8 | 6. 4. 15 | 6. 6. 23 | 6. 8. 31 | 6. 10. 40 | 6. 12. 49 | 6. 14. 58 | 6. 17. 9 | 6. 19. 19 |
| 29 | 6. 2. 13 | 6. 4. 26 | 6. 6. 40 | 6. 8. 53 | 6. 11. 7 | 6. 13. 22 | 6. 15. 37 | 6. 17. 52 | 6. 20. 9 |
| 30 | 6. 2. 19 | 6. 4. 37 | 6. 6. 56 | 6. 9. 15 | 6. 11. 35 | 6. 13. 55 | 6. 16. 16 | 6. 18. 37 | 6. 20. 59 |
| 31 | 6. 2. 24 | 6. 4. 48 | 6. 7. 13 | 6. 9. 38 | 6. 12. 3 | 6. 14. 29 | 6. 16. 55 | 6. 19. 23 | 6. 21. 50 |
| 32 | 6. 2. 30 | 6. 5. 0 | 6. 7. 30 | 6. 10. 1 | 6. 12. 32 | 6. 15. 4 | 6. 17. 36 | 6. 20. 9 | 6. 22. 43 |
| 33 | 6. 2. 36 | 6. 5. 12 | 6. 7. 48 | 6. 10. 25 | 6. 13. 1 | 6. 15. 39 | 6. 18. 18 | 6. 25. 57 | 6. 23. 37 |
| 34 | 6. 2. 42 | 6. 5. 24 | 6. 8. 6 | 6. 10. 49 | 6. 13. 32 | 6. 16. 16 | 6. 19. 0 | 6. 21. 46 | 6. 24. 32 |
| 35 | 6. 2. 48 | 6. 5. 36 | 6. 8. 25 | 6. 11. 14 | 6. 14. 3 | 6. 16. 53 | 6. 19. 44 | 6. 22. 34 | 6. 25. 25 |
| 36 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 37 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 38 | 6. 3. 8 | 6. 6. 15 | 6. 9. 23 | 6. 12. 32 | 6. 15. 41 | 6. 18. 50 | 6. 22. 1 | 6. 25. 13 | 6. 28. 26 |
| 39 | 6. 3. 14 | 6. 6. 29 | 6. 9. 44 | 6. 12. 59 | 6. 16. 15 | 6. 19. 32 | 6. 22. 50 | 6. 26. 8 | 6. 29. 29 |
| 40 | 6. 3. 21 | 6. 6. 43 | 6. 10. 5 | 6. 13. 27 | 6. 16. 50 | 6. 20. 14 | 6. 23. 39 | 6. 27. 6 | 6. 30. 33 |
| 41 | 6. 3. 29 | 6. 6. 57 | 6. 10. 27 | 6. 13. 56 | 6. 17. 27 | 6. 20. 58 | 6. 24. 31 | 6. 28. 5 | 6. 31. 39 |
| 42 | 6. 3. 36 | 6. 7. 12 | 6. 10. 49 | 6. 14. 27 | 6. 18. 4 | 6. 21. 43 | 6. 25. 23 | 6. 29. 5 | 6. 32. 48 |
| 43 | 6. 3. 44 | 6. 7. 28 | 6. 11. 12 | 6. 14. 57 | 6. 18. 43 | 6. 22. 29 | 6. 26. 17 | 6. 30. 7 | 6. 33. 58 |
| 44 | 6. 3. 52 | 6. 7. 44 | 6. 11. 36 | 6. 15. 29 | 6. 19. 23 | 6. 23. 18 | 6. 27. 14 | 6. 31. 12 | 6. 35. 12 |
| 45 | 6. 4. 0 | 6. 8. 0 | 6. 12. 1 | 6. 16. 2 | 6. 20. 5 | 6. 24. 8 | 6. 28. 13 | 6. 32. 19 | 6. 36. 27 |
| 46 | 6. 4. 8 | 6. 8. 17 | 6. 12. 27 | 6. 16. 37 | 6. 20. 48 | 6. 25. 0 | 6. 29. 13 | 6. 33. 28 | 6. 37. 46 |
| 47 | 6. 4. 17 | 6. 8. 35 | 6. 12. 53 | 6. 17. 12 | 6. 21. 32 | 6. 25. 53 | 6. 30. 16 | 6. 34. 40 | 6. 39. 7 |
| 48 | 6. 4. 27 | 6. 8. 54 | 6. 13. 21 | 6. 17. 49 | 6. 22. 18 | 6. 26. 49 | 6. 31. 21 | 6. 35. 55 | 6. 40. 33 |
| 49 | 6. 4. 36 | 6. 9. 12 | 6. 13. 50 | 6. 18. 27 | 6. 23. 6 | 6. 27. 47 | 6. 32. 29 | 6. 37. 13 | [illegible] |
| 50 | 6. 4. 46 | 6. 9. 32 | 6. 14. 19 | 6. 19. 7 | 6. 23. 56 | 6. 28. 46 | 6. 33. 39 | [illegible] | [illegible] |
| 51 | 6. 4. 56 | 6. 9. 53 | 6. 14. 51 | 6. 19. 49 | 6. 24. 49 | 6. 29. 50 | 6. 34. 53 | [illegible] | [illegible] |
| 52 | 6. 5. 7 | 6. 10. 15 | 6. 15. 23 | 6. 20. 32 | 6. 25. 43 | 6. 30. 56 | 6. 36. 10 | [illegible] | [illegible] |
| 53 | 6. 5. 19 | 6. 10. 37 | 6. 15. 57 | 6. 21. 18 | 6. 26. 40 | 6. 32. 4 | 6. 37. 31 | [illegible] | [illegible] |
| 54 | 6. 5. 32 | 6. 11. 1 | 6. 16. 33 | 6. 22. 6 | 6. 27. 40 | 6. 33. 16 | 6. 38. 55 | [illegible] | [illegible] |
| 55 | 6. 5. 43 | 6. 11. 24 | 6. 17. 9 | 6. 22. 56 | 6. 28. 43 | 6. 34. 32 | 6. 40. 24 | [illegible] | [illegible] |
| 56 | 6. 5. 56 | 6. 11. 52 | 6. 17. 49 | 6. 23. 48 | 6. 29. 49 | 6. 35. 52 | 6. 41. 57 | [illegible] | [illegible] |
| 57 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 58 | 6. 6. 24 | 6. 12. 49 | 6. 19. 15 | 6. 25. 42 | 6. 32. 12 | 6. 38. 44 | 6. 45. 20 | 6. 52. 0 | 6. 58. 44 |
| 59 | 6. 6. 40 | 6. 13. 20 | 6. 20. 1 | 6. 26. 44 | 6. 33. 20 | 6. 40. 18 | 6. 47. 10 | 6. 54. 6 | 7. 1. 8 |
| 60 | 6. 6. 58 | 6. 13. 52 | 6. 20. 50 | 6. 27. 50 | 6. 34. 52 | 6. 41. 57 | 6. 49. 7 | 6. 56. 21 | 7. 3. 42 |
| 61 | 6. 7. 13 | 6. 14. 27 | 6. 21. 42 | 6. 28. 59 | 6. 36. 20 | 6. 43. 43 | 6. 51. 12 | 6. 58. 45 | 7. 6. 25 |
| 62 | 6. 7. 32 | 6. 15. 4 | 6. 22. 37 | 6. 30. 14 | 6. 37. 53 | 6. 45. 36 | 6. 53. 24 | 7. 1. 18 | 7. 9. 19 |
| 63 | 6. 7. 51 | 6. 15. 43 | 6. 23. 37 | 6. 31. 33 | 6. 39. 33 | 6. 47. 37 | 6. 55. 47 | 7. 4. 3 | 7. 12. 26 |
| 64 | 6. 8. 12 | 6. 16. 25 | 6. 24. 40 | 6. 32. 58 | 6. 41. 20 | 6. 49. 47 | 6. 58. 19 | 7. 6. 59 | 7. 15. 48 |
| 65 | 6. 8. 35 | 6. 17. 11 | 6. 25. 49 | 6. 34. 30 | 6. 43. 15 | 6. 52. 6 | 7. 1. 4 | 7. 10. 10 | 7. 19. 21 |

| | Declination of the same Name as the Latitude. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 10° | 11° | 12° | 13° | 14° | 15° | 16° | 17° | 18° |
| | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ |
| 1 | 6. 0. 0 | 6. 0. 47 | 6. 1. 33 | 6. 2. 20 | 6. 3. 6 | 6. 3. 52 | 6. 4. 38 | 6. 5. 24 | 6. 6. 10 |
| 2 | 6. 1. 0 | 6. 1. 47 | 6. 2. 33 | 6. 3. 20 | 6. 4. 6 | 6. 4. 52 | 6. 5. 38 | 6. 6. 24 | 6. 7. 10 |
| 3 | 6. 2. 0 | 6. 2. 47 | 6. 3. 33 | 6. 4. 20 | 6. 5. 6 | 6. 5. 52 | 6. 6. 38 | 6. 7. 24 | 6. 8. 10 |
| 4 | 6. 3. 0 | 6. 3. 47 | 6. 4. 33 | 6. 5. 20 | 6. 6. 6 | 6. 6. 52 | 6. 7. 38 | 6. 8. 24 | 6. 9. 10 |
| 5 | 6. 4. 0 | 6. 4. 47 | 6. 5. 33 | 6. 6. 20 | 6. 7. 6 | 6. 7. 52 | 6. 8. 38 | 6. 9. 24 | 6. 10. 10 |
| 6 | 6. 5. 0 | 6. 5. 47 | 6. 6. 33 | 6. 7. 20 | 6. 8. 6 | 6. 8. 52 | 6. 9. 38 | 6. 10. 24 | 6. 11. 10 |
| 7 | 6. 6. 0 | 6. 6. 47 | 6. 7. 33 | 6. 8. 20 | 6. 9. 6 | 6. 9. 52 | 6. 10. 38 | 6. 11. 24 | 6. 12. 10 |
| 8 | 6. 7. 0 | 6. 7. 47 | 6. 8. 33 | 6. 9. 20 | 6. 10. 6 | 6. 10. 52 | 6. 11. 38 | 6. 12. 24 | 6. 13. 10 |
| 9 | 6. 8. 0 | 6. 8. 47 | 6. 9. 33 | 6. 10. 20 | 6. 11. 6 | 6. 11. 52 | 6. 12. 38 | 6. 13. 24 | 6. 14. 10 |
| 10 | 6. 9. 0 | 6. 9. 47 | 6. 10. 33 | 6. 11. 20 | 6. 12. 6 | 6. 12. 52 | 6. 13. 38 | 6. 14. 24 | 6. 15. 10 |
| 11 | 6. 10. 0 | 6. 10. 47 | 6. 11. 33 | 6. 12. 20 | 6. 13. 6 | 6. 13. 52 | 6. 14. 38 | 6. 15. 24 | 6. 16. 10 |
| 12 | 6. 11. 0 | 6. 11. 47 | 6. 12. 33 | 6. 13. 20 | 6. 14. 6 | 6. 14. 52 | 6. 15. 38 | 6. 16. 24 | 6. 17. 10 |
| 13 | 6. 12. 0 | 6. 12. 47 | 6. 13. 33 | 6. 14. 20 | 6. 15. 6 | 6. 15. 52 | 6. 16. 38 | 6. 17. 24 | 6. 18. 10 |
| 14 | 6. 13. 0 | 6. 13. 47 | 6. 14. 33 | 6. 15. 20 | 6. 16. 6 | 6. 16. 52 | 6. 17. 38 | 6. 18. 24 | 6. 19. 10 |
| 15 | 6. 14. 0 | 6. 14. 47 | 6. 15. 33 | 6. 16. 20 | 6. 17. 6 | 6. 17. 52 | 6. 18. 38 | 6. 19. 24 | 6. 20. 10 |
| 16 | 6. 15. 0 | 6. 15. 47 | 6. 16. 33 | 6. 17. 20 | 6. 18. 6 | 6. 18. 52 | 6. 19. 38 | 6. 20. 24 | 6. 21. 10 |
| 17 | 6. 16. 0 | 6. 16. 47 | 6. 17. 33 | 6. 18. 20 | 6. 19. 6 | 6. 19. 52 | 6. 20. 38 | 6. 21. 24 | 6. 22. 10 |
| 18 | 6. 17. 0 | 6. 17. 47 | 6. 18. 33 | 6. 19. 20 | 6. 20. 6 | 6. 20. 52 | 6. 21. 38 | 6. 22. 24 | 6. 23. 10 |
| 19 | 6. 18. 0 | 6. 18. 47 | 6. 19. 33 | 6. 20. 20 | 6. 21. 6 | 6. 21. 52 | 6. 22. 38 | 6. 23. 24 | 6. 24. 10 |
| 20 | 6. 19. 0 | 6. 19. 47 | 6. 20. 33 | 6. 21. 20 | 6. 22. 6 | 6. 22. 52 | 6. 23. 38 | 6. 24. 24 | 6. 25. 10 |
| 21 | 6. 20. 0 | 6. 20. 47 | 6. 21. 33 | 6. 22. 20 | 6. 23. 6 | 6. 23. 52 | 6. 24. 38 | 6. 25. 24 | 6. 26. 10 |
| 22 | 6. 21. 0 | 6. 21. 47 | 6. 22. 33 | 6. 23. 20 | 6. 24. 6 | 6. 24. 52 | 6. 25. 38 | 6. 26. 24 | 6. 27. 10 |
| 23 | 6. 22. 0 | 6. 22. 47 | 6. 23. 33 | 6. 24. 20 | 6. 25. 6 | 6. 25. 52 | 6. 26. 38 | 6. 27. 24 | 6. 28. 10 |
| 24 | 6. 23. 0 | 6. 23. 47 | 6. 24. 33 | 6. 25. 20 | 6. 26. 6 | 6. 26. 52 | 6. 27. 38 | 6. 28. 24 | 6. 29. 10 |
| 25 | 6. 24. 0 | 6. 24. 47 | 6. 25. 33 | 6. 26. 20 | 6. 27. 6 | 6. 27. 52 | 6. 28. 38 | 6. 29. 24 | 6. 30. 10 |
| 26 | 6. 25. 0 | 6. 25. 47 | 6. 26. 33 | 6. 27. 20 | 6. 28. 6 | 6. 28. 52 | 6. 29. 38 | 6. 30. 24 | 6. 31. 10 |
| 27 | 6. 26. 0 | 6. 26. 47 | 6. 27. 33 | 6. 28. 20 | 6. 29. 6 | 6. 29. 52 | 6. 30. 38 | 6. 31. 24 | 6. 32. 10 |
| 28 | 6. 27. 0 | 6. 27. 47 | 6. 28. 33 | 6. 29. 20 | 6. 30. 6 | 6. 30. 52 | 6. 31. 38 | 6. 32. 24 | 6. 33. 10 |
| 29 | 6. 28. 0 | 6. 28. 47 | 6. 29. 33 | 6. 30. 20 | 6. 31. 6 | 6. 31. 52 | 6. 32. 38 | 6. 33. 24 | 6. 34. 10 |
| 30 | 6. 29. 0 | 6. 29. 47 | 6. 30. 33 | 6. 31. 20 | 6. 32. 6 | 6. 32. 52 | 6. 33. 38 | 6. 34. 24 | 6. 35. 10 |
| 31 | 6. 30. 0 | 6. 30. 47 | 6. 31. 33 | 6. 32. 20 | 6. 33. 6 | 6. 33. 52 | 6. 34. 38 | 6. 35. 24 | 6. 36. 10 |
| 32 | 6. 31. 0 | 6. 31. 47 | 6. 32. 33 | 6. 33. 20 | 6. 34. 6 | 6. 34. 52 | 6. 35. 38 | 6. 36. 24 | 6. 37. 10 |
| 33 | 6. 32. 0 | 6. 32. 47 | 6. 33. 33 | 6. 34. 20 | 6. 35. 6 | 6. 35. 52 | 6. 36. 38 | 6. 37. 24 | 6. 38. 10 |
| 34 | 6. 33. 0 | 6. 33. 47 | 6. 34. 33 | 6. 35. 20 | 6. 36. 6 | 6. 36. 52 | 6. 37. 38 | 6. 38. 24 | 6. 39. 10 |
| 35 | 6. 34. 0 | 6. 34. 47 | 6. 35. 33 | 6. 36. 20 | 6. 37. 6 | 6. 37. 52 | 6. 38. 38 | 6. 39. 24 | 6. 40. 10 |
| 36 | 6. 35. 0 | 6. 35. 47 | 6. 36. 33 | 6. 37. 20 | 6. 38. 6 | 6. 38. 52 | 6. 39. 38 | 6. 40. 24 | 6. 41. 10 |
| 37 | 6. 36. 0 | 6. 36. 47 | 6. 37. 33 | 6. 38. 20 | 6. 39. 6 | 6. 39. 52 | 6. 40. 38 | 6. 41. 24 | 6. 42. 10 |
| 38 | 6. 37. 0 | 6. 37. 47 | 6. 38. 33 | 6. 39. 20 | 6. 40. 6 | 6. 40. 52 | 6. 41. 38 | 6. 42. 24 | 6. 43. 10 |
| 39 | 6. 38. 0 | 6. 38. 47 | 6. 39. 33 | 6. 40. 20 | 6. 41. 6 | 6. 41. 52 | 6. 42. 38 | 6. 43. 24 | 6. 44. 10 |
| 40 | 6. 39. 0 | 6. 39. 47 | 6. 40. 33 | 6. 41. 20 | 6. 42. 6 | 6. 42. 52 | 6. 43. 38 | 6. 44. 24 | 6. 45. 10 |
| 41 | 6. 40. 0 | 6. 40. 47 | 6. 41. 33 | 6. 42. 20 | 6. 43. 6 | 6. 43. 52 | 6. 44. 38 | 6. 45. 24 | 6. 46. 10 |
| 42 | 6. 41. 0 | 6. 41. 47 | 6. 42. 33 | 6. 43. 20 | 6. 44. 6 | 6. 44. 52 | 6. 45. 38 | 6. 46. 24 | 6. 47. 10 |
| 43 | 6. 42. 0 | 6. 42. 47 | 6. 43. 33 | 6. 44. 20 | 6. 45. 6 | 6. 45. 52 | 6. 46. 38 | 6. 47. 24 | 6. 48. 10 |
| 44 | 6. 43. 0 | 6. 43. 47 | 6. 44. 33 | 6. 45. 20 | 6. 46. 6 | 6. 46. 52 | 6. 47. 38 | 6. 48. 24 | 6. 49. 10 |
| 45 | 6. 44. 0 | 6. 44. 47 | 6. 45. 33 | 6. 46. 20 | 6. 47. 6 | 6. 47. 52 | 6. 48. 38 | 6. 49. 24 | 6. 50. 10 |
| 46 | 6. 45. 0 | 6. 45. 47 | 6. 46. 33 | 6. 47. 20 | 6. 48. 6 | 6. 48. 52 | 6. 49. 38 | 6. 50. 24 | 6. 51. 10 |
| 47 | 6. 46. 0 | 6. 46. 47 | 6. 47. 33 | 6. 48. 20 | 6. 49. 6 | 6. 49. 52 | 6. 50. 38 | 6. 51. 24 | 6. 52. 10 |
| 48 | 6. 47. 0 | 6. 47. 47 | 6. 48. 33 | 6. 49. 20 | 6. 50. 6 | 6. 50. 52 | 6. 51. 38 | 6. 52. 24 | 6. 53. 10 |
| 49 | 6. 48. 0 | 6. 48. 47 | 6. 49. 33 | 6. 50. 20 | 6. 51. 6 | 6. 51. 52 | 6. 52. 38 | 6. 53. 24 | 6. 54. 10 |
| 50 | 6. 49. 0 | 6. 49. 47 | 6. 50. 33 | 6. 51. 20 | 6. 52. 6 | 6. 52. 52 | 6. 53. 38 | 6. 54. 24 | 6. 55. 10 |
| 51 | 6. 50. 0 | 6. 50. 47 | 6. 51. 33 | 6. 52. 20 | 6. 53. 6 | 6. 53. 52 | 6. 54. 38 | 6. 55. 24 | 6. 56. 10 |
| 52 | 6. 51. 0 | 6. 51. 47 | 6. 52. 33 | 6. 53. 20 | 6. 54. 6 | 6. 54. 52 | 6. 55. 38 | 6. 56. 24 | 6. 57. 10 |
| 53 | 6. 52. 0 | 6. 52. 47 | 6. 53. 33 | 6. 54. 20 | 6. 55. 6 | 6. 55. 52 | 6. 56. 38 | 6. 57. 24 | 6. 58. 10 |
| 54 | 6. 53. 0 | 6. 53. 47 | 6. 54. 33 | 6. 55. 20 | 6. 56. 6 | 6. 56. 52 | 6. 57. 38 | 6. 58. 24 | 6. 59. 10 |
| 55 | 6. 54. 0 | 6. 54. 47 | 6. 55. 33 | 6. 56. 20 | 6. 57. 6 | 6. 57. 52 | 6. 58. 38 | 6. 59. 24 | 7. 0. 10 |
| 56 | 6. 55. 0 | 6. 55. 47 | 6. 56. 33 | 6. 57. 20 | 6. 58. 6 | 6. 58. 52 | 6. 59. 38 | 7. 0. 24 | 7. 1. 10 |
| 57 | 6. 56. 0 | 6. 56. 47 | 6. 57. 33 | 6. 58. 20 | 6. 59. 6 | 6. 59. 52 | 7. 0. 38 | 7. 1. 24 | 7. 2. 10 |
| 58 | 6. 57. 0 | 6. 57. 47 | 6. 58. 33 | 6. 59. 20 | 7. 0. 6 | 7. 0. 52 | 7. 1. 38 | 7. 2. 24 | 7. 3. 10 |
| 59 | 6. 58. 0 | 6. 58. 47 | 6. 59. 33 | 7. 0. 20 | 7. 1. 6 | 7. 1. 52 | 7. 2. 38 | 7. 3. 24 | 7. 4. 10 |
| 60 | 6. 59. 0 | 6. 59. 47 | 7. 0. 33 | 7. 1. 20 | 7. 2. 6 | 7. 2. 52 | 7. 3. 38 | 7. 4. 24 | 7. 5. 10 |
| 61 | 7. 0. 0 | 7. 0. 47 | 7. 1. 33 | 7. 2. 20 | 7. 3. 6 | 7. 3. 52 | 7. 4. 38 | 7. 5. 24 | 7. 6. 10 |
| 62 | 7. 1. 0 | 7. 1. 47 | 7. 2. 33 | 7. 3. 20 | 7. 4. 6 | 7. 4. 52 | 7. 5. 38 | 7. 6. 24 | 7. 7. 10 |
| 63 | 7. 2. 0 | 7. 2. 47 | 7. 3. 33 | 7. 4. 20 | 7. 5. 6 | 7. 5. 52 | 7. 6. 38 | 7. 7. 24 | 7. 8. 10 |
| 64 | 7. 3. 0 | 7. 3. 47 | 7. 4. 33 | 7. 5. 20 | 7. 6. 6 | 7. 6. 52 | 7. 7. 38 | 7. 8. 24 | 7. 9. 10 |
| 65 | 7. 4. 0 | 7. 4. 47 | 7. 5. 33 | 7. 6. 20 | 7. 7. 6 | 7. 7. 52 | 7. 8. 38 | 7. 9. 24 | 7. 10. 10 |
| 66 | 7. 5. 0 | 7. 5. 47 | 7. 6. 33 | 7. 7. 20 | 7. 8. 6 | 7. 8. 52 | 7. 9. 38 | 7. 10. 24 | 7. 11. 10 |
| 67 | 7. 6. 0 | 7. 6. 47 | 7. 7. 33 | 7. 8. 20 | 7. 9. 6 | 7. 9. 52 | 7. 10. 38 | 7. 11. 24 | 7. 12. 10 |
| 68 | 7. 7. 0 | 7. 7. 47 | 7. 8. 33 | 7. 9. 20 | 7. 10. 6 | 7. 10. 52 | 7. 11. 38 | 7. 12. 24 | 7. 13. 10 |
| 69 | 7. 8. 0 | 7. 8. 47 | 7. 9. 33 | 7. 10. 20 | 7. 11. 6 | 7. 11. 52 | 7. 12. 38 | 7. 13. 24 | 7. 14. 10 |
| 70 | 7. 9. 0 | 7. 9. 47 | 7. 10. 33 | 7. 11. 20 | 7. 12. 6 | 7. 12. 52 | 7. 13. 38 | 7. 14. 24 | 7. 15. 10 |
| 71 | 7. 10. 0 | 7. 10. 47 | 7. 11. 33 | 7. 12. 20 | 7. 13. 6 | 7. 13. 52 | 7. 14. 38 | 7. 15. 24 | 7. 16. 10 |
| 72 | 7. 11. 0 | 7. 11. 47 | 7. 12. 33 | 7. 13. 20 | 7. 14. 6 | 7. 14. 52 | 7. 15. 38 | 7. 16. 24 | 7. 17. 10 |
| 73 | 7. 12. 0 | 7. 12. 47 | 7. 13. 33 | 7. 14. 20 | 7. 15. 6 | 7. 15. 52 | 7. 16. 38 | 7. 17. 24 | 7. 18. 10 |
| 74 | 7. 13. 0 | 7. 13. 47 | 7. 14. 33 | 7. 15. 20 | 7. 16. 6 | 7. 16. 52 | 7. 17. 38 | 7. 18. 24 | 7. 19. 10 |
| 75 | 7. 14. 0 | 7. 14. 47 | 7. 15. 33 | 7. 16. 20 | 7. 17. 6 | 7. 17. 52 | 7. 18. 38 | 7. 19. 24 | 7. 20. 10 |
| 76 | 7. 15. 0 | 7. 15. 47 | 7. 16. 33 | 7. 17. 20 | 7. 18. 6 | 7. 18. 52 | 7. 19. 38 | 7. 20. 24 | 7. 21. 10 |
| 77 | 7. 16. 0 | 7. 16. 47 | 7. 17. 33 | 7. 18. 20 | 7. 19. 6 | 7. 19. 52 | 7. 20. 38 | 7. 21. 24 | 7. 22. 10 |
| 78 | 7. 17. 0 | 7. 17. 47 | 7. 18. 33 | 7. 19. 20 | 7. 20. 6 | 7. 20. 52 | 7. 21. 38 | 7. 22. 24 | 7. 23. 10 |
| 79 | 7. 18. 0 | 7. 18. 47 | 7. 19. 33 | 7. 20. 20 | 7. 21. 6 | 7. 21. 52 | 7. 22. 38 | 7. 23. 24 | 7. 24. 10 |
| 80 | 7. 19. 0 | 7. 19. 47 | 7. 20. 33 | 7. 21. 20 | 7. 22. 6 | 7. 22. 52 | 7. 23. 38 | 7. 24. 24 | 7. 25. 10 |
| 81 | 7. 20. 0 | 7. 20. 47 | 7. 21. 33 | 7. 22. 20 | 7. 23. 6 | 7. 23. 52 | 7. 24. 38 | 7. 25. 24 | 7. 26. 10 |
| 82 | 7. 21. 0 | 7. 21. 47 | 7. 22. 33 | 7. 23. 20 | 7. 24. 6 | 7. 24. 52 | 7. 25. 38 | 7. 26. 24 | 7. 27. 10 |
| 83 | 7. 22. 0 | 7. 22. 47 | 7. 23. 33 | 7. 24. 20 | 7. 25. 6 | 7. 25. 52 | 7. 26. 38 | 7. 27. 24 | 7. 28. 10 |
| 84 | 7. 23. 0 | 7. 23. 47 | 7. 24. 33 | 7. 25. 20 | 7. 26. 6 | 7. 26. 52 | 7. 27. 38 | 7. 28. 24 | 7. 29. 10 |
| 85 | 7. 24. 0 | 7. 24. 47 | 7. 25. 33 | 7. 26. 20 | 7. 27. 6 | 7. 27. 52 | 7. 28. 38 | 7. 29. 24 | 7. 30. 10 |
| 86 | 7. 25. 0 | 7. 25. 47 | 7. 26. 33 | 7. 27. 20 | 7. 28. 6 | 7. 28. 52 | 7. 29. 38 | 7. 30. 24 | 7. 31. 10 |
| 87 | 7. 26. 0 | 7. 26. 47 | 7. 27. 33 | 7. 28. 20 | 7. 29. 6 | 7. 29. 52 | 7. 30. 38 | 7. 31. 24 | 7. 32. 10 |
| 88 | 7. 27. 0 | 7. 27. 47 | 7. 28. 33 | 7. 29. 20 | 7. 30. 6 | 7. 30. 52 | 7. 31. 38 | 7. 32. 24 | 7. 33. 10 |
| 89 | 7. 28. 0 | 7. 28. 47 | 7. 29. 33 | 7. 30. 20 | 7. 31. 6 | 7. 31. 52 | 7. 32. 38 | 7. 33. 24 | 7. 34. 10 |
| 90 | 7. 29. 0 | 7. 29. 47 | 7. 30. 33 | 7. 31. 20 | 7. 32. 6 | 7. 32. 52 | 7. 33. 38 | 7. 34. 24 | 7. 35. 10 |

| Latitude. | Declination of the same Name as the Latitude. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 19° | 20° | 21° | 22° | 23° | 24° | 25° | 26° | 27° |
| | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s |
| ° 1 | 6. 1. 23 | 6. 1. 27 | 6. 1. 32 | 6. 1. 37 | 6. 1. 42 | 6. 1. 47 | 6. 1. 52 | 6. 1. 57 | 6. 2. 2 |
| 2 | 6. 2. 45 | 6. 2. 53 | 6. 3. 4 | 6. 3. 14 | 6. 3. 24 | 6. 3. 34 | 6. 3. 44 | 6. 3. 54 | 6. 4. 5 |
| 3 | 6. 4. 8 | 6. 4. 22 | 6. 4. 37 | 6. 4. 51 | 6. 5. 7 | 6. 5. 22 | 6. 5. 36 | 6. 5. 51 | 6. 6. 7 |
| 4 | 6. 5. 31 | 6. 5. 50 | 6. 6. 9 | 6. 6. 29 | 6. 6. 48 | 6. 7. 8 | 6. 7. 28 | 6. 7. 47 | 6. 8. 11 |
| 5 | 6. 6. 54 | 6. 7. 18 | 6. 7. 42 | 6. 8. 6 | 6. 8. 31 | 6. 8. 56 | 6. 9. 22 | 6. 9. 47 | 6. 10. 13 |
| 6 | 6. 8. 19 | 6. 8. 46 | 6. 9. 15 | 6. 9. 44 | 6. 10. 14 | 6. 10. 44 | 6. 11. 14 | 6. 11. 45 | 6. 12. 17 |
| 7 | 6. 9. 42 | 6. 10. 15 | 6. 10. 48 | 6. 11. 22 | 6. 11. 57 | 6. 12. 32 | 6. 13. 8 | 6. 13. 44 | 6. 14. 21 |
| 8 | 6. 11. 6 | 6. 11. 44 | 6. 12. 22 | 6. 13. 1 | 6. 13. 41 | 6. 14. 21 | 6. 15. 2 | 6. 15. 43 | 6. 16. 26 |
| 9 | 6. 12. 30 | 6. 13. 16 | 6. 13. 57 | 6. 14. 41 | 6. 15. 25 | 6. 16. 10 | 6. 16. 57 | 6. 17. 43 | 6. 18. 31 |
| 10 | 6. 13. 55 | 6. 14. 43 | 6. 15. 31 | 6. 16. 20 | 6. 17. 11 | 6. 18. 1 | 6. 18. 53 | 6. 19. 44 | 6. 20. 37 |
| 11 | 6. 15. 20 | 6. 16. 12 | 6. 17. 7 | 6. 18. 0 | 6. 18. 56 | 6. 19. 51 | 6. 20. 48 | 6. 21. 44 | 6. 22. 41 |
| 12 | 6. 16. 45 | 6. 17. 44 | 6. 18. 44 | 6. 19. 48 | 6. 20. 42 | 6. 21. 44 | 6. 22. 44 | 6. 23. 45 | 6. 24. 52 |
| 13 | 6. 18. 10 | 6. 19. 16 | 6. 20. 22 | 6. 21. 24 | 6. 22. 30 | 6. 23. 37 | 6. 24. 44 | 6. 25. 52 | 6. 27. 1 |
| 14 | 6. 19. 42 | 6. 20. 48 | 6. 21. 58 | 6. 23. 8 | 6. 24. 20 | 6. 25. 28 | 6. 26. 41 | 6. 27. 56 | 6. 29. 13 |
| 15 | 6. 21. 12 | 6. 22. 22 | 6. 23. 34 | 6. 24. 52 | 6. 26. 11 | 6. 27. 34 | 6. 28. 41 | 6. 30. 4 | 6. 31. 24 |
| 16 | 6. 22. 42 | 6. 23. 56 | 6. 25. 10 | 6. 26. 36 | 6. 27. 58 | 6. 29. 21 | 6. 30. 44 | 6. 32. 8 | 6. 33. 30 |
| 17 | 6. 24. 12 | 6. 25. 32 | 6. 26. 50 | 6. 28. 24 | 6. 29. 48 | 6. 31. 10 | 6. 32. 48 | 6. 34. 28 | 6. 35. 52 |
| 18 | 6. 25. 44 | 6. 27. 8 | 6. 28. 40 | 6. 30. 12 | 6. 31. 42 | 6. 33. 10 | 6. 34. 52 | 6. 36. 28 | 6. 38. 8 |
| 19 | 6. 27. 16 | 6. 28. 48 | 6. 30. 24 | 6. 32. 0 | 6. 33. 36 | 6. 35. 16 | 6. 36. 56 | 6. 38. 40 | 6. 40. 24 |
| 20 | 6. 28. 48 | 6. 30. 28 | 6. 32. 8 | 6. 33. 48 | 6. 35. 32 | 6. 37. 26 | 6. 39. 4 | 6. 40. 56 | 6. 42. 44 |
| 21 | 6. 30. 24 | 6. 32. 8 | 6. 33. 52 | 6. 35. 40 | 6. 37. 32 | 6. 39. 28 | 6. 41. 16 | 6. 43. 8 | 6. 45. 8 |
| 22 | 6. 32. 0 | 6. 33. 48 | 6. 35. 40 | 6. 37. 32 | 6. 39. 32 | 6. 41. 28 | 6. 43. 28 | 6. 45. 28 | 6. 47. 32 |
| 23 | 6. 33. 36 | 6. 35. 32 | 6. 37. 32 | 6. 39. 28 | 6. 41. 32 | 6. 43. 32 | 6. 45. 40 | 6. 47. 48 | 6. 49. 54 |
| 24 | 6. 35. 16 | 6. 37. 18 | 6. 39. 24 | 6. 41. 28 | 6. 43. 36 | 6. 45. 44 | 6. 47. 56 | 6. 50. 12 | 6. 52. 28 |
| 25 | 6. 36. 56 | 6. 39. 4 | 6. 41. 16 | 6. 43. 28 | 6. 45. 40 | 6. 47. 56 | 6. 50. 16 | 6. 52. 36 | 6. 55. 0 |
| 26 | 6. 38. 40 | 6. 40. 56 | 6. 43. 8 | 6. 45. 20 | 6. 47. 48 | 6. 50. 12 | 6. 52. 36 | 6. 55. 4 | 6. 57. 32 |
| 27 | 6. 40. 24 | 6. 42. 44 | 6. 45. 8 | 6. 47. 32 | 6. 49. 56 | 6. 52. 28 | 6. 55. 0 | 6. 57. 32 | 7. 0. 10 |
| 28 | 6. 42. 12 | 6. 44. 38 | 6. 47. 8 | 6. 49. 50 | 6. 52. 12 | 6. 54. 48 | 6. 57. 24 | 7. 0. 8 | 7. 2. 52 |
| 29 | 6. 44. 0 | 6. 46. 32 | 6. 49. 8 | 6. 51. 44 | 6. 54. 28 | 6. 57. 0 | 6. 59. 56 | 7. 2. 44 | 7. 5. 37 |
| 30 | 6. 45. 52 | 6. 48. 32 | 6. 51. 14 | 6. 53. 56 | 6. 56. 44 | 6. 59. 35 | 7. 2. 28 | 7. 5. 24 | 7. 8. 24 |
| 31 | 6. 47. 44 | 6. 50. 32 | 6. 53. 22 | 6. 56. 12 | 6. 59. 8 | 7. 2. 4 | 7. 5. 4 | 7. 8. 08 | 7. 11. 18 |
| 32 | 6. 49. 44 | 6. 52. 36 | 6. 55. 34 | 6. 58. 38 | 7. 1. 28 | 7. 4 36 | 7. 7. 44 | 7. 10. 56 | 7. 14. 16 |
| 33 | 6. 51. 44 | 6. 54. 40 | 6. 57. 44 | 7. 0. 52 | 7. 4. 0 | 7. 7. 12 | 7. 10. 32 | 7. 13. 48 | 7. 17. 20 |
| 34 | 6. 53. 44 | 6. 56. 50 | 7. 0. 0 | 7. 3. 16 | 7. 6. 32 | 7. 9. 56 | 7. 13. 20 | 7. 16. 48 | 7. 20. 24 |
| 35 | 6. 55. 48 | 6. 59. 4 | 7. 2. 22 | 7. 5. 44 | 7. 9. 8 | 7. 12. 42 | 7. 16. 12 | 7. 19. 52 | 7. 23. 36 |
| 36 | 6. 57. 56 | 7. 1. 20 | 7. 4. 48 | 7. 8. 16 | 7. 11. 52 | 7. 15. 32 | 7. 19. 12 | 7. 23. 0 | 7. 26. 54 |
| 37 | 7. 0. 8 | 7. 3. 40 | 7. 7. 16 | 7. 10. 56 | 7. 14. 36 | 7. 18. 24 | 7. 22. 16 | 7. 26. 16 | 7. 30. 20 |
| 38 | 7. 2. 24 | 7. 6. 4 | 7. 9. 48 | 7. 13. 38 | 7. 17. 28 | 7. 21. 24 | 7. 25. 28 | 7. 29. 36 | 7. 33. 52 |
| 39 | 7. 4. 44 | 7. 8. 32 | 7. 12. 24 | 7. 16. 24 | 7. 20. 24 | 7. 24. 32 | 7. 28. 44 | 7. 33. 4 | 7. 37. 28 |
| 40 | 7. 7. 10 | 7. 11. 8 | 7. 15. 8 | 7. 19. 16 | 7. 23. 28 | 7. 27. 44 | 7. 32. 8 | 7. 36. 36 | 7. 41. 16 |
| 41 | 7. 9. 46 | 7. 13. 48 | 7. 18. 0 | 7. 22. 16 | 7. 26. 36 | 7. 31. 4 | 7. 35. 40 | 7. 40. 20 | 7. 45. 8 |
| 42 | 7. 12. 16 | 7. 16. 32 | 7. 20. 52 | 7. 25. 20 | 7. 29. 52 | 7. 34. 32 | 7. 39. 16 | 7. 44. 12 | 7. 49. 12 |
| 43 | 7. 14. 56 | 7. 19. 20 | 7. 23. 54 | 7. 28. 32 | 7. 33. 16 | 7. 38. 07 | 7. 43. 4 | 7. 48. 14 | 7. 53. 28 |
| 44 | 7. 17. 44 | 7. 22. 20 | 7. 27. 3 | 7. 31. 52 | 7. 36. 48 | 7. 41. 52 | 7. 47. 0 | 7. 52. 24 | 7. 57. 56 |
| 45 | 7. 20. 32 | 7. 25. 24 | 7. 30. 17 | 7. 35. 20 | 7. 40. 28 | 7. 45. 44 | 7. 51. 0 | 7. 56. 44 | 8. 2. 32 |
| 46 | 7. 23. 34 | 7. 28. 36 | 7. 33. 44 | 7. 38. 56 | 7. 44. 20 | 7. 49. 48 | 7. 55. 28 | 8. 1. 20 | 8. 7. 20 |
| 47 | 7. 26. 48 | 7. 31. 52 | 7. 37. 12 | 7. 42. 44 | 7. 48. 20 | 7. 54. 4 | 8. 0. 0 | 8. 6. 0 | 8. 12. 20 |
| 48 | 7. 30. 5 | 7. 35. 24 | 7. 40. 56 | 7. 46. 40 | 7. 52. 32 | 7. 58. 32 | 8. 4. 48 | 8. 11. 0 | 8. 17. 52 |
| 49 | 7. 33. 28 | 7. 38. 56 | 7. 44. 48 | 7. 50. 48 | 7. 56. 56 | 8. 3. 16 | 8. 9. 44 | 8. 16. 20 | 8. 23. 32 |
| 50 | 7. 36. 52 | 7. 42. 28 | 7. 48. 52 | 7. 55. 8 | 8. 1. 32 | 8. 8. 12 | 8. 15. 4 | 8. 22. 0 | 8. 29. 20 |
| 51 | 7. 40. 40 | 7. 46. 32 | 7. 53. 11 | 7. 59. 44 | 8. 6. 28 | 8. 13. 24 | 8. 20. 32 | 8. 28. 8 | 8. 35. 52 |
| 52 | 7. 44. 32 | 7. 51. 4 | 7. 57. 43 | 8. 4. 52 | 8. 11. 36 | 8. 18. 56 | 8. 26. 40 | 8. 34. 32 | 8. 42. 48 |
| 53 | 7. 48. 44 | 7. 55. 32 | 8. 2. 30 | 8. 9. 44 | 8. 17. 4 | 8. 24. 52 | 8. 32. 56 | 8. 41. 20 | 8. 50. 12 |
| 54 | 7. 53. 8 | 8. 0. 16 | 8. 7. 36 | 8. 15. 0 | 8. 23. 0 | 8. 31. 12 | 8. 39. 44 | 8. 48. 56 | 8. 58. 48 |
| 55 | 7. 57. 48 | 8. 5. 16 | 8. 12. 59 | 8. 21. 30 | 8. 30. 16 | 8. 37. 56 | 8. 47. 20 | 8. 57. 20 | 9. 6. 24 |
| 56 | 8. 2. 48 | 8. 10. 32 | 8. 18. 44 | 8. 27. 12 | 8. 35. 56 | 8. 45. 12 | 8. 54. 56 | 9. 5. 16 | 9. 16. 16 |
| 57 | 8. 8. 4 | 8. 16. 2 | 8. 24. 56 | 8. 33. 52 | 8. 43. 44 | 8. 53. 8 | 9. 3. 32 | 9. 14. 40 | 9. 27. 44 |
| 58 | 8. 13. 44 | 8. 22. 2 | 8. 31. 36 | 8. 41. 8 | 8. 51. 8 | 9. 1. 40 | 9. 13. 4 | 9. 25. 12 | 9. 38. 32 |
| 59 | 8. 19. 52 | 8. 29. 8 | 8. 38. 48 | 8. 48. 44 | 8. 59. 4 | 9. 11. 16 | 9. 23. 36 | 9. 37. 4 | 9. 52. 8 |
| 60 | 8. 26. 28 | 8. 36. 32 | 8. 46. 40 | 8. 57. 4 | 9. 8. 16 | 9. 21. 52 | 9. 36. 28 | 9. 53. 28 | 10. 13. 44 |
| 61 | 8. 33. 32 | 8. 44. 12 | 8. 55. 32 | 9. 7. 12 | 9. 19. 56 | 9. 33. 44 | 9. 49. 52 | 10. 8. 32 | 10. 37. 16 |
| 62 | 8. 41. 32 | 8. 52. 40 | 9. 4. 56 | 9. 17. 48 | 9. 31. 52 | 9. 47. 28 | 10. 5. 52 | 10. 28. 40 | 11. 5. 12 |
| 63 | 8. 50. 4 | 9. 2. 0 | 9. 15. 32 | 9. 29. 52 | 9. 45. 40 | 10. 3. 36 | 10. 24. 56 | 10. 52. 40 | 11. 52. 4 |
| 64 | 8. 59. 36 | 9. 13. 4 | 9. 27. 40 | 9. 43. 44 | 10. 1. 58 | 10. 23. 36 | 10. 51. 48 | 11. 40. 0 | |
| 65 | 9. 10. 0 | 9. 25. 16 | 9. 41. 52 | 10. 1. 52 | 10. 22. 11 | 10. 51. 0 | 11. 40. 0 | | |

| Latitude | Declination of the same Name as the Latitude. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | 28° | 29° | 30° | 31° | 32° | 33° | 34° | 35° | 36° |
| | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s | h m s |
| 1 | 6. 2. 8 | 6. 2. 13 | 6. 2. 19 | 6. 2. 24 | 6. 2. 30 | 6. 2. 36 | 6. 2. 42 | 6. 2. 48 | 6. 2. 54 |
| 2 | 6. 4. 15 | 6. 4. 26 | 6. 4. 37 | 6. 4. 48 | 6. 5. 0 | 6. 5. 12 | 6. 5. 24 | 6. 5. 36 | 6. 5. 49 |
| 3 | 6. 6. 23 | 6. 6. 40 | 6. 6. 56 | 6. 7. 13 | 6. 7. 30 | 6. 7. 48 | 6. 8. 6 | 6. 8. 25 | 6. 8. 44 |
| 4 | 6. 8. 31 | 6. 8. 53 | 6. 9. 15 | 6. 9. 38 | 6. 10. 1 | 6. 10. 25 | 6. 10. 49 | 6. 11. 14 | 6. 11. 39 |
| 5 | 6. 10. 40 | 6. 11. 7 | 6. 11. 35 | 6. 12. 3 | 6. 12. 32 | 6. 13. 1 | 6. 13. 32 | 6. 14. 3 | 6. 14. 35 |
| 6 | 6. 12. 49 | 6. 13. 22 | 6. 13. 55 | 6. 14. 29 | 6. 15. 4 | 6. 15. 39 | 6. 16. 16 | 6. 16. 53 | 6. 17. 31 |
| 7 | 6. 14. 58 | 6. 15. 37 | 6. 16. 16 | 6. 16. 55 | 6. 17. 36 | 6. 18. 18 | 6. 19. 0 | 6. 19. 44 | 6. 20. 28 |
| 8 | 6. 17. 8 | 6. 17. 52 | 6. 18. 37 | 6. 19. 23 | 6. 20. 9 | 6. 20. 57 | 6. 21. 46 | 6. 22. 34 | 6. 23. 27 |
| 9 | 6. 19. 19 | 6. 20. 9 | 6. 20. 59 | 6. 21. 50 | 6. 22. 43 | 6. 23. 37 | 6. 24. 32 | 6. 25. 28 | 6. 26. 26 |
| 10 | 6. 21. 23 | 6. 22. 26 | 6. 23. 22 | 6. 24. 20 | 6. 25. 18 | 6. 26. 18 | 6. 27. 19 | 6. 28. 22 | 6. 29. 27 |
| 11 | 6. 23. 44 | 6. 24. 44 | 6. 25. 46 | 6. 26. 48 | 6. 27. 54 | 6. 29. 0 | 6. 30. 8 | 6. 31. 16 | 6. 32. 28 |
| 12 | 6. 25. 56 | 6. 27. 4 | 6. 28. 12 | 6. 29. 26 | 6. 30. 32 | 6. 31. 44 | 6. 32. 58 | 6. 34. 14 | 6. 35. 32 |
| 13 | 6. 28. 12 | 6. 29. 24 | 6. 30. 4 | 6. 31. 57 | 6. 33. 12 | 6. 34. 28 | 6. 35. 45 | 6. 37. 12 | 6. 38. 30 |
| 14 | 6. 30. 28 | 6. 31. 46 | 6. 33. 8 | 6. 34. 28 | 6. 35. 52 | 6. 37. 16 | 6. 38. 43 | 6. 40. 12 | 6. 41. 44 |
| 15 | 6. 32. 44 | 6. 34. 10 | 6. 35. 37 | 6. 37. 4 | 6. 38. 35 | 6. 40. 4 | 6. 41. 4 | 6. 41. 16 | 6. 44. 54 |
| 16 | 6. 35. 4 | 6. 36. 36 | 6. 38. 8 | 6. 39. 40 | 6. 41. 16 | 6. 42. 56 | 6. 44. 36 | 6. 46. 20 | 6. 48. 4 |
| 17 | 6. 37. 24 | 6. 39. 2 | 6. 40. 40 | 6. 42. 20 | 6. 44. 4 | 6. 45. 48 | 6. 47. 36 | 6. 49. 28 | 6. 51. 20 |
| 18 | 6. 39. 48 | 6. 41. 30 | 6. 43. 16 | 6. 45. 0 | 6. 46. 52 | 6. 48. 44 | 6. 50. 40 | 6. 52. 36 | 6. 54. 36 |
| 19 | 6. 42. 12 | 6. 44. 0 | 6. 45. 52 | 6. 47. 44 | 6. 49. 42 | 6. 51. 40 | 6. 53. 44 | 6. 55. 48 | 6. 57. 56 |
| 20 | 6. 44. 40 | 6. 46. 32 | 6. 48. 32 | 6. 50. 32 | 6. 52. 36 | 6. 54. 40 | 6. 56. 52 | 6. 59. 4 | 7. 1. 20 |
| 21 | 6. 47. 8 | 6. 49. 8 | 6. 51. 14 | 6. 53. 20 | 6. 55. 32 | 6. 47. 44 | 7. 0. 0 | 7. 2. 24 | 7. 4. 48 |
| 22 | 6. 49. 36 | 6. 51. 44 | 6. 53. 56 | 6. 56. 12 | 6. 58. 28 | 7. 0. 52 | 7. 3. 14 | 7. 5. 44 | 7. 8. 18 |
| 23 | 6. 52. 12 | 6. 54. 26 | 6. 56. 44 | 6. 59. 8 | 7. 1. 28 | 7. 4. 0 | 7. 6. 32 | 7. 9. 8 | 7. 11. 52 |
| 24 | 6. 54. 48 | 6. 57. 8 | 6. 59. 36 | 7. 2. 4 | 7. 4. 38 | 7. 7. 12 | 7. 9. 56 | 7. 12. 38 | 7. 15. 32 |
| 25 | 6. 57. 24 | 6. 59 56 | 7. 2. 28 | 7. 5. 4 | 7. 7. 44 | 7. 10. 28 | 7. 13. 20 | 7. 16. 12 | 7. 19. 12 |
| 26 | 7. 0. 8 | 7. 2. 44 | 7. 5. 24 | 7. 8. 10 | 7. 11. 0 | 7. 13. 48 | 7. 16. 48 | 7. 19. 52 | 7. 23. 0 |
| 27 | 7. 2. 52 | 7. 5. 36 | 7. 8. 24 | 7. 11. 20 | 7. 14. 16 | 7. 17. 17 | 7. 20. 24 | 7. 23. 36 | 7. 26. 56 |
| 28 | 7. 5. 40 | 7. 8. 32 | 7. 11. 28 | 7. 14. 32 | 7. 17. 38 | 7. 20. 48 | 7. 24. 4 | 7. 27. 24 | 7. 30. 56 |
| 29 | 7. 8. 32 | 7. 11. 35 | 7. 14. 40 | 7. 17. 48 | 7. 21. 4 | 7. 24. 24 | 7. 27. 48 | 7. 31. 20 | 7. 35. 0 |
| 30 | 7. 11. 30 | 7. 14. 40 | 7. 17. 52 | 7. 21. 12 | 7. 24. 36 | 7. 28. 4 | 7. 31. 40 | 7. 35. 24 | 7. 39. 12 |
| 31 | 7. 14. 28 | 7. 17. 48 | 7. 21. 12 | 7. 24. 40 | 7. 28. 12 | 7. 32. 52 | 7. 35. 40 | 7. 39. 32 | 7. 43. 32 |
| 32 | 7. 17. 36 | 7. 21. 4 | 7. 24. 36 | 7. 28. 12 | 7. 31. 56 | 7. 35. 46 | 7. 39. 44 | 7. 43. 48 | 7. 48. 0 |
| 33 | 7. 20. 48 | 7. 24. 24 | 7. 28. 4 | 7. 31. 52 | 7. 35 44 | 7. 39. 48 | 7. 43. 56 | 7. 48. 12 | 7. 52. 36 |
| 34 | 7. 24. 4 | 7. 27. 48 | 7. 31. 40 | 7. 35. 40 | 7. 39. 46 | 7. 43. 56 | 7. 48. 16 | 7. 52. 44 | 7. 57. 28 |
| 35 | 7. 27. 24 | 7. 31. 20 | 7. 35. 24 | 7. 39. 32 | 7. 43. 48 | 7. 48. 12 | 7. 52. 44 | 7. 57. 28 | 8. 2. 20 |
| 36 | 7. 30. 56 | 7. 35. 0 | 7. 39. 12 | 7. 43. 32 | 7. 48. 0 | 7. 52. 36 | 7. 57. 22 | 8. 2. 20 | 8. 7. 28 |
| 37 | 7. 34. 27 | 7. 38. 44 | 7. 43. 8 | 7. 47. 40 | 7. 52. 20 | 7. 57. 12 | 8. 2. 8 | 8. 7. 20 | 8. 12. 48 |
| 38 | 7. 38. 12 | 7. 42. 40 | 7. 47. 16 | 7. 52. 0 | 7. 56. 52 | 8. 1. 56 | 8. 7. 14 | 8. 12. 40 | 8. 18. 24 |
| 39 | 7. 42. 0 | 7. 46. 41 | 7. 51. 28 | 7. 56. 28 | 8. 1. 32 | 8. 6. 56 | 8. 12. 24 | 8. 18. 12 | 8. 24. 8 |
| 40 | 7. 46. 0 | 7. 50. 52 | 7. 55. 54 | 8. 1. 8 | 8. 6. 28 | 8. 12. 6 | 8. 17. 52 | 8. 23. 56 | 8. 30. 12 |
| 41 | 7. 50. 8 | 7. 55. 12 | 8. 0. 28 | 8. 5. 56 | 8. 11. 36 | 8. 17. 28 | 8. 23. 32 | 8. 30. 0 | 8. 36. 40 |
| 42 | 7. 54. 32 | 7. 59. 44 | 8. 5. 16 | 8. 11. 0 | 8. 16. 58 | 8. 23. 8 | 8. 29. 32 | 8. 36. 20 | 8. 43. 28 |
| 43 | 7. 58. 52 | 8. 4. 28 | 8. 10. 16 | 8. 16. 20 | 8. 22. 32 | 8. 29. 4 | 8. 35. 56 | 8. 43. 4 | 8. 50. 36 |
| 44 | 8. 3. 34 | 8. 9. 28 | 8. 15. 32 | 8. 21. 52 | 8. 28. 28 | 8. 35. 20 | 8. 42. 36 | 8. 50. 12 | 8. 58. 12 |
| 45 | 8. 8. 28 | 8. 14. 40 | 8. 21. 4 | 8. 27. 44 | 8. 34. 40 | 8. 42. 0 | 8. 49. 40 | 8. 57. 48 | 9. 6. 24 |
| 46 | 8. 13. 36 | 8. 20. 8 | 8. 26. 52 | 8. 33. 56 | 8. 41. 16 | 8. 49. 4 | 8. 57. 12 | 9. 5. 56 | 9. 15. 12 |
| 47 | 8. 19. 4 | 8. 25. 52 | 8. 33. 0 | 8. 40. 28 | 8. 48. 16 | 8. 56. 32 | 9. 5. 20 | 9. 14. 40 | 9. 24. 44 |
| 48 | 8. 24. 44 | 8. 32. 0 | 8. 39. 32 | 8. 47. 28 | 8. 55. 46 | 9. 4. 36 | 9. 14. 4 | 9. 24. 12 | 9. 35. 12 |
| 49 | 8. 30. 52 | 8. 38. 28 | 8. 46. 28 | 8. 54. 56 | 9. 3. 48 | 9. 13. 20 | 9. 23. 32 | 9. 34. 40 | 9. 46. 48 |
| 50 | 8. 37. 16 | 8. 45. 24 | 8. 53. 56 | 9. 2. 52 | 9. 12. 32 | 9. 22. 52 | 9. 34. 0 | 9. 46. 16 | 9. 59. 56 |
| 51 | 8. 44. 8 | 8. 52. 48 | 9. 1. 56 | 9. 11. 32 | 9. 22. 0 | 9. 33. 16 | 9. 45. 36 | 9. 59. 24 | 10. 15. 12 |
| 52 | 8. 51. 32 | 9. 0. 48 | 9. 10. 36 | 9. 21. 4 | 9. 32. 28 | 9. 44. 52 | 9. 58. 48 | 10. 14. 40 | 10. 33. 40 |
| 53 | 8. 59. 31 | 9. 9. 24 | 9. 20. 4 | 9. 31. 37 | 9. 44. 4 | 9. 58. 4 | 10. 14. 4 | 10. 33. 1 | 10. 53. 48 |
| 54 | 9. 8. 8 | 9. 18. 52 | 9. 30. 28 | 9. 43. 12 | 9. 57. 16 | 10. 13. 24 | 10. 32. 44 | 10. 58. 8 | 12. 0. 0 |
| 55 | 9. 17. 38 | 9. 29. 20 | 9. 42. 10 | 9. 56. 24 | 10 12. 42 | 10. 32. 8 | 10. 57. 44 | 12. 0. 0 | |
| 56 | 9. 28. 8 | 9. 41. 4 | 9. 55. 28 | 10. 11. 56 | 10. 31. 32 | 10. 57. 16 | 12. 0. 0 | | |
| 57 | 9. 39. 52 | 9. 54. 24 | 10. 11. 0 | 10. 30. 48 | 10. 56. 48 | 12. 0. 0 | | | |
| 58 | 9. 53. 16 | 10. 10. 0 | 10. 30. 4 | 10. 56. 16 | 12. 0. 0 | | | | |
| 59 | 10. 8. 56 | 10. 29. 12 | 10. 55. 4 | 12. 0. 0 | | | | | |
| 60 | 10. 28. 16 | 10. 55. 4 | 12. 0. 0 | | | | | | |
| 61 | 10. 54. 20 | 12. 0. 0 | | | | | | | |

| Sun's Declination | Latitude of the Place. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0° | D. 100′ | D. 100′ | 1° | D. 100′ | D. 100′ | 2° | D. 100′ | D. 100′ | 3° | D. 100′ | D. 100′ | 4° | D. 100′ | D. 100′ | 5° | D. 100′ | D. 100′ |
| ° ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ |
| 0. 0 | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | |
| 0. 30 | 0. 30 | 0 | 100 | 0. 30 | 0 | 100 | 0. 30 | 0 | 100 | 0. 30 | 0 | 100 | 0. 30 | 0 | 100 | 0. 30 | 0 | 100 |
| 1. 0 | 1. 0 | 0 | 100 | 1. 00 | 0 | 100 | 1. 0 | 0 | 100 | 1. 0 | 0 | 100 | 1. 0 | 0 | 100 | 1. 0 | 0 | 100 |
| 1. 30 | 1. 30 | 0 | 100 | 1. 30 | 0 | 100 | 1. 30 | 0 | 100 | 1. 30 | 0 | 100 | 1. 30 | 0 | 100 | 1. 30 | 0 | 100 |
| 2. 0 | 2. 0 | 0 | 100 | 2. 0 | 0 | 100 | 2. 0 | 0 | 100 | 2. 0 | 0 | 100 | 2. 0 | 0 | 100 | 2. 0 | 0 | 100 |
| 2. 30 | 2. 30 | 0 | 100 | 2. 30 | 0 | 100 | 2. 30 | 0 | 100 | 2. 30 | 0 | 100 | 2. 30 | 0 | 100 | 2. 30 | 0 | 100 |
| 3. 0 | 3. 0 | 0 | 100 | 3. 0 | 0 | 100 | 3. 0 | 0 | 100 | 3. 0 | 0 | 100 | 3. 0 | 0 | 100 | 3. 0 | 2 | 100 |
| 3. 30 | 3. 30 | 0 | 100 | 3. 30 | 0 | 100 | 3. 30 | 0 | 100 | 3. 30 | 0 | 100 | 3. 30 | 0 | 103 | 3. 30 | 2 | 103 |
| 4. 0 | 4. 0 | 0 | 100 | 4. 0 | 0 | 100 | 4. 0 | 0 | 100 | 4. 0 | 2 | 100 | 4. 1 | 0 | 100 | 4. 1 | 0 | 100 |
| 4. 30 | 4. 30 | 0 | 100 | 4. 30 | 0 | 100 | 4. 30 | 0 | 100 | 4. 30 | 2 | 100 | 4. 31 | 0 | 100 | 4. 31 | 0 | 100 |
| 5. 0 | 5. 0 | 0 | 100 | 5. 0 | 0 | 100 | 5. 0 | 0 | 100 | 5. 0 | 2 | 100 | 5. 1 | 0 | 100 | 5. 1 | 0 | 100 |
| 5. 30 | 5. 30 | 0 | 100 | 5. 30 | 0 | 100 | 5. 30 | 0 | 100 | 5. 30 | 2 | 100 | 5. 31 | 0 | 100 | 5. 31 | 0 | 100 |
| 6. 0 | 6. 0 | 0 | 100 | 6. 0 | 0 | 100 | 6. 0 | 0 | 100 | 6. 0 | 2 | 100 | 6. 1 | 0 | 100 | 6. 1 | 2 | 100 |
| 6. 30 | 6. 30 | 0 | 100 | 6. 30 | 0 | 100 | 6. 30 | 0 | 100 | 6. 30 | 2 | 103 | 6. 31 | 0 | 100 | 6. 31 | 2 | 103 |
| 7. 0 | 7. 0 | 0 | 100 | 7. 0 | 0 | 100 | 7. 0 | 2 | 100 | 7. 1 | 0 | 100 | 7. 1 | 2 | 100 | 7. 2 | 2 | 100 |
| 7. 30 | 7. 30 | 0 | 100 | 7. 30 | 0 | 100 | 7. 30 | 2 | 100 | 7. 31 | 0 | 100 | 7. 31 | 2 | 100 | 7. 32 | 2 | 100 |
| 8. 0 | 8. 0 | 0 | 100 | 8. 0 | 0 | 100 | 8. 0 | 2 | 100 | 8. 1 | 0 | 100 | 8. 1 | 2 | 100 | 8. 2 | 2 | 100 |
| 8. 30 | 8. 30 | 0 | 100 | 8. 30 | 0 | 100 | 8. 30 | 2 | 100 | 8. 31 | 0 | 100 | 8. 31 | 2 | 100 | 8. 32 | 2 | 100 |
| 9. 0 | 9. 0 | 0 | 100 | 9. 0 | 0 | 100 | 9. 0 | 2 | 100 | 9. 1 | 0 | 100 | 9. 1 | 2 | 100 | 9. 2 | 2 | 100 |
| 9. 30 | 9. 30 | 0 | 100 | 9. 30 | 0 | 100 | 9. 30 | 2 | 100 | 9. 31 | 0 | 100 | 9. 31 | 2 | 103 | 9. 32 | 2 | 103 |
| 10. 0 | 10. 0 | 0 | 100 | 10. 0 | 0 | 100 | 10. 0 | 2 | 100 | 10. 1 | 2 | 100 | 10. 2 | 2 | 100 | 10. 3 | 2 | 100 |
| 10. 30 | 10. 30 | 0 | 100 | 10. 30 | 0 | 100 | 10. 30 | 2 | 100 | 10. 31 | 2 | 100 | 10. 32 | 2 | 100 | 10. 33 | 2 | 100 |
| 11. 0 | 11. 0 | 0 | 100 | 11. 0 | 0 | 100 | 11. 0 | 2 | 100 | 11. 1 | 2 | 100 | 11. 2 | 2 | 100 | 11. 3 | 2 | 100 |
| 11. 30 | 11. 30 | 0 | 100 | 11. 30 | 0 | 100 | 11. 30 | 2 | 100 | 11. 31 | 2 | 100 | 11. 32 | 2 | 100 | 11. 33 | 2 | 100 |
| 12. 0 | 12. 0 | 0 | 100 | 12. 0 | 0 | 100 | 12. 0 | 2 | 100 | 12. 1 | 2 | 100 | 12. 2 | 2 | 100 | 12. 3 | 2 | 100 |
| 12. 30 | 12. 30 | 0 | 100 | 12. 30 | 0 | 100 | 12. 30 | 2 | 100 | 12. 31 | 2 | 100 | 12. 32 | 2 | 100 | 12. 33 | 2 | 100 |
| 13. 0 | 13. 0 | 0 | 100 | 13. 0 | 0 | 100 | 13. 0 | 2 | 100 | 13. 1 | 2 | 100 | 13. 2 | 2 | 100 | 13. 3 | 2 | 100 |
| 13. 30 | 13. 30 | 0 | 100 | 13. 30 | 0 | 100 | 13. 30 | 2 | 100 | 13. 31 | 2 | 100 | 13. 32 | 2 | 100 | 13. 33 | 2 | 100 |
| 14. 0 | 14. 0 | 0 | 100 | 14. 0 | 0 | 100 | 14. 0 | 2 | 100 | 14. 1 | 2 | 100 | 14. 2 | 2 | 100 | 14. 3 | 2 | 100 |
| 14. 30 | 14. 30 | 0 | 100 | 14. 30 | 0 | 100 | 14. 30 | 2 | 100 | 14. 31 | 2 | 100 | 14. 32 | 2 | 100 | 14. 33 | 2 | 103 |
| 15. 0 | 15. 0 | 0 | 100 | 15. 0 | 0 | 100 | 15. 0 | 2 | 100 | 15. 1 | 2 | 100 | 15. 2 | 3 | 100 | 15. 4 | 2 | 100 |
| 15. 30 | 15. 30 | 0 | 100 | 15. 30 | 0 | 100 | 15. 30 | 2 | 103 | 15. 31 | 2 | 100 | 15. 32 | 3 | 100 | 15. 34 | 2 | 100 |
| 16. 0 | 16. 0 | 0 | 100 | 16. 0 | 2 | 100 | 16. 1 | 0 | 100 | 16. 1 | 2 | 100 | 16. 2 | 3 | 100 | 16. 4 | 2 | 100 |
| 16. 30 | 16. 30 | 0 | 100 | 16. 30 | 2 | 100 | 16. 31 | 0 | 100 | 16. 31 | 2 | 103 | 16. 32 | 3 | 103 | 16. 34 | 2 | 100 |
| 17. 0 | 17. 0 | 0 | 100 | 17. 0 | 2 | 100 | 17. 1 | 2 | 100 | 17. 2 | 2 | 100 | 17. 3 | 2 | 100 | 17. 4 | 2 | 100 |
| 17. 30 | 17. 30 | 0 | 100 | 17. 30 | 2 | 100 | 17. 31 | 2 | 100 | 17. 32 | 2 | 100 | 17. 33 | 2 | 100 | 17. 34 | 2 | 100 |
| 18. 0 | 18. 0 | 0 | 100 | 18. 0 | 2 | 100 | 18. 1 | 2 | 100 | 18. 2 | 2 | 100 | 18. 3 | 2 | 100 | 18. 4 | 3 | 100 |
| 18. 15 | 18. 15 | 0 | 100 | 18. 15 | 2 | 100 | 18. 16 | 2 | 100 | 18. 17 | 2 | 100 | 18. 18 | 2 | 100 | 18. 19 | 3 | 100 |
| 18. 30 | 18. 30 | 0 | 100 | 18. 30 | 2 | 100 | 18. 31 | 2 | 100 | 18. 32 | 2 | 100 | 18. 33 | 2 | 100 | 18. 34 | 3 | 100 |
| 18. 45 | 18. 45 | 0 | 100 | 18. 45 | 2 | 100 | 18. 46 | 2 | 100 | 18. 47 | 2 | 100 | 18. 48 | 2 | 100 | 18. 19 | 3 | 100 |
| 19. 0 | 19. 0 | 0 | 100 | 19. 0 | 2 | 100 | 19. 1 | 2 | 100 | 19. 2 | 2 | 100 | 19. 3 | 2 | 100 | 19. 4 | 3 | 100 |
| 19. 15 | 19. 15 | 0 | 100 | 19. 15 | 2 | 100 | 19. 16 | 2 | 100 | 19. 17 | 2 | 100 | 19. 18 | 2 | 100 | 19. 19 | 3 | 100 |
| 19. 30 | 19. 30 | 0 | 100 | 19. 30 | 2 | 100 | 19. 31 | 2 | 100 | 19. 32 | 2 | 100 | 19. 33 | 2 | 100 | 19. 34 | 3 | 107 |
| 19. 45 | 19. 45 | 0 | 100 | 19. 45 | 2 | 100 | 19. 46 | 2 | 100 | 19. 47 | 2 | 100 | 19. 48 | 3 | 100 | 19. 50 | 3 | 100 |
| 20. 0 | 20. 0 | 0 | 100 | 20. 0 | 2 | 100 | 20. 1 | 2 | 100 | 20. 2 | 2 | 100 | 20. 3 | 3 | 100 | 20. 5 | 3 | 100 |
| 20. 15 | 20. 15 | 0 | 100 | 20. 15 | 2 | 100 | 20. 16 | 2 | 100 | 20. 17 | 2 | 100 | 20. 18 | 3 | 100 | 20. 20 | 3 | 100 |
| 20. 30 | 20. 30 | 0 | 100 | 20. 30 | 2 | 100 | 20. 31 | 2 | 100 | 20. 32 | 2 | 100 | 20. 33 | 3 | 100 | 20. 35 | 3 | 100 |
| 20. 45 | 20. 45 | 0 | 100 | 20. 45 | 2 | 100 | 20. 46 | 2 | 100 | 20. 47 | 2 | 100 | 20. 48 | 3 | 100 | 20. 50 | 3 | 100 |
| 21. 0 | 21. 0 | 0 | 100 | 21. 0 | 2 | 100 | 21. 1 | 2 | 100 | 21. 2 | 2 | 100 | 21. 3 | 3 | 100 | 21. 5 | 3 | 100 |
| 21. 15 | 21. 15 | 0 | 100 | 21 15 | 2 | 100 | 21. 16 | 2 | 100 | 21. 17 | 2 | 100 | 21. 18 | 3 | 100 | 21. 20 | 3 | 100 |
| 21. 30 | 21. 30 | 0 | 100 | 21. 30 | 2 | 100 | 21. 31 | 2 | 100 | 21. 32 | 2 | 100 | 21. 33 | 3 | 100 | 21. 35 | 3 | 100 |
| 21. 45 | 21. 45 | 0 | 100 | 21. 45 | 2 | 100 | 21. 46 | 2 | 100 | 21. 47 | 2 | 100 | 21. 48 | 3 | 100 | 21. 50 | 3 | 100 |
| 22. 0 | 22. 0 | 0 | 100 | 22. 0 | 2 | 100 | 22. 1 | 2 | 100 | 22. 2 | 2 | 100 | 22. 3 | 3 | 100 | 22. 5 | 3 | 100 |
| 22. 15 | 22. 15 | 0 | 100 | 22. 15 | 2 | 100 | 22. 16 | 2 | 100 | 22. 17 | 2 | 100 | 22. 18 | 3 | 100 | 22. 20 | 3 | 100 |
| 22. 30 | 22. 30 | 0 | 100 | 22. 30 | 2 | 100 | 22. 31 | 2 | 100 | 22. 32 | 2 | 100 | 22. 33 | 3 | 100 | 22. 35 | 3 | 100 |
| 22. 45 | 22. 45 | 0 | 100 | 22. 45 | 2 | 107 | 22. 46 | 2 | 107 | 22. 47 | 2 | 107 | 22. 48 | 3 | 107 | 22. 50 | 3 | 100 |
| 23. 0 | 23. 0 | 2 | 100 | 23. 1 | 2 | 100 | 23. 2 | 2 | 100 | 23. 2 | 2 | 100 | 23. 4 | 2 | 100 | 23. 5 | 3 | 107 |
| 23. 15 | 23. 15 | 2 | 100 | 23. 16 | 2 | 100 | 23. 17 | 2 | 100 | 23. 18 | 2 | 100 | 23. 19 | 3 | 100 | 23. 21 | 3 | 100 |
| 23. 30 | 23. 30 | 2 | 100 | 23. 31 | 2 | 100 | 23. 32 | 2 | 100 | 23. 33 | 2 | 100 | 23. 34 | 3 | 100 | 23. 36 | 3 | 100 |
| 23. 45 | 23. 45 | 2 | | 23. 46 | 2 | | 23. 47 | 2 | | 23. 48 | 2 | | 23. 49 | 3 | | 23. 51 | 2 | |

| Sun's Declination | Latitude of the Place. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 6° | D. 100′ | D. 100′ | 7° | D. 100′ | D. 100′ | 8° | D. 100′ | D. 100′ | 9° | D. 100′ | D. 100′ | 10° | D. 100′ | D. 100′ | 11° | D. 100′ | D. 100′ |
| ° ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ |
| 0. 0 | 0. 0 | 0 | 100 | 0. 0 | 0 | 100 | 0. 0 | 0 | 100 | 0. 0 | 0 | 100 | 0. 0 | 0 | 100 | 0. 0 | 0 | 100 |
| 0. 30 | 0. 30 | 0 | 100 | 0. 30 | 0 | 100 | 0. 30 | 0 | 100 | 0. 30 | 0 | 100 | 0. 30 | 0 | 103 | 0. 30 | 0 | 103 |
| 1. 0 | 1. 0 | 0 | 100 | 1. 0 | 0 | 100 | 1. 0 | 0 | 100 | 1. 0 | 2 | 103 | 1. 1 | 0 | 100 | 1. 1 | 0 | 100 |
| 1. 30 | 1. 30 | 0 | 100 | 1. 30 | 0 | 103 | 1. 30 | 0 | 103 | 1. 30 | 2 | 103 | 1. 31 | 0 | 103 | 1. 31 | 2 | 103 |
| 2. 0 | 2. 0 | 2 | 100 | 2. 1 | 0 | 100 | 2. 1 | 0 | 100 | 2. 1 | 2 | 103 | 2. 2 | 0 | 100 | 2. 2 | 2 | 100 |
| 2. 30 | 2. 30 | 2 | 103 | 2. 31 | 0 | 100 | 2. 31 | 0 | 103 | 2. 31 | 2 | 103 | 2. 32 | 0 | 103 | 2. 32 | 2 | 103 |
| 3. 0 | 3. 1 | 0 | 100 | 3. 1 | 2 | 100 | 3. 2 | 0 | 100 | 3. 2 | 2 | 103 | 3. 3 | 0 | 100 | 3. 3 | 2 | 100 |
| 3. 30 | 3. 31 | 0 | 100 | 3. 31 | 2 | 103 | 3. 32 | 0 | 103 | 3. 32 | 2 | 103 | 3. 33 | 0 | 103 | 3. 33 | 2 | 103 |
| 4. 0 | 4. 1 | 2 | 100 | 4. 2 | 2 | 100 | 4. 3 | 0 | 100 | 4. 3 | 2 | 103 | 4. 4 | 0 | 100 | 4. 4 | 2 | 103 |
| 4. 30 | 4. 31 | 2 | 100 | 4. 32 | 2 | 100 | 4. 33 | 0 | 100 | 4. 33 | 2 | 103 | 4. 34 | 2 | 103 | 4. 35 | 2 | 103 |
| 5. 0 | 5. 1 | 2 | 100 | 5. 2 | 2 | 100 | 5. 3 | 0 | 100 | 5. 3 | 3 | 103 | 5. 5 | 2 | 100 | 5. 6 | 2 | 100 |
| 5. 30 | 5. 31 | 2 | 103 | 5. 32 | 2 | 103 | 5. 33 | 2 | 103 | 5. 34 | 2 | 103 | 5. 35 | 2 | 103 | 5. 36 | 2 | 103 |
| 6. 0 | 6. 2 | 2 | 100 | 6. 3 | 2 | 100 | 6. 4 | 2 | 100 | 6. 5 | 2 | 100 | 6. 6 | 2 | 100 | 6. 7 | 2 | 103 |
| 6. 30 | 6. 32 | 2 | 103 | 6. 33 | 2 | 103 | 6. 34 | 2 | 103 | 6. 35 | 2 | 103 | 6. 36 | 3 | 103 | 6. 38 | 2 | 103 |
| 7. 0 | 7. 3 | 2 | 100 | 7. 4 | 2 | 100 | 7. 5 | 0 | 100 | 7. 5 | 3 | 103 | 7. 7 | 3 | 103 | 7. 9 | 2 | 103 |
| 7. 30 | 7. 33 | 2 | 100 | 7. 34 | 2 | 100 | 7. 35 | 0 | 100 | 7. 35 | 3 | 103 | 7. 37 | 3 | 103 | 7. 39 | 2 | 100 |
| 8. 0 | 8. 3 | 2 | 100 | 8. 4 | 2 | 100 | 8. 5 | 2 | 100 | 8. 6 | 3 | 100 | 8. 8 | 2 | 100 | 8. 9 | 3 | 100 |
| 8. 30 | 8. 33 | 2 | 100 | 8. 34 | 2 | 100 | 8. 35 | 2 | 100 | 8. 36 | 3 | 103 | 8. 38 | 2 | 103 | 8. 39 | 3 | 103 |
| 9. 0 | 9. 3 | 2 | 100 | 9. 4 | 2 | 100 | 9. 5 | 3 | 100 | 9. 7 | 3 | 103 | 9. 8 | 2 | 103 | 9. 11 | 3 | 103 |
| 9. 30 | 9. 33 | 2 | 103 | 9. 34 | 2 | 103 | 9. 35 | 3 | 103 | 9. 37 | 3 | 103 | 9. 39 | 3 | 103 | 9. 41 | 3 | 103 |
| 10. 0 | 10. 4 | 2 | 100 | 10. 5 | 2 | 100 | 10. 6 | 3 | 100 | 10. 8 | 3 | 100 | 10. 10 | 3 | 103 | 10. 12 | 3 | 100 |
| 10. 30 | 10. 34 | 2 | 100 | 10. 35 | 2 | 100 | 10. 36 | 3 | 103 | 10. 38 | 3 | 103 | 10. 40 | 3 | 103 | 10. 43 | 3 | 103 |
| 11. 0 | 11. 4 | 2 | 100 | 11. 5 | 3 | 100 | 11. 7 | 2 | 100 | 11. 8 | 5 | 103 | 11. 11 | 3 | 103 | 11. 13 | 3 | 103 |
| 11. 30 | 11. 34 | 2 | 100 | 11. 35 | 3 | 100 | 11. 37 | 2 | 100 | 11. 38 | 5 | 103 | 11. 41 | 3 | 103 | 11. 43 | 3 | 103 |
| 12. 0 | 12. 4 | 2 | 100 | 12. 5 | 3 | 100 | 12. 7 | 3 | 100 | 12. 9 | 5 | 103 | 12. 12 | 3 | 103 | 12. 14 | 3 | 103 |
| 12. 30 | 12. 34 | 2 | 100 | 12. 35 | 3 | 103 | 12. 37 | 3 | 103 | 12. 39 | 5 | 103 | 12. 42 | 3 | 103 | 12. 44 | 5 | 103 |
| 13. 0 | 13. 4 | 3 | 100 | 13. 6 | 3 | 100 | 13. 8 | 3 | 100 | 13. 10 | 5 | 103 | 13. 13 | 3 | 103 | 13. 15 | 5 | 103 |
| 13. 30 | 13. 34 | 3 | 100 | 13. 36 | 3 | 100 | 13. 38 | 3 | 100 | 13. 40 | 5 | 103 | 13. 43 | 3 | 103 | 13. 45 | 5 | 103 |
| 14. 0 | 14. 4 | 3 | 100 | 14. 6 | 3 | 100 | 14. 8 | 3 | 100 | 14. 10 | 7 | 103 | 14. 14 | 3 | 103 | 14. 16 | 5 | 103 |
| 14. 30 | 14. 34 | 3 | 103 | 14. 36 | 3 | 103 | 14. 38 | 3 | 103 | 14. 40 | 7 | 103 | 14. 44 | 3 | 103 | 14. 47 | 7 | 103 |
| 15. 0 | 15. 5 | 3 | 100 | 15. 7 | 3 | 100 | 15. 9 | 3 | 100 | 15. 11 | 7 | 103 | 15. 15 | 3 | 103 | 15. 17 | 7 | 103 |
| 15. 30 | 15. 35 | 3 | 100 | 15. 37 | 3 | 100 | 15. 39 | 3 | 103 | 15. 41 | 7 | 103 | 15. 45 | 3 | 103 | 15. 47 | 7 | 103 |
| 16. 0 | 16. 5 | 3 | 100 | 16. 7 | 5 | 100 | 16. 10 | 3 | 100 | 16. 12 | 7 | 103 | 16. 16 | 3 | 103 | 16. 18 | 7 | 103 |
| 16. 30 | 16. 35 | 3 | 100 | 16. 37 | 5 | 103 | 16. 40 | 3 | 100 | 16. 42 | 7 | 103 | 16. 46 | 5 | 103 | 16. 49 | 5 | 103 |
| 17. 0 | 17. 5 | 5 | 100 | 17. 8 | 3 | 100 | 17. 10 | 5 | 100 | 17. 13 | 7 | 103 | 17. 17 | 5 | 103 | 17. 20 | 5 | 103 |
| 17. 30 | 17. 35 | 5 | 100 | 17. 38 | 3 | 100 | 17. 40 | 5 | 100 | 17. 43 | 7 | 103 | 17. 47 | 5 | 103 | 17. 50 | 7 | 103 |
| 18. 0 | 18. 6 | 3 | 100 | 18. 8 | 5 | 100 | 18. 11 | 5 | 100 | 18. 14 | 7 | 103 | 18. 18 | 5 | 103 | 18. 21 | 7 | 103 |
| 18. 15 | 18. 21 | 3 | 100 | 18. 23 | 5 | 100 | 18. 26 | 5 | 100 | 18. 29 | 7 | 103 | 18. 33 | 5 | 103 | 18. 36 | 7 | 103 |
| 18. 30 | 18. 36 | 3 | 100 | 18. 38 | 5 | 100 | 18. 41 | 5 | 100 | 18. 44 | 7 | 103 | 18. 48 | 5 | 103 | 18. 51 | 7 | 103 |
| 18. 45 | 18. 51 | 3 | 100 | 18. 53 | 5 | 107 | 18. 56 | 5 | 107 | 18. 59 | 7 | 107 | 19. 3 | 5 | 103 | 19. 6 | 7 | 107 |
| 19. 0 | 19. 6 | 5 | 100 | 19. 9 | 5 | 100 | 19. 12 | 5 | 100 | 19. 15 | 7 | 107 | 19. 19 | 5 | 103 | 19. 22 | 7 | 107 |
| 19. 15 | 19. 21 | 5 | 100 | 19. 24 | 5 | 100 | 19. 27 | 5 | 100 | 19. 30 | 7 | 107 | 19. 34 | 5 | 103 | 19. 37 | 7 | 107 |
| 19. 30 | 19. 36 | 5 | 107 | 19. 39 | 5 | 100 | 19. 42 | 5 | 100 | 19. 45 | 7 | 107 | 19. 49 | 7 | 107 | 19. 53 | 7 | 107 |
| 19. 45 | 19. 51 | 5 | 100 | 19. 54 | 5 | 100 | 19. 57 | 5 | 100 | 20. 0 | 7 | 107 | 20. 4 | 7 | 107 | 20. 7 | 7 | 107 |
| 20. 0 | 20. 7 | 5 | 100 | 20. 9 | 5 | 100 | 20. 12 | 7 | 100 | 20. 16 | 7 | 107 | 20. 19 | 7 | 107 | 20. 24 | 7 | 107 |
| 20. 15 | 20. 22 | 5 | 100 | 20. 24 | 5 | 100 | 20. 27 | 7 | 100 | 20. 31 | 7 | 107 | 20. 35 | 7 | 107 | 20. 39 | 7 | 107 |
| 20. 30 | 20. 37 | 5 | 100 | 20. 39 | 5 | 100 | 20. 42 | 7 | 100 | 20. 46 | 7 | 107 | 20. 50 | 7 | 107 | 20. 54 | 8 | 110 |
| 20. 45 | 20. 52 | 5 | 100 | 20. 54 | 5 | 100 | 20. 57 | 7 | 107 | 21. 1 | 7 | 107 | 21. 5 | 7 | 107 | 21. 9 | 8 | 110 |
| 21. 0 | 21. 7 | 5 | 100 | 21. 10 | 5 | 100 | 21. 13 | 7 | 107 | 21. 17 | 7 | 107 | 21. 21 | 7 | 107 | 21. 25 | 8 | 110 |
| 21. 15 | 21. 22 | 5 | 100 | 21. 25 | 5 | 100 | 21. 28 | 7 | 107 | 21. 32 | 7 | 107 | 21. 36 | 7 | 107 | 21. 40 | 8 | 110 |
| 21. 30 | 21. 37 | 5 | 100 | 21. 40 | 5 | 100 | 21. 43 | 7 | 107 | 21. 47 | 7 | 107 | 21. 51 | 7 | 107 | 21. 55 | 8 | 110 |
| 21. 45 | 21. 52 | 5 | 100 | 21. 55 | 5 | 100 | 21. 58 | 7 | 107 | 22. 2 | 7 | 107 | 22. 6 | 7 | 107 | 22. 10 | 8 | 110 |
| 22. 0 | 22. 7 | 5 | 100 | 22. 10 | 7 | 100 | 22. 14 | 7 | 107 | 22. 18 | 7 | 107 | 22. 22 | 7 | 107 | 22. 26 | 8 | 110 |
| 22. 15 | 22. 22 | 5 | 100 | 22. 25 | 7 | 100 | 22. 29 | 7 | 107 | 22. 33 | 7 | 107 | 22. 37 | 7 | 107 | 22. 41 | 8 | 110 |
| 22. 30 | 22. 37 | 5 | 100 | 22. 40 | 7 | 100 | 22. 44 | 7 | 107 | 22. 48 | 7 | 107 | 22. 52 | 7 | 107 | 22. 56 | 10 | 107 |
| 22. 45 | 22. 52 | 5 | 100 | 22. 55 | 7 | 100 | 22. 59 | 7 | 107 | 23. 3 | 8 | 110 | 23. 8 | 7 | 107 | 23. 12 | 8 | 107 |
| 23. 0 | 23. 8 | 5 | 100 | 23. 11 | 5 | 100 | 23. 14 | 7 | 107 | 23. 18 | 8 | 110 | 23. 23 | 7 | 107 | 23. 27 | 10 | 107 |
| 23. 15 | 23. 23 | 5 | 100 | 23. 26 | 5 | 100 | 23. 29 | 7 | 107 | 23. 33 | 8 | 110 | 23. 38 | 8 | 110 | 23. 43 | 8 | 110 |
| 23. 30 | 23. 38 | 5 | 100 | 23. 41 | 5 | 100 | 23. 44 | 7 | 107 | 23. 48 | 8 | 110 | 23. 53 | 8 | 110 | 23. 58 | 8 | 110 |
| 23. 45 | 23. 53 | 5 | 100 | 23. 56 | 5 | 100 | 23. 59 | 7 | 107 | 24. 3 | 8 | 110 | 24. 8 | 8 | 110 | 24. 13 | 8 | 110 |

| Sun's | Latitude of the Place. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 | D. 100 | D. 100′ | 13° | D. 100′ | D. 100′ | 14′ | D. 100′ | D. 100′ | 15′ | D. 100′ | D. 100′ | 16′ | D. 100′ | D. 100′ | 17′ | D. 100′ | D. 100′ |
| | ° ′ | ′ | | ° ′ | ′ | | ′ | ′ | | ′ | ′ | | ′ | ′ | | ′ | ′ | |
| 0. 0 | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | |
| 0. 30 | 0. 30 | 2 | 105 | 0. 31 | 0 | 103 | 0. 31 | 0 | 103 | 0. 31 | 0 | 103 | 0. 31 | 0 | 103 | 0. 31 | 0 | 103 |
| 1. 0 | 1. 1 | 2 | 105 | 1. 2 | 0 | 103 | 1. 2 | 0 | 103 | 1. 2 | 0 | 103 | 1. 3 | 0 | 103 | 1. 3 | 0 | 103 |
| 1. 30 | 1. 32 | 0 | 103 | 1. 32 | 0 | 103 | 1. 33 | 2 | 103 | 1. 33 | 2 | 103 | 1. 34 | 0 | 103 | 1. 34 | 2 | 103 |
| 2. 0 | 2. 3 | 0 | 103 | 2. 3 | 0 | 103 | 2. 3 | 2 | 103 | 2. 4 | 2 | 103 | 2. 5 | 0 | 103 | 2. 5 | 2 | 103 |
| 2. 30 | 2. 33 | 2 | 103 | 2. 34 | 0 | 103 | 2. 34 | 2 | 103 | 2. 35 | 2 | 103 | 2. 36 | 0 | 103 | 2. 36 | 2 | 103 |
| 3. 0 | 3. 4 | 2 | 100 | 3. 5 | 2 | 103 | 3. 5 | 2 | 103 | 3. 6 | 2 | 103 | 3. 7 | 2 | 103 | 3. 8 | 2 | 103 |
| 3. 30 | 3. 34 | 2 | 103 | 3. 35 | 2 | 103 | 3. 36 | 2 | 103 | 3. 37 | 2 | 103 | 3. 38 | 2 | 103 | 3. 39 | 2 | 103 |
| 4. 0 | 4. 5 | 2 | 103 | 4. 6 | 2 | 103 | 4. 7 | 2 | 103 | 4. 8 | 3 | 103 | 4. 10 | 2 | 103 | 4. 11 | 2 | 103 |
| 4. 30 | 4. 36 | 2 | 103 | 4. 37 | 2 | 103 | 4. 38 | 2 | 103 | 4. 39 | 3 | 103 | 4. 41 | 2 | 103 | 4. 42 | 2 | 103 |
| 5. 0 | 5. 7 | 2 | 103 | 5. 8 | 2 | 103 | 5. 9 | 3 | 103 | 5. 11 | 2 | 103 | 5. 12 | 2 | 103 | 5. 13 | 3 | 103 |
| 5. 30 | 5. 37 | 3 | 103 | 5. 39 | 2 | 103 | 5. 40 | 3 | 103 | 5. 41 | 2 | 103 | 5. 43 | 2 | 103 | 5. 44 | 5 | 107 |
| 6. 0 | 6. 8 | 3 | 103 | 6. 10 | 2 | 103 | 6. 11 | 3 | 103 | 6. 13 | 2 | 103 | 6. 14 | 3 | 103 | 6. 16 | 5 | 103 |
| 6. 30 | 6. 39 | 2 | 103 | 6. 40 | 3 | 103 | 6. 42 | 3 | 103 | 6. 44 | 3 | 103 | 6. 45 | 3 | 103 | 6. 47 | 5 | 107 |
| 7. 0 | 7. 10 | 2 | 100 | 7. 11 | 3 | 103 | 7. 13 | 3 | 103 | 7. 15 | 3 | 103 | 7. 17 | 3 | 103 | 7. 19 | 5 | 103 |
| 7. 30 | 7. 41 | 3 | 103 | 7. 42 | 3 | 103 | 7. 44 | 3 | 103 | 7. 46 | 3 | 103 | 7. 48 | 3 | 103 | 7. 50 | 5 | 107 |
| 8. 0 | 8. 11 | 2 | 100 | 8. 12 | 3 | 103 | 8. 15 | 3 | 103 | 8. 17 | 3 | 103 | 8. 19 | 5 | 103 | 8. 22 | 5 | 103 |
| 8. 30 | 8. 41 | 3 | 103 | 8. 43 | 3 | 103 | 8. 45 | 3 | 103 | 8. 48 | 3 | 103 | 8. 50 | 5 | 107 | 8. 53 | 5 | 107 |
| 9. 0 | 9. 12 | 3 | 103 | 9. 14 | 3 | 103 | 9. 17 | 3 | 103 | 9. 19 | 5 | 103 | 9. 22 | 5 | 103 | 9. 25 | 5 | 103 |
| 9. 30 | 9. 43 | 3 | 103 | 9. 45 | 3 | 103 | 9. 47 | 5 | 103 | 9. 50 | 5 | 103 | 9. 53 | 5 | 103 | 9. 57 | 5 | 103 |
| 10. 0 | 10. 14 | 2 | 100 | 10. 15 | 5 | 103 | 10. 18 | 5 | 103 | 10. 21 | 5 | 103 | 10. 24 | 5 | 103 | 10. 27 | 5 | 103 |
| 10. 30 | 10. 44 | 3 | 103 | 10. 46 | 5 | 103 | 10. 49 | 5 | 103 | 10. 52 | 5 | 103 | 10. 55 | 5 | 103 | 10. 58 | 7 | 107 |
| 11. 0 | 11. 15 | 3 | 103 | 11. 17 | 5 | 103 | 11. 20 | 5 | 103 | 11. 23 | 7 | 103 | 11. 27 | 5 | 103 | 11. 32 | 7 | 103 |
| 11. 30 | 11. 45 | 3 | 103 | 11. 48 | 5 | 103 | 11. 51 | 5 | 103 | 11. 54 | 7 | 103 | 11. 58 | 5 | 103 | 12. 1 | 8 | 107 |
| 12. 0 | 12. 16 | 5 | 103 | 12. 19 | 5 | 103 | 12. 22 | 5 | 103 | 12. 25 | 7 | 103 | 12. 29 | 7 | 103 | 12. 33 | 8 | 103 |
| 12. 30 | 12. 47 | 5 | 103 | 12. 50 | 5 | 103 | 12. 53 | 5 | 103 | 12. 56 | 7 | 103 | 13. 0 | 7 | 103 | 13. 4 | 8 | 107 |
| 13. 0 | 13. 18 | 5 | 103 | 13. 21 | 5 | 103 | 13. 24 | 7 | 103 | 13. 28 | 7 | 103 | 13. 32 | 7 | 103 | 13. 36 | 8 | 103 |
| 13. 30 | 13. 48 | 5 | 103 | 13. 51 | 7 | 103 | 13. 55 | 7 | 103 | 13. 59 | 7 | 103 | 14. 3 | 7 | 103 | 14. 7 | 8 | 107 |
| 14. 0 | 14. 19 | 5 | 103 | 14. 22 | 7 | 103 | 14. 26 | 7 | 103 | 14. 30 | 7 | 103 | 14. 34 | 8 | 103 | 14. 39 | 8 | 103 |
| 14. 30 | 14. 50 | 5 | 103 | 14. 53 | 7 | 103 | 14. 57 | 7 | 103 | 15. 1 | 7 | 103 | 15. 5 | 8 | 107 | 15. 10 | 8 | 107 |
| 15. 0 | 15. 21 | 5 | 103 | 15. 24 | 7 | 103 | 15. 28 | 8 | 103 | 15. 33 | 7 | 103 | 15. 37 | 8 | 103 | 15. 42 | 8 | 103 |
| 15. 30 | 15. 51 | 5 | 103 | 15. 55 | 7 | 103 | 15. 59 | 8 | 103 | 16. 4 | 7 | 103 | 16. 8 | 8 | 107 | 16. 13 | 10 | 107 |
| 16. 0 | 16. 22 | 5 | 103 | 16. 26 | 7 | 103 | 16. 30 | 8 | 103 | 16. 35 | 8 | 103 | 16. 40 | 8 | 103 | 16. 45 | 10 | 103 |
| 16. 30 | 16. 53 | 5 | 103 | 16. 57 | 7 | 103 | 17. 1 | 8 | 103 | 17. 6 | 8 | 103 | 17. 11 | 8 | 103 | 17. 16 | 10 | 107 |
| 17. 0 | 17. 23 | 5 | 103 | 17. 28 | 7 | 103 | 17. 32 | 8 | 103 | 17. 37 | 10 | 103 | 17. 43 | 8 | 103 | 17. 48 | 10 | 107 |
| 17. 30 | 17. 54 | 5 | 103 | 17. 59 | 8 | 103 | 18. 3 | 8 | 103 | 18. 8 | 10 | 103 | 18. 14 | 8 | 103 | 18. 19 | 10 | 107 |
| 18. 0 | 18. 25 | 5 | 103 | 18. 30 | 7 | 103 | 18. 34 | 10 | 103 | 18. 40 | 8 | 103 | 18. 45 | 10 | 103 | 18. 51 | 10 | 107 |
| 18. 15 | 18. 41 | 5 | 103 | 18. 45 | 7 | 103 | 18. 49 | 10 | 103 | 18. 55 | 8 | 103 | 19. 0 | 10 | 103 | 19. 6 | 10 | 107 |
| 18. 30 | 18. 56 | 5 | 103 | 19. 0 | 7 | 103 | 19. 4 | 10 | 103 | 19. 10 | 10 | 103 | 19. 16 | 10 | 103 | 19. 22 | 10 | 107 |
| 18. 45 | 19. 12 | 5 | 103 | 19. 15 | 8 | 103 | 19. 20 | 10 | 103 | 19. 26 | 10 | 103 | 19. 32 | 10 | 103 | 19. 38 | 12 | 107 |
| 19. 0 | 19. 27 | 5 | 103 | 19. 31 | 8 | 103 | 19. 36 | 10 | 103 | 19. 42 | 10 | 103 | 19. 48 | 10 | 103 | 19. 54 | 12 | 107 |
| 19. 15 | 19. 43 | 5 | 103 | 19. 48 | 8 | 103 | 19. 53 | 10 | 103 | 19. 57 | 10 | 103 | 20. 3 | 10 | 103 | 20. 9 | 12 | 107 |
| 19. 30 | 19. 58 | 5 | 103 | 20. 3 | 8 | 103 | 20. 7 | 10 | 103 | 20. 13 | 10 | 103 | 20. 19 | 10 | 103 | 20. 25 | 12 | 107 |
| 19. 45 | 20. 14 | 5 | 103 | 20. 17 | 8 | 103 | 20. 23 | 10 | 103 | 20. 29 | 12 | 103 | 20. 35 | 10 | 103 | 20. 41 | 12 | 107 |
| 20. 0 | 20. 29 | 5 | 103 | 20. 33 | 8 | 103 | 20. 38 | 10 | 103 | 20. 44 | 12 | 103 | 20. 51 | 10 | 103 | 20. 57 | 13 | 107 |
| 20. 15 | 20. 45 | 5 | 103 | 20. 48 | 8 | 103 | 20. 54 | 10 | 103 | 21. 0 | 12 | 103 | 21. 6 | 10 | 103 | 21. 13 | 13 | 107 |
| 20. 30 | 21. 0 | 5 | 103 | 21. 4 | 10 | 103 | 21. 10 | 10 | 103 | 21. 16 | 12 | 103 | 21. 22 | 12 | 103 | 21. 29 | 13 | 107 |
| 20. 45 | 21. 16 | 5 | 103 | 21. 19 | 10 | 103 | 21. 25 | 10 | 103 | 21. 31 | 12 | 103 | 21. 37 | 12 | 103 | 21. 44 | 13 | 107 |
| 21. 0 | 21. 31 | 5 | 103 | 21. 35 | 10 | 103 | 21. 41 | 12 | 103 | 21. 47 | 12 | 103 | 21. 53 | 12 | 103 | 22. 0 | 13 | 107 |
| 21. 15 | 21. 47 | 5 | 103 | 21. 50 | 10 | 103 | 21. 56 | 12 | 103 | 22. 2 | 12 | 103 | 22. 8 | 13 | 103 | 22. 16 | 13 | 107 |
| 21. 30 | 22. 2 | 5 | 103 | 22. 6 | 10 | 103 | 22. 12 | 12 | 103 | 22. 18 | 12 | 103 | 22. 24 | 13 | 103 | 22. 32 | 13 | 107 |
| 21. 45 | 22. 18 | 5 | 103 | 22. 21 | 10 | 103 | 22. 27 | 12 | 103 | 22. 33 | 12 | 103 | 22. 40 | 13 | 103 | 22. 47 | 13 | 107 |
| 22. 0 | 22. 33 | 5 | 103 | 22. 37 | 10 | 103 | 22. 43 | 12 | 103 | 22. 49 | 12 | 103 | 22. 56 | 13 | 103 | 23. 4 | 13 | 107 |
| 22. 15 | 22. 49 | 5 | 103 | 22. 52 | 10 | 103 | 22. 58 | 12 | 103 | 23. 4 | 12 | 103 | 23. 11 | 13 | 103 | 23. 19 | 13 | 107 |
| 22. 30 | 23. 4 | 5 | 103 | 23. 8 | 10 | 103 | 23. 14 | 12 | 103 | 23. 20 | 12 | 103 | 23. 27 | 13 | 103 | 23. 35 | 13 | 107 |
| 22. 45 | 23. 20 | 5 | 103 | 23. 23 | 10 | 103 | 23. 29 | 12 | 103 | 23. 35 | 12 | 103 | 23. 43 | 13 | 103 | 23. 51 | 13 | 107 |
| 23. 0 | 23. 35 | 5 | 103 | 23. 39 | 10 | 103 | 23. 45 | 12 | 103 | 23. 51 | 13 | 103 | 23. 58 | 13 | 103 | 24. 7 | 13 | 107 |
| 23. 15 | 23. 51 | 5 | 103 | 23. 54 | 10 | 103 | 24. 0 | 12 | 103 | 24. 7 | 12 | 103 | 24. 14 | 13 | 103 | 24. 23 | 15 | 107 |
| 23. 30 | 24. 6 | 5 | 103 | 24. 10 | 10 | 103 | 24. 16 | 12 | 103 | 24. 23 | 12 | 103 | 24. 30 | 13 | 103 | 24. 39 | 15 | 107 |
| 23. 45 | 24. 22 | 5 | 103 | 24. 25 | 12 | 103 | 24. 32 | 12 | 103 | 24. 39 | 13 | 103 | 24. 46 | 13 | 103 | 24. 54 | 15 | 107 |

| Sun's Declination | Latitude of the Place. 18° | D. 100′ | D. | 19° | D. 100′ | D. | 20° | D. 100′ | D. | 21° | D. 100′ | D. | 22° | D. 100′ | D. | 23° | D. 100′ | D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ° ′ | ° ′ | ° | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ |
| 0. 0 | 0. 0 | 0 | 103 | 0. 0 | 0 | 103 | 0. 0 | 0 | 107 | 0. 0 | 0 | 107 | 0. 0 | 0 | 107 | 0. 0 | 0 | 107 |
| 0. 30 | 0. 31 | 0 | 107 | 0. 31 | 2 | 107 | 0. 32 | 0 | 107 | 0. 32 | 0 | 107 | 0. 32 | 0 | 110 | 0. 32 | 2 | 110 |
| 1. 0 | 1. 3 | 0 | 103 | 1. 3 | 2 | 107 | 1. 4 | 0 | 107 | 1. 4 | 2 | 107 | 1. 5 | 0 | 107 | 1. 5 | 2 | 110 |
| 1. 30 | 1. 34 | 2 | 107 | 1. 35 | 2 | 107 | 1. 36 | 0 | 107 | 1. 36 | 2 | 110 | 1. 37 | 2 | 110 | 1. 38 | 2 | 110 |
| 2. 0 | 2. 6 | 2 | 103 | 2. 7 | 2 | 103 | 2. 8 | 2 | 107 | 2. 9 | 2 | 107 | 2. 10 | 2 | 107 | 2. 11 | 2 | 107 |
| 2. 30 | 2. 37 | 2 | 107 | 2. 38 | 3 | 107 | 2. 40 | 2 | 107 | 2. 41 | 2 | 107 | 2. 42 | 2 | 107 | 2. 43 | 2 | 107 |
| 3. 0 | 3. 9 | 2 | 103 | 3. 10 | 3 | 107 | 3. 12 | 2 | 107 | 3. 13 | 2 | 107 | 3. 14 | 2 | 107 | 3. 15 | 3 | 110 |
| 3. 30 | 3. 40 | 3 | 107 | 3. 42 | 3 | 107 | 3. 44 | 2 | 107 | 3. 45 | 2 | 107 | 3. 46 | 3 | 110 | 3. 48 | 3 | 110 |
| 4. 0 | 4. 12 | 3 | 103 | 4. 14 | 3 | 103 | 4. 16 | 2 | 103 | 4. 17 | 3 | 107 | 4. 19 | 3 | 107 | 4. 21 | 3 | 107 |
| 4. 30 | 4. 43 | 3 | 107 | 4. 45 | 3 | 107 | 4. 47 | 3 | 107 | 4. 49 | 3 | 107 | 4. 51 | 3 | 110 | 4. 53 | 5 | 110 |
| 5. 0 | 5. 15 | 3 | 107 | 5. 17 | 3 | 107 | 5. 19 | 3 | 107 | 5. 21 | 5 | 107 | 5. 24 | 3 | 107 | 5. 26 | 5 | 107 |
| 5. 30 | 5. 47 | 3 | 107 | 5. 49 | 3 | 107 | 5. 51 | 3 | 107 | 5. 53 | 5 | 107 | 5. 56 | 3 | 107 | 5. 58 | 5 | 110 |
| 6. 0 | 6. 19 | 3 | 103 | 6. 21 | 3 | 103 | 6. 23 | 3 | 107 | 6. 25 | 5 | 107 | 6. 28 | 5 | 107 | 6. 31 | 5 | 107 |
| 6. 30 | 6. 52 | 3 | 107 | 6. 52 | 5 | 107 | 6. 55 | 3 | 107 | 6. 57 | 5 | 110 | 7. 0 | 5 | 110 | 7. 03 | 7 | 110 |
| 7. 0 | 7. 22 | 3 | 103 | 7. 24 | 5 | 107 | 7. 27 | 5 | 107 | 7. 30 | 5 | 107 | 7. 33 | 5 | 107 | 7. 36 | 7 | 110 |
| 7. 30 | 7. 53 | 5 | 107 | 7. 56 | 5 | 107 | 7. 59 | 5 | 107 | 8. 2 | 5 | 107 | 8. 5 | 7 | 110 | 8. 9 | 7 | 110 |
| 8. 0 | 8. 25 | 5 | 103 | 8. 28 | 5 | 103 | 8. 31 | 5 | 107 | 8. 34 | 7 | 107 | 8. 38 | 7 | 107 | 8. 42 | 7 | 107 |
| 8. 30 | 8. 56 | 5 | 107 | 8. 59 | 7 | 107 | 9. 3 | 5 | 107 | 9. 6 | 7 | 110 | 9. 10 | 7 | 110 | 9. 14 | 8 | 110 |
| 9. 0 | 9. 28 | 5 | 103 | 9. 31 | 7 | 103 | 9. 35 | 7 | 107 | 9. 39 | 7 | 107 | 9 43 | 7 | 107 | 9. 47 | 8 | 110 |
| 9. 30 | 9. 59 | 5 | 103 | 10. 2 | 8 | 107 | 10. 7 | 7 | 107 | 10. 11 | 7 | 107 | 10. 15 | 8 | 110 | 10. 20 | 8 | 110 |
| 10. 0 | 10. 31 | 7 | 107 | 10. 34 | 8 | 107 | 10. 39 | 7 | 107 | 10. 43 | 8 | 107 | 10. 48 | 8 | 107 | 10. 53 | 8 | 107 |
| 10. 30 | 11. 3 | 7 | 107 | 11. 6 | 8 | 107 | 11. 11 | 7 | 107 | 11. 15 | 8 | 110 | 11. 20 | 8 | 110 | 11. 25 | 10 | 110 |
| 11. 0 | 11. 34 | 7 | 107 | 11. 38 | 8 | 107 | 11. 43 | 8 | 107 | 11. 48 | 8 | 107 | 11. 53 | 8 | 107 | 11. 58 | 10 | 107 |
| 11. 30 | 12. 6 | 7 | 107 | 12. 10 | 8 | 107 | 12. 15 | 8 | 107 | 12. 20 | 8 | 107 | 12. 25 | 8 | 110 | 12. 30 | 10 | 110 |
| 12. 0 | 12. 38 | 7 | 103 | 12. 42 | 8 | 107 | 12. 47 | 8 | 107 | 12. 52 | 10 | 107 | 12. 58 | 8 | 107 | 13. 3 | 10 | 110 |
| 12. 30 | 13. 10 | 8 | 107 | 13. 14 | 8 | 107 | 13. 19 | 8 | 107 | 13. 24 | 10 | 110 | 13. 30 | 10 | 110 | 13. 36 | 10 | 110 |
| 13. 0 | 13. 41 | 8 | 103 | 13. 45 | 8 | 107 | 13. 51 | 10 | 107 | 13. 57 | 10 | 107 | 14. 3 | 10 | 107 | 14. 9 | 12 | 110 |
| 13. 30 | 14. 13 | 10 | 107 | 14. 18 | 8 | 107 | 14. 23 | 10 | 107 | 14. 29 | 10 | 107 | 14. 35 | 12 | 110 | 14. 42 | 12 | 110 |
| 14. 0 | 14. 44 | 10 | 103 | 14. 50 | 8 | 103 | 14. 55 | 10 | 107 | 15. 1 | 12 | 107 | 15. 8 | 12 | 107 | 15. 15 | 12 | 107 |
| 14. 30 | 15. 15 | 10 | 107 | 15. 21 | 10 | 107 | 15. 27 | 10 | 107 | 15. 33 | 12 | 110 | 15. 40 | 12 | 110 | 15. 47 | 13 | 110 |
| 15. 0 | 15. 47 | 10 | 107 | 15. 53 | 10 | 107 | 15. 59 | 12 | 107 | 16. 6 | 12 | 107 | 16. 13 | 12 | 107 | 16. 20 | 13 | 110 |
| 15. 30 | 16. 18 | 10 | 103 | 16. 25 | 10 | 107 | 16. 31 | 12 | 110 | 16. 38 | 12 | 110 | 16. 45 | 13 | 110 | 16. 53 | 13 | 110 |
| 16. 0 | 16. 51 | 10 | 103 | 16. 57 | 12 | 107 | 17. 4 | 12 | 107 | 17. 11 | 12 | 107 | 17. 18 | 13 | 107 | 17. 26 | 13 | 107 |
| 16. 30 | 17. 22 | 12 | 107 | 17. 29 | 12 | 107 | 17. 36 | 12 | 107 | 17. 43 | 12 | 107 | 17. 50 | 13 | 110 | 17. 58 | 15 | 110 |
| 17. 0 | 17. 54 | 12 | 103 | 18. 1 | 12 | 107 | 18. 8 | 12 | 107 | 18. 15 | 13 | 107 | 18. 23 | 13 | 107 | 18. 31 | 15 | 110 |
| 17. 30 | 18. 28 | 13 | 107 | 18. 33 | 12 | 107 | 18. 40 | 12 | 107 | 18. 47 | 13 | 110 | 18. 55 | 15 | 110 | 19. 4 | 15 | 110 |
| 18. 0 | 18. 57 | 13 | 100 | 19. 5 | 12 | 100 | 19. 12 | 13 | 107 | 19. 20 | 13 | 107 | 19. 28 | 15 | 107 | 19. 37 | 15 | 107 |
| 18. 15 | 19. 12 | 13 | 107 | 19. 20 | 13 | 107 | 19. 28 | 13 | 107 | 19. 36 | 13 | 107 | 19. 44 | 15 | 107 | 19. 53 | 15 | 107 |
| 18. 30 | 19. 28 | 13 | 113 | 19. 36 | 13 | 107 | 19. 44 | 13 | 107 | 19. 52 | 13 | 107 | 20. 0 | 15 | 107 | 20. 9 | 17 | 113 |
| 18. 45 | 19. 45 | 12 | 107 | 19. 52 | 13 | 107 | 20. 0 | 13 | 107 | 20. 8 | 13 | 107 | 20. 16 | 17 | 113 | 20. 26 | 17 | 113 |
| 19. 0 | 20. 1 | 12 | 100 | 20. 8 | 13 | 100 | 20. 16 | 13 | 107 | 20. 24 | 15 | 107 | 20. 33 | 17 | 107 | 20. 43 | 17 | 107 |
| 19. 15 | 20. 17 | 12 | 107 | 20. 23 | 15 | 107 | 20. 32 | 13 | 107 | 20. 40 | 15 | 113 | 20. 49 | 17 | 113 | 20. 59 | 17 | 113 |
| 19. 30 | 20. 32 | 12 | 107 | 20. 39 | 15 | 107 | 20. 48 | 15 | 107 | 20. 57 | 15 | 107 | 21. 6 | 17 | 107 | 21. 16 | 17 | 107 |
| 19. 45 | 20. 48 | 12 | 113 | 20. 55 | 15 | 113 | 21. 4 | 15 | 113 | 21. 13 | 15 | 113 | 21. 22 | 17 | 113 | 21. 32 | 17 | 113 |
| 20. 0 | 21. 5 | 12 | 100 | 21. 12 | 15 | 107 | 21. 21 | 15 | 107 | 21. 30 | 15 | 107 | 21. 39 | 17 | 107 | 21. 49 | 17 | 107 |
| 20. 15 | 21. 22 | 13 | 107 | 21. 28 | 15 | 107 | 21. 37 | 15 | 107 | 21. 46 | 15 | 107 | 21. 55 | 17 | 107 | 22. 5 | 17 | 107 |
| 20. 30 | 21. 38 | 13 | 100 | 21. 44 | 15 | 107 | 21. 53 | 15 | 107 | 22. 2 | 15 | 107 | 22. 11 | 17 | 107 | 22. 21 | 18 | 113 |
| 20. 45 | 21. 51 | 15 | 113 | 22. 0 | 15 | 107 | 22. 9 | 15 | 107 | 22. 18 | 15 | 107 | 22. 27 | 18 | 113 | 22. 38 | 18 | 113 |
| 21. 0 | 22. 8 | 13 | 107 | 22. 16 | 15 | 107 | 22. 25 | 15 | 107 | 22. 34 | 17 | 107 | 22. 44 | 18 | 107 | 22. 55 | 18 | 107 |
| 21. 15 | 22. 24 | 13 | 107 | 22. 32 | 15 | 107 | 22. 41 | 15 | 107 | 22. 50 | 17 | 113 | 23. 0 | 18 | 113 | 23. 11 | 18 | 113 |
| 21. 30 | 22. 40 | 13 | 107 | 22. 48 | 15 | 107 | 22. 57 | 17 | 107 | 23. 7 | 17 | 107 | 23. 17 | 18 | 107 | 23. 28 | 18 | 107 |
| 21. 45 | 22. 56 | 13 | 107 | 23. 4 | 15 | 113 | 23. 13 | 17 | 113 | 23. 23 | 17 | 113 | 23. 33 | 18 | 113 | 23. 44 | 20 | 113 |
| 22. 0 | 23. 12 | 15 | 100 | 23. 21 | 15 | 100 | 23. 30 | 17 | 107 | 23. 40 | 17 | 107 | 23. 50 | 18 | 107 | 24. 1 | 20 | 107 |
| 22. 15 | 23. 27 | 15 | 107 | 23. 36 | 17 | 107 | 23. 46 | 17 | 107 | 23. 56 | 17 | 107 | 24. 6 | 18 | 113 | 24. 17 | 20 | 113 |
| 22. 30 | 23. 43 | 15 | 107 | 23. 52 | 17 | 107 | 24. 2 | 17 | 107 | 24. 13 | 18 | 107 | 24. 23 | 18 | 107 | 24. 34 | 20 | 107 |
| 22. 45 | 23. 59 | 15 | 107 | 24. 8 | 17 | 107 | 24. 18 | 17 | 107 | 24. 29 | 18 | 113 | 24. 39 | 18 | 113 | 24. 50 | 20 | 113 |
| 23. 0 | 24. 15 | 15 | 107 | 24. 24 | 17 | 107 | 24. 34 | 18 | 107 | 24. 45 | 18 | 107 | 24. 56 | 18 | 107 | 25. 7 | 20 | 113 |
| 23. 15 | 24. 31 | 15 | 107 | 24. 40 | 17 | 107 | 24. 50 | 18 | 107 | 25. 1 | 18 | 107 | 25. 12 | 20 | 107 | 25. 24 | 20 | 110 |
| 23. 30 | 24. 47 | 15 | 107 | 24. 56 | 17 | 107 | 25. 6 | 18 | 107 | 25. 17 | 18 | 107 | 25. 28 | 20 | 107 | 25. 40 | 22 | 113 |
| 23. 45 | 25. 3 | 15 | | 25. 12 | 17 | | 25. 22 | 18 | | 25. 33 | 18 | | 25. 44 | 20 | | 25. 57 | 22 | |

| Sun's Declination | Latitude of the Place. 24° | D. 100′ | D. 100′ | 25° | D. 100′ | D. 100′ | 26° | D. 100′ | D. 100′ | 27° | D. 100′ | D. 100′ | 28° | D. 100′ | D. 100′ | 29° | D. 100′ | D. 100′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ° ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ |
| 0. 0 | 0. 0 | 0 | 110 | 0. 0 | 0 | 110 | 0. 0 | 0 | 110 | 0. 0 | 0 | 110 | 0. 0 | 0 | 113 | 0. 0 | 0 | 113 |
| 0. 33 | 0. 33 | 0 | 110 | 0. 33 | 0 | 110 | 0. 33 | 0 | 113 | 0. 33 | 2 | 113 | 0. 34 | 0 | 113 | 0. 34 | 2 | 113 |
| 1. 7 | 1. 7 | 0 | 110 | 1. 7 | 2 | 110 | 1. 7 | 0 | 113 | 1. 7 | 2 | 113 | 1. 8 | 2 | 113 | 1. 9 | 2 | 113 |
| 1. 40 | 1. 40 | 0 | 110 | 1. 40 | 2 | 110 | 1. 40 | 0 | 113 | 1. 40 | 2 | 113 | 1. 41 | 2 | 113 | 1. 42 | 3 | 117 |
| 2. 14 | 2. 14 | 2 | 107 | 2. 14 | 2 | 107 | 2. 14 | 2 | 110 | 2. 15 | 2 | 110 | 2. 16 | 2 | 113 | 2. 17 | 3 | 113 |
| 2. 47 | 2. 47 | 2 | 110 | 2. 48 | 3 | 113 | 2. 47 | 2 | 113 | 2. 48 | 3 | 113 | 2. 51 | 2 | 113 | 2. 51 | 3 | 117 |
| 3. 21 | 3. 21 | 3 | 113 | 3. 21 | 3 | 113 | 3. 21 | 2 | 113 | 3. 22 | 3 | 113 | 3. 25 | 3 | 113 | 3. 26 | 3 | 113 |
| 3. 54 | 3. 54 | 3 | 113 | 3. 54 | 3 | 113 | 3. 54 | 3 | 113 | 3. 56 | 3 | 110 | 3. 58 | 3 | 113 | 4. 0 | 3 | 113 |
| 4. 27 | 4. 27 | 3 | 113 | 4. 28 | 3 | 113 | 4. 27 | 3 | 113 | 4. 29 | 5 | 113 | 4. 32 | 3 | 113 | 4. 34 | 5 | 117 |
| 5. 0 | 5. 0 | 3 | 113 | 5. 1 | 3 | 113 | 5. 0 | 5 | 113 | 5. 3 | 5 | 113 | 5. 6 | 5 | 113 | 5. 9 | 5 | 113 |
| 5. 34 | 5. 34 | 3 | 113 | 5. 34 | 5 | 113 | 5. 34 | 5 | 113 | 5. 37 | 5 | 110 | 5. 41 | 5 | 113 | 5. 43 | 7 | 113 |
| 6. 7 | 6. 7 | 5 | 113 | 6. 7 | 5 | 113 | 6. 7 | 5 | 113 | 6. 11 | 7 | 113 | 6. 14 | 5 | 113 | 6. 17 | 7 | 117 |
| 6. 41 | 6. 41 | 5 | 113 | 6. 37 | 7 | 113 | 6. 41 | 5 | 113 | 6. 44 | 7 | 113 | 6. 48 | 7 | 113 | 6. 52 | 7 | 113 |
| 7. 14 | 7. 14 | 7 | 113 | 7. 14 | 7 | 113 | 7. 14 | 7 | 113 | 7. 18 | 7 | 113 | 7. 21 | 7 | 113 | 7. 26 | 7 | 113 |
| 7. 48 | 7. 48 | 7 | 113 | 7. 48 | 7 | 113 | 7. 48 | 7 | 113 | 7. 51 | 7 | 110 | 7. 55 | 7 | 113 | 8. 0 | 8 | 117 |
| 8. 21 | 8. 21 | 7 | 113 | 8. 21 | 7 | 113 | 8. 21 | 7 | 113 | 8. 25 | 8 | 113 | 8. 28 | 8 | 113 | 8. 35 | 8 | 113 |
| 8. 55 | 8. 55 | 7 | 113 | 8. 55 | 8 | 113 | 8. 55 | 7 | 113 | 8. 58 | 8 | 113 | 9. 2 | 8 | 113 | 9. 9 | 10 | 117 |
| 9. 28 | 9. 28 | 8 | 110 | 9. 28 | 8 | 110 | 9. 28 | 8 | 110 | 9. 32 | 10 | 113 | 9. 36 | 10 | 113 | 9. 44 | 10 | 113 |
| 10. 1 | 10. 1 | 8 | 113 | 9. 59 | 10 | 113 | 10. 1 | 8 | 113 | 10. 6 | 10 | 113 | 10. 11 | 10 | 113 | 10. 18 | 10 | 113 |
| 10. 35 | 10. 35 | 8 | 113 | 10. 32 | 10 | 113 | 10. 35 | 8 | 113 | 10. 40 | 10 | 113 | 10. 46 | 10 | 113 | 10. 52 | 12 | 117 |
| 11. 9 | 11. 9 | 10 | 113 | 11. 5 | 10 | 113 | 11. 9 | 10 | 113 | 11. 15 | 10 | 110 | 11. 21 | 10 | 113 | 11. 27 | 12 | 117 |
| 11. 42 | 11. 42 | 10 | 113 | 11. 39 | 12 | 113 | 11. 42 | 10 | 113 | 11. 49 | 12 | 113 | 11. 55 | 12 | 113 | 12. 2 | 12 | 113 |
| 12. 15 | 12. 15 | 12 | 113 | 12. 13 | 12 | 113 | 12. 15 | 12 | 113 | 12. 22 | 12 | 110 | 12. 29 | 12 | 113 | 12. 36 | 13 | 117 |
| 12. 48 | 12. 48 | 12 | 113 | 12. 46 | 13 | 113 | 12. 48 | 12 | 113 | 12. 56 | 13 | 113 | 13. 3 | 13 | 113 | 13. 11 | 13 | 113 |
| 13. 22 | 13. 22 | 12 | 113 | 13. 20 | 13 | 113 | 13. 22 | 12 | 113 | 13. 30 | 13 | 113 | 13. 38 | 13 | 113 | 13. 45 | 13 | 113 |
| 13. 56 | 13. 56 | 12 | 113 | 13. 54 | 13 | 113 | 13. 56 | 12 | 113 | 14. 3 | 13 | 117 | 14. 11 | 13 | 113 | 14. 19 | 15 | 117 |
| 14. 30 | 14. 30 | 13 | 113 | 14. 28 | 13 | 113 | 14. 30 | 13 | 113 | 14. 38 | 13 | 110 | 14. 46 | 13 | 113 | 14. 54 | 15 | 117 |
| 15. 3 | 15. 3 | 13 | 113 | 15. 2 | 15 | 113 | 15. 3 | 13 | 113 | 15. 11 | 15 | 113 | 15. 20 | 15 | 113 | 15. 29 | 15 | 113 |
| 15. 37 | 15. 37 | 13 | 113 | 15. 36 | 15 | 113 | 15. 37 | 13 | 113 | 15. 45 | 15 | 113 | 15. 54 | 15 | 113 | 16. 3 | 17 | 117 |
| 16. 11 | 16. 11 | 13 | 113 | 16. 10 | 15 | 113 | 16. 11 | 13 | 113 | 16. 19 | 15 | 113 | 16. 28 | 17 | 117 | 16. 38 | 17 | 117 |
| 16. 45 | 16. 45 | 15 | 113 | 16. 44 | 15 | 113 | 16. 45 | 15 | 113 | 16. 54 | 15 | 110 | 17. 3 | 17 | 113 | 17. 13 | 17 | 113 |
| 17. 18 | 17. 18 | 15 | 113 | 17. 17 | 15 | 113 | 17. 18 | 15 | 113 | 17. 27 | 15 | 113 | 17. 37 | 18 | 117 | 17. 47 | 18 | 117 |
| 17. 52 | 17. 52 | 15 | 113 | 17. 51 | 15 | 113 | 17. 52 | 15 | 113 | 18. 1 | 17 | 113 | 18. 11 | 18 | 113 | 18. 22 | 20 | 117 |
| 18. 25 | 18. 25 | 17 | 113 | 18. 24 | 15 | 113 | 18. 25 | 17 | 113 | 18. 35 | 17 | 113 | 18. 45 | 20 | 117 | 18. 57 | 20 | 117 |
| 18. 59 | 18. 59 | 17 | 113 | 18. 58 | 17 | 113 | 18. 59 | 17 | 113 | 19. 9 | 18 | 113 | 19. 20 | 20 | 117 | 19. 32 | 20 | 117 |
| 19. 33 | 19. 33 | 17 | 113 | 19. 32 | 17 | 113 | 19. 33 | 17 | 113 | 19. 43 | 18 | 113 | 19. 54 | 20 | 117 | 20. 6 | 22 | 117 |
| 20. 7 | 20. 7 | 18 | 113 | 20. 6 | 18 | 113 | 20. 7 | 18 | 113 | 20. 18 | 18 | 117 | 20. 30 | 20 | 117 | 20. 41 | 22 | 117 |
| 20. 23 | 20. 23 | 18 | 113 | 20. 22 | 18 | 113 | 20. 23 | 18 | 113 | 20. 34 | 20 | 113 | 20. 47 | 22 | 117 | 20. 59 | 22 | 117 |
| 20. 40 | 20. 40 | 18 | 113 | 20. 39 | 18 | 113 | 20. 40 | 18 | 113 | 20. 51 | 20 | 113 | 21. 3 | 22 | 117 | 21. 16 | 23 | 113 |
| 20. 57 | 20. 57 | 18 | 113 | 20. 56 | 18 | 113 | 20. 57 | 18 | 113 | 21. 8 | 20 | 113 | 21. 20 | 22 | 117 | 21. 33 | 23 | 117 |
| 21. 14 | 21. 14 | 20 | 113 | 21. 13 | 18 | 113 | 21. 14 | 20 | 113 | 21. 25 | 20 | 113 | 21. 37 | 22 | 117 | 21. 51 | 23 | 113 |
| 21. 31 | 21. 31 | 20 | 113 | 21. 30 | 20 | 113 | 21. 31 | 20 | 113 | 21. 43 | 20 | 113 | 21. 55 | 22 | 117 | 22. 8 | 23 | 117 |
| 21. 48 | 21. 48 | 20 | 113 | 21. 47 | 20 | 113 | 21. 48 | 20 | 113 | 22. 0 | 20 | 113 | 22. 13 | 23 | 117 | 22. 26 | 23 | 113 |
| 22. 5 | 22. 5 | 20 | 113 | 22. 4 | 20 | 113 | 22. 5 | 20 | 113 | 22. 18 | 22 | 113 | 22. 31 | 23 | 117 | 22. 43 | 25 | 117 |
| 22. 22 | 22. 22 | 20 | 113 | 22. 21 | 20 | 113 | 22. 22 | 20 | 113 | 22. 34 | 22 | 113 | 22. 47 | 23 | 117 | 23. 1 | 25 | 117 |
| 22. 39 | 22. 39 | 20 | 113 | 22. 38 | 20 | 113 | 22. 39 | 20 | 113 | 22. 51 | 22 | 110 | 23. 4 | 23 | 117 | 23. 18 | 25 | 117 |
| 22. 56 | 22. 56 | 22 | 113 | 22. 55 | 22 | 113 | 22. 56 | 22 | 113 | 23. 6 | 22 | 113 | 23. 20 | 25 | 117 | 23. 36 | 25 | 117 |
| 23. 13 | 23. 13 | 22 | 113 | 23. 12 | 22 | 113 | 23. 13 | 22 | 113 | 23. 23 | 23 | 113 | 23. 37 | 25 | 117 | 23. 54 | 25 | 117 |
| 23. 30 | 23. 30 | 22 | 113 | 23. 29 | 22 | 113 | 23. 30 | 22 | 113 | 23. 41 | 23 | 113 | 23. 54 | 25 | 117 | 24. 13 | 25 | 113 |
| 23. 47 | 23. 47 | 22 | 113 | 23. 46 | 22 | 113 | 23. 47 | 22 | 113 | 23. 58 | 23 | 113 | 24. 11 | 25 | 117 | 24. 30 | 25 | 113 |
| 24. 4 | 24. 4 | 22 | 113 | 24. 3 | 22 | 113 | 24. 4 | 22 | 113 | 24. 15 | 23 | 113 | 24. 28 | 25 | 117 | 24. 47 | 27 | 117 |
| 24. 21 | 24. 21 | 22 | 113 | 24. 20 | 22 | 113 | 24. 21 | 22 | 113 | 24. 32 | 23 | 113 | 24. 45 | 27 | 117 | 25. 4 | 27 | 117 |
| 24. 38 | 24. 38 | 23 | 113 | 24. 37 | 23 | 113 | 24. 38 | 23 | 113 | 24. 49 | 25 | 113 | 25. 2 | 27 | 117 | 25. 21 | 27 | 113 |
| 24. 55 | 24. 55 | 23 | 113 | 24. 54 | 23 | 113 | 24. 55 | 23 | 113 | 25. 6 | 25 | 113 | 25. 20 | 27 | 117 | 25. 38 | 27 | 113 |
| 25. 12 | 25. 12 | 23 | 113 | 25. 11 | 23 | 113 | 25. 12 | 23 | 113 | 25. 23 | 25 | 113 | 25. 37 | 27 | 117 | 25. 54 | 27 | 113 |
| 25. 29 | 25. 29 | 23 | 113 | 25. 28 | 23 | 113 | 25. 29 | 23 | 113 | 25. 40 | 25 | 113 | 25. 54 | 27 | 117 | 26. 11 | 27 | 113 |
| 25. 46 | 25. 46 | 23 | 113 | 25. 45 | 23 | 113 | 25. 46 | 23 | 113 | 25. 57 | 25 | 113 | 26. 11 | 27 | 117 | 26. 28 | 27 | 113 |
| 26. 3 | 26. 3 | 25 | 113 | 26. 2 | 25 | 113 | 26. 3 | 25 | 113 | 26. 14 | 27 | 113 | 26. 28 | 27 | 117 | 26. 45 | 27 | 113 |
| 26. 20 | 26. 20 | 25 | 113 | 26. 19 | 25 | 113 | 26. 20 | 25 | 113 | 26. 31 | 27 | 113 | 26. 45 | 27 | 117 | 27. 2 | 28 | 113 |
| 26. 37 | 26. 37 | 25 | 113 | 26. 36 | 25 | 113 | 26. 37 | 25 | 113 | 26. 48 | 27 | 113 | 27. 2 | 28 | 117 | 27. 19 | 28 | 113 |
| 26. 54 | 26. 54 | 25 | 113 | 26. 53 | 25 | 113 | 26. 54 | 25 | 113 | 27. 5 | 27 | 113 | 27. 19 | 28 | 117 | 27. 36 | 28 | 113 |
| 27. 11 | 27. 11 | 25 | 113 | 27. 10 | 25 | 113 | 27. 11 | 25 | 113 | 27. 22 | 27 | 113 | 27. 36 | 28 | 117 | 27. 53 | 28 | 113 |
| 27. 28 | 27. 28 | 25 | 113 | 27. 27 | 25 | 113 | 27. 28 | 25 | 113 | 27. 39 | 27 | 113 | 27. 53 | 28 | 117 | 28. 10 | 28 | 113 |
| 27. 45 | 27. 45 | 25 | 113 | 27. 44 | 25 | 113 | 27. 45 | 25 | 113 | 27. 56 | 27 | 113 | 28. 10 | 28 | 117 | 28. 27 | 28 | 113 |

| Sun's Declination | Latitude of the Place. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 30° | D. 100 | D. 100 | 31° | D. 100 | D. 100 | 32° | D. 100 | D. 100 | 33° | D. 100 | D. 100 | 34° | D. 100 | D. 100 | 35° | D. 100 | D. 100 |
| ° ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ |
| 0. 0 | 0. 0 | 0 | 117 | 0. 0 | 0 | 117 | 0. 0 | 0 | 117 | 0. 0 | 0 | 117 | 0. 0 | 0 | 117 | 0. 0 | 0 | 117 |
| 0. 30 | 0. 35 | 2 | 117 | 0. 35 | 0 | 117 | 0. 35 | 0 | 117 | 0. 35 | 0 | 117 | 0. 35 | 0 | 117 | 0. 35 | 0 | 117 |
| 1. 0 | 1. 10 | 2 | 117 | 1. 11 | 2 | 117 | 1. 11 | 2 | 117 | 1. 11 | 2 | 117 | 1. 11 | 2 | 117 | 1. 11 | 2 | 117 |
| 1. 30 | 1. 44 | 2 | 117 | 1. 45 | 2 | 117 | 1. 46 | 2 | 117 | 1. 47 | 2 | 117 | 1. 48 | 2 | 117 | 1. 49 | 2 | 117 |
| 2. 0 | 2. 18 | 3 | 117 | 2. 20 | 3 | 117 | 2. 21 | 3 | 117 | 2. 22 | 3 | 117 | 2. 23 | 3 | 117 | 2. 24 | 3 | 117 |
| 2. 30 | 2. 53 | 3 | 117 | 2. 55 | 3 | 117 | 2. 57 | 3 | 117 | 2. 59 | 3 | 117 | 3. 0 | 3 | 117 | 3. 2 | 3 | 117 |
| 3. 0 | 3. 27 | 3 | 118 | 3. 30 | 3 | 117 | 3. 33 | 3 | 117 | 3. 35 | 3 | 117 | 3. 37 | 3 | 117 | 3. 40 | 3 | 117 |
| 3. 30 | 4. 1 | 3 | 118 | 4. 5 | 3 | 117 | 4. 8 | 3 | 117 | 4. 11 | 3 | 117 | 4. 14 | 3 | 117 | 4. 17 | 3 | 117 |
| 4. 0 | 4. 37 | 3 | 118 | 4. 41 | 3 | 117 | 4. 44 | 3 | 117 | 4. 48 | 3 | 117 | 4. 51 | 3 | 117 | 4. 55 | 3 | 117 |
| 4. 30 | 5. 14 | 3 | 118 | 5. 18 | 3 | 117 | 5. 22 | 3 | 117 | 5. 26 | 3 | 117 | 5. 30 | 3 | 117 | 5. 34 | 3 | 117 |
| 5. 0 | 5. 51 | 3 | 118 | 5. 56 | 3 | 117 | 6. 0 | 3 | 117 | 6. 5 | 3 | 117 | 6. 9 | 3 | 117 | 6. 14 | 3 | 117 |
| 5. 30 | 6. 28 | 3 | 118 | 6. 33 | 3 | 117 | 6. 38 | 3 | 117 | 6. 43 | 3 | 117 | 6. 48 | 3 | 117 | 6. 53 | 3 | 117 |
| 6. 0 | 7. 5 | 3 | 118 | 7. 11 | 3 | 117 | 7. 17 | 3 | 117 | 7. 23 | 3 | 117 | 7. 29 | 3 | 117 | 7. 35 | 3 | 117 |
| 6. 30 | 7. 43 | 3 | 118 | 7. 50 | 3 | 117 | 7. 57 | 3 | 117 | 8. 4 | 3 | 117 | 8. 11 | 3 | 117 | 8. 18 | 3 | 117 |
| 7. 0 | 8. 22 | 3 | 118 | 8. 30 | 3 | 117 | 8. 38 | 3 | 117 | 8. 46 | 3 | 117 | 8. 54 | 3 | 117 | 9. 2 | 3 | 117 |
| 7. 30 | 9. 2 | 3 | 118 | 9. 11 | 3 | 117 | 9. 20 | 3 | 117 | 9. 29 | 3 | 117 | 9. 38 | 3 | 117 | 9. 47 | 3 | 117 |
| 8. 0 | 9. 43 | 3 | 118 | 9. 53 | 3 | 117 | 10. 3 | 3 | 117 | 10. 13 | 3 | 117 | 10. 23 | 3 | 117 | 10. 33 | 3 | 117 |
| 8. 30 | 10. 25 | 3 | 118 | 10. 36 | 3 | 117 | 10. 47 | 3 | 117 | 10. 58 | 3 | 117 | 11. 9 | 3 | 117 | 11. 20 | 3 | 117 |
| 9. 0 | 11. 8 | 3 | 118 | 11. 20 | 3 | 117 | 11. 32 | 3 | 117 | 11. 44 | 3 | 117 | 11. 56 | 3 | 117 | 12. 8 | 3 | 117 |
| 9. 30 | 11. 52 | 3 | 118 | 12. 5 | 3 | 117 | 12. 18 | 3 | 117 | 12. 31 | 3 | 117 | 12. 44 | 3 | 117 | 12. 57 | 3 | 117 |
| 10. 0 | 12. 37 | 3 | 118 | 12. 51 | 3 | 117 | 13. 5 | 3 | 117 | 13. 19 | 3 | 117 | 13. 33 | 3 | 117 | 13. 47 | 3 | 117 |
| 10. 30 | 13. 23 | 3 | 118 | 13. 38 | 3 | 117 | 13. 53 | 3 | 117 | 14. 8 | 3 | 117 | 14. 23 | 3 | 117 | 14. 38 | 3 | 117 |
| 11. 0 | 14. 10 | 3 | 118 | 14. 26 | 3 | 117 | 14. 42 | 3 | 117 | 14. 58 | 3 | 117 | 15. 14 | 3 | 117 | 15. 30 | 3 | 117 |
| 11. 30 | 14. 58 | 3 | 118 | 15. 15 | 3 | 117 | 15. 32 | 3 | 117 | 15. 49 | 3 | 117 | 16. 6 | 3 | 117 | 16. 23 | 3 | 117 |
| 12. 0 | 15. 47 | 3 | 118 | 16. 5 | 3 | 117 | 16. 23 | 3 | 117 | 16. 41 | 3 | 117 | 16. 59 | 3 | 117 | 17. 17 | 3 | 117 |
| 12. 30 | 16. 37 | 3 | 118 | 16. 56 | 3 | 117 | 17. 15 | 3 | 117 | 17. 34 | 3 | 117 | 17. 53 | 3 | 117 | 18. 12 | 3 | 117 |
| 13. 0 | 17. 28 | 3 | 118 | 17. 48 | 3 | 117 | 18. 8 | 3 | 117 | 18. 28 | 3 | 117 | 18. 48 | 3 | 117 | 19. 8 | 3 | 117 |
| 13. 30 | 18. 20 | 3 | 118 | 18. 41 | 3 | 117 | 19. 2 | 3 | 117 | 19. 23 | 3 | 117 | 19. 44 | 3 | 117 | 20. 5 | 3 | 117 |
| 14. 0 | 19. 13 | 3 | 118 | 19. 35 | 3 | 117 | 19. 57 | 3 | 117 | 20. 19 | 3 | 117 | 20. 41 | 3 | 117 | 21. 3 | 3 | 117 |
| 14. 30 | 20. 7 | 3 | 118 | 20. 30 | 3 | 117 | 20. 53 | 3 | 117 | 21. 16 | 3 | 117 | 21. 39 | 3 | 117 | 22. 2 | 3 | 117 |
| 15. 0 | 21. 2 | 3 | 118 | 21. 26 | 3 | 117 | 21. 50 | 3 | 117 | 22. 14 | 3 | 117 | 22. 38 | 3 | 117 | 23. 2 | 3 | 117 |
| 15. 30 | 21. 58 | 3 | 118 | 22. 23 | 3 | 117 | 22. 48 | 3 | 117 | 23. 13 | 3 | 117 | 23. 38 | 3 | 117 | 24. 3 | 3 | 117 |
| 16. 0 | 22. 55 | 3 | 118 | 23. 21 | 3 | 117 | 23. 47 | 3 | 117 | 24. 13 | 3 | 117 | 24. 39 | 3 | 117 | 25. 5 | 3 | 117 |
| 16. 30 | 23. 53 | 3 | 118 | 24. 20 | 3 | 117 | 24. 47 | 3 | 117 | 25. 14 | 3 | 117 | 25. 41 | 3 | 117 | 26. 8 | 3 | 117 |
| 17. 0 | 24. 52 | 3 | 118 | 25. 20 | 3 | 117 | 25. 48 | 3 | 117 | 26. 16 | 3 | 117 | 26. 44 | 3 | 117 | 27. 12 | 3 | 117 |
| 17. 30 | 25. 52 | 3 | 118 | 26. 21 | 3 | 117 | 26. 51 | 3 | 117 | 27. 19 | 3 | 117 | 27. 48 | 3 | 117 | 28. 17 | 3 | 117 |
| 18. 0 | 26. 53 | 3 | 118 | 27. 23 | 3 | 117 | 27. 54 | 3 | 117 | 28. 24 | 3 | 117 | 28. 54 | 3 | 117 | 29. 24 | 3 | 117 |
| 18. 15 | 27. 24 | 3 | 118 | 27. 54 | 3 | 117 | 28. 25 | 3 | 117 | 28. 56 | 3 | 117 | 29. 26 | 3 | 117 | 29. 57 | 3 | 117 |
| 18. 30 | 27. 55 | 3 | 118 | 28. 26 | 3 | 117 | 28. 57 | 3 | 117 | 29. 28 | 3 | 117 | 29. 59 | 3 | 117 | 30. 30 | 3 | 117 |
| 18. 45 | 28. 27 | 3 | 118 | 28. 58 | 3 | 117 | 29. 30 | 3 | 117 | 30. 1 | 3 | 117 | 30. 33 | 3 | 117 | 31. 4 | 3 | 117 |
| 19. 0 | 28. 59 | 3 | 118 | 29. 31 | 3 | 117 | 30. 3 | 3 | 117 | 30. 35 | 3 | 117 | 31. 7 | 3 | 117 | 31. 39 | 3 | 117 |
| 19. 15 | 29. 32 | 3 | 118 | 30. 4 | 3 | 117 | 30. 37 | 3 | 117 | 31. 10 | 3 | 117 | 31. 43 | 3 | 117 | 32. 16 | 3 | 117 |
| 19. 30 | 30. 5 | 3 | 118 | 30. 38 | 3 | 117 | 31. 11 | 3 | 117 | 31. 45 | 3 | 117 | 32. 19 | 3 | 117 | 32. 53 | 3 | 117 |
| 19. 45 | 30. 39 | 3 | 118 | 31. 12 | 3 | 117 | 31. 46 | 3 | 117 | 32. 20 | 3 | 117 | 32. 55 | 3 | 117 | 33. 30 | 3 | 117 |
| 20. 0 | 31. 13 | 3 | 118 | 31. 47 | 3 | 117 | 32. 21 | 3 | 117 | 32. 56 | 3 | 117 | 33. 31 | 3 | 117 | 34. 7 | 3 | 117 |
| 20. 15 | 31. 48 | 3 | 118 | 32. 23 | 3 | 117 | 32. 58 | 3 | 117 | 33. 33 | 3 | 117 | 34. 8 | 3 | 117 | 34. 44 | 3 | 117 |
| 20. 30 | 32. 24 | 3 | 118 | 32. 59 | 3 | 117 | 33. 34 | 3 | 117 | 34. 10 | 3 | 117 | 34. 46 | 3 | 117 | 35. 22 | 3 | 117 |
| 20. 45 | 33. 0 | 3 | 118 | 33. 36 | 3 | 117 | 34. 12 | 3 | 117 | 34. 48 | 3 | 117 | 35. 25 | 3 | 117 | 36. 1 | 3 | 117 |
| 21. 0 | 33. 37 | 3 | 118 | 34. 13 | 3 | 117 | 34. 50 | 3 | 117 | 35. 27 | 3 | 117 | 36. 4 | 3 | 117 | 36. 41 | 3 | 117 |
| 21. 15 | 34. 14 | 3 | 118 | 34. 51 | 3 | 117 | 35. 28 | 3 | 117 | 36. 6 | 3 | 117 | 36. 44 | 3 | 117 | 37. 22 | 3 | 117 |
| 21. 30 | 34. 52 | 3 | 118 | 35. 29 | 3 | 117 | 36. 7 | 3 | 117 | 36. 45 | 3 | 117 | 37. 24 | 3 | 117 | 38. 3 | 3 | 117 |
| 21. 45 | 35. 31 | 3 | 118 | 36. 8 | 3 | 117 | 36. 46 | 3 | 117 | 37. 25 | 3 | 117 | 38. 4 | 3 | 117 | 38. 44 | 3 | 117 |
| 22. 0 | 36. 10 | 3 | 118 | 36. 48 | 3 | 117 | 37. 26 | 3 | 117 | 38. 5 | 3 | 117 | 38. 45 | 3 | 117 | 39. 25 | 3 | 117 |
| 22. 15 | 36. 50 | 3 | 118 | 37. 28 | 3 | 117 | 38. 7 | 3 | 117 | 38. 46 | 3 | 117 | 39. 26 | 3 | 117 | 40. 6 | 3 | 117 |
| 22. 30 | 37. 30 | 3 | 118 | 38. 9 | 3 | 117 | 38. 48 | 3 | 117 | 39. 28 | 3 | 117 | 40. 8 | 3 | 117 | 40. 48 | 3 | 117 |
| 22. 45 | 38. 11 | 3 | 118 | 38. 50 | 3 | 117 | 39. 29 | 3 | 117 | 40. 9 | 3 | 117 | 40. 49 | 3 | 117 | 41. 30 | 3 | 117 |
| 23. 0 | 38. 52 | 3 | 118 | 39. 32 | 3 | 117 | 40. 11 | 3 | 117 | 40. 51 | 3 | 117 | 41. 31 | 3 | 117 | 42. 12 | 3 | 117 |
| 23. 15 | 39. 34 | 3 | 118 | 40. 14 | 3 | 117 | 40. 53 | 3 | 117 | 41. 33 | 3 | 117 | 42. 13 | 3 | 117 | 42. 54 | 3 | 117 |
| 23. 30 | 40. 16 | 3 | 118 | 40. 56 | 3 | 117 | 41. 35 | 3 | 117 | 42. 15 | 3 | 117 | 42. 56 | 3 | 117 | 43. 37 | 3 | 117 |
| 23. 45 | 40. 58 | 3 | 118 | 41. 39 | 3 | 117 | 42. 18 | 3 | 117 | 42. 58 | 3 | 117 | 43. 39 | 3 | 117 | 44. 20 | 3 | 117 |

| Sun's | Latitude of the Place. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 36° | D. 100 | D. 100 | 37° | D. 100 | D. 100 | 38° | D. 100 | D. 100 | 39° | D. 100 | D. 100 | 40° | D. 100 | D. 100 | 41° | D. 100 | D. 100 |
| ° ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ |
| 0. 0 | 0. 0 | 0 | 123 | 0. 0 | 0 | 127 | 0. 0 | 0 | 127 | 0. 0 | 0 | 131 | 0. 0 | 0 | 131 | 0. 0 | 0 | 135 |
| 0. 30 | 0. 37 | 2 | 123 | 0. 38 | 0 | 123 | 0. 38 | 2 | 127 | 0. 39 | 0 | 127 | 0. 39 | 2 | 131 | 0. 40 | 0 | 135 |
| 1. 0 | 1. 14 | 2 | 123 | 1. 15 | 2 | 123 | 1. 16 | 2 | 127 | 1. 17 | 2 | 127 | 1. 18 | 2 | 131 | 1. 19 | 3 | 135 |
| 1. 30 | 1. 51 | 2 | 123 | 1. 52 | 3 | 127 | 1. 54 | 3 | 127 | 1. 56 | 3 | 127 | 1. 58 | 2 | 131 | 1. 59 | 3 | 135 |
| 2. 0 | 2. 28 | 3 | 123 | 2. 30 | 3 | 127 | 2. 32 | 3 | 127 | 2. 34 | 5 | 130 | 2. 37 | 3 | 131 | 2. 39 | 3 | 135 |
| 2. 30 | 3. 5 | 5 | 127 | 3. 8 | 3 | 123 | 3. 10 | 5 | 127 | 3. 13 | 5 | 130 | 3. 16 | 5 | 131 | 2. 19 | 5 | 135 |
| 3. 0 | 3. 43 | 3 | 123 | 3. 45 | 5 | 127 | 3. 48 | 7 | 130 | 3. 52 | 5 | 127 | 3. 55 | 7 | 131 | 3. 59 | 5 | 135 |
| 3. 30 | 4. 20 | 5 | 123 | 4. 23 | 7 | 127 | 4. 27 | 5 | 127 | 4. 30 | 7 | 130 | 4. 34 | 7 | 131 | 4. 38 | 8 | 135 |
| 4. 0 | 4. 57 | 7 | 123 | 5. 1 | 7 | 123 | 5. 5 | 7 | 127 | 5. 9 | 8 | 130 | 5. 14 | 7 | 131 | 5. 18 | 8 | 135 |
| 4. 30 | 5. 34 | 7 | 123 | 5. 38 | 8 | 127 | 5. 43 | 8 | 127 | 5. 48 | 8 | 127 | 5. 53 | 8 | 131 | 5. 58 | 10 | 135 |
| 5. 0 | 6. 11 | 8 | 123 | 6. 16 | 8 | 127 | 6. 21 | 8 | 127 | 6. 26 | 10 | 130 | 6. 32 | 10 | 130 | 6. 38 | 10 | 135 |
| 5. 30 | 6. 48 | 10 | 123 | 6. 54 | 8 | 123 | 6. 59 | 10 | 127 | 7. 5 | 10 | 130 | 7. 11 | 12 | 131 | 7. 18 | 12 | 135 |
| 6. 0 | 7. 25 | 10 | 127 | 7. 31 | 10 | 127 | 7. 37 | 12 | 127 | 7. 44 | 12 | 131 | 7. 51 | 12 | 131 | 7. 58 | 12 | 135 |
| 6. 30 | 8. 3 | 10 | 123 | 8. 9 | 10 | 127 | 8. 15 | 13 | 130 | 8. 23 | 12 | 127 | 8. 31 | 13 | 131 | 8. 38 | 13 | 135 |
| 7. 0 | 8. 40 | 12 | 123 | 8. 47 | 12 | 123 | 8. 54 | 12 | 127 | 9. 1 | 13 | 131 | 9. 9 | 15 | 131 | 9. 18 | 13 | 135 |
| 7. 30 | 9. 17 | 12 | 123 | 9. 24 | 13 | 127 | 9. 32 | 13 | 130 | 9. 42 | 15 | 131 | 9. 47 | 15 | 131 | 9. 58 | 15 | 135 |
| 8. 0 | 9. 54 | 13 | 127 | 10. 2 | 15 | 127 | 10. 11 | 13 | 127 | 10. 19 | 15 | 131 | 10. 28 | 17 | 131 | 10. 38 | 17 | 135 |
| 8. 30 | 10. 32 | 15 | 123 | 10. 42 | 15 | 127 | 10. 49 | 15 | 127 | 10. 58 | 17 | 131 | 11. 8 | 17 | 131 | 11. 18 | 17 | 135 |
| 9. 0 | 11. 9 | 15 | 123 | 11. 1 | 15 | 127 | 11. 27 | 17 | 127 | 11. 37 | 17 | 131 | 11. 47 | 18 | 131 | 11. 58 | 18 | 135 |
| 9. 30 | 11. 46 | 17 | 127 | 11. 50 | 15 | 127 | 12. 5 | 18 | 130 | 12. 16 | 18 | 131 | 12. 27 | 18 | 131 | 12. 38 | 20 | 135 |
| 10. 0 | 12. 24 | 17 | 123 | 12. 34 | 17 | 123 | 12. 44 | 18 | 127 | 12. 55 | 18 | 131 | 13. 6 | 20 | 131 | 13. 18 | 22 | 135 |
| 10. 30 | 13. 1 | 17 | 127 | 13. 11 | 18 | 127 | 13. 22 | 20 | 130 | 13. 34 | 20 | 131 | 13. 46 | 20 | 131 | 13. 58 | 23 | 135 |
| 11. 0 | 13. 39 | 17 | 123 | 13. 49 | 20 | 127 | 14. 1 | 20 | 127 | 14. 13 | 20 | 131 | 14. 25 | 23 | 131 | 14. 39 | 23 | 135 |
| 11. 30 | 14. 16 | 18 | 127 | 14. 27 | 20 | 127 | 14. 39 | 22 | 130 | 14. 52 | 22 | 131 | 15. 5 | 23 | 131 | 15. 19 | 25 | 135 |
| 12. 0 | 14. 54 | 20 | 123 | 15. 6 | 22 | 123 | 15. 18 | 22 | 130 | 15. 31 | 23 | 131 | 15. 45 | 25 | 131 | 16. 0 | 25 | 135 |
| 12. 30 | 15. 31 | 20 | 127 | 15. 45 | 23 | 127 | 15. 57 | 22 | 127 | 16. 11 | 25 | 131 | 16. 25 | 25 | 131 | 16. 42 | 27 | 135 |
| 13. 0 | 16. 9 | 22 | 123 | 16. 24 | 22 | 127 | 16. 36 | 25 | 130 | 16. 50 | 25 | 131 | 17. 5 | 27 | 131 | 17. 21 | 27 | 135 |
| 13. 30 | 16. 47 | 23 | 123 | 17. 2 | 23 | 127 | 17. 14 | 25 | 130 | 17. 30 | 27 | 131 | 17. 45 | 27 | 131 | 18. 1 | 28 | 135 |
| 14. 0 | 17. 24 | 25 | 127 | 17. 39 | 25 | 127 | 17. 53 | 25 | 130 | 18. 8 | 28 | 131 | 18. 25 | 28 | 131 | 18. 42 | 30 | 135 |
| 14. 30 | 18. 2 | 25 | 127 | 18. 19 | 27 | 131 | 18. 32 | 27 | 127 | 18. 48 | 28 | 131 | 19. 5 | 30 | 131 | 19. 23 | 32 | 135 |
| 15. 0 | 18. 40 | 25 | 123 | 18. 58 | 25 | 127 | 19. 12 | 28 | 130 | 19. 27 | 30 | 131 | 19. 45 | 30 | 131 | 20. 3 | 33 | 135 |
| 15. 30 | 19. 17 | 27 | 127 | 19. 33 | 27 | 127 | 19. 49 | 30 | 131 | 20. 7 | 30 | 131 | 20. 25 | 32 | 131 | 20. 44 | 35 | 135 |
| 16. 0 | 19. 55 | 27 | 127 | 20. 11 | 28 | 131 | 20. 28 | 30 | 131 | 20. 46 | 32 | 131 | 21. 5 | 33 | 131 | 21. 25 | 35 | 135 |
| 16. 30 | 20. 33 | 28 | 127 | 20. 50 | 30 | 131 | 21. 8 | 30 | 131 | 21. 26 | 33 | 131 | 21. 46 | 33 | 131 | 22. 6 | 37 | 140 |
| 17. 0 | 21. 11 | 28 | 127 | 21. 28 | 32 | 131 | 21. 47 | 33 | 131 | 22. 6 | 33 | 131 | 22. 26 | 37 | 131 | 22. 48 | 37 | 139 |
| 17. 30 | 21. 49 | 30 | 127 | 22. 7 | 32 | 131 | 22. 27 | 33 | 131 | 22. 46 | 35 | 131 | 23. 7 | 37 | 131 | 23. 29 | 38 | 139 |
| 18. 0 | 22. 27 | 32 | 127 | 22. 47 | 32 | 131 | 23. 8 | 35 | 133 | 23. 26 | 35 | 131 | 23. 47 | 38 | 131 | 24. 10 | 40 | 140 |
| 18. 15 | 22. 47 | 32 | 127 | 23. 7 | 33 | 131 | 23. 28 | 35 | 133 | 23. 47 | 35 | 131 | 24. 7 | 40 | 131 | 24. 31 | 40 | 140 |
| 18. 30 | 23. 6 | 32 | 127 | 23. 28 | 33 | 131 | 23. 48 | 35 | 133 | 24. 6 | 37 | 131 | 24. 28 | 40 | 131 | 24. 52 | 42 | 140 |
| 18. 45 | 23. 26 | 32 | 127 | 23. 48 | 33 | 131 | 24. 8 | 37 | 133 | 24. 26 | 37 | 131 | 24. 48 | 40 | 131 | 25. 12 | 43 | 140 |
| 19. 0 | 23. 45 | 32 | 127 | 24. 8 | 35 | 131 | 24. 28 | 37 | 133 | 24. 47 | 38 | 131 | 25. 9 | 40 | 131 | 25. 33 | 43 | 140 |
| 19. 15 | 24. 5 | 32 | 127 | 24. 28 | 37 | 131 | 24. 48 | 37 | 133 | 25. 6 | 38 | 131 | 25. 29 | 42 | 131 | 25. 54 | 43 | 140 |
| 19. 30 | 24. 24 | 33 | 127 | 24. 48 | 37 | 131 | 25. 8 | 37 | 133 | 25. 26 | 40 | 131 | 25. 50 | 42 | 131 | 26. 15 | 45 | 140 |
| 19. 45 | 24. 44 | 33 | 127 | 25. 8 | 37 | 131 | 25. 28 | 38 | 133 | 25. 47 | 40 | 131 | 26. 11 | 43 | 131 | 26. 36 | 45 | 140 |
| 20. 0 | 25. 4 | 33 | 127 | 25. 28 | 38 | 131 | 25. 48 | 40 | 133 | 26. 7 | 40 | 131 | 26. 31 | 43 | 131 | 26. 57 | 45 | 140 |
| 20. 15 | 25. 24 | 33 | 127 | 25. 48 | 38 | 131 | 26. 8 | 40 | 133 | 26. 27 | 42 | 131 | 26. 52 | 43 | 131 | 27. 18 | 45 | 140 |
| 20. 30 | 25. 44 | 33 | 127 | 26. 8 | 38 | 131 | 26. 28 | 40 | 133 | 26. 47 | 42 | 131 | 27. 12 | 45 | 131 | 27. 39 | 47 | 140 |
| 20. 45 | 26. 5 | 33 | 127 | 26. 28 | 38 | 131 | 26. 48 | 40 | 133 | 27. 7 | 43 | 131 | 27. 33 | 45 | 131 | 28. 0 | 47 | 140 |
| 21. 0 | 26. 25 | 37 | 131 | 26. 48 | 38 | 131 | 27. 8 | 42 | 133 | 27. 28 | 43 | 131 | 27. 54 | 45 | 131 | 28. 21 | 48 | 143 |
| 21. 15 | 26. 47 | 37 | 131 | 27. 10 | 40 | 131 | 27. 28 | 42 | 133 | 27. 48 | 43 | 131 | 28. 14 | 45 | 131 | 28. 41 | 50 | 143 |
| 21. 30 | 27. 8 | 38 | 131 | 27. 30 | 40 | 131 | 27. 48 | 42 | 133 | 28. 8 | 45 | 131 | 28. 35 | 47 | 131 | 29. 3 | 50 | 143 |
| 21. 45 | 27. 29 | 38 | 131 | 27. 50 | 42 | 133 | 28. 8 | 42 | 133 | 28. 28 | 47 | 131 | 28. 56 | 47 | 131 | 29. 24 | 50 | 143 |
| 22. 0 | 27. 50 | 38 | 131 | 28. 10 | 42 | 133 | 28. 28 | 43 | 133 | 28. 49 | 47 | 131 | 29. 17 | 48 | 131 | 29. 46 | 50 | 143 |
| 22. 15 | 28. 11 | 40 | 131 | 28. 30 | 43 | 133 | 28. 48 | 43 | 133 | 29. 9 | 47 | 131 | 29. 37 | 50 | 131 | 30. 7 | 52 | 143 |
| 22. 30 | 28. 32 | 40 | 131 | 28. 50 | 43 | 133 | 29. 8 | 45 | 133 | 29. 30 | 47 | 131 | 29. 58 | 50 | 131 | 30. 28 | 53 | 143 |
| 22. 45 | 28. 53 | 40 | 131 | 29. 10 | 45 | 133 | 29. 28 | 45 | 133 | 29. 50 | 48 | 131 | 30. 19 | 50 | 131 | 30. 49 | 53 | 143 |
| 23. 0 | 29. 14 | 42 | 131 | 29. 30 | 45 | 133 | 29. 48 | 45 | 133 | 30. 11 | 48 | 131 | 30. 40 | 52 | 131 | 31. 11 | 53 | 143 |
| 23. 15 | 29. 35 | 42 | 131 | 29. 50 | 45 | 133 | 30. 8 | 47 | 133 | 30. 31 | 50 | 131 | 31. 1 | 52 | 131 | 31. 32 | 55 | 143 |
| 23. 30 | 29. 56 | 42 | 131 | 30. 10 | 45 | 133 | 30. 28 | 47 | 133 | 30. 52 | 50 | 131 | 31. 22 | 53 | 131 | 31. 54 | 55 | 143 |
| 23. 45 | 30. 17 | 45 | 131 | 30. 31 | 45 | 133 | 30. 48 | 48 | 133 | 31. 13 | 50 | 131 | 31. 43 | 53 | 131 | 32. 15 | 57 | 143 |

| Sun's Declination | Latitude of the Place. 42° | D. 100′ | D. 100′ | 43° | D. 100′ | D. 100′ | 44° | D. 100′ | D. 100′ | 45° | D. 100′ | D. 100′ | 46° | D. 100′ | D. 100′ | 47° | D. 100′ | D. 100′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ° ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ |
| 0. 0 | 0. 0 | 0 | 133 | 0. 0 | 0 | 137 | 0. 0 | 0 | 140 | 0. 0 | 0 | 140 | 0. 0 | 0 | 143 | 0. 0 | 0 | 147 |
| 0. 30 | 0. 40 | 2 | 137 | 0. 41 | 2 | 137 | 0. 42 | 2 | 137 | 0. 43 | 2 | 143 | 0. 43 | 2 | 143 | 0. 44 | 2 | 147 |
| 1. 0 | 1. 21 | 2 | 133 | 1. 22 | 2 | 137 | 1. 23 | 3 | 140 | 1. 25 | 2 | 140 | 1. 26 | 3 | 147 | 1. 28 | 3 | 147 |
| 1. 30 | 2. 1 | 3 | 133 | 2. 3 | 3 | 137 | 2. 5 | 3 | 140 | 2. 7 | 5 | 143 | 2. 10 | 3 | 143 | 2. 12 | 3 | 147 |
| 2. 0 | 2. 41 | 5 | 137 | 2. 44 | 5 | 137 | 2. 47 | 5 | 140 | 2. 50 | 5 | 140 | 2. 53 | 5 | 143 | 2. 56 | 5 | 147 |
| 2. 30 | 3. 24 | 5 | 133 | 3. 28 | 7 | 137 | 3. 32 | 5 | 137 | 3. 35 | 7 | 140 | 3. 39 | 7 | 143 | 3. 43 | 7 | 147 |
| 3. 0 | 4. 2 | 7 | 137 | 4. 6 | 7 | 137 | 4. 10 | 8 | 140 | 4. 15 | 7 | 140 | 4. 19 | 8 | 143 | 4. 24 | 8 | 147 |
| 3. 30 | 4. 43 | 7 | 133 | 4. 47 | 8 | 137 | 4. 52 | 8 | 140 | 4. 57 | 8 | 140 | 5. 2 | 10 | 147 | 5. 8 | 10 | 147 |
| 4. 0 | 5. 25 | 8 | 137 | 5. 28 | 10 | 137 | 5. 34 | 10 | 140 | 5. 40 | 10 | 140 | 5. 46 | 10 | 143 | 5. 53 | 12 | 147 |
| 4. 30 | 6. 4 | 8 | 133 | 6. 9 | 12 | 140 | 6. 16 | 10 | 140 | 6. 22 | 12 | 143 | 6. 29 | 12 | 143 | 6. 36 | 13 | 150 |
| 5. 0 | 6. 44 | 12 | 137 | 6. 51 | 12 | 137 | 6. 58 | 12 | 140 | 7. 5 | 12 | 140 | 7. 12 | 13 | 147 | 7. 21 | 13 | 147 |
| 5. 30 | 7. 25 | 12 | 133 | 7. 32 | 13 | 137 | 7. 39 | 13 | 140 | 7. 47 | 15 | 140 | 7. 56 | 15 | 143 | 8. 5 | 15 | 147 |
| 6. 0 | 8. 5 | 13 | 137 | 8. 13 | 13 | 137 | 8. 21 | 15 | 140 | 8. 30 | 15 | 143 | 8. 39 | 17 | 147 | 8. 49 | 17 | 147 |
| 6. 30 | 8. 46 | 13 | 133 | 8. 54 | 15 | 137 | 9. 3 | 17 | 140 | 9. 13 | 17 | 143 | 9. 23 | 17 | 147 | 9. 33 | 20 | 150 |
| 7. 0 | 9. 26 | 15 | 137 | 9. 35 | 17 | 140 | 9. 45 | 17 | 140 | 9. 55 | 18 | 143 | 10. 6 | 20 | 147 | 10. 18 | 20 | 147 |
| 7. 30 | 10. 7 | 17 | 137 | 10. 17 | 17 | 137 | 10. 27 | 18 | 140 | 10. 38 | 20 | 143 | 10. 50 | 20 | 143 | 11. 3 | 22 | 150 |
| 8. 0 | 10. 48 | 17 | 133 | 10. 58 | 18 | 140 | 11. 9 | 20 | 140 | 11. 21 | 20 | 143 | 11. 33 | 23 | 147 | 11. 47 | 23 | 147 |
| 8. 30 | 11. 28 | 20 | 137 | 11. 40 | 18 | 137 | 11. 51 | 22 | 143 | 12. 4 | 22 | 143 | 12. 17 | 23 | 147 | 12. 31 | 25 | 150 |
| 9. 0 | 12. 9 | 20 | 137 | 12. 21 | 22 | 137 | 12. 34 | 22 | 140 | 12. 47 | 23 | 143 | 13. 1 | 25 | 147 | 13. 16 | 25 | 147 |
| 9. 30 | 12. 50 | 20 | 137 | 13. 2 | 23 | 140 | 13. 16 | 23 | 140 | 13. 30 | 25 | 143 | 13. 45 | 25 | 147 | 14. 0 | 28 | 150 |
| 10. 0 | 13. 31 | 22 | 137 | 13. 44 | 23 | 140 | 13. 58 | 25 | 143 | 14. 13 | 27 | 143 | 14. 29 | 27 | 143 | 14. 45 | 30 | 150 |
| 10. 30 | 14. 12 | 23 | 137 | 14. 26 | 25 | 137 | 14. 41 | 25 | 140 | 14. 56 | 27 | 143 | 15. 12 | 30 | 150 | 15. 30 | 30 | 150 |
| 11. 0 | 14. 53 | 23 | 137 | 15. 7 | 27 | 140 | 15. 23 | 27 | 140 | 15. 39 | 30 | 147 | 15. 57 | 32 | 147 | 16. 15 | 32 | 150 |
| 11. 30 | 15. 4 | 25 | 137 | 15. 49 | 27 | 140 | 16. 5 | 30 | 143 | 16. 23 | 32 | 143 | 16. 41 | 32 | 147 | 17. 0 | 33 | 150 |
| 12. 0 | 16. 15 | 27 | 137 | 16. 31 | 28 | 140 | 16. 47 | 30 | 143 | 17. 6 | 32 | 143 | 17. 25 | 33 | 147 | 17. 45 | 35 | 150 |
| 12. 30 | 16. 56 | 28 | 137 | 17. 13 | 30 | 140 | 17. 31 | 30 | 140 | 17. 49 | 33 | 147 | 18. 9 | 35 | 150 | 18. 31 | 37 | 153 |
| 13. 0 | 17. 37 | 30 | 137 | 17. 55 | 30 | 140 | 18. 13 | 33 | 143 | 18. 33 | 35 | 147 | 18. 54 | 37 | 147 | 19. 17 | 38 | 150 |
| 13. 30 | 18. 18 | 32 | 140 | 18. 37 | 32 | 140 | 18. 56 | 35 | 143 | 19. 17 | 35 | 147 | 19. 38 | 38 | 150 | 20. 1 | 40 | 153 |
| 14. 0 | 19. 0 | 32 | 140 | 19. 19 | 33 | 140 | 19. 39 | 35 | 143 | 20. 2 | 38 | 147 | 20. 23 | 40 | 150 | 20. 47 | 42 | 153 |
| 14. 30 | 19. 42 | 34 | 137 | 20. 1 | 35 | 140 | 20. 22 | 37 | 143 | 20. 41 | 40 | 147 | 21. 8 | 40 | 150 | 21. 34 | 43 | 153 |
| 15. 0 | 20. 23 | 33 | 140 | 20. 43 | 37 | 140 | 21. 5 | 38 | 147 | 21. 23 | 42 | 147 | 21. 53 | 42 | 150 | 22. 18 | 45 | 153 |
| 15. 30 | 21. 5 | 33 | 137 | 21. 25 | 40 | 143 | 21. 49 | 38 | 147 | 22. 5 | 43 | 150 | 22. 37 | 43 | 153 | 23. 4 | 45 | 153 |
| 16. 0 | 21. 46 | 37 | 140 | 22. 8 | 40 | 143 | 22. 32 | 42 | 147 | 22. 47 | 45 | 150 | 23. 23 | 45 | 153 | 23. 50 | 50 | 157 |
| 16. 30 | 22. 28 | 38 | 140 | 22. 51 | 42 | 143 | 23. 15 | 43 | 147 | 23. 41 | 45 | 147 | 24. 8 | 48 | 153 | 24. 37 | 50 | 157 |
| 17. 0 | 23. 10 | 40 | 140 | 23. 34 | 42 | 143 | 23. 59 | 45 | 147 | 24. 25 | 47 | 150 | 24. 53 | 50 | 153 | 25. 23 | 52 | 157 |
| 17. 30 | 23. 52 | 42 | 140 | 24. 17 | 43 | 143 | 24. 43 | 45 | 147 | 25. 10 | 48 | 150 | 25. 39 | 52 | 153 | 26. 10 | 53 | 157 |
| 18. 0 | 24. 34 | 43 | 140 | 25. 0 | 43 | 140 | 25. 28 | 48 | 147 | 25. 55 | 50 | 150 | 26. 25 | 53 | 153 | 26. 57 | 57 | 160 |
| 18. 15 | 24. 55 | 43 | 140 | 25. 21 | 45 | 140 | 25. 48 | 48 | 147 | 26. 17 | 52 | 153 | 26. 47 | 55 | 153 | 27. 21 | 55 | 160 |
| 18. 30 | 25. 17 | 43 | 140 | 25. 43 | 47 | 140 | 26. 11 | 48 | 147 | 26. 40 | 52 | 153 | 27. 11 | 55 | 153 | 27. 44 | 58 | 163 |
| 18. 45 | 25. 38 | 43 | 140 | 26. 4 | 48 | 140 | 26. 33 | 48 | 147 | 27. 2 | 53 | 153 | 27. 34 | 55 | 153 | 28. 7 | 60 | 163 |
| 19. 0 | 25. 59 | 45 | 140 | 26. 26 | 48 | 140 | 26. 55 | 50 | 147 | 27. 25 | 53 | 153 | 27. 57 | 57 | 153 | 28. 31 | 60 | 163 |
| 19. 15 | 26. 16 | 45 | 140 | 26. 47 | 50 | 140 | 27. 17 | 50 | 147 | 27. 47 | 55 | 153 | 28. 21 | 58 | 153 | 28. 55 | 60 | 163 |
| 19. 30 | 26. 42 | 45 | 140 | 27. 9 | 50 | 140 | 27. 39 | 52 | 147 | 28. 10 | 55 | 153 | 28. 43 | 58 | 153 | 29. 18 | 63 | 163 |
| 19. 45 | 27. 3 | 47 | 140 | 27. 31 | 50 | 140 | 28. 1 | 53 | 150 | 28. 32 | 57 | 153 | 29. 6 | 60 | 156 | 29. 42 | 63 | 163 |
| 20. 0 | 27. 24 | 48 | 140 | 27. 53 | 52 | 140 | 28. 24 | 53 | 147 | 28. 54 | 57 | 153 | 29. 28 | 60 | 156 | 30. 6 | 63 | 163 |
| 20. 15 | 27. 45 | 50 | 140 | 28. 15 | 52 | 140 | 28. 47 | 53 | 147 | 29. 17 | 58 | 153 | 29. 53 | 62 | 156 | 30. 30 | 65 | 166 |
| 20. 30 | 28. 7 | 50 | 140 | 28. 37 | 52 | 140 | 29. 8 | 55 | 147 | 29. 41 | 58 | 153 | 30. 16 | 63 | 156 | 30. 54 | 67 | 166 |
| 20. 45 | 28. 28 | 50 | 140 | 28. 58 | 55 | 140 | 29. 30 | 57 | 150 | 30. 4 | 58 | 153 | 30. 39 | 65 | 156 | 31. 18 | 67 | 166 |
| 21. 0 | 28. 50 | 50 | 140 | 29. 20 | 55 | 140 | 29. 53 | 57 | 150 | 30. 27 | 60 | 153 | 31. 3 | 65 | 156 | 31. 41 | 68 | 166 |
| 21. 15 | 29. 11 | 52 | 140 | 29. 42 | 55 | 140 | 30. 15 | 58 | 150 | 30. 50 | 60 | 153 | 31. 27 | 65 | 156 | 32. 4 | 70 | 170 |
| 21. 30 | 29. 33 | 53 | 140 | 30. 5 | 55 | 140 | 30. 38 | 58 | 150 | 31. 13 | 63 | 153 | 31. 51 | 65 | 156 | 32. 28 | 70 | 170 |
| 21. 45 | 29. 54 | 55 | 140 | 30. 27 | 55 | 140 | 31. 0 | 60 | 150 | 31. 36 | 63 | 153 | 32. 14 | 65 | 156 | 32. 53 | 72 | 170 |
| 22. 0 | 30. 16 | 55 | 140 | 30. 49 | 57 | 140 | 31. 23 | 60 | 150 | 31. 59 | 65 | 156 | 32. 38 | 68 | 156 | 33. 19 | 73 | 170 |
| 22. 15 | 30. 38 | 55 | 140 | 31. 11 | 58 | 140 | 31. 46 | 60 | 150 | 32. 22 | 67 | 156 | 33. 2 | 70 | 160 | 33. 44 | 75 | 170 |
| 22. 30 | 31. 0 | 55 | 140 | 31. 33 | 60 | 140 | 32. 9 | 62 | 150 | 32. 45 | 67 | 156 | 33. 26 | 70 | 160 | 34. 8 | 75 | 170 |
| 22. 45 | 31. 21 | 57 | 140 | 31. 55 | 60 | 140 | 32. 31 | 62 | 150 | 33. 9 | 68 | 156 | 33. 51 | 72 | 160 | 34. 32 | 75 | 170 |
| 23. 0 | 31. 43 | 58 | 140 | 32. 18 | 60 | 140 | 32. 54 | 65 | 150 | 33. 33 | 68 | 156 | 34. 15 | 72 | 160 | 34. 57 | 78 | 170 |
| 23. 15 | 32. 5 | 58 | 140 | 32. 40 | 62 | 140 | 33. 17 | 65 | 150 | 33. 56 | 70 | 160 | 34. 39 | 73 | 160 | 35. 22 | 78 | 170 |
| 23. 30 | 32. 27 | 60 | 140 | 33. 3 | 62 | 140 | 33. 40 | 67 | 153 | 34. 22 | 70 | 160 | 35. 4 | 75 | 160 | 35. 47 | 80 | 170 |
| 23. 45 | 32. 49 | 60 | 140 | 33. 25 | 63 | 140 | 34. 3 | 67 | 153 | 34. 43 | 72 | 160 | 35. 27 | 77 | 160 | 36. 11 | 80 | 173 |

| Sun's Declination | Latitude of the Place. 48° | D. 100′ | D. 100′ | 49° | D. 100′ | D. 100′ | 50° | D. 100′ | D. 100′ | 50°. 30′ | D. 100′ | D. 100′ | 51° | D. 100′ | D. 100′ | 51°. 30′ | D. 100′ | D. 100′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ° ′ | ° ′ | | | ° ′ | | | ° ′ | | | ° ′ | | | ° ′ | | | ° ′ | | |
| 0. 0 | 0. 0 | 0 | 150 | 0. 0 | 0 | 153 | 0. 0 | 0 | 157 | 0. 0 | 0 | 157 | 0. 0 | 0 | 160 | 0. 0 | 0 | 160 |
| 0. 30 | 0. 45 | 2 | 150 | 0. 46 | 2 | 150 | 0. 47 | 0 | 153 | 0. 47 | 3 | 157 | 0. 48 | 0 | 157 | 0. 48 | 3 | 160 |
| 1. 0 | 1. 30 | 2 | 150 | 1. 31 | 3 | 153 | 1. 33 | 3 | 157 | 1. 34 | 3 | 160 | 1. 35 | 3 | 160 | 1. 36 | 3 | 163 |
| 1. 30 | 2. 15 | 3 | 147 | 2. 17 | 5 | 153 | 2. 20 | 7 | 157 | 2. 22 | 3 | 157 | 2. 23 | 7 | 160 | 2. 25 | 3 | 160 |
| 2. 0 | 2. 59 | 7 | 150 | 3. 3 | 7 | 153 | 3. 7 | 7 | 157 | 3. 9 | 7 | 157 | 3. 11 | 7 | 160 | 3. 13 | 7 | 160 |
| 2. 30 | 3. 44 | 8 | 150 | 3. 49 | 8 | 153 | 3. 54 | 7 | 153 | 3. 56 | 10 | 157 | 3. 59 | 7 | 157 | 4. 1 | 10 | 160 |
| 3. 0 | 4. 30 | 10 | 150 | 4. 35 | 8 | 150 | 4. 40 | 10 | 157 | 4. 43 | 10 | 157 | 4. 46 | 10 | 160 | 4. 48 | 10 | 163 |
| 3. 30 | 5. 14 | 10 | 150 | 5. 20 | 12 | 153 | 5. 27 | 10 | 157 | 5. 30 | 13 | 160 | 5. 34 | 13 | 160 | 5. 38 | 10 | 160 |
| 4. 0 | 5. 59 | 12 | 150 | 6. 6 | 13 | 153 | 6. 14 | 13 | 157 | 6. 18 | 13 | 157 | 6. 22 | 13 | 160 | 6. 26 | 13 | 160 |
| 4. 30 | 6. 44 | 13 | 150 | 6. 52 | 15 | 153 | 7. 1 | 13 | 157 | 7. 5 | 17 | 160 | 7. 10 | 13 | 160 | 7. 14 | 20 | 163 |
| 5. 0 | 7. 29 | 15 | 150 | 7. 38 | 17 | 153 | 7. 48 | 17 | 157 | 7. 53 | 17 | 157 | 7. 58 | 17 | 160 | 8. 3 | 17 | 160 |
| 5. 30 | 8. 14 | 17 | 150 | 8. 24 | 18 | 153 | 8. 35 | 17 | 153 | 8. 40 | 20 | 157 | 8. 46 | 17 | 160 | 8. 51 | 20 | 163 |
| 6. 0 | 8. 59 | 18 | 153 | 9. 10 | 18 | 153 | 9. 21 | 20 | 157 | 9. 27 | 23 | 160 | 9. 34 | 20 | 160 | 9. 40 | 20 | 163 |
| 6. 30 | 9. 45 | 18 | 150 | 9. 56 | 20 | 153 | 10. 8 | 23 | 160 | 10. 15 | 23 | 160 | 10. 22 | 23 | 160 | 10. 29 | 23 | 160 |
| 7. 0 | 10. 30 | 20 | 150 | 10. 42 | 23 | 153 | 10. 56 | 23 | 157 | 11. 3 | 23 | 157 | 11. 10 | 23 | 160 | 11. 17 | 27 | 163 |
| 7. 30 | 11. 15 | 22 | 153 | 11. 28 | 25 | 157 | 11. 43 | 23 | 157 | 11. 50 | 27 | 160 | 11. 58 | 27 | 163 | 12. 6 | 27 | 163 |
| 8. 0 | 12. 1 | 23 | 150 | 12. 15 | 25 | 153 | 12. 30 | 27 | 160 | 12. 38 | 30 | 160 | 12. 47 | 27 | 160 | 12. 55 | 30 | 163 |
| 8. 30 | 12. 46 | 25 | 150 | 13. 1 | 28 | 157 | 13. 18 | 27 | 157 | 13. 26 | 30 | 160 | 13. 35 | 30 | 163 | 13. 44 | 33 | 163 |
| 9. 0 | 13. 31 | 28 | 153 | 13. 48 | 28 | 157 | 14. 5 | 30 | 160 | 14. 14 | 33 | 160 | 14. 24 | 30 | 160 | 14. 33 | 33 | 167 |
| 9. 30 | 14. 17 | 30 | 153 | 14. 35 | 30 | 153 | 14. 53 | 30 | 157 | 15. 2 | 33 | 163 | 15. 12 | 37 | 163 | 15. 23 | 33 | 163 |
| 10. 0 | 15. 3 | 30 | 150 | 15. 21 | 32 | 157 | 15. 40 | 37 | 160 | 15. 51 | 33 | 160 | 16. 1 | 37 | 163 | 16. 12 | 37 | 163 |
| 10. 30 | 15. 48 | 33 | 153 | 16. 8 | 33 | 155 | 16. 28 | 37 | 160 | 16. 39 | 37 | 160 | 16. 50 | 37 | 163 | 17. 1 | 40 | 167 |
| 11. 0 | 16. 34 | 35 | 153 | 16. 55 | 35 | 153 | 17. 17 | 37 | 160 | 17. 27 | 40 | 163 | 17. 38 | 40 | 163 | 17. 51 | 40 | 167 |
| 11. 30 | 17. 20 | 35 | 153 | 17. 41 | 38 | 157 | 18. 4 | 40 | 160 | 18. 16 | 40 | 163 | 18. 28 | 43 | 167 | 18. 41 | 43 | 167 |
| 12. 0 | 18. 6 | 37 | 153 | 18. 28 | 40 | 160 | 18. 52 | 43 | 163 | 19. 5 | 43 | 163 | 19. 18 | 43 | 163 | 19. 31 | 43 | 167 |
| 12. 30 | 18. 52 | 40 | 157 | 19. 16 | 42 | 157 | 19. 41 | 43 | 160 | 19. 54 | 43 | 163 | 20. 7 | 47 | 167 | 20. 21 | 47 | 167 |
| 13. 0 | 19. 39 | 40 | 153 | 20. 3 | 43 | 160 | 20. 29 | 47 | 163 | 20. 43 | 47 | 163 | 20. 57 | 47 | 167 | 21. 11 | 50 | 170 |
| 13. 30 | 20. 25 | 43 | 157 | 20. 51 | 45 | 157 | 21. 18 | 47 | 163 | 21. 32 | 50 | 163 | 21. 47 | 50 | 167 | 22. 2 | 50 | 167 |
| 14. 0 | 21. 12 | 43 | 153 | 21. 38 | 48 | 160 | 22. 7 | 47 | 163 | 22. 21 | 53 | 167 | 22. 37 | 50 | 167 | 22. 52 | 57 | 170 |
| 14. 30 | 21. 58 | 47 | 157 | 22. 26 | 50 | 160 | 22. 56 | 50 | 163 | 23. 11 | 53 | 167 | 23. 27 | 53 | 170 | 23. 43 | 57 | 170 |
| 15. 0 | 22. 45 | 48 | 160 | 23. 14 | 52 | 163 | 23. 45 | 53 | 163 | 24. 1 | 57 | 167 | 24. 18 | 53 | 167 | 24. 34 | 60 | 173 |
| 15. 30 | 23. 33 | 50 | 157 | 24. 3 | 52 | 160 | 24. 34 | 57 | 167 | 24. 51 | 57 | 167 | 25. 8 | 60 | 170 | 25. 26 | 60 | 170 |
| 16. 0 | 24. 20 | 52 | 157 | 24. 51 | 55 | 160 | 25. 24 | 57 | 163 | 25. 41 | 60 | 167 | 25. 59 | 60 | 167 | 26. 17 | 63 | 173 |
| 16. 30 | 25. 7 | 53 | 157 | 25. 39 | 57 | 163 | 26. 13 | 60 | 167 | 26. 31 | 63 | 173 | 26. 49 | 67 | 173 | 27. 9 | 63 | 173 |
| 17. 0 | 25. 54 | 57 | 160 | 26. 28 | 58 | 163 | 27. 3 | 63 | 167 | 27. 22 | 63 | 170 | 27. 41 | 67 | 173 | 28. 1 | 67 | 173 |
| 17. 30 | 26. 42 | 58 | 163 | 27. 17 | 60 | 163 | 27. 53 | 67 | 170 | 28. 13 | 67 | 173 | 28. 32 | 67 | 173 | 28. 53 | 70 | 177 |
| 18. 0 | 27. 31 | 58 | 153 | 28. 6 | 63 | 160 | 28. 44 | 67 | 167 | 29. 4 | 70 | 173 | 29. 25 | 70 | 173 | 29. 46 | 70 | 178 |
| 18. 15 | 27. 54 | 60 | 167 | 28. 30 | 65 | 167 | 29. 9 | 70 | 173 | 29. 30 | 70 | 167 | 29. 51 | 70 | 173 | 30. 12 | 73 | 180 |
| 18. 30 | 28. 19 | 60 | 160 | 28. 55 | 67 | 173 | 29. 35 | 67 | 173 | 29. 55 | 73 | 173 | 30. 17 | 73 | 173 | 30. 39 | 73 | 178 |
| 18. 45 | 28. 43 | 63 | 160 | 29. 21 | 67 | 160 | 30. 1 | 67 | 167 | 30. 21 | 73 | 173 | 30. 43 | 73 | 173 | 31. 5 | 80 | 180 |
| 19. 0 | 29. 7 | 63 | 160 | 29. 45 | 68 | 173 | 30. 26 | 70 | 173 | 30. 47 | 73 | 173 | 31. 9 | 77 | 180 | 31. 32 | 80 | 180 |
| 19. 15 | 29. 31 | 67 | 167 | 30. 11 | 68 | 167 | 30. 52 | 70 | 173 | 31. 13 | 77 | 173 | 31. 36 | 77 | 173 | 31. 59 | 80 | 180 |
| 19. 30 | 29. 56 | 67 | 160 | 30. 36 | 70 | 160 | 31. 18 | 70 | 173 | 31. 39 | 77 | 180 | 32. 2 | 80 | 180 | 32. 26 | 80 | 180 |
| 19. 45 | 30. 20 | 67 | 160 | 31. 0 | 73 | 167 | 31. 44 | 73 | 167 | 32. 6 | 77 | 173 | 32. 29 | 80 | 173 | 32. 53 | 83 | 180 |
| 20. 0 | 30. 44 | 68 | 167 | 31. 25 | 73 | 167 | 32. 9 | 77 | 167 | 32. 32 | 77 | 173 | 32. 55 | 83 | 180 | 33. 20 | 83 | 180 |
| 20. 15 | 31. 9 | 68 | 167 | 31. 50 | 73 | 173 | 32. 34 | 80 | 180 | 32. 58 | 80 | 173 | 33. 22 | 83 | 180 | 33. 47 | 87 | 180 |
| 20. 30 | 31. 34 | 70 | 160 | 32. 16 | 75 | 167 | 33. 1 | 77 | 173 | 33. 24 | 83 | 180 | 33. 49 | 83 | 180 | 34. 14 | 87 | 180 |
| 20. 45 | 31. 58 | 72 | 167 | 32. 41 | 77 | 167 | 33. 27 | 80 | 173 | 33. 51 | 83 | 177 | 34. 16 | 83 | 180 | 34. 41 | 90 | 187 |
| 21. 0 | 32. 23 | 72 | 167 | 33. 6 | 78 | 173 | 33. 53 | 80 | 180 | 34. 17 | 87 | 180 | 34. 43 | 87 | 180 | 35. 9 | 90 | 180 |
| 21. 15 | 32. 48 | 73 | 167 | 33. 32 | 80 | 167 | 34. 20 | 80 | 173 | 34. 44 | 87 | 180 | 35. 10 | 87 | 180 | 35. 36 | 93 | 189 |
| 21. 30 | 33. 13 | 73 | 167 | 33. 57 | 82 | 173 | 34. 46 | 83 | 173 | 35. 11 | 87 | 180 | 35. 37 | 90 | 187 | 36. 4 | 93 | 187 |
| 21. 45 | 33. 38 | 75 | 167 | 34. 23 | 82 | 173 | 35. 12 | 87 | 173 | 35. 38 | 90 | 180 | 36. 5 | 90 | 180 | 36. 32 | 93 | 187 |
| 22. 0 | 34. 3 | 77 | 167 | 34. 49 | 82 | 173 | 35. 38 | 90 | 180 | 36. 5 | 90 | 180 | 36. 32 | 93 | 187 | 37. 0 | 97 | 187 |
| 22. 15 | 34. 28 | 77 | 167 | 35. 14 | 83 | 173 | 36. 5 | 90 | 180 | 36. 32 | 93 | 180 | 36. 59 | 93 | 187 | 37. 27 | 97 | 187 |
| 22. 30 | 34. 53 | 80 | 167 | 35. 41 | 85 | 167 | 36. 32 | 90 | 180 | 36. 59 | 97 | 187 | 37. 28 | 93 | 180 | 37. 56 | 100 | 187 |
| 22. 45 | 35. 18 | 80 | 173 | 36. 6 | 88 | 180 | 36. 59 | 93 | 180 | 37. 27 | 93 | 180 | 37. 55 | 97 | 187 | 38. 24 | 103 | 193 |
| 23. 0 | 35. 44 | 82 | 167 | 36. 33 | 88 | 180 | 37. 26 | 93 | 180 | 37. 54 | 97 | 187 | 38. 23 | 100 | 187 | 38. 53 | 103 | 193 |
| 23. 15 | 36. 9 | 85 | 173 | 37. 0 | 88 | 173 | 37. 53 | 97 | 180 | 38. 22 | 97 | 180 | 38. 51 | 103 | 187 | 39. 22 | 103 | 193 |
| 23. 30 | 36. 35 | 85 | 167 | 37. 26 | 90 | 173 | 38. 20 | 97 | 187 | 38. 49 | 100 | 187 | 39. 19 | 107 | 187 | 39. 51 | 103 | 187 |
| 23. 45 | 37. 0 | 87 | | 37. 52 | 93 | | 38. 48 | 97 | | 39. 17 | 100 | | 39. 47 | 107 | | 40. 19 | 107 | |

| Sun's Declination | Latitude of the Place. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 52° | D. 100 | D. 100 | 52°. 30′ | D. 100 | D. 100 | 53° | D. 100 | D. 100 | 53°. 30′ | D. 100 | D. 100 | 54° | D. 100 | D. 100 | 54°. 30′ | D. 100 | D. 100 |
| ° ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ |
| 0. 0 | 0. 0 | 0 | 166 | 0. 0 | 0 | 166 | 0. 0 | 0 | 167 | 0. 0 | 0 | 167 | 0. 0 | 0 | 170 | 0. 0 | 0 | 173 |
| 0. 30 | 0. 47 | 0 | 166 | 0. 47 | 0 | 166 | 0. 50 | 0 | 167 | 0. 51 | 0 | 167 | 0. 51 | 0 | 170 | 0. 52 | 0 | 173 |
| 1. 0 | 1. 33 | 3 | 166 | 1. 33 | 3 | 166 | 1. 39 | 7 | 167 | 1. 40 | 7 | 167 | 1. 41 | 7 | 170 | 1. 43 | 7 | 173 |
| 1. 30 | 2. 20 | 7 | 166 | 2. 20 | 7 | 166 | 2. 30 | 3 | 167 | 2. 31 | 3 | 167 | 2. 33 | 3 | 170 | 2. 35 | 7 | 173 |
| 2. 0 | 3. 15 | 7 | 166 | 3. 17 | 13 | 166 | 3. 20 | 7 | 167 | 3. 21 | 7 | 167 | 3. 24 | 7 | 170 | 3. 27 | 7 | 173 |
| 2. 30 | 4. 8 | 7 | 166 | 4. 9 | 13 | 166 | 4. 10 | 7 | 167 | 4. 12 | 7 | 167 | 4. 15 | 13 | 170 | 4. 19 | 7 | 170 |
| 3. 0 | 4. 53 | 10 | 166 | 4. 55 | 13 | 166 | 4. 59 | 13 | 167 | 5. 0 | 13 | 167 | 5. 3 | 13 | 170 | 5. 10 | 13 | 173 |
| 3. 30 | 5. 44 | 13 | 166 | 5. 47 | 13 | 166 | 5. 49 | 13 | 167 | 5. 52 | 13 | 167 | 5. 55 | 13 | 170 | 6. 2 | 17 | 173 |
| 4. 0 | 6. 36 | 17 | 166 | 6. 39 | 17 | 166 | 6. 40 | 13 | 167 | 6. 44 | 17 | 167 | 6. 48 | 17 | 170 | 6 54 | 17 | 173 |
| 4. 30 | 7. 28 | 13 | 166 | 7. 31 | 17 | 166 | 7. 29 | 20 | 167 | 7. 36 | 17 | 167 | 7 41 | 17 | 170 | 7 46 | 17 | 173 |
| 5. 0 | 8. 18 | 10 | 166 | 8. 22 | 13 | 166 | 8. 20 | 17 | 167 | 8. 28 | 20 | 167 | 8. 33 | 23 | 170 | 8 38 | 17 | 173 |
| 5. 30 | 9. 7 | 10 | 166 | 9. 13 | 13 | 166 | 9. 10 | 20 | 167 | 9. 19 | 23 | 167 | 9. 26 | 23 | 170 | 9 30 | 17 | 173 |
| 6. 0 | 9. 47 | 23 | 166 | 9. 58 | 23 | 166 | 10. 0 | 23 | 167 | 10. 9 | 27 | 167 | 10. 17 | 27 | 170 | 10 22 | 23 | 173 |
| 6. 30 | 10. 36 | 23 | 166 | 10. 48 | 27 | 166 | 10. 51 | 23 | 167 | 10. 59 | 27 | 167 | 11. 7 | 27 | 170 | 11 14 | 27 | 177 |
| 7. 0 | 11. 25 | 27 | 166 | 11. 37 | 27 | 166 | 11. 41 | 27 | 167 | 11. 49 | 27 | 167 | 11. 57 | 27 | 170 | 12. 7 | 27 | 173 |
| 7. 30 | 12. 14 | 30 | 166 | 12. 26 | 33 | 166 | 12. 33 | 27 | 167 | 12. 40 | 33 | 167 | 12. 47 | 33 | 170 | 12. 59 | 33 | 177 |
| 8. 0 | 13. 4 | 33 | 166 | 13. 15 | 33 | 166 | 13. 22 | 33 | 167 | 13. 30 | 33 | 167 | 13. 37 | 33 | 170 | 13 52 | 37 | 177 |
| 8. 30 | 13. 54 | 37 | 166 | 14. 5 | 33 | 166 | 14. 13 | 33 | 167 | 14. 20 | 37 | 167 | 14. 28 | 37 | 170 | 14 45 | 37 | 177 |
| 9. 0 | 14. 43 | 33 | 166 | 14. 56 | 37 | 166 | 15. 4 | 37 | 167 | 15. 12 | 37 | 167 | 15. 20 | 37 | 170 | 15 38 | 40 | 177 |
| 9. 30 | 15. 33 | 33 | 166 | 15. 47 | 40 | 166 | 15. 55 | 40 | 167 | 16. 3 | 40 | 167 | 16. 11 | 40 | 170 | 16 31 | 40 | 177 |
| 10. 0 | 16. 23 | 37 | 166 | 16. 38 | 40 | 166 | 16. 46 | 40 | 167 | 16. 55 | 40 | 167 | 17. 3 | 40 | 170 | 17 24 | 43 | 177 |
| 10. 30 | 17. 13 | 40 | 166 | 17. 29 | 43 | 166 | 17. 38 | 40 | 167 | 17. 47 | 43 | 167 | 17. 56 | 43 | 170 | 18 17 | 47 | 180 |
| 11. 0 | 18. 3 | 43 | 166 | 18. 19 | 43 | 166 | 18. 29 | 47 | 167 | 18. 39 | 47 | 167 | 18. 49 | 47 | 170 | 19 11 | 50 | 180 |
| 11. 30 | 18. 54 | 43 | 166 | 19. 10 | 47 | 166 | 19. 20 | 47 | 167 | 19. 31 | 50 | 167 | 19. 42 | 50 | 170 | 20 5 | 53 | 180 |
| 12. 0 | 19. 45 | 47 | 166 | 20. 1 | 50 | 166 | 20. 12 | 50 | 167 | 20. 24 | 53 | 167 | 20. 36 | 53 | 170 | 20 59 | 57 | 180 |
| 12. 30 | 20. 36 | 50 | 166 | 20. 53 | 53 | 166 | 21. 5 | 53 | 167 | 21. 18 | 57 | 167 | 21. 31 | 57 | 170 | 21 53 | 57 | 183 |
| 13. 0 | 21. 28 | 53 | 166 | 21. 45 | 53 | 166 | 21. 59 | 57 | 167 | 22. 13 | 57 | 167 | 22. 27 | 60 | 170 | 22 48 | 60 | 183 |
| 13. 30 | 22. 17 | 53 | 166 | 22. 38 | 57 | 166 | 22. 52 | 57 | 167 | 23. 7 | 60 | 167 | 23. 22 | 60 | 170 | 23 42 | 63 | 183 |
| 14. 0 | 23. 6 | 53 | 166 | 23. 29 | 57 | 166 | 23. 45 | 57 | 167 | 24. 0 | 60 | 167 | 24. 17 | 63 | 170 | 24 37 | 67 | 183 |
| 14. 30 | 23. 56 | 57 | 166 | 24. 19 | 60 | 166 | 24. 37 | 60 | 167 | 24. 54 | 63 | 167 | 25. 12 | 67 | 170 | 25 32 | 70 | 187 |
| 15. 0 | 24. 45 | 60 | 166 | 25. 10 | 63 | 166 | 25. 29 | 63 | 167 | 25. 47 | 67 | 167 | 26. 7 | 70 | 170 | 26 28 | 73 | 187 |
| 15. 30 | 25. 44 | 60 | 166 | 26. 1 | 67 | 166 | 26. 22 | 67 | 167 | 26. 41 | 70 | 167 | 27. 2 | 73 | 170 | 27 24 | 73 | 187 |
| 16. 0 | 26. 34 | 63 | 166 | 26. 53 | 70 | 166 | 27. 15 | 70 | 167 | 27. 34 | 73 | 167 | 27. 58 | 73 | 170 | 28 20 | 77 | 190 |
| 16. 30 | 27. 25 | 63 | 166 | 27. 44 | 70 | 166 | 28. 8 | 73 | 167 | 28. 28 | 77 | 167 | 28. 54 | 77 | 170 | 29 17 | 80 | 190 |
| 17. 0 | 28. 21 | 67 | 166 | 28. 44 | 73 | 166 | 29. 4 | 73 | 167 | 29. 24 | 77 | 167 | 29. 51 | 80 | 170 | 30 14 | 83 | 190 |
| 17. 30 | 29. 15 | 70 | 166 | 29. 39 | 77 | 166 | 29. 59 | 77 | 167 | 30. 21 | 80 | 167 | 30. 48 | 83 | 170 | 31 11 | 87 | 193 |
| 18. 0 | 30. 7 | 77 | 166 | 30. 33 | 80 | 166 | 30. 54 | 80 | 167 | 31. 17 | 83 | 167 | 31. 45 | 87 | 170 | 32. 9 | 90 | 193 |
| 18. 15 | 30. 34 | 80 | 166 | 30. 58 | 77 | 166 | 31. 21 | 83 | 167 | 31 40 | 83 | 167 | 32. 8 | 87 | 170 | 32 38 | 90 | 193 |
| 18. 30 | 31. 1 | 80 | 166 | 31. 25 | 80 | 166 | 31. 48 | 83 | 167 | 32 7 | 87 | 167 | 32. 35 | 90 | 170 | 33. 7 | 93 | 193 |
| 18. 45 | 31. 28 | 77 | 166 | 31. 52 | 83 | 166 | 32. 15 | 83 | 167 | 32 34 | 90 | 167 | 33 3 | 90 | 170 | 33. 36 | 97 | 200 |
| 19. 0 | 31. 56 | 80 | 166 | 32. 20 | 83 | 166 | 32. 43 | 87 | 167 | 33 2 | 90 | 167 | 33 31 | 93 | 170 | 34. 6 | 97 | 193 |
| 19. 15 | 32. 23 | 80 | 166 | 32. 47 | 87 | 166 | 33. 10 | 87 | 167 | 33 29 | 93 | 167 | 33 58 | 93 | 170 | 34 35 | 100 | 200 |
| 19. 30 | 32. 50 | 83 | 166 | 33. 15 | 87 | 166 | 33. 38 | 87 | 167 | 33 57 | 93 | 167 | 34 26 | 97 | 170 | 35. 5 | 100 | 200 |
| 19. 45 | 33. 18 | 87 | 166 | 33. 44 | 90 | 166 | 34. 7 | 90 | 167 | 34 26 | 97 | 167 | 34 55 | 97 | 170 | 35. 35 | 103 | 200 |
| 20. 0 | 33. 45 | 87 | 166 | 34. 13 | 90 | 166 | 34. 37 | 93 | 167 | 34 56 | 97 | 167 | 35 25 | 100 | 170 | 36. 5 | 103 | 200 |
| 20. 15 | 34. 13 | 87 | 166 | 34. 42 | 93 | 166 | 35. 7 | 93 | 167 | 35 26 | 100 | 167 | 35 55 | 100 | 170 | 36. 35 | 107 | 200 |
| 20. 30 | 34. [illegible] | [illegible] | 166 | 35. 7 | 97 | 166 | 35. 37 | 93 | 167 | 35 56 | 100 | 167 | 36 25 | 103 | 170 | 37. 5 | 110 | 207 |
| 20. 45 | 35. [illegible] | [illegible] | 166 | 35. 36 | [illegible] | 166 | 36. 7 | [illegible] | 167 | 36 26 | [illegible] | 167 | 36 55 | [illegible] | 170 | 37. 36 | [illegible] | 200 |
| 21. 0 | 35. 31 | 93 | 166 | 36. 3 | [illegible] | 166 | 36. 37 | [illegible] | 167 | 36 56 | [illegible] | 167 | 37 25 | [illegible] | 170 | 38. 6 | [illegible] | 207 |
| 21. 15 | 35. 58 | 93 | 166 | 36. 32 | [illegible] | 166 | 37. 7 | [illegible] | 167 | 37 26 | [illegible] | 167 | 37 55 | [illegible] | 170 | 38. 37 | [illegible] | 207 |
| 21. 30 | 36. 24 | 97 | 166 | 37. 1 | [illegible] | 166 | 37. 37 | [illegible] | 167 | 37 56 | [illegible] | 167 | 38 25 | [illegible] | 170 | 39. 8 | [illegible] | 207 |
| 21. 45 | 37. [illegible] | [illegible] | 166 | 37. [illegible] | [illegible] | 166 | 38. [illegible] | [illegible] | 167 | 38 [illegible] | [illegible] | 167 | 38 [illegible] | [illegible] | 170 | 39 39 | [illegible] | 213 |
| 22. 0 | 37. [illegible] | [illegible] | 166 | 37. [illegible] | [illegible] | 166 | 38. [illegible] | [illegible] | 167 | 39 [illegible] | [illegible] | 167 | 39 [illegible] | [illegible] | 170 | 40 11 | [illegible] | 207 |
| 22. 15 | 37. [illegible] | [illegible] | 166 | 38. [illegible] | [illegible] | 166 | 39. [illegible] | [illegible] | 167 | 39 [illegible] | [illegible] | 167 | 40 [illegible] | [illegible] | 170 | 40 42 | [illegible] | 207 |
| 22. 30 | 38. [illegible] | [illegible] | 166 | 38. [illegible] | [illegible] | 166 | 39. [illegible] | [illegible] | 167 | 40 [illegible] | [illegible] | 167 | 40 [illegible] | [illegible] | 170 | 41 13 | [illegible] | 213 |
| 22. 45 | 38. [illegible] | [illegible] | 166 | 39. [illegible] | [illegible] | 166 | 39. [illegible] | [illegible] | 167 | 40 [illegible] | [illegible] | 167 | 41 [illegible] | [illegible] | 170 | 41 45 | [illegible] | 220 |
| 23. 0 | 39. [illegible] | [illegible] | 166 | 39. [illegible] | [illegible] | 166 | 40. [illegible] | [illegible] | 167 | 41 [illegible] | [illegible] | 167 | 41 [illegible] | [illegible] | 170 | 42 18 | [illegible] | 213 |
| 23. 15 | 39. [illegible] | [illegible] | 166 | 40. [illegible] | [illegible] | 166 | 40. [illegible] | [illegible] | 167 | 41 [illegible] | [illegible] | 167 | 42 [illegible] | [illegible] | 170 | 42 50 | [illegible] | 213 |
| 23. 30 | 40. [illegible] | [illegible] | 166 | 40. [illegible] | [illegible] | 166 | 41. [illegible] | [illegible] | 167 | 41 [illegible] | [illegible] | 167 | 42 [illegible] | [illegible] | 170 | 43 22 | [illegible] | 213 |
| 23. 45 | 40. [illegible] | [illegible] | 166 | 41. [illegible] | [illegible] | 166 | 41. [illegible] | [illegible] | 167 | 42 [illegible] | [illegible] | 167 | 42 [illegible] | [illegible] | 170 | 43 54 | [illegible] | [illegible] |

| Sun's Declination | Latitude of the Place. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 55° | D. 100′ | D. | 55° 30′ | D. 100′ | D. | 56° | D. 100′ | D. | 56° 30′ | D. 100′ | D. | 57° | D. 100′ | D. | 57° 30′ | D. 100′ | D. |
| ° ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ |
| 0. 0 | 0. 0 | 0 | 177 | 0. 0 | 0 | 177 | 0. 0 | 0 | 180 | 0. 0 | 0 | 183 | 0. 0 | 0 | 183 | 0. 0 | 0 | 187 |
| 0. 30 | 0. 53 | 0 | 173 | 0. 53 | 3 | 177 | 0. 54 | 3 | 177 | 0. 55 | 0 | 180 | 0. 55 | 3 | 183 | 0. 56 | 3 | 187 |
| 1. 0 | 1. 45 | 3 | 173 | 1. 46 | 3 | 177 | 1. 47 | 7 | 180 | 1. 49 | 3 | 180 | 1. 50 | 7 | 183 | 1. 52 | 3 | 183 |
| 1. 30 | 2. 37 | 7 | 173 | 2. 39 | 7 | 177 | 2. 41 | 7 | 180 | 2. 43 | 7 | 180 | 2. 45 | 7 | 183 | 2. 47 | 10 | 187 |
| 2. 0 | 3. 29 | 10 | 177 | 3. 32 | 10 | 177 | 3. 35 | 7 | 180 | 3. 37 | 13 | 183 | 3. 41 | 7 | 183 | 3. 43 | 13 | 187 |
| 2. 30 | 4. 22 | 10 | 173 | 4. 25 | 13 | 177 | 4. 29 | 10 | 177 | 4. 32 | 10 | 180 | 4. 35 | 13 | 187 | 4. 39 | 13 | 190 |
| 3. 0 | 5. 14 | 13 | 177 | 5. 18 | 13 | 177 | 5. 22 | 13 | 180 | 5. 26 | 17 | 183 | 5. 31 | 17 | 187 | 5. 36 | 13 | 190 |
| 3. 30 | 6. 7 | 13 | 173 | 6. 11 | 17 | 177 | 6. 16 | 17 | 180 | 6. 21 | 17 | 183 | 6. 26 | 20 | 187 | 6. 32 | 17 | 190 |
| 4. 0 | 6. 59 | 20 | 173 | 7. 4 | 17 | 177 | 7. 10 | 20 | 180 | 7. 16 | 20 | 183 | 7. 22 | 20 | 187 | 7. 28 | 20 | 190 |
| 4. 30 | 7. 52 | 20 | 173 | 7. 58 | 20 | 177 | 8. 4 | 23 | 180 | 8. 11 | 20 | 183 | 8. 17 | 23 | 187 | 8. 24 | 23 | 190 |
| 5. 0 | 8. 44 | 23 | 177 | 8. 51 | 23 | 177 | 8. 58 | 23 | 183 | 9. 5 | 27 | 187 | 10. 13 | 23 | 190 | 9. 20 | 27 | 193 |
| 5. 30 | 9. 37 | 23 | 177 | 9. 44 | 27 | 180 | 9. 52 | 27 | 180 | 10. 0 | 27 | 183 | 10. 8 | 30 | 187 | 10. 17 | 27 | 193 |
| 6. 0 | 10. 30 | 27 | 177 | 10. 38 | 27 | 180 | 10. 46 | 30 | 183 | 10. 55 | 30 | 183 | 11. 4 | 30 | 187 | 11. 13 | 30 | 193 |
| 6. 30 | 11. 23 | 30 | 177 | 11. 32 | 30 | 180 | 11. 41 | 30 | 180 | 11. 50 | 33 | 183 | 12. 0 | 33 | 187 | 12. 10 | 33 | 193 |
| 7. 0 | 12. 16 | 33 | 177 | 12. 26 | 30 | 177 | 12. 35 | 33 | 183 | 12. 45 | 37 | 187 | 12. 56 | 37 | 187 | 13. 7 | 37 | 193 |
| 7. 30 | 13. 9 | 33 | 180 | 13. 19 | 37 | 180 | 13. 30 | 37 | 183 | 13. 41 | 37 | 183 | 13. 53 | 40 | 187 | 14. 4 | 37 | 193 |
| 8. 0 | 14. 3 | 33 | 177 | 14. 13 | 40 | 183 | 14. 25 | 37 | 183 | 14. 36 | 40 | 187 | 14. 48 | 43 | 190 | 15. 1 | 40 | 193 |
| 8. 30 | 14. 56 | 40 | 180 | 15. 8 | 40 | 180 | 15. 20 | 40 | 183 | 15. 32 | 43 | 187 | 15. 45 | 43 | 190 | 15. 58 | 47 | 193 |
| 9. 0 | 15. 50 | 40 | 177 | 16. 2 | 43 | 180 | 16. 15 | 43 | 183 | 16. 28 | 47 | 187 | 16. 42 | 47 | 190 | 16. 56 | 47 | 197 |
| 9. 30 | 16. 43 | 43 | 180 | 16. 56 | 47 | 183 | 17. 10 | 47 | 187 | 17. 24 | 50 | 187 | 17. 39 | 47 | 190 | 17. 53 | 50 | 193 |
| 10. 0 | 17. 37 | 47 | 183 | 17. 51 | 50 | 183 | 18. 6 | 47 | 185 | 18. 20 | 53 | 190 | 18. 36 | 50 | 193 | 18. 51 | 57 | 197 |
| 10. 30 | 18. 32 | 47 | 180 | 18. 46 | 50 | 183 | 19. 1 | 53 | 187 | 19. 17 | 53 | 187 | 19. 33 | 57 | 193 | 19. 50 | 57 | 193 |
| 11. 0 | 19. 26 | 50 | 186 | 19. 41 | 53 | 187 | 19. 57 | 53 | 187 | 20. 13 | 60 | 193 | 20. 31 | 57 | 193 | 20. 48 | 63 | 197 |
| 11. 30 | 20. 20 | 57 | 183 | 20. 37 | 53 | 183 | 20. 53 | 60 | 190 | 21. 11 | 57 | 193 | 21. 28 | 63 | 193 | 21. 47 | 63 | 197 |
| 12. 0 | 21. 15 | 57 | 183 | 21. 32 | 60 | 187 | 21. 50 | 60 | 187 | 22. 8 | 60 | 190 | 22. 26 | 67 | 197 | 22. 46 | 67 | 197 |
| 12. 30 | 22. 10 | 60 | 187 | 22. 28 | 60 | 187 | 22. 46 | 63 | 190 | 23. 5 | 67 | 193 | 23. 25 | 67 | 193 | 23. 45 | 70 | 200 |
| 13. 0 | 23. 6 | 60 | 187 | 23. 24 | 63 | 187 | 23. 43 | 67 | 190 | 24. 3 | 67 | 193 | 24. 23 | 73 | 200 | 24. 45 | 73 | 200 |
| 13. 30 | 24. 2 | 60 | 183 | 24. 20 | 67 | 190 | 24. 40 | 70 | 193 | 25. 1 | 73 | 197 | 25. 23 | 73 | 197 | 25. 45 | 77 | 203 |
| 14. 0 | 24. 57 | 67 | 187 | 25. 17 | 70 | 190 | 25. 38 | 73 | 193 | 26. 0 | 73 | 197 | 26. 22 | 80 | 200 | 26. 46 | 80 | 203 |
| 14. 30 | 25. 53 | 70 | 190 | 26. 14 | 73 | 190 | 26. 36 | 77 | 193 | 26. 59 | 77 | 197 | 27. 22 | 80 | 200 | 27. 47 | 83 | 207 |
| 15. 0 | 26. 50 | 70 | 187 | 27. 11 | 77 | 193 | 27. 34 | 80 | 197 | 27. 58 | 80 | 200 | 28. 22 | 87 | 203 | 28. 48 | 87 | 207 |
| 15. 30 | 27. 46 | 77 | 190 | 28. 9 | 80 | 193 | 28. 33 | 83 | 197 | 28. 58 | 83 | 200 | 29. 23 | 90 | 203 | 29. 50 | 90 | 207 |
| 16. 0 | 28. 43 | 80 | 193 | 29. 7 | 83 | 197 | 29. 32 | 87 | 200 | 29. 58 | 87 | 203 | 30. 24 | 93 | 207 | 30. 52 | 93 | 210 |
| 16. 30 | 29. 41 | 83 | 193 | 30. 6 | 87 | 197 | 30. 32 | 87 | 200 | 30. 58 | 93 | 203 | 31. 26 | 97 | 207 | 31. 55 | 100 | 210 |
| 17. 0 | 30. 39 | 87 | 193 | 31. 5 | 90 | 197 | 31. 32 | 90 | 203 | 31. 59 | 97 | 207 | 32. 28 | 100 | 210 | 33. 0 | 103 | 213 |
| 17. 30 | 31. 37 | 90 | 197 | 32. 4 | 97 | 200 | 32. 33 | 93 | 200 | 33. 1 | 97 | 207 | 33. 30 | 107 | 213 | 34. 2 | 110 | 217 |
| 18. 0 | 32. 36 | 93 | 193 | 33. 4 | 97 | 200 | 33. 33 | 100 | 200 | 34. 3 | 103 | 207 | 34. 34 | 107 | 213 | 35. 6 | 113 | 220 |
| 18. 15 | 33. 5 | 97 | 200 | 33. 34 | 97 | 207 | 34. 3 | 103 | 207 | 34. 34 | 107 | 213 | 35. 6 | 113 | 217 | 35. 39 | 117 | 223 |
| 18. 30 | 33. 35 | 100 | 200 | 34. 5 | 97 | 207 | 34. 34 | 107 | 207 | 35. 5 | 107 | 213 | 35. 37 | 110 | 217 | 36. 12 | 120 | 223 |
| 18. 45 | 34. 5 | 103 | 200 | 34. 36 | 97 | 200 | 35. 5 | 107 | 207 | 35. 37 | 110 | 213 | 36. 9 | 110 | 217 | 36. 45 | 120 | 223 |
| 19. 0 | 34. 35 | 103 | 200 | 35. 6 | 100 | 200 | 35. 36 | 110 | 213 | 36. 9 | 110 | 213 | 36. 41 | 113 | 217 | 37. 18 | 120 | 223 |
| 19. 15 | 35. 5 | 103 | 200 | 35. 36 | 107 | 200 | 36. 8 | 110 | 207 | 36. 41 | 113 | 217 | 37. 13 | 117 | 220 | 37. 51 | 123 | 227 |
| 19. 30 | 35. 35 | 103 | 200 | 36. 6 | 110 | 207 | 36. 39 | 113 | 207 | 37. 13 | 117 | 217 | 37. 45 | 120 | 220 | 38. 24 | 130 | 227 |
| 19. 45 | 36. 5 | 107 | 207 | 36. 37 | 110 | 213 | 37. 10 | 117 | 213 | 37. 45 | 120 | 220 | 38. 21 | 123 | 223 | 38. 58 | 130 | 227 |
| 20. 0 | 36. 36 | 110 | 207 | 37. 9 | 110 | 207 | 37. 42 | 120 | 213 | 38. 18 | 120 | 220 | 38. 54 | 127 | 223 | 39. 32 | 133 | 227 |
| 20. 15 | 37. 7 | 110 | 207 | 37. 40 | 113 | 213 | 38. 14 | 120 | 220 | 38. 50 | 123 | 223 | 39. 27 | 130 | 227 | 40. 7 | 137 | 233 |
| 20. 30 | 37. 38 | 113 | 207 | 38. 12 | 117 | 213 | 38. 47 | 120 | 213 | 39. 23 | 127 | 220 | 40. 1 | 133 | 227 | 40. 41 | 137 | 233 |
| 20. 45 | 38. 9 | 113 | 207 | 38. 43 | 120 | 213 | 39. 19 | 123 | 220 | 39. 56 | 130 | 220 | 40. 35 | 133 | 227 | 41. 15 | 140 | 233 |
| 21. 0 | 38. 40 | 117 | 207 | 39. 15 | 120 | 213 | 39. 51 | 127 | 220 | 40. 30 | 133 | 223 | 41. 9 | 137 | 227 | 41. 50 | 143 | 237 |
| 21. 15 | 39. 11 | 120 | 213 | 39. 47 | 123 | 213 | 40. 24 | 130 | 223 | 41. 3 | 133 | 223 | 41. 43 | 140 | 233 | 42. 25 | 147 | 240 |
| 21. 30 | 39. 43 | 120 | 213 | 40. 19 | 127 | 213 | 40. 57 | 133 | 220 | 41. 37 | 137 | 227 | 42. 18 | 143 | 233 | 43. 1 | 150 | 243 |
| 21. 45 | 40. 15 | 120 | 213 | 40. 51 | 130 | 220 | 41. 30 | 137 | 227 | 42. 11 | 137 | 227 | 42. 52 | 147 | 233 | 43. 36 | 153 | 247 |
| 22. 0 | 40. 47 | 123 | 213 | 41. 24 | 133 | 220 | 42. 4 | 137 | 220 | 42. 45 | 140 | 227 | 43. 27 | 150 | 233 | 44. 12 | 157 | 247 |
| 22. 15 | 41. 19 | 127 | 220 | 41. 57 | 133 | 220 | 42. 37 | 140 | 227 | 43. 19 | 143 | 233 | 44. 2 | 153 | 240 | 44. 48 | 160 | 247 |
| 22. 30 | 41. 52 | 127 | 217 | 42. 30 | 137 | 223 | 43. 11 | 143 | 227 | 43. 54 | 147 | 233 | 44. 38 | 157 | 240 | 45. 15 | 163 | 247 |
| 22. 45 | 42. 24 | 130 | 217 | 43. 3 | 140 | 223 | 43. 45 | 143 | 230 | 44. 28 | 150 | 237 | 45. 14 | 160 | 247 | 45. 51 | 167 | 253 |
| 23. 0 | 42. 56 | 137 | 220 | 43. 37 | 143 | 227 | 44. 20 | 150 | 233 | 45. 3 | 153 | 237 | 45. 51 | 163 | 247 | 46. 28 | 170 | 253 |
| 23. 15 | 43. 28 | 140 | 220 | 44. 11 | 143 | 227 | 44. 54 | 153 | 233 | 45. 40 | 157 | 240 | 46. 27 | 167 | 250 | 47. 6 | 173 | 257 |
| 23. 30 | 44. 3 | 140 | 220 | 44. 45 | 147 | 230 | 45. 29 | 157 | 233 | 46. 16 | 160 | 243 | 47. 4 | 170 | 253 | 47. 45 | 177 | 263 |
| 23. 45 | 44. 36 | 147 | 220 | 45. 20 | 147 | 233 | 46. 4 | 160 | 233 | 46. 52 | 163 | 247 | 47. 41 | 173 | 253 | 48. 25 | 180 | 263 |

Latitude of the Place.

| Sun's Declination | 58° | D. 1° | D. 100 | 58° 30′ | D. 100 | D. 1° | 59° | D' 1° | D 100 | 59° 30′ | D. 1° | D. 100 | 60° | D. 1° | D. 100 | 60° 30′ | D. 1° | D. 100 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ° ′ | ° ′ | ′ | | ° ′ | | | ° ′ | ′ | | ° ′ | ′ | | ° ′ | ′ | | ° ′ | ′ | |
| 0. 0 | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | |
| 0. 30 | 0. 37 | 0 | 19 | 0. 37 | 3 | 19 | 0. 37 | 3 | 19 | 0. 37 | 3 | 19 | 0. 37 | 3 | 19 | 0. 37 | 3 | 19 |
| 1. 0 | 1. 53 | 7 | 19 | 1. 53 | 7 | 19 | 1. 53 | 7 | 19 | 1. 53 | 7 | 19 | 1. 53 | 7 | 19 | 1. 53 | 7 | 19 |
| 1. 30 | 2. 52 | 7 | 19 | 2. 52 | 10 | 19 | 2. 52 | 10 | 19 | 2. 52 | 10 | 19 | 2. 52 | 10 | 19 | 2. 52 | 10 | 19 |
| 2. 0 | 3. 47 | 10 | 18 | 3. 47 | 13 | 18 | 3. 47 | 13 | 18 | 3. 47 | 13 | 18 | 3. 47 | 13 | 18 | 3. 47 | 13 | 18 |
| 2. 30 | 4. 48 | 13 | 18 | 4. 48 | 13 | 18 | 4. 48 | 13 | 18 | 4. 48 | 13 | 18 | 4. 48 | 13 | 18 | 4. 48 | 13 | 18 |
| 3. 0 | 5. 46 | 17 | 18 | 5. 45 | 17 | 18 | 5. 45 | 17 | 18 | 5. 45 | 17 | 18 | 5. 45 | 17 | 18 | 5. 45 | 17 | 18 |
| 3. 30 | 6. 37 | 17 | 17 | 6. 40 | 20 | 17 | 6. 40 | 20 | 17 | 6. 40 | 20 | 17 | 6. 40 | 20 | 17 | 6. 40 | 20 | 17 |
| 4. 0 | 7. 34 | 20 | 17 | 7. 40 | 23 | 17 | 7. 47 | 23 | 17 | 7. 47 | 23 | 17 | 7. 47 | 23 | 17 | 7. 47 | 23 | 17 |
| 4. 30 | 8. 31 | 23 | 17 | 8. 36 | 27 | 17 | 8. 36 | 27 | 17 | 8. 36 | 27 | 17 | 8. 36 | 27 | 17 | 8. 36 | 27 | 17 |
| 5. 0 | 9. 28 | 27 | 17 | 9. 37 | 27 | 17 | 9. 45 | 27 | 17 | 9. 53 | 30 | 17 | 9. 53 | 30 | 17 | 9. 53 | 30 | 17 |
| 5. 30 | 10. 18 | 30 | 16 | 10. 34 | 33 | 16 | 10. 44 | 33 | 16 | 10. 53 | 33 | 16 | 11. 3 | 33 | 16 | 11. 3 | 33 | 16 |
| 6. 0 | 11. 08 | 33 | 16 | 11. 31 | 37 | 16 | 11. 41 | 33 | 16 | 11. 51 | 37 | 16 | 12. 1 | 37 | 16 | 12. 11 | 37 | 16 |
| 6. 30 | 11. 58 | 37 | 15 | 12. 28 | 40 | 15 | 12. 38 | 40 | 15 | 12. 48 | 40 | 15 | 12. 58 | 40 | 15 | 13. 8 | 40 | 15 |
| 7. 0 | 12. 48 | 40 | 15 | 13. 25 | 43 | 15 | 13. 35 | 43 | 15 | 13. 45 | 43 | 15 | 13. 55 | 43 | 15 | 14. 5 | 43 | 15 |
| 7. 30 | 13. 38 | 43 | 14 | 14. 22 | 48 | 14 | 14. 32 | 48 | 14 | 14. 42 | 48 | 14 | 14. 52 | 48 | 14 | 15. 2 | 48 | 14 |
| 8. 0 | 14. 28 | 47 | 14 | 15. 17 | 50 | 14 | 15. 27 | 50 | 14 | 15. 37 | 50 | 14 | 15. 47 | 50 | 14 | 15. 57 | 50 | 14 |
| 8. 30 | 15. 18 | 50 | 13 | 16. 13 | 53 | 13 | 16. 23 | 53 | 13 | 16. 33 | 53 | 13 | 16. 43 | 53 | 13 | 16. 53 | 53 | 13 |
| 9. 0 | 16. 08 | 53 | 13 | 17. 06 | 57 | 13 | 17. 16 | 57 | 13 | 17. 26 | 57 | 13 | 17. 36 | 57 | 13 | 17. 46 | 57 | 13 |
| 9. 30 | 16. 58 | 57 | 12 | 17. 58 | 60 | 12 | 18. 08 | 60 | 12 | 18. 18 | 60 | 12 | 18. 28 | 60 | 12 | 18. 38 | 60 | 12 |
| 10. 0 | 17. 48 | 60 | 12 | 18. 51 | 63 | 12 | 19. 01 | 63 | 12 | 19. 11 | 63 | 12 | 19. 21 | 63 | 12 | 19. 31 | 63 | 12 |
| 10. 30 | 18. 38 | 63 | 11 | 19. 44 | 67 | 11 | 19. 54 | 67 | 11 | 20. 04 | 67 | 11 | 20. 14 | 67 | 11 | 20. 24 | 67 | 11 |
| 11. 0 | 19. 28 | 67 | 11 | 20. 37 | 70 | 11 | 20. 47 | 70 | 11 | 20. 57 | 70 | 11 | 21. 07 | 70 | 11 | 21. 17 | 70 | 11 |
| 11. 30 | 20. 18 | 70 | 10 | 21. 30 | 73 | 10 | 21. 40 | 73 | 10 | 21. 50 | 73 | 10 | 22. 00 | 73 | 10 | 22. 10 | 73 | 10 |
| 12. 0 | 21. 08 | 73 | 10 | 22. 23 | 77 | 10 | 22. 33 | 77 | 10 | 22. 43 | 77 | 10 | 22. 53 | 77 | 10 | 23. 3 | 77 | 10 |
| 12. 30 | 21. 58 | 77 | 9 | 23. 16 | 80 | 9 | 23. 26 | 80 | 9 | 23. 36 | 80 | 9 | 23. 46 | 80 | 9 | 23. 56 | 80 | 9 |
| 13. 0 | 22. 48 | 80 | 9 | 24. 09 | 83 | 9 | 24. 19 | 83 | 9 | 24. 29 | 83 | 9 | 24. 39 | 83 | 9 | 24. 49 | 83 | 9 |
| 13. 30 | 23. 38 | 83 | 8 | 25. 02 | 87 | 8 | 25. 12 | 87 | 8 | 25. 22 | 87 | 8 | 25. 32 | 87 | 8 | 25. 42 | 87 | 8 |
| 14. 0 | 24. 28 | 87 | 8 | 25. 55 | 90 | 8 | 26. 05 | 90 | 8 | 26. 15 | 90 | 8 | 26. 25 | 90 | 8 | 26. 35 | 90 | 8 |
| 14. 30 | 25. 18 | 90 | 7 | 26. 48 | 93 | 7 | 26. 58 | 93 | 7 | 27. 08 | 93 | 7 | 27. 18 | 93 | 7 | 27. 28 | 93 | 7 |
| 15. 0 | 26. 08 | 93 | 7 | 27. 41 | 97 | 7 | 27. 51 | 97 | 7 | 28. 01 | 97 | 7 | 28. 11 | 97 | 7 | 28. 21 | 97 | 7 |
| 15. 30 | 26. 58 | 97 | 6 | 28. 34 | 100 | 6 | 28. 44 | 100 | 6 | 28. 54 | 100 | 6 | 29. 04 | 100 | 6 | 29. 14 | 100 | 6 |
| 16. 0 | 27. 48 | 100 | 6 | 29. 27 | 103 | 6 | 29. 37 | 103 | 6 | 29. 47 | 103 | 6 | 29. 57 | 103 | 6 | 30. 7 | 103 | 6 |
| 16. 30 | 28. 38 | 103 | 5 | 30. 20 | 107 | 5 | 30. 30 | 107 | 5 | 30. 40 | 107 | 5 | 30. 50 | 107 | 5 | 31. 0 | 107 | 5 |
| 17. 0 | 29. 28 | 107 | 5 | 31. 13 | 110 | 5 | 31. 23 | 110 | 5 | 31. 33 | 110 | 5 | 31. 43 | 110 | 5 | 31. 53 | 110 | 5 |
| 17. 30 | 30. 18 | 110 | 4 | 32. 06 | 113 | 4 | 32. 16 | 113 | 4 | 32. 26 | 113 | 4 | 32. 36 | 113 | 4 | 32. 46 | 113 | 4 |
| 18. 0 | 31. 08 | 113 | 4 | 32. 59 | 117 | 4 | 33. 09 | 117 | 4 | 33. 19 | 117 | 4 | 33. 29 | 117 | 4 | 33. 39 | 117 | 4 |
| 18. 30 | 31. 58 | 117 | 3 | 33. 52 | 120 | 3 | 34. 02 | 120 | 3 | 34. 12 | 120 | 3 | 34. 22 | 120 | 3 | 34. 32 | 120 | 3 |
| 19. 0 | 32. 48 | 120 | 3 | 34. 45 | 123 | 3 | 34. 55 | 123 | 3 | 35. 5 | 123 | 3 | 35. 15 | 123 | 3 | 35. 25 | 123 | 3 |
| 19. 30 | 33. 38 | 123 | 2 | 35. 38 | 127 | 2 | 35. 48 | 127 | 2 | 35. 58 | 127 | 2 | 36. 8 | 127 | 2 | 36. 18 | 127 | 2 |
| 20. 0 | 34. 28 | 127 | 2 | 36. 31 | 130 | 2 | 36. 41 | 130 | 2 | 36. 51 | 130 | 2 | 37. 1 | 130 | 2 | 37. 11 | 130 | 2 |
| 20. 30 | 35. 18 | 130 | 1 | 37. 24 | 133 | 1 | 37. 34 | 133 | 1 | 37. 44 | 133 | 1 | 37. 54 | 133 | 1 | 38. 4 | 133 | 1 |
| 21. 0 | 36. 08 | 133 | 1 | 38. 17 | 137 | 1 | 38. 27 | 137 | 1 | 38. 37 | 137 | 1 | 38. 47 | 137 | 1 | 38. 57 | 137 | 1 |
| 21. 30 | 36. 58 | 137 | 0 | 39. 10 | 140 | 0 | 39. 20 | 140 | 0 | 39. 30 | 140 | 0 | 39. 40 | 140 | 0 | 39. 50 | 140 | 0 |
| 22. 0 | 37. 48 | 140 | 0 | 40. 3 | 143 | 0 | 40. 13 | 143 | 0 | 40. 23 | 143 | 0 | 40. 33 | 143 | 0 | 40. 43 | 143 | 0 |
| 22. 30 | 38. 38 | 143 | 0 | 40. 56 | 147 | 0 | 41. 6 | 147 | 0 | 41. 16 | 147 | 0 | 41. 26 | 147 | 0 | 41. 36 | 147 | 0 |
| 23. 0 | 39. 28 | 147 | 0 | 41. 49 | 150 | 0 | 41. 59 | 150 | 0 | 42. 9 | 150 | 0 | 42. 19 | 150 | 0 | 42. 29 | 150 | 0 |
| 23. 30 | 40. 18 | 150 | 0 | 42. 42 | 153 | 0 | 42. 52 | 153 | 0 | 43. 2 | 153 | 0 | 43. 12 | 153 | 0 | 43. 22 | 153 | 0 |
| 24. 0 | 41. 8 | 153 | 0 | 43. 35 | 157 | 0 | 43. 45 | 157 | 0 | 43. 55 | 157 | 0 | 44. 5 | 157 | 0 | 44. 15 | 157 | 0 |
| 24. 30 | 41. 58 | 157 | 0 | 44. 28 | 160 | 0 | 44. 38 | 160 | 0 | 44. 48 | 160 | 0 | 44. 58 | 160 | 0 | 45. 8 | 160 | 0 |
| 25. 0 | 42. 48 | 160 | 0 | 45. 21 | 163 | 0 | 45. 31 | 163 | 0 | 45. 41 | 163 | 0 | 45. 51 | 163 | 0 | 46. 1 | 163 | 0 |
| 25. 30 | 43. 38 | 163 | 0 | 46. 14 | 167 | 0 | 46. 24 | 167 | 0 | 46. 34 | 167 | 0 | 46. 44 | 167 | 0 | 46. 54 | 167 | 0 |
| 26. 0 | 44. 28 | 167 | 0 | 47. 7 | 170 | 0 | 47. 17 | 170 | 0 | 47. 27 | 170 | 0 | 47. 37 | 170 | 0 | 47. 47 | 170 | 0 |
| 26. 30 | 45. 18 | 170 | 0 | 48. 0 | 173 | 0 | 48. 10 | 173 | 0 | 48. 20 | 173 | 0 | 48. 30 | 173 | 0 | 48. 40 | 173 | 0 |
| 27. 0 | 46. 8 | 173 | 0 | 48. 53 | 177 | 0 | 49. 3 | 177 | 0 | 49. 13 | 177 | 0 | 49. 23 | 177 | 0 | 49. 33 | 177 | 0 |
| 27. 30 | 46. 58 | 177 | 0 | 49. 46 | 180 | 0 | 49. 56 | 180 | 0 | 50. 6 | 180 | 0 | 50. 16 | 180 | 0 | 50. 26 | 180 | 0 |

| Sun's Decl. | Latitude of the Place. | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 61° | D. | D. | 61°. 30 | D. | D. | 62° | D. | D. | 62°. 30 | D. | D. | 63° | D. | D. | 63°. 30 | D. | D. |
| ° ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ | ° ′ | ′ | ′ |
| 0 0 | 0 0 | 0 | | 0 0 | 0 | | 0 0 | 0 | | 0 0 | 0 | | 0 0 | 0 | | 0 0 | 0 | |
| 0 30 | 1 2 | 3 | 210 | 1 2 | 3 | 210 | 1 4 | 3 | 213 | 1 5 | 3 | 217 | 1 6 | 3 | 220 | 1 7 | 17 | 223 |
| 1 0 | 2 4 | 7 | 210 | 2 6 | 7 | 210 | 2 8 | 7 | 213 | 2 10 | 7 | 217 | 2 11 | 7 | 220 | 2 14 | 10 | 223 |
| 1 30 | 3 6 | 10 | 210 | 3 9 | 10 | 213 | 3 12 | 10 | 213 | 3 13 | 10 | 217 | 3 15 | 10 | 220 | 3 21 | 13 | 223 |
| 2 0 | 4 8 | 13 | 210 | 4 12 | 13 | 213 | 4 16 | 13 | 213 | 4 17 | 13 | 217 | 4 19 | 17 | 220 | 4 25 | 17 | 227 |
| 2 30 | 5 10 | 17 | 210 | 5 15 | 17 | 213 | 5 20 | 17 | 213 | 5 21 | 20 | 217 | 5 23 | 20 | 220 | 5 27 | 20 | 227 |
| 3 0 | 6 12 | 20 | 210 | 6 18 | 20 | 213 | 6 24 | 20 | 213 | 6 25 | 23 | 217 | 6 27 | 23 | 220 | 6 31 | 23 | 227 |
| 3 30 | 7 14 | 23 | 210 | 7 21 | 23 | 213 | 7 28 | 23 | 217 | 7 29 | 27 | 220 | 7 31 | 27 | 223 | 7 32 | 27 | 227 |
| 4 0 | 8 16 | 27 | 210 | 8 24 | 27 | 213 | 8 33 | 27 | 217 | 8 34 | 30 | 220 | 8 35 | 30 | 223 | 8 39 | 33 | 230 |
| 4 30 | 9 19 | 30 | 210 | 9 28 | 30 | 213 | 9 37 | 33 | 217 | 9 38 | 33 | 220 | 9 40 | 33 | 223 | 9 46 | 37 | 230 |
| 5 0 | 10 21 | 33 | 210 | 10 31 | 33 | 213 | 10 42 | 37 | 217 | 10 43 | 37 | 220 | 10 44 | 37 | 223 | 11 16 | 40 | 227 |
| 5 30 | 11 24 | 37 | 210 | 11 35 | 37 | 213 | 11 47 | 40 | 217 | 11 48 | 40 | 220 | 11 50 | 40 | 223 | 11 54 | 43 | 230 |
| 6 0 | 12 27 | 40 | 210 | 12 39 | 43 | 213 | 12 52 | 43 | 217 | 12 53 | 47 | 220 | 12 55 | 47 | 223 | 13 33 | 50 | 230 |
| 6 30 | 13 30 | 43 | 210 | 13 43 | 47 | 213 | 13 57 | 47 | 217 | 13 58 | 50 | 220 | 14 0 | 50 | 223 | 14 42 | 53 | 230 |
| 7 0 | 14 34 | 47 | 210 | 14 48 | 50 | 217 | 15 3 | 50 | 220 | 15 4 | 53 | 223 | 15 6 | 53 | 227 | 15 51 | 57 | 233 |
| 7 30 | 15 37 | 53 | 213 | 15 53 | 53 | 217 | 16 9 | 57 | 220 | 16 10 | 57 | 223 | 16 13 | 57 | 227 | 17 1 | 60 | 237 |
| 8 0 | 16 41 | 57 | 213 | 16 58 | 57 | 217 | 17 15 | 60 | 220 | 17 16 | 60 | 223 | 17 18 | 60 | 227 | 18 11 | 67 | 240 |
| 8 30 | 17 45 | 60 | 213 | 18 3 | 60 | 217 | 18 21 | 63 | 220 | 18 22 | 67 | 223 | 18 25 | 67 | 227 | 19 21 | 73 | 243 |
| 9 0 | 18 49 | 63 | 213 | 19 8 | 67 | 217 | 19 28 | 67 | 223 | 19 29 | 70 | 227 | 19 32 | 70 | 230 | 20 31 | 77 | 247 |
| 9 30 | 19 54 | 67 | 217 | 20 14 | 70 | 220 | 20 35 | 73 | 223 | 20 37 | 73 | 230 | 20 40 | 73 | 233 | 21 41 | 83 | 250 |
| 10 0 | 20 59 | 73 | 217 | 21 21 | 73 | 220 | 21 43 | 77 | 227 | 21 45 | 77 | 230 | 21 48 | 77 | 233 | 22 52 | 87 | 253 |
| 10 30 | 22 5 | 77 | 220 | 22 28 | 77 | 223 | 22 51 | 80 | 227 | 22 53 | 83 | 233 | 22 57 | 83 | 237 | 24 3 | 90 | 257 |
| 11 0 | 23 11 | 80 | 220 | 23 35 | 80 | 223 | 23 59 | 87 | 230 | 24 2 | 87 | 237 | 24 6 | 87 | 240 | 25 15 | 97 | 260 |
| 11 30 | 24 17 | 83 | 223 | 24 42 | 83 | 227 | 25 8 | 90 | 233 | 25 12 | 90 | 240 | 25 16 | 90 | 243 | 26 27 | 100 | 263 |
| 12 0 | 25 24 | 87 | 227 | 25 50 | 87 | 230 | 26 17 | 97 | 237 | 26 21 | 97 | 243 | 26 26 | 97 | 247 | 27 40 | 107 | 267 |
| 12 30 | 26 31 | 93 | 230 | 26 58 | 93 | 233 | 27 27 | 100 | 240 | 27 31 | 100 | 247 | 27 36 | 100 | 250 | 28 53 | 113 | 270 |
| 13 0 | 27 39 | 97 | 233 | 28 7 | 97 | 237 | 28 37 | 103 | 243 | 28 41 | 107 | 250 | 28 47 | 107 | 253 | 30 7 | 120 | 273 |
| 13 30 | 28 47 | 103 | 237 | 29 16 | 103 | 240 | 29 48 | 110 | 247 | 29 52 | 113 | 253 | 29 58 | 113 | 257 | 31 22 | 127 | 277 |
| 14 0 | 29 56 | 107 | 240 | 30 26 | 110 | 243 | 31 0 | 117 | 250 | 31 5 | 120 | 257 | 31 11 | 120 | 260 | 32 38 | 133 | 280 |
| 14 30 | 31 6 | 113 | 243 | 31 40 | 113 | 247 | 32 14 | 123 | 253 | 32 20 | 127 | 260 | 32 27 | 127 | 263 | 33 55 | 140 | 283 |
| 15 0 | 32 17 | 117 | 243 | 32 51 | 120 | 250 | 33 27 | 130 | 257 | 33 34 | 133 | 263 | 33 42 | 133 | 267 | 35 13 | 147 | 287 |
| 15 30 | 33 27 | 123 | 247 | 34 4 | 127 | 253 | 34 42 | 137 | 260 | 34 50 | 140 | 267 | 34 58 | 140 | 270 | 36 32 | 153 | 290 |
| 16 0 | 34 38 | 130 | 250 | 35 18 | 133 | 257 | 35 57 | 143 | 263 | 36 6 | 147 | 270 | 36 15 | 147 | 273 | 37 52 | 160 | 293 |
| 16 30 | 35 51 | 137 | 253 | 36 34 | 140 | 260 | 37 14 | 150 | 267 | 37 24 | 153 | 273 | 37 34 | 153 | 277 | 39 13 | 167 | 297 |
| 17 0 | 37 5 | 143 | 257 | 37 49 | 147 | 263 | 38 33 | 157 | 270 | 38 44 | 160 | 277 | 38 55 | 160 | 280 | 40 36 | 173 | 300 |
| 17 30 | 38 20 | 150 | 260 | 39 6 | 153 | 267 | 39 54 | 163 | 273 | 40 6 | 167 | 280 | 40 18 | 167 | 283 | 42 0 | 180 | 303 |
| 18 0 | 39 36 | 157 | 263 | 40 25 | 160 | 270 | 41 17 | 173 | 277 | 41 30 | 173 | 283 | 41 43 | 173 | 287 | 43 25 | 187 | 307 |
| 18 15 | 40 24 | 160 | 267 | 41 15 | 163 | 273 | 41 58 | 177 | 280 | 42 12 | 177 | 287 | 42 26 | 177 | 290 | 44 8 | 190 | 310 |
| 18 30 | 40 53 | 163 | 267 | 41 45 | 167 | 273 | 42 31 | 180 | 283 | 42 46 | 180 | 287 | 43 0 | 180 | 290 | 44 51 | 193 | 310 |
| 18 45 | 41 23 | 167 | 270 | 42 17 | 170 | 277 | 43 5 | 183 | 283 | 43 20 | 183 | 290 | 43 35 | 183 | 293 | 45 34 | 197 | 313 |
| 19 0 | 42 11 | 173 | 273 | 43 8 | 177 | 280 | 43 59 | 190 | 287 | 44 15 | 190 | 293 | 44 30 | 190 | 297 | 46 18 | 203 | 317 |
| 19 15 | 42 59 | 177 | 277 | 43 59 | 180 | 283 | 44 53 | 193 | 290 | 45 10 | 193 | 297 | 45 26 | 193 | 300 | 47 4 | 210 | 320 |
| 19 30 | 43 31 | 180 | 277 | 44 34 | 183 | 283 | 45 30 | 197 | 290 | 45 47 | 197 | 297 | 46 4 | 197 | 300 | 47 49 | 213 | 323 |
| 19 45 | 44 11 | 183 | 280 | 45 15 | 187 | 287 | 46 13 | 200 | 293 | 46 31 | 200 | 300 | 46 49 | 200 | 303 | 48 36 | 220 | 327 |
| 20 0 | 44 52 | 190 | 283 | 45 57 | 193 | 290 | 46 57 | 203 | 297 | 47 16 | 207 | 303 | 47 35 | 207 | 307 | 49 24 | 227 | 330 |
| 20 15 | 45 33 | 193 | 283 | 46 39 | 197 | 293 | 47 42 | 210 | 300 | 48 2 | 213 | 307 | 48 22 | 213 | 310 | 50 13 | 233 | 333 |
| 20 30 | 46 15 | 200 | 287 | 47 23 | 203 | 297 | 48 28 | 213 | 303 | 48 49 | 217 | 310 | 49 10 | 217 | 313 | 51 3 | 240 | 337 |
| 20 45 | 46 57 | 203 | 290 | 48 8 | 207 | 300 | 49 15 | 220 | 307 | 49 37 | 223 | 313 | 49 59 | 223 | 317 | 51 55 | 247 | 340 |
| 21 0 | 47 40 | 210 | 293 | 48 53 | 213 | 303 | 50 3 | 223 | 310 | 50 26 | 227 | 317 | 50 50 | 227 | 320 | 52 48 | 253 | 343 |
| 21 15 | 48 23 | 213 | 293 | 49 40 | 217 | 307 | 50 52 | 230 | 313 | 51 16 | 233 | 320 | 51 42 | 233 | 323 | 53 42 | 260 | 347 |
| 21 30 | 49 7 | 220 | 297 | 50 28 | 223 | 310 | 51 43 | 233 | 317 | 52 7 | 237 | 323 | 52 34 | 237 | 327 | 54 37 | 267 | 350 |
| 21 45 | 49 51 | 227 | 300 | 51 17 | 230 | 313 | 52 34 | 240 | 320 | 52 59 | 243 | 327 | 53 27 | 243 | 330 | 55 33 | 273 | 353 |
| 22 0 | 50 36 | 233 | 303 | 52 7 | 233 | 317 | 53 27 | 243 | 323 | 53 52 | 247 | 330 | 54 21 | 247 | 333 | 56 30 | 280 | 357 |
| 22 15 | 51 21 | 240 | 307 | 52 58 | 240 | 320 | 54 20 | 250 | 327 | 54 46 | 253 | 333 | 55 16 | 257 | 337 | 57 28 | 287 | 360 |
| 22 30 | 52 7 | 247 | 310 | 53 50 | 247 | 323 | 55 14 | 257 | 330 | 55 41 | 260 | 337 | 56 12 | 263 | 340 | 58 27 | 293 | 363 |
| 22 45 | 52 54 | 253 | 313 | 54 43 | 253 | 327 | 56 9 | 263 | 333 | 56 37 | 267 | 340 | 57 8 | 270 | 343 | 59 26 | 300 | 367 |
| 23 0 | 53 42 | 260 | 317 | 55 37 | 260 | 330 | 57 5 | 270 | 337 | 57 33 | 273 | 343 | 58 5 | 277 | 347 | 60 26 | 307 | 370 |
| 23 15 | 54 31 | 270 | 320 | 56 32 | 267 | 333 | 58 2 | 277 | 340 | 58 30 | 280 | 347 | 58 59 | 283 | 350 | 61 25 | 313 | 373 |
| 23 30 | 55 20 | 280 | 323 | 57 27 | 273 | 337 | 58 59 | 283 | 343 | 59 27 | 287 | 350 | 59 56 | 290 | 353 | 62 25 | 320 | 377 |
| 23 45 | 56 10 | 290 | 327 | 58 23 | 283 | 340 | 59 56 | 293 | 347 | 60 25 | 297 | 353 | 60 54 | 300 | 357 | 63 24 | 327 | 380 |

Latitude of the Place.

| Sun's Declination | 64° | D. | D. | 64° 30′ | D. | D. | 65° | D. | D. | 65° 30′ | D. | D. | 66° | D. | D. | 66° 30′ | D. | D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ° ′ | ° ′ | ′ | ″ | ° ′ | ′ | ″ | ° ′ | ′ | ″ | ° ′ | ′ | ″ | ° ′ | ′ | ″ | ° ′ | ′ | ″ |
| 0. 0 | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | | 0. 0 | 0 | |
| 0. 30 | 1. 9 | 8 | 28 | 1. 11 | 8 | 28 | 1. 11 | 8 | 28 | 1. 11 | 7 | 14 | 1. 11 | 7 | 14 | 1. 11 | 7 | 14 |
| 1. 0 | 2. 17 | 7 | 28 | 2. 17 | 15 | 28 | 2. 22 | 15 | 28 | 2. 22 | 15 | 28 | 2. 22 | 15 | 28 | 2. 22 | 15 | 28 |
| 1. 30 | 3. 25 | 13 | 28 | 3. 28 | 13 | 28 | 3. 33 | 13 | 28 | 3. 33 | 13 | 28 | 3. 33 | 13 | 28 | 3. 33 | 13 | 28 |
| 2. 0 | 4. 34 | 17 | 28 | 4. 39 | 17 | 28 | 4. 44 | 17 | 28 | 4. 44 | 17 | 28 | 4. 44 | 17 | 28 | 4. 44 | 17 | 28 |
| 2. 30 | 5. 42 | 20 | 28 | 5. 47 | 20 | 28 | 5. 56 | 23 | 28 | 5. 56 | 23 | 28 | 5. 56 | 23 | 28 | 5. 56 | 23 | 28 |
| 3. 0 | 6. 51 | 27 | 28 | 6. 56 | 27 | 28 | 7. 7 | 27 | 28 | 7. 7 | 27 | 28 | 7. 7 | 27 | 28 | 7. 7 | 27 | 28 |
| 3. 30 | 8. 0 | 30 | 28 | 8. 6 | 30 | 28 | 8. 18 | 33 | 28 | 8. 18 | 33 | 28 | 8. 18 | 33 | 28 | 8. 18 | 33 | 28 |
| 4. 0 | 9. 10 | 33 | 28 | 9. 16 | 37 | 28 | 9. 31 | 37 | 28 | 9. 31 | 37 | 28 | 9. 31 | 37 | 28 | 9. 31 | 37 | 28 |
| 4. 30 | 10. 20 | 37 | 28 | 10. 26 | 40 | 28 | 10. 44 | 40 | 28 | 10. 44 | 40 | 28 | 10. 44 | 40 | 28 | 10. 44 | 40 | 28 |
| 5. 0 | 11. 30 | 43 | 28 | 11. 41 | 43 | 28 | 11. 57 | 47 | 28 | 11. 57 | 47 | 28 | 11. 57 | 47 | 28 | 11. 57 | 47 | 28 |
| 5. 30 | 12. 39 | 47 | 28 | 12. 52 | 47 | 28 | 13. 9 | 56 | 28 | 13. 9 | 53 | 28 | 13. 9 | 53 | 28 | 13. 9 | 53 | 28 |
| 6. 0 | 13. 48 | 50 | 28 | 14. 2 | 53 | 28 | 14. 20 | 57 | 28 | 14. 20 | 57 | 28 | 14. 20 | 57 | 28 | 14. 20 | 57 | 28 |
| 6. 30 | 14. 57 | 57 | 28 | 15. 13 | 57 | 28 | 15. 32 | 03 | 28 | 15. 31 | 03 | 28 | 15. 31 | 03 | 28 | 15. 31 | 03 | 28 |
| 7. 0 | 16. 5 | 03 | 28 | 16. 23 | 03 | 28 | 16. 43 | 07 | 28 | 16. 43 | 07 | 28 | 17. 6 | 07 | 28 | 17. 6 | 07 | 28 |
| 7. 30 | 17. 13 | 07 | 28 | 17. 34 | 07 | 28 | 17. 56 | 13 | 28 | 17. 56 | 13 | 28 | 18. 18 | 13 | 28 | 18. 18 | 13 | 28 |
| 8. 0 | 18. 21 | 13 | 28 | 18. 45 | 13 | 28 | 19. 14 | 17 | 28 | 19. 14 | 17 | 28 | 19. 37 | 17 | 28 | 19. 37 | 17 | 28 |
| 8. 30 | 19. 29 | 17 | 28 | 19. 56 | 17 | 28 | 20. 28 | 23 | 28 | 20. 28 | 23 | 28 | 20. 55 | 23 | 28 | 20. 55 | 23 | 28 |
| 9. 0 | 20. 37 | 23 | 28 | 21. 7 | 23 | 28 | 21. 48 | 27 | 28 | 21. 48 | 27 | 28 | 22. 13 | 27 | 28 | 22. 13 | 27 | 28 |
| 9. 30 | 21. 45 | 27 | 28 | 22. 18 | 27 | 28 | 22. 58 | 33 | 28 | 22. 58 | 33 | 28 | 23. 27 | 33 | 28 | 23. 27 | 33 | 28 |
| 10. 0 | 22. 53 | 33 | 28 | 23. 28 | 33 | 28 | 24. 10 | 37 | 28 | 24. 10 | 37 | 28 | 24. 40 | 37 | 28 | 24. 40 | 37 | 28 |
| 10. 30 | 24. 0 | 37 | 28 | 24. 38 | 37 | 28 | 25. 20 | 43 | 28 | 25. 20 | 43 | 28 | 25. 53 | 43 | 28 | 25. 53 | 43 | 28 |
| 11. 0 | 25. 8 | 43 | 28 | 25. 48 | 43 | 28 | 26. 33 | 47 | 28 | 26. 33 | 47 | 28 | 27. 7 | 47 | 28 | 27. 7 | 47 | 28 |
| 11. 30 | 26. 16 | 47 | 28 | 26. 58 | 47 | 28 | 27. 46 | 53 | 28 | 27. 46 | 53 | 28 | 28. 21 | 53 | 28 | 28. 21 | 53 | 28 |
| 12. 0 | 27. 24 | 53 | 28 | 28. 8 | 53 | 28 | 28. 59 | 57 | 28 | 28. 59 | 57 | 28 | 29. 35 | 57 | 28 | 29. 35 | 57 | 28 |
| 12. 30 | 28. 32 | 57 | 28 | 29. 18 | 57 | 28 | 30. 12 | 03 | 28 | 30. 12 | 03 | 28 | 30. 49 | 03 | 28 | 30. 49 | 03 | 28 |
| 13. 0 | 29. 40 | 03 | 28 | 30. 28 | 03 | 28 | 31. 25 | 07 | 28 | 31. 25 | 07 | 28 | 32. 3 | 07 | 28 | 32. 3 | 07 | 28 |
| 13. 30 | 30. 48 | 07 | 28 | 31. 38 | 07 | 28 | 32. 38 | 13 | 28 | 32. 38 | 13 | 28 | 33. 17 | 13 | 28 | 33. 17 | 13 | 28 |
| 14. 0 | 31. 56 | 13 | 28 | 32. 48 | 13 | 28 | 33. 51 | 17 | 28 | 33. 51 | 17 | 28 | 34. 31 | 17 | 28 | 34. 31 | 17 | 28 |
| 14. 30 | 33. 4 | 17 | 28 | 33. 58 | 17 | 28 | 35. 4 | 23 | 28 | 35. 4 | 23 | 28 | 35. 45 | 23 | 28 | 35. 45 | 23 | 28 |
| 15. 0 | 34. 12 | 23 | 28 | 35. 8 | 23 | 28 | 36. 17 | 27 | 28 | 36. 17 | 27 | 28 | 36. 59 | 27 | 28 | 36. 59 | 27 | 28 |
| 15. 30 | 35. 20 | 27 | 28 | 36. 18 | 27 | 28 | 37. 30 | 33 | 28 | 37. 30 | 33 | 28 | 38. 13 | 33 | 28 | 38. 13 | 33 | 28 |
| 16. 0 | 36. 28 | 33 | 28 | 37. 28 | 33 | 28 | 38. 43 | 37 | 28 | 38. 43 | 37 | 28 | 39. 27 | 37 | 28 | 39. 27 | 37 | 28 |
| 16. 30 | 37. 36 | 37 | 28 | 38. 38 | 37 | 28 | 39. 56 | 43 | 28 | 39. 56 | 43 | 28 | 40. 41 | 43 | 28 | 40. 41 | 43 | 28 |
| 17. 0 | 38. 44 | 43 | 28 | 39. 48 | 43 | 28 | 41. 9 | 47 | 28 | 41. 9 | 47 | 28 | 41. 55 | 47 | 28 | 41. 55 | 47 | 28 |
| 17. 30 | 39. 52 | 47 | 28 | 40. 58 | 47 | 28 | 42. 22 | 53 | 28 | 42. 22 | 53 | 28 | 43. 9 | 53 | 28 | 43. 9 | 53 | 28 |
| 18. 0 | 41. 0 | 53 | 28 | 42. 8 | 53 | 28 | 43. 35 | 57 | 28 | 43. 35 | 57 | 28 | 44. 23 | 57 | 28 | 44. 23 | 57 | 28 |
| 18. 30 | 42. 8 | 57 | 28 | 43. 18 | 57 | 28 | 44. 48 | 03 | 28 | 44. 48 | 03 | 28 | 45. 37 | 03 | 28 | 45. 37 | 03 | 28 |
| 19. 0 | 43. 16 | 03 | 28 | 44. 28 | 03 | 28 | 46. 1 | 07 | 28 | 46. 1 | 07 | 28 | 46. 51 | 07 | 28 | 46. 51 | 07 | 28 |
| 19. 30 | 44. 24 | 07 | 28 | 45. 38 | 07 | 28 | 47. 14 | 13 | 28 | 47. 14 | 13 | 28 | 48. 5 | 13 | 28 | 48. 5 | 13 | 28 |
| 20. 0 | 45. 32 | 13 | 28 | 46. 48 | 13 | 28 | 48. 27 | 17 | 28 | 48. 27 | 17 | 28 | 49. 19 | 17 | 28 | 49. 19 | 17 | 28 |
| 20. 30 | 46. 40 | 17 | 28 | 47. 58 | 17 | 28 | 49. 40 | 23 | 28 | 49. 40 | 23 | 28 | 50. 33 | 23 | 28 | 50. 33 | 23 | 28 |
| 21. 0 | 47. 48 | 23 | 28 | 49. 8 | 23 | 28 | 50. 53 | 27 | 28 | 50. 53 | 27 | 28 | 51. 47 | 27 | 28 | 51. 47 | 27 | 28 |
| 21. 30 | 48. 56 | 27 | 28 | 50. 18 | 27 | 28 | 52. 6 | 33 | 28 | 52. 6 | 33 | 28 | 53. 1 | 33 | 28 | 53. 1 | 33 | 28 |
| 22. 0 | 50. 4 | 33 | 28 | 51. 28 | 33 | 28 | 53. 19 | 37 | 28 | 53. 19 | 37 | 28 | 54. 15 | 37 | 28 | 54. 15 | 37 | 28 |
| 22. 30 | 51. 12 | 37 | 28 | 52. 38 | 37 | 28 | 54. 32 | 43 | 28 | 54. 32 | 43 | 28 | 55. 29 | 43 | 28 | 55. 29 | 43 | 28 |
| 23. 0 | 52. 20 | 43 | 28 | 53. 48 | 43 | 28 | 55. 45 | 47 | 28 | 55. 45 | 47 | 28 | 56. 43 | 47 | 28 | 56. 43 | 47 | 28 |
| 23. 30 | 53. 28 | 47 | 28 | 54. 58 | 47 | 28 | 56. 58 | 53 | 28 | 56. 58 | 53 | 28 | 57. 57 | 53 | 28 | 57. 57 | 53 | 28 |
| 24. 0 | 54. 36 | 53 | 28 | 56. 8 | 53 | 28 | 58. 11 | 57 | 28 | 58. 11 | 57 | 28 | 59. 11 | 57 | 28 | 59. 11 | 57 | 28 |
| 24. 30 | 55. 44 | 57 | 28 | 57. 18 | 57 | 28 | 59. 24 | 03 | 28 | 59. 24 | 03 | 28 | 60. 25 | 03 | 28 | 60. 25 | 03 | 28 |

 Variations of the Amplitudes, answering to a Change of *One Hundred Minutes* in the Sun's Altitude.

| Latitude | Amplitude towards the elevated Pole. | | | | | | | | | Amplitude towards the depressed Pole. | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 0° | 10° | 15° | 20° | 30° | 40° | 45° | 50° | 55° | 0° | 10° | 15° | 20° | 30° | 40° | 45° | 50° | 55° |
| 1 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 |
| 2 | 3 | 3 | 3 | 3 | 4 | 4 | 5 | 5 | 6 | 3 | 3 | 3 | 3 | 4 | 5 | 5 | 6 | 7 |
| 3 | 5 | 5 | 5 | 5 | 6 | 6 | 7 | 8 | 9 | 5 | 5 | 5 | 5 | 6 | 7 | 7 | 9 | 10 |
| 4 | 6 | 6 | 6 | 7 | 8 | 8 | 9 | 11 | 12 | 6 | 6 | 6 | 7 | 8 | 9 | 10 | 12 | 13 |
| 5 | 8 | 8 | 8 | 9 | 10 | 10 | 12 | 14 | 15 | 8 | 8 | 8 | 9 | 10 | 12 | 13 | 15 | 17 |
| 6 | 10 | 10 | 10 | 11 | 12 | 12 | 14 | 16 | 18 | 10 | 10 | 10 | 11 | 12 | 14 | 15 | 17 | 20 |
| 7 | 12 | 12 | 12 | 13 | 14 | 14 | 16 | 19 | 21 | 12 | 12 | 12 | 13 | 14 | 16 | 17 | 19 | 23 |
| 8 | 14 | 14 | 14 | 15 | 16 | 17 | 18 | 21 | 24 | 14 | 14 | 14 | 15 | 17 | 19 | 20 | 22 | 26 |
| 9 | 16 | 16 | 16 | 17 | 18 | 19 | 20 | 24 | 27 | 16 | 16 | 16 | 17 | 19 | 22 | 22 | 25 | 29 |
| 10 | 18 | 18 | 18 | 19 | 20 | 22 | 23 | 27 | 30 | 18 | 18 | 18 | 20 | 22 | 25 | 25 | 28 | 32 |
| 11 | 19 | 20 | 20 | 21 | 22 | 24 | 25 | 29 | 33 | 19 | 20 | 20 | 22 | 24 | 27 | 28 | 31 | 35 |
| 12 | 21 | 22 | 22 | 23 | 24 | 26 | 28 | 32 | 36 | 21 | 22 | 22 | 24 | 26 | 29 | 30 | 34 | 38 |
| 13 | 23 | 24 | 24 | 25 | 26 | 28 | 31 | 34 | 39 | 23 | 24 | 24 | 26 | 28 | 31 | 32 | 37 | 41 |
| 14 | 25 | 26 | 26 | 27 | 28 | 30 | 34 | 37 | 42 | 25 | 26 | 26 | 28 | 30 | 33 | 35 | 40 | 44 |
| 15 | 27 | 28 | 28 | 29 | 30 | 33 | 37 | 40 | 45 | 27 | 28 | 28 | 30 | 32 | 35 | 38 | 43 | 48 |
| 16 | 29 | 29 | 29 | 30 | 32 | 35 | 39 | 43 | 48 | 29 | 30 | 30 | 32 | 34 | 37 | 41 | 46 | 51 |
| 17 | 31 | 31 | 31 | 32 | 34 | 38 | 41 | 46 | 52 | 31 | 32 | 32 | 34 | 36 | 39 | 44 | 49 | 54 |
| 18 | 33 | 33 | 33 | 34 | 37 | 41 | 44 | 49 | 55 | 33 | 34 | 34 | 36 | 38 | 41 | 47 | 52 | 58 |
| 19 | 35 | 35 | 35 | 37 | 40 | 44 | 47 | 52 | 58 | 35 | 36 | 36 | 38 | 40 | 45 | 50 | 55 | 61 |
| 20 | 37 | 37 | 37 | 39 | 42 | 47 | 50 | 55 | 62 | 37 | 38 | 38 | 40 | 43 | 48 | 53 | 58 | 65 |
| 21 | 39 | 39 | 39 | 41 | 44 | 49 | 53 | 58 | 65 | 39 | 40 | 40 | 42 | 45 | 50 | 55 | 61 | 68 |
| 22 | 41 | 41 | 41 | 43 | 46 | 51 | 56 | 62 | 69 | 41 | 42 | 42 | 44 | 47 | 53 | 58 | 64 | 72 |
| 23 | 43 | 43 | 43 | 45 | 48 | 54 | 59 | 65 | 72 | 43 | 44 | 44 | 46 | 50 | 56 | 61 | 68 | 75 |
| 24 | 45 | 45 | 45 | 47 | 50 | 57 | 62 | 68 | 76 | 45 | 46 | 46 | 48 | 52 | 59 | 64 | 72 | 79 |
| 25 | 47 | 48 | 48 | 50 | 53 | 60 | 65 | 72 | 80 | 47 | 48 | 48 | 51 | 55 | 62 | 67 | 75 | 83 |
| 26 | 49 | 50 | 50 | 52 | 55 | 63 | 68 | 75 | 83 | 49 | 50 | 50 | 52 | 57 | 65 | 70 | 78 | 87 |
| 27 | 51 | 52 | 52 | 54 | 57 | 66 | 71 | 78 | 87 | 51 | 52 | 52 | 55 | 59 | 68 | 73 | 81 | 91 |
| 28 | 53 | 54 | 54 | 56 | 60 | 69 | 74 | 81 | 90 | 53 | 54 | 54 | 57 | 62 | 71 | 76 | 85 | 95 |
| 29 | 55 | 56 | 57 | 59 | 62 | 72 | 77 | 84 | 94 | 55 | 56 | 57 | 59 | 65 | 74 | 79 | 88 | 99 |
| 30 | 58 | 59 | 60 | 62 | 65 | 75 | 80 | 88 | 98 | 58 | 59 | 60 | 62 | 68 | 77 | 83 | 92 | 104 |
| 31 | 60 | 61 | 62 | 64 | 68 | 78 | 83 | 91 | 102 | 60 | 61 | 62 | 64 | 70 | 80 | 86 | 96 | 108 |
| 32 | 62 | 63 | 64 | 66 | 71 | 81 | 86 | 95 | 106 | 62 | 63 | 64 | 66 | 73 | 83 | 90 | 100 | 112 |
| 33 | 65 | 66 | 67 | 69 | 74 | 84 | 90 | 99 | 110 | 65 | 66 | 67 | 69 | 76 | 86 | 94 | 104 | 116 |
| 34 | 67 | 68 | 69 | 71 | 77 | 87 | 93 | 103 | 114 | 67 | 69 | 70 | 73 | 79 | 89 | 98 | 108 | 120 |
| 35 | 70 | 71 | 72 | 74 | 80 | 90 | 97 | 107 | 118 | 70 | 72 | 73 | 76 | 82 | 93 | 102 | 112 | 125 |
| 36 | 72 | 74 | 75 | 77 | 83 | 93 | 101 | 111 | 122 | 72 | 74 | 75 | 78 | 85 | 96 | 106 | 116 | 130 |
| 37 | 75 | 77 | 78 | 80 | 86 | 97 | 105 | 115 | 127 | 75 | 77 | 78 | 81 | 88 | 100 | 110 | 120 | 135 |
| 38 | 77 | 80 | 81 | 83 | 89 | 100 | 109 | 119 | 132 | 77 | 79 | 81 | 83 | 91 | 104 | 114 | 124 | 140 |
| 39 | 80 | 83 | 84 | 87 | 93 | 104 | 113 | 123 | 137 | 80 | 82 | 84 | 86 | 94 | 108 | 118 | 128 | 145 |
| 40 | 83 | 86 | 87 | 90 | 97 | 108 | 117 | 128 | 142 | 83 | 85 | 87 | 90 | 98 | 112 | 122 | 133 | 150 |
| 41 | 87 | 89 | 90 | 93 | 100 | 112 | 122 | 135 | 147 | 87 | 89 | 90 | 94 | 102 | 115 | 125 | 138 | 155 |
| 42 | 90 | 92 | 93 | 96 | 103 | 115 | 125 | 137 | 153 | 90 | 92 | 93 | 96 | 105 | 120 | 130 | 143 | 162 |
| 43 | 93 | 96 | 97 | 99 | 107 | 120 | 130 | 142 | 158 | 93 | 95 | 97 | 101 | 108 | 123 | 135 | 148 | 167 |
| 44 | 97 | 99 | 100 | 102 | 110 | 125 | 133 | 147 | 163 | 97 | 99 | 100 | 104 | 112 | 128 | 138 | 153 | 173 |
| 45 | 100 | 102 | 103 | 106 | 115 | 128 | 138 | 152 | 170 | 100 | 102 | 103 | 107 | 117 | 132 | 145 | 160 | 180 |
| 46 | 103 | 106 | 107 | 110 | 118 | 132 | 143 | 158 | 178 | 103 | 105 | 106 | 110 | 120 | 137 | 150 | 167 | 188 |
| 47 | 107 | 109 | 110 | 113 | 123 | 138 | 148 | 163 | 182 | 107 | 109 | 112 | 115 | 125 | 142 | 155 | 172 | 193 |
| 48 | 112 | 114 | 115 | 118 | 127 | 143 | 155 | 168 | 188 | 112 | 113 | 115 | 119 | 130 | 147 | 158 | 177 | 200 |
| 49 | 115 | 117 | 118 | 122 | 132 | 148 | 160 | 175 | 195 | 115 | 117 | 120 | 124 | 135 | 153 | 167 | 183 | 207 |
| 50 | 120 | 122 | 123 | 127 | 137 | 153 | 165 | 182 | 202 | 120 | 121 | 123 | 127 | 140 | 158 | 172 | 190 | 215 |
| 51 | 123 | 126 | 127 | 131 | 142 | 158 | 172 | 187 | 208 | 123 | 125 | 128 | 132 | 145 | 163 | 178 | 196 | 223 |
| 52 | 128 | 131 | 132 | 136 | 147 | 165 | 177 | 192 | 217 | 128 | 130 | 133 | 137 | 150 | 170 | 185 | 205 | 232 |
| 53 | 133 | 136 | 137 | 141 | 152 | 170 | 183 | 200 | 223 | 133 | 135 | 138 | 142 | 155 | 175 | 192 | 212 | 240 |
| 54 | 138 | 141 | 142 | 146 | 157 | 177 | 190 | 208 | 232 | 138 | 140 | 143 | 147 | 162 | 183 | 198 | 220 | 248 |
| 55 | 143 | 146 | 147 | 151 | 163 | 183 | 198 | 217 | 240 | 143 | 145 | 148 | 152 | 167 | 190 | 207 | 228 | 258 |
| 56 | 148 | 152 | 153 | 157 | 168 | 190 | 205 | 225 | 250 | 148 | 151 | 155 | 159 | 173 | 197 | 215 | 238 | 268 |
| 57 | 153 | 157 | 158 | 162 | 175 | 197 | 213 | 233 | 258 | 153 | 156 | 160 | 164 | 180 | 205 | 223 | 247 | 280 |
| 58 | 160 | 164 | 165 | 170 | 183 | 205 | 222 | 242 | 268 | 160 | 163 | 167 | 171 | 187 | 213 | 232 | 257 | 292 |
| 59 | 167 | 171 | 172 | 177 | 190 | 213 | 230 | 252 | 280 | 167 | 170 | 173 | 178 | 195 | 222 | 242 | 268 | 303 |
| 60 | 173 | 177 | 178 | 183 | 198 | 222 | 239 | 262 | 290 | 173 | 177 | 180 | 186 | 203 | 232 | 252 | 278 | 317 |
| 61 | 182 | 186 | 187 | 192 | 207 | 232 | 250 | 273 | 302 | 182 | 185 | 188 | 195 | 212 | 242 | 263 | 290 | 330 |
| 62 | 190 | 194 | 195 | 200 | 215 | 242 | 260 | 285 | 315 | 190 | 194 | 197 | 204 | 222 | 252 | 275 | 303 | 345 |

| Longitude of the Sun | | Interval between the Observations. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2h. 40m | | 3h. 0m | | 3h. 20m | | 3h. 40m | | 4h. 0m | | 4h. 20m | | 4h. 40m | |
| | | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part |
| Signs | o | — s | + s | — s | + s | — s | + s | — s | + s | — s | + s | — s | + s | — s | + s |
| O. | 0 | 15, 37 | 0, 00 | 15, 47 | 0, 00 | 15, 57 | 0, 00 | 16, 08 | 0, 00 | 15, 79 | 0, 00 | 15, 93 | 0, 00 | 16, 07 | 0, 00 |
| | 5 | 15, 28 | 0, 49 | 15, 38 | 0, 49 | 15, 48 | 0, 49 | 15, 58 | 0, 49 | 15, 7 | 0, 49 | 15, 83 | 0, 49 | 15, 93 | 0, 49 |
| | 10 | 15, 0 | 0, 98 | 15, 10 | 0, 97 | 15, 20 | 0, 97 | 15, 30 | 0, 97 | 15, 5 | 0, 97 | 15, 63 | 0, 97 | 15, 8 | 0, 97 |
| | 15 | 14, 70 | 1, 45 | 14, 80 | 1, 45 | 14, 90 | 1, 45 | 15, 00 | 1, 45 | 15, 10 | 1, 45 | 15, 33 | 1, 45 | 15, 45 | 1, 45 |
| | 20 | 14, 42 | 1, 93 | 14, 51 | 1, 94 | 14, 61 | 1, 94 | 14, 71 | 1, 94 | 14, 81 | 1, 94 | 14, 93 | 1, 93 | 15, 04 | 1, 93 |
| | 25 | 13, 91 | 2, 43 | 14, 02 | 2, 41 | 14, 12 | 2, 41 | 14, 22 | 2, 41 | 14, 31 | 2, 42 | 14, 43 | 2, 41 | 14, 55 | 2, 41 |
| | | — | + | — | + | — | + | — | + | — | + | — | + | — | + |
| I. | 0 | 13, 30 | 2, 53 | 13, 44 | 2, 52 | 13, 53 | 2, 49 | 13, 64 | 2, 45 | 13, 72 | 2, 42 | 13, 83 | 2, 39 | 13, 95 | 2, 34 |
| | 5 | 12, 70 | 2, 70 | 12, 79 | 2, 77 | 12, 84 | 2, 73 | 12, 93 | 2, 69 | 13, 02 | 2, 66 | 13, 13 | 2, 61 | 13, 25 | 2, 55 |
| | 10 | 11, 92 | 2, 97 | 11, 99 | 2, 93 | 12, 04 | 2, 89 | 12, 14 | 2, 85 | 12, 23 | 2, 82 | 12, 33 | 2, 76 | 12, 43 | 2, 7 |
| | 15 | 11, 04 | 3, 03 | 11, 12 | 3, 01 | 11, 19 | 2, 97 | 11, 27 | 2, 93 | 11, 35 | 2, 90 | 11, 43 | 2, 85 | 11, 53 | 2, 7 |
| | 20 | 10, 11 | 3, 04 | 10, 19 | 3, 01 | 10, 22 | 2, 97 | 10, 30 | 2, 93 | 10, 37 | 2, 90 | 10, 45 | 2, 82 | 10, 55 | 2, 7 |
| | 25 | 9, 08 | 2, 92 | 9, 12 | 2, 91 | 9, 17 | 2, 87 | 9, 23 | 2, 83 | 9, 30 | 2, 76 | 9, 38 | 2, 73 | 9, 47 | 2, 7 |
| | | — | + | — | + | — | + | — | + | — | + | — | + | — | + |
| II. | 0 | 7, 05 | 2, 72 | 7, 97 | 2, 71 | 8, 04 | 2, 67 | 8, 09 | 2, 64 | 8, 15 | 2, 58 | 8, 21 | 2, 55 | 8, 3 | 2, 5 |
| | 5 | 6, 75 | 2, 42 | 6, 78 | 2, 42 | 6, 82 | 2, 36 | 6, 87 | 2, 31 | 6, 92 | 2, 33 | 6, 97 | 2, 29 | 7, 05 | 2, 23 |
| | 10 | 5, 40 | 2, 08 | 5, 51 | 2, 07 | 5, 55 | 2, 03 | 5, 59 | 2, 00 | 5, 63 | 1, 97 | 5, 67 | 1, 93 | 5, 7 | 1, 8 |
| | 15 | 4, 10 | 1, 63 | 4, 18 | 1, 61 | 4, 21 | 1, 59 | 4, 24 | 1, 57 | 4, 26 | 1, 53 | 4, 3 | 1, 52 | 4, 34 | 1, 49 |
| | 20 | 2, 8 | 1, 12 | 2, 81 | 1, 11 | 2, 83 | 1, 1 | 2, 85 | 1, 0 | 2, 86 | 1, 0 | 2, 9 | 1, 05 | 2, 93 | 1, 02 |
| | 25 | 1, 4 | 0, 58 | 1, 41 | 0, 57 | 1, 42 | 0, 5 | 1, 43 | 0, 55 | 1, 43 | 0, 55 | 1, 45 | 0, 53 | 1, 47 | 0, 54 |
| | | + | — | + | — | + | — | + | — | + | — | + | — | + | — |
| III. | 0 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 |
| | 5 | 1, 40 | 0, 57 | 1, 41 | 0, 57 | 1, 42 | 0, 57 | 1, 43 | 0, 55 | 1, 43 | 0, 55 | 1, 45 | 0, 53 | 1, 46 | 0, 54 |
| | 10 | 2, 81 | 1, 12 | 2, 81 | 1, 11 | 2, 83 | 1, 10 | 2, 85 | 1, 09 | 2, 86 | 1, 09 | 2, 89 | 1, 05 | 2, 92 | 1, 03 |
| | 15 | 4, 10 | 1, 63 | 4, 17 | 1, 61 | 4, 21 | 1, 59 | 4, 23 | 1, 57 | 4, 26 | 1, 53 | 4, 3 | 1, 52 | 4, 33 | 1, 49 |
| | 20 | 5, 45 | 2, 07 | 5, 49 | 2, 05 | 5, 52 | 2, 02 | 5, 56 | 1, 99 | 5, 61 | 1, 97 | 5, 65 | 1, 93 | 5, 7 | 1, 89 |
| | 25 | 6, 73 | 2, 43 | 6, 75 | 2, 41 | 6, 79 | 2, 38 | 6, 84 | 2, 35 | 6, 89 | 2, 34 | 6, 95 | 2, 29 | 7, 01 | 2, 24 |
| | | + | — | + | — | + | — | + | — | + | — | + | — | + | — |
| IV. | 0 | 7, 91 | 2, 72 | 7, 94 | 2, 72 | 7, 98 | 2, 67 | 8, 03 | 2, 64 | 8, 12 | 2, 58 | 8, 19 | 2, 53 | 8, 25 | 2, 48 |
| | 5 | 9, 03 | 2, 91 | 9, 07 | 2, 89 | 9, 11 | 2, 85 | 9, 17 | 2, 81 | 9, 23 | 2, 77 | 9, 33 | 2, 72 | 9, 42 | 2, 65 |
| | 10 | 10, 07 | 3, 03 | 10, 09 | 2, 99 | 10, 15 | 2, 95 | 10, 21 | 2, 91 | 10, 31 | 2, 87 | 10, 42 | 2, 82 | 10, 49 | 2, 75 |
| | 15 | 11, 03 | 3, 02 | 11, 03 | 2, 97 | 11, 11 | 2, 93 | 11, 18 | 2, 91 | 11, 27 | 2, 87 | 11, 37 | 2, 83 | 11, 47 | 2, 74 |
| | 20 | 11, 84 | 2, 94 | 11, 87 | 2, 91 | 11, 93 | 2, 87 | 12, 04 | 2, 83 | 12, 15 | 2, 79 | 12, 25 | 2, 75 | 12, 35 | 2, 69 |
| | 25 | 12, 50 | 2, 77 | 12, 65 | 2, 74 | 12, 70 | 2, 70 | 12, 81 | 2, 66 | 12, 9 | 2, 62 | 13, 03 | 2, 60 | 13, 14 | 2, 53 |
| | | + | — | + | — | + | — | + | — | + | — | + | — | + | — |
| V. | 0 | 13, 22 | 2, 52 | 13, 31 | 2, 5 | 13, 41 | 2, 47 | 13, 49 | 2, 4 | 13, 60 | 2, 40 | 13, 72 | 2, 36 | 13, 83 | 2, 30 |
| | 5 | 13, 81 | 2, 19 | 13, 88 | 2, 16 | 13, 97 | 2, 12 | 14, 07 | 2, 1 | 14, 17 | 2, 10 | 14, 32 | 2, 06 | 14, 43 | 2, 03 |
| | 10 | 14, 28 | 1, 81 | 14, 35 | 1, 82 | 14, 44 | 1, 80 | 14, 54 | 1, 78 | 14, 64 | 1, 75 | 14, 80 | 1, 72 | 14, 93 | 1, 68 |
| | 15 | 14, 64 | 1, 40 | 14, 74 | 1, 41 | 14, 83 | 1, 40 | 14, 93 | 1, 38 | 15, 05 | 1, 35 | 15, 19 | 1, 31 | 15, 3 | 1, 27 |
| | 20 | 14, 95 | 0, 94 | 15, 03 | 0, 96 | 15, 12 | 0, 96 | 15, 23 | 0, 93 | 15, 35 | 0, 91 | 15, 49 | 0, 86 | 15, 61 | 0, 83 |
| | 25 | 15, 13 | 0, 49 | 15, 22 | 0, 49 | 15, 31 | 0, 49 | 15, 41 | 0, 47 | 15, 53 | 0, 47 | 15, 69 | 0, 45 | 15, 81 | 0, 45 |
| | | + | — | + | — | + | — | + | — | + | — | + | — | + | — |
| VI. | 0 | 15, 27 | 0, 00 | 15, 37 | 0, 00 | 15, 47 | 0, 00 | 15, 58 | 0, 00 | 15, 69 | 0, 00 | 15, 83 | 0, 00 | 15, 97 | 0, 00 |

| Longitude of the Sun | Interval between the Observations. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5h. 0m | | 5h. 20m | | 5h. 40m | | 6h. 0m | | 6h. 20m | | 6h. 40m | | 7h. 0m | |
| | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part |
| ♈ ° | ′ | ″ | ′ | ″ | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ |
| ♈ 0 | [illegible] | [illegible] | [illegible] | [illegible] | 16, 55 | 0, 00 | 16, 73 | 0, 00 | 16, 93 | 0, 00 | 17, 16 | 0, 00 | 17, 40 | 0, 00 |
| 5 | [illegible] | [illegible] | [illegible] | [illegible] | 16, 45 | 0, 42 | 16, 63 | 0, 40 | 16, 83 | 0, 40 | 17, 06 | 0, 39 | 17, 30 | 0, 30 |
| 10 | 15, 93 | 0, 83 | 16, 00 | 0, 80 | 16, 25 | 0, 83 | 16, 43 | 0, 80 | 16, 63 | 0, 79 | 16, 86 | 0, 75 | 17, 10 | 0, 73 |
| 15 | 15, [illegible] | 1, 23 | 15, 70 | 1, 23 | 15, 93 | 1, 22 | 16, 12 | 1, 16 | 16, 33 | 1, 13 | 16, 55 | 1, 10 | 16, 80 | 1, 05 |
| 20 | 15, 20 | 1, 60 | 15, 35 | 1, 62 | 15, 52 | 1, 58 | 15, 70 | 1, 52 | 15, 90 | 1, 46 | 16, 12 | 1, 43 | 16, 33 | 1, 39 |
| 25 | 14, 60 | 1, 97 | 14, 83 | 1, 93 | 15, 00 | 1, 90 | 15, 16 | 1, 82 | 15, 36 | 1, 76 | 15, 56 | 1, 72 | 15, 79 | 1, 63 |
| ♉ ° | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ |
| ♉ 0 | 14, 08 | 2, 26 | 14, 22 | 2, 22 | 14, 36 | 2, 16 | 14, 53 | 2, 09 | 14, 72 | 2, 02 | 14, 92 | 1, 95 | 15, 12 | 1, 87 |
| 5 | 13, 30 | 2, 50 | 13, 50 | 2, 42 | 13, 66 | 2, 36 | 13, 80 | 2, 28 | 13, 99 | 2, 22 | 14, 16 | 2, 13 | 14, 35 | 2, 05 |
| 10 | 12, 56 | 2, 69 | 12, 69 | 2, 59 | 12, 82 | 2, 52 | 12, 96 | 2, 43 | 13, 13 | 2, 35 | 13, 30 | 2, 26 | 13, 49 | 2, 16 |
| 15 | 11, 66 | 2, 72 | 11, 76 | 2, 66 | 11, 90 | 2, 59 | 12, 03 | 2, 50 | 12, 16 | 2, 42 | 12, 35 | 2, 33 | 12, 52 | 2, 23 |
| 20 | 10, 66 | 2, 72 | 10, 75 | 2, 66 | 10, 86 | 2, 59 | 11, 00 | 2, 50 | 11, 13 | 2, 42 | 11, 29 | 2, 32 | 11, 45 | 2, 23 |
| 25 | 9, 55 | 2, 62 | 9, 66 | 2, 55 | 9, 75 | 2, 48 | 9, 86 | 2, 42 | 9, 99 | 2, 33 | 10, 12 | 2, 23 | 10, 26 | 2, 15 |
| ♊ ° | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ | − ′ | + ″ |
| ♊ 0 | 8, 39 | 2, 45 | 8, 46 | 2, 39 | 8, 55 | 2, 32 | 8, 65 | 2, 25 | 8, 75 | 2, 16 | 8, 86 | 2, 09 | 8, 99 | 2, 00 |
| 5 | 7, 12 | 2, 19 | 7, 19 | 2, 13 | 7, 26 | 2, 06 | 7, 35 | 2, 00 | 7, 43 | 1, 93 | 7, 53 | 1, 86 | 7, 63 | 1, 79 |
| 10 | 5, 76 | 1, 85 | 5, 83 | 1, 80 | 5, 90 | 1, 75 | 5, 96 | 1, 70 | 6, 03 | 1, 66 | 6, 12 | 1, 59 | 6, 20 | 1, 52 |
| 15 | 4, 39 | 1, 45 | 4, 43 | 1, 40 | 4, 49 | 1, 36 | 4, 53 | 1, 33 | 4, 59 | 1, 30 | 4, 63 | 1, 25 | 4, 70 | 1, 20 |
| 20 | 2, 95 | 1, 05 | 2, 99 | 0, 98 | 3, 02 | 0, 95 | 3, 05 | 0, 92 | 3, 09 | 0, 90 | 3, 12 | 0, 80 | 3, 16 | 0, 83 |
| 25 | 1, 46 | 0, 56 | 1, 50 | 0, 50 | 1, 52 | 0, 46 | 1, 53 | 0, 46 | 1, 55 | 0, 43 | 1, 56 | 0, 43 | 1, 60 | 0, 43 |
| ♋ ° | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ |
| ♋ 0 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 |
| 5 | 1, 46 | 0, 56 | 1, 50 | 0, 50 | 1, 51 | 0, 46 | 1, 53 | 0, 46 | 1, 55 | 0, 43 | 1, 56 | 0, 43 | 1, 60 | 0, 43 |
| 10 | 2, 95 | 1, 05 | 2, 99 | 0, 98 | 3, 02 | 0, 95 | 3, 05 | 0, 92 | 3, 09 | 0, 86 | 3, 12 | 0, 80 | 3, 16 | 0, 83 |
| 15 | 4, 39 | 1, 45 | 4, 42 | 1, 40 | 4, 46 | 1, 36 | 4, 52 | 1, 33 | 4, 56 | 1, 29 | 4, 63 | 1, 25 | 4, 70 | 1, 20 |
| 20 | 5, 75 | 1, 85 | 5, 82 | 1, 79 | 5, 90 | 1, 75 | 5, 96 | 1, 69 | 6, 02 | 1, 63 | 6, 12 | 1, 59 | 6, 19 | 1, 52 |
| 25 | 7, 08 | 2, 19 | 7, 15 | 2, 10 | 7, 23 | 2, 06 | 7, 32 | 1, 99 | 7, 42 | 1, 93 | 7, 53 | 1, 86 | 7, 62 | 1, 79 |
| ♌ ° | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ |
| ♌ 0 | 8, 33 | 2, 45 | 8, 42 | 2, 35 | 8, 50 | 2, 32 | 8, 60 | 2, 25 | 8, 72 | 2, 16 | 8, 82 | 2, 09 | 8, 95 | 2, 00 |
| 5 | 9, 53 | 2, 69 | 9, 62 | 2, 53 | 9, 70 | 2, 46 | 9, 80 | 2, 38 | 9, 92 | 2, 32 | 10, 05 | 2, 23 | 10, 20 | 2, 15 |
| 10 | 10, 56 | 2, 79 | 10, 69 | 2, 63 | 10, 80 | 2, 56 | 10, 92 | 2, 46 | 11, 05 | 2, 40 | 11, 19 | 2, 32 | 11, 35 | 2, 22 |
| 15 | 11, 56 | 2, 71 | 11, 69 | 2, 66 | 11, 80 | 2, 56 | 11, 93 | 2, 49 | 12, 08 | 2, 42 | 12, 23 | 2, 32 | 12, 42 | 2, 22 |
| 20 | 12, 48 | 2, 62 | 12, 58 | 2, 56 | 12, 72 | 2, 52 | 12, 80 | 2, 42 | 13, 03 | 2, 33 | 13, 20 | 2, 25 | 13, 40 | 2, 16 |
| 25 | 13, 27 | 2, 42 | 13, 38 | 2, 42 | 13, 53 | 2, 35 | 13, 70 | 2, 28 | 13, 86 | 2, 22 | 14, 05 | 2, 12 | 14, 25 | 2, 02 |
| ♍ ° | + ′ | − ″ | + ′ | − ″ | − ′ | − ″ | − ′ | − ″ | − ′ | + ″ | − ′ | − ″ | + ′ | − ″ |
| ♍ 0 | 13, 67 | 2, 26 | 14, 12 | 2, 20 | 14, 25 | 2, 13 | 14, 42 | 2, 09 | 14, 60 | 2, 02 | 14, 80 | 1, 93 | 15, 00 | 1, 86 |
| 5 | 14, 58 | 1, 96 | 14, 72 | 1, 92 | 14, 86 | 1, 89 | 15, 03 | 1, 82 | 15, 22 | 1, 76 | 15, 42 | 1, 72 | 15, 63 | 1, 63 |
| 10 | 15, 40 | 1, 69 | 15, 52 | 1, 60 | 15, 39 | 1, 56 | 15, 55 | 1, 52 | 15, 75 | 1, 47 | 15, 95 | 1, 43 | 16, 16 | 1, 36 |
| 15 | 16, 17 | 1, 29 | 15, 62 | 1, 23 | 15, 79 | 1, 20 | 15, 96 | 1, 16 | 16, 16 | 1, 13 | 16, 37 | 1, 10 | 16, 60 | 1, 05 |
| 20 | 16, 71 | 0, 89 | 16, 00 | 0, 85 | 16, 10 | 0, 83 | 16, 29 | 0, 80 | 16, 49 | 0, 76 | 16, 69 | 0, 75 | 16, 93 | 0, 72 |
| 25 | 16, 97 | 0, 43 | 16, 15 | 0, 43 | 16, 30 | 0, 42 | 16, 49 | 0, 42 | 16, 69 | 0, 40 | 16, 89 | 0, 39 | 17, 13 | 0, 36 |
| ♎ ° | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ | + ′ | − ″ |
| ♎ 0 | 16, 05 | 0, 00 | 16, 22 | 0, 00 | 16, 40 | 0, 00 | 16, 59 | 0, 00 | 16, 80 | 0, 00 | 17, 00 | 0, 00 | 17, 23 | 0, 00 |

| Longitude of the Sun | | Interval between the Observations. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 7h. 20m | | 7h. 40m | | 8h. 0m | | 8h. 20m | | 8h. 40m | | 9h. 0m | | 9h. 20m | |
| | | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part |
| Signs | o | s | s | s | s | s | s | s | s | s | s | s | s | s | s |
| | | − | + | − | + | − | + | − | + | − | + | − | + | − | + |
| O. | 0 | 17, 66 | 0, 00 | 17, 93 | 0, 00 | 18, 23 | 0, 00 | 18, 55 | 0, 00 | 18, 88 | 0, 00 | 19, 23 | 0, 00 | 19, 62 | 0, 00 |
| | 5 | 17, 56 | 0, 35 | 17, 83 | 0, 33 | 18, 12 | 0, 32 | 18, 43 | 0, 30 | 18, 76 | 0, 26 | 19, 12 | 0, 23 | 19, 50 | 0, 23 |
| | 10 | 17, 35 | 0, 69 | 17, 62 | 0, 66 | 17, 90 | 0, 61 | 18, 20 | 0, 59 | 18, 53 | 0, 53 | 18, 90 | 0, 50 | 19, 25 | 0, 47 |
| | 15 | 17, 02 | 1, 00 | 17, 29 | 0, 95 | 17, 56 | 0, 90 | 17, 85 | 0, 85 | 18, 18 | 0, 79 | 18, 52 | 0, 73 | 18, 88 | 0, 69 |
| | 20 | 16, 56 | 1, 30 | 16, 82 | 1, 23 | 17, 10 | 1, 16 | 17, 38 | 1, 10 | 17, 70 | 1, 02 | 18, 03 | 0, 95 | 18, 38 | 0, 87 |
| | 25 | 16, 00 | 1, 56 | 16, 25 | 1, 49 | 16, 52 | 1, 42 | 16, 80 | 1, 32 | 17, 10 | 1, 22 | 17, 42 | 1, 13 | 17, 76 | 1, 03 |
| | | − | + | − | + | − | + | − | + | − | + | − | + | − | + |
| I. | 0 | 15, 33 | 1, 80 | 15, 56 | 1, 70 | 15, 83 | 1, 60 | 16, 10 | 1, 50 | 16, 38 | 1, 40 | 16, 70 | 1, 30 | 17, 03 | 1, 20 |
| | 5 | 14, 56 | 1, 98 | 14, 80 | 1, 86 | 15, 03 | 1, 75 | 15, 28 | 1, 66 | 15, 55 | 1, 55 | 15, 85 | 1, 43 | 16, 16 | 1, 30 |
| | 10 | 13, 69 | 2, 09 | 13, 93 | 1, 99 | 14, 17 | 1, 87 | 14, 39 | 1, 75 | 14, 62 | 1, 66 | 14, 88 | 1, 52 | 15, 16 | 1, 39 |
| | 15 | 12, 72 | 2, 15 | 12, 99 | 2, 03 | 13, 13 | 1, 92 | 13, 33 | 1, 80 | 13, 56 | 1, 69 | 13, 82 | 1, 56 | 14, 10 | 1, 43 |
| | 20 | 11, 62 | 2, 13 | 11, 86 | 2, 04 | 11, 97 | 1, 9 | 12, 15 | 1, 80 | 12, 40 | 1, 69 | 12, 63 | 1, 56 | 12, 88 | 1, 43 |
| | 25 | 10, 42 | 2, 05 | 10, 56 | 1, 96 | 10, 75 | 1, 85 | 10, 93 | 1, 73 | 11, 13 | 1, 62 | 11, 33 | 1, 50 | 11, 56 | 1, 36 |
| | | − | + | − | + | − | + | − | + | − | + | − | + | − | + |
| II. | 0 | 9, 12 | 1, 92 | 9, 26 | 1, 83 | 9, 42 | 1, 73 | 9, 58 | 1, 62 | 9, 75 | 1, 50 | 9, 93 | 1, 40 | 10, 13 | 1, 27 |
| | 5 | 7, 73 | 1, 72 | 7, 86 | 1, 63 | 7, 99 | 1, 53 | 8, 13 | 1, 45 | 8, 26 | 1, 33 | 8, 41 | 1, 25 | 8, 60 | 1, 12 |
| | 10 | 6, 29 | 1, 45 | 6, 39 | 1, 39 | 6, 46 | 1, 34 | 6, 60 | 1, 23 | 6, 72 | 1, 13 | 6, 85 | 1, 05 | 6, 99 | 0, 95 |
| | 15 | 4, 76 | 1, 15 | 4, 85 | 1, 10 | 4, 93 | 1, 03 | 5, 02 | 0, 93 | 5, 10 | 0, 89 | 5, 21 | 0, 81 | 5, 35 | 0, 75 |
| | 20 | 3, 22 | 0, 82 | 3, 29 | 0, 76 | 3, 32 | 0, 72 | 3, 36 | 0, 64 | 3, 43 | 0, 62 | 3, 51 | 0, 56 | 3, 56 | 0, 52 |
| | 25 | 1, 62 | 0, 42 | 1, 63 | 0, 39 | 1, 66 | 0, 36 | 1, 70 | 0, 33 | 1, 73 | 0, 32 | 1, 76 | 0, 29 | 1, 80 | 0, 26 |
| | | + | − | + | − | + | − | + | − | + | − | + | − | + | − |
| III. | 0 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 |
| | 5 | 1, 61 | 0, 42 | 1, 63 | 0, 39 | 1, 66 | 0, 36 | 1, 70 | 0, 33 | 1, 73 | 0, 32 | 1, 76 | 0, 29 | 1, 80 | 0, 26 |
| | 10 | 3, 21 | 0, 82 | 3, 29 | 0, 76 | 3, 31 | 0, 72 | 3, 39 | 0, 64 | 3, 43 | 0, 62 | 3, 50 | 0, 57 | 3, 57 | 0, 52 |
| | 15 | 4, 76 | 1, 15 | 4, 85 | 1, 10 | 4, 93 | 1, 03 | 5, 02 | 0, 93 | 5, 10 | 0, 89 | 5, 20 | 0, 82 | 5, 35 | 0, 75 |
| | 20 | 6, 21 | 1, 45 | 6, 30 | 1, 39 | 6, 40 | 1, 30 | 6, 51 | 1, 23 | 6, 72 | 1, 13 | 6, 83 | 1, 05 | 6, 99 | 0, 95 |
| | 25 | 7, 71 | 1, 72 | 7, 83 | 1, 63 | 7, 97 | 1, 53 | 8, 11 | 1, 43 | 8, 25 | 1, 33 | 8, 40 | 1, 23 | 8, 56 | 1, 12 |
| | | + | − | + | − | + | − | + | − | + | − | + | − | + | − |
| IV. | 0 | 9, 08 | 1, 92 | 9, 22 | 1, 82 | 9, 36 | 1, 72 | 9, 53 | 1, 62 | 9, 70 | 1, 49 | 9, 88 | 1, 37 | 10, 06 | 1, 25 |
| | 5 | 10, 35 | 2, 05 | 10, 51 | 1, 93 | 10, 67 | 1, 83 | 10, 86 | 1, 72 | 11, 06 | 1, 60 | 11, 26 | 1, 48 | 11, 47 | 1, 35 |
| | 10 | 11, 52 | 2, 13 | 11, 72 | 2, 02 | 11, 91 | 1, 91 | 12, 12 | 1, 79 | 12, 32 | 1, 66 | 12, 55 | 1, 53 | 12, 77 | 1, 40 |
| | 15 | 12, 60 | 2, 15 | 12, 80 | 2, 04 | 13, 01 | 1, 91 | 13, 23 | 1, 80 | 13, 46 | 1, 66 | 13, 72 | 1, 53 | 13, 97 | 1, 40 |
| | 20 | 13, 59 | 2, 06 | 13, 80 | 1, 98 | 14, 01 | 1, 85 | 14, 23 | 1, 73 | 14, 50 | 1, 62 | 14, 78 | 1, 50 | 15, 06 | 1, 38 |
| | 25 | 14, 45 | 1, 95 | 14, 69 | 1, 86 | 14, 92 | 1, 76 | 15, 15 | 1, 66 | 15, 42 | 1, 53 | 15, 72 | 1, 42 | 16, 03 | 1, 28 |
| | | + | − | + | − | + | − | + | − | + | − | + | − | + | − |
| V. | 0 | 15, 22 | 1, 79 | 15, 45 | 1, 70 | 15, 70 | 1, 60 | 15, 98 | 1, 50 | 16, 28 | 1, 40 | 16, 59 | 1, 28 | 16, 94 | 1, 16 |
| | 5 | 15, 86 | 1, 56 | 16, 12 | 1, 46 | 16, 39 | 1, 36 | 16, 68 | 1, 26 | 17, 00 | 1, 16 | 17, 34 | 1, 05 | 17, 69 | 0, 93 |
| | 10 | 16, 40 | 1, 30 | 16, 66 | 1, 23 | 16, 93 | 1, 13 | 17, 21 | 1, 03 | 17, 53 | 0, 93 | 17, 87 | 0, 82 | 18, 23 | 0, 70 |
| | 15 | 16, 85 | 1, 00 | 17, 12 | 0, 93 | 17, 39 | 0, 83 | 17, 68 | 0, 73 | 17, 99 | 0, 63 | 18, 33 | 0, 53 | 18, 68 | 0, 40 |
| | 20 | 17, 16 | 0, 69 | 17, 43 | 0, 60 | 17, 72 | 0, 50 | 18, 02 | 0, 43 | 18, 33 | 0, 33 | 18, 67 | 0, 23 | 19, 03 | 0, 13 |
| | 25 | 17, 39 | 0, 35 | 17, 65 | 0, 33 | 17, 93 | 0, 33 | 18, 23 | 0, 33 | 18, 55 | 0, 33 | 18, 89 | 0, 33 | 19, 25 | 0, 33 |
| | | + | − | + | − | + | − | + | − | + | − | + | − | + | − |
| VI. | 0 | 17, 49 | 0, 00 | 17, 75 | 0, 00 | 18, 05 | 0, 00 | 18, 35 | 0, 00 | 18, 68 | 0, 00 | 19, 03 | 0, 00 | 19, 41 | 0, 00 |

| Longitude of the Sun | | Interval between the Observations. 9h. 40m | | 10h. 0m | | 10h. 20m | | 10h. 40m | | 11h. 0m | | 11h. 20m | | 11h. 40m | | 12h. 0m | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part |
| Signs | ° | — s | + s | — s | + s | — s | + s | — s | + s | — s | + s | — s | + s | — s | + s | — s | + s |
| O. | 0 | 20, 01 | 0, 00 | 20, 45 | 0, 00 | 20, 92 | 0, 00 | 21, 40 | 0, 00 | 21, 92 | 0, 00 | 22, 45 | 0, 00 | 23, 05 | 0, 00 | 23, 67 | 0, 00 |
| | 5 | 19, 97 | 0, 24 | 20, 32 | 0, 20 | 20, 78 | 0, 17 | 21, 26 | 0, 13 | 21, 78 | 0, 10 | 22, 34 | 0, 07 | 22, 97 | 0, 03 | 23, 55 | 0, 00 |
| | 10 | 19, 66 | 0, 45 | 20, 06 | 0, 39 | 20, 52 | 0, 34 | 21, 00 | 0, 28 | 21, 54 | 0, 23 | 22, 03 | 0, 18 | 22, 62 | 0, 12 | 23, 25 | 0, 00 |
| | 15 | 19, 21 | 0, 62 | 19, 68 | 0, 55 | 20, 13 | 0, 47 | 20, 63 | 0, 39 | 21, 08 | 0, 30 | 21, 62 | 0, 22 | 22, 18 | 0, 14 | 22, 80 | 0, 00 |
| | 20 | 18, 71 | 0, 76 | 19, 16 | 0, 70 | 19, 60 | 0, 60 | 20, 05 | 0, 49 | 20, 53 | 0, 37 | 21, 05 | 0, 25 | 21, 61 | 0, 13 | 22, 21 | 0, 00 |
| | 25 | 18, 13 | 0, 93 | 18, 52 | 0, 83 | 18, 93 | 0, 71 | 19, 37 | 0, 56 | 19, 85 | 0, 42 | 20, 35 | 0, 27 | 20, 91 | 0, 15 | 21, 42 | 0, 00 |
| I. | 0 | — 17, 38 | + 1, 06 | — 17, 75 | + 0, 93 | — 18, 15 | + 0, 82 | — 18, 56 | + 0, 69 | — 19, 02 | + 0, 52 | — 19, 50 | + 0, 35 | — 20, 02 | + 0, 16 | — 20, 56 | + 0, 00 |
| | 5 | 16, 56 | 1, 16 | 16, 85 | 1, 02 | 17, 23 | 0, 87 | 17, 63 | 0, 73 | 18, 06 | 0, 56 | 18, 52 | 0, 39 | 19, 02 | 0, 20 | 19, 53 | 0, 00 |
| | 10 | 15, 38 | 1, 23 | 15, 85 | 1, 09 | 16, 18 | 0, 93 | 16, 56 | 0, 76 | 16, 96 | 0, 59 | 17, 42 | 0, 41 | 17, 86 | 0, 20 | 18, 35 | 0, 00 |
| | 15 | 14, 53 | 1, 25 | 14, 72 | 1, 12 | 15, 00 | 0, 95 | 15, 36 | 0, 79 | 15, 75 | 0, 60 | 16, 15 | 0, 42 | 16, 56 | 0, 22 | 17, 02 | 0, 00 |
| | 20 | 13, 15 | 1, 25 | 13, 43 | 1, 12 | 13, 73 | 0, 95 | 14, 05 | 0, 79 | 14, 38 | 0, 60 | 14, 75 | 0, 42 | 15, 13 | 0, 22 | 15, 55 | 0, 00 |
| | 25 | 11, 80 | 1, 23 | 12, 05 | 1, 09 | 12, 32 | 0, 92 | 12, 62 | 0, 75 | 12, 92 | 0, 56 | 13, 25 | 0, 41 | 13, 58 | 0, 21 | 13, 95 | 0, 00 |
| II. | 0 | — 10, 35 | + 1, 15 | — 10, 56 | + 1, 02 | — 10, 80 | + 0, 88 | — 11, 04 | + 0, 76 | — 11, 30 | + 0, 55 | — 11, 60 | + 0, 36 | — 11, 90 | + 0, 16 | — 12, 23 | + 0, 00 |
| | 5 | 8, 78 | 1, 02 | 8, 96 | 0, 90 | 9, 16 | 0, 78 | 9, 36 | 0, 67 | 9, 60 | 0, 50 | 9, 85 | 0, 33 | 10, 12 | 0, 16 | 10, 38 | 0, 00 |
| | 10 | 7, 13 | 0, 86 | 7, 28 | 0, 76 | 7, 45 | 0, 65 | 7, 62 | 0, 53 | 7, 82 | 0, 42 | 8, 03 | 0, 30 | 8, 22 | 0, 15 | 8, 43 | 0, 00 |
| | 15 | 5, 42 | 0, 69 | 5, 53 | 0, 60 | 5, 65 | 0, 52 | 5, 78 | 0, 42 | 5, 92 | 0, 33 | 6, 06 | 0, 22 | 6, 23 | 0, 12 | 6, 42 | 0, 00 |
| | 20 | 3, 63 | 0, 46 | 3, 72 | 0, 42 | 3, 80 | 0, 38 | 3, 88 | 0, 30 | 3, 96 | 0, 23 | 4, 08 | 0, 15 | 4, 17 | 0, 09 | 4, 30 | 0, 00 |
| | 25 | 1, 83 | 0, 23 | 1, 86 | 0, 22 | 1, 90 | 0, 19 | 1, 95 | 0, 15 | 2, 00 | 0, 12 | 2, 05 | 0, 08 | 2, 12 | 0, 05 | 2, 16 | 0, 00 |
| III. | 0 | + 0, 00 | — 0, 00 | + 0, 00 | — 0, 00 | + 0, 00 | — 0, 00 | + 0, 00 | — 0, 00 | + 0, 00 | — 0, 00 | + 0, 00 | — 0, 00 | + 0, 00 | — 0, 00 | + 0, 00 | — 0, 00 |
| | 5 | 1, 83 | 0, 23 | 1, 86 | 0, 22 | 1, 90 | 0, 19 | 1, 95 | 0, 15 | 2, 00 | 0, 12 | 2, 05 | 0, 08 | 2, 12 | 0, 05 | 2, 16 | 0, 00 |
| | 10 | 3, 63 | 0, 46 | 3, 70 | 0, 42 | 3, 78 | 0, 38 | 3, 87 | 0, 30 | 3, 97 | 0, 23 | 4, 08 | 0, 15 | 4, 16 | 0, 09 | 4, 30 | 0, 00 |
| | 15 | 5, 40 | 0, 69 | 5, 50 | 0, 60 | 5, 63 | 0, 52 | 5, 76 | 0, 42 | 5, 90 | 0, 33 | 6, 05 | 0, 22 | 6, 20 | 0, 12 | 6, 42 | 0, 00 |
| | 20 | 7, 16 | 0, 87 | 7, 35 | 0, 76 | 7, 42 | 0, 66 | 7, 58 | 0, 53 | 7, 77 | 0, 42 | 8, 05 | 0, 26 | 8, 16 | 0, 15 | 8, 41 | 0, 00 |
| | 25 | 8, 73 | 1, 02 | 8, 92 | 0, 90 | 9, 12 | 0, 78 | 9, 34 | 0, 64 | 9, 55 | 0, 46 | 9, 78 | 0, 33 | 10, 05 | 0, 17 | 10, 33 | 0, 00 |
| IV. | 0 | + 10, 28 | — 1, 13 | + 10, 50 | — 1, 00 | + 10, 72 | — 0, 85 | + 10, 96 | — 0, 70 | + 11, 23 | — 0, 53 | + 11, 52 | — 0, 36 | + 11, 83 | — 0, 16 | + 12, 17 | — 0, 00 |
| | 5 | 11, 72 | 1, 22 | 11, 96 | 1, 06 | 12, 22 | 0, 92 | 12, 50 | 0, 78 | 12, 82 | 0, 59 | 13, 15 | 0, 39 | 13, 50 | 0, 20 | 13, 86 | 0, 00 |
| | 10 | 13, 05 | 1, 25 | 13, 33 | 1, 10 | 13, 62 | 0, 95 | 13, 93 | 0, 79 | 14, 28 | 0, 60 | 14, 65 | 0, 42 | 15, 03 | 0, 22 | 15, 43 | 0, 00 |
| | 15 | 14, 26 | 1, 25 | 14, 58 | 1, 10 | 14, 90 | 1, 03 | 15, 25 | 0, 79 | 15, 62 | 0, 60 | 16, 02 | 0, 42 | 16, 43 | 0, 26 | 16, 90 | 0, 00 |
| | 20 | 15, 38 | 1, 22 | 15, 72 | 1, 07 | 16, 06 | 0, 92 | 16, 43 | 0, 76 | 16, 83 | 0, 56 | 17, 27 | 0, 36 | 17, 73 | 0, 20 | 18, 21 | 0, 00 |
| | 25 | 16, 36 | 1, 15 | 16, 72 | 1, 00 | 17, 08 | 0, 86 | 17, 46 | 0, 73 | 17, 92 | 0, 53 | 18, 38 | 0, 36 | 18, 86 | 0, 19 | 19, 38 | 0, 00 |
| V. | 0 | + 17, 23 | — 1, 05 | + 17, 60 | — 0, 92 | + 17, 99 | — 0, 79 | + 18, 40 | — 0, 60 | + 18, 85 | — 0, 50 | + 19, 35 | — 0, 33 | + 19, 86 | — 0, 16 | + 20, 39 | — 0, 00 |
| | 5 | 17, 96 | 0, 92 | 18, 35 | 0, 81 | 18, 76 | 0, 70 | 19, 20 | 0, 56 | 19, 66 | 0, 43 | 20, 19 | 0, 30 | 20, 72 | 0, 15 | 21, 26 | 0, 00 |
| | 10 | 18, 58 | 0, 76 | 18, 98 | 0, 79 | 19, 42 | 0, 59 | 19, 88 | 0, 46 | 20, 35 | 0, 36 | 20, 86 | 0, 25 | 21, 42 | 0, 13 | 22, 00 | 0, 00 |
| | 15 | 19, 06 | 0, 60 | 19, 49 | 0, 53 | 19, 93 | 0, 45 | 20, 39 | 0, 36 | 20, 89 | 0, 26 | 21, 42 | 0, 16 | 21, 98 | 0, 11 | 22, 59 | 0, 00 |
| | 20 | 19, 45 | 0, 42 | 19, 86 | 0, 36 | 20, 32 | 0, 32 | 20, 79 | 0, 25 | 21, 28 | 0, 17 | 21, 83 | 0, 13 | 22, 42 | 0, 08 | 23, 03 | 0, 00 |
| | 25 | 19, 70 | 0, 22 | 20, 12 | 0, 19 | 20, 56 | 0, 16 | 21, 01 | 0, 13 | 21, 53 | 0, 11 | 22, 11 | 0, 07 | 22, 77 | 0, 05 | 23, 49 | 0, 00 |
| VI. | 0 | + 19, 82 | — 0, 00 | + 20, 23 | — 0, 00 | + 20, 68 | — 0, 00 | + 21, 17 | — 0, 00 | + 21, 68 | — 0, 00 | + 22, 25 | — 0, 00 | + 22, 89 | — 0, 00 | + 23, 61 | — 0, 00 |

| Longitude of the Sun | Interval between the Observations. 2h. 40m | | 3h. 0m | | 3h. 20m | | 3h. 40m | | 4h. 0m | | 4h. 20m | | 4h. 40m | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| VI. 0 | 15, 24 | 0, 00 | 15, 31 | 0, 00 | 15, 41 | 0, 00 | 15, 5[illegible] | [illegible] | [illegible] | [illegible] | 15, 7[illegible] | [illegible] | 15, 9[illegible] | 0, [illegible] |
| 5 | 15, 23 | 0, 49 | 15, 30 | 0, 49 | 15, 40 | 0, 4[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 15, 7[illegible] | [illegible] | 15, 6[illegible] | [illegible] |
| 10 | 15, 13 | 0, 97 | 15, 20 | 0, 97 | 15, 29 | 0, 96 | 15, [illegible] | [illegible] | [illegible] | [illegible] | 15, 65 | [illegible] | 15, 7[illegible] | 0, 9[illegible] |
| 15 | 14, 94 | 1, 43 | 15, 00 | 1, 43 | 15, 08 | 1, 42 | 15, 19 | 1, 40 | 15, [illegible] | 1, [illegible] | 15, 43 | 1, [illegible] | 15, 5[illegible] | 1, 3[illegible] |
| 20 | 14, 65 | 1, 84 | 14, 69 | 1, 86 | 14, 78 | 1, 84 | 14, 88 | 1, 82 | 15, [illegible] | 1, [illegible] | 15, 1[illegible] | 1, 7[illegible] | 15, [illegible] | 1, 7[illegible] |
| 25 | 14, 26 | 2, 20 | 14, 28 | 2, 25 | 14, 37 | 2, 22 | 14, 46 | 2, 19 | 14, 58 | 2, 1[illegible] | 14, 7[illegible] | 2, 1[illegible] | 14, 8[illegible] | 2, [illegible] |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| VII. 0 | 13, 75 | 2, 53 | 13, 76 | 2, 58 | 13, 85 | 2, 55 | 13, 94 | 2, 51 | 14, 05 | 2, [illegible] | 14, 1[illegible] | 2, [illegible] | 14, 2[illegible] | 2, [illegible] |
| 5 | 13, 12 | 2, 83 | 13, 14 | 2, 85 | 13, 22 | 2, 81 | 13, 31 | 2, 77 | 13, 42 | 2, 73 | 13, 52 | 2, 69 | 13, 63 | 2, 62 |
| 10 | 12, 37 | 3, 02 | 12, 41 | 3, 04 | 12, 49 | 3, 00 | 12, 57 | 2, 95 | 12, 66 | 2, 92 | 12, 76 | 2, 86 | 12, 88 | 2, 80 |
| 15 | 11, 50 | 3, 12 | 11, 57 | 3, 14 | 11, 64 | 3, 10 | 11, 71 | 3, 05 | 11, 80 | 3, 02 | 11, 90 | 2, 97 | 12, 02 | 2, 90 |
| 20 | 10, 53 | 3, 12 | 10, 62 | 3, 14 | 10, 68 | 3, 10 | 10, 75 | 3, 06 | 10, 83 | 3, 02 | 10, 93 | 2, 97 | 11, 03 | 2, 90 |
| 25 | 9, 48 | 3, 02 | 9, 57 | 0, 05 | 9, 63 | 3, 01 | 9, 69 | 2, 97 | 9, 75 | 2, 92 | 9, 83 | 2, 87 | 9, 93 | 2, 82 |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| VIII. 0 | 8, 35 | 2, 82 | 8, 42 | 2, 86 | 8, 47 | 2, 82 | 8, 53 | 2, 78 | 8, 58 | 2, [illegible] | 8, 6[illegible] | 2, [illegible] | 8, [illegible] | 2, [illegible] |
| 5 | 7, 13 | 2, 53 | 7, 18 | 2, 57 | 7, 22 | 2, 53 | 7, 27 | 2, 49 | 7, 33 | 2, [illegible] | 7, [illegible] | 2, [illegible] | 7, [illegible] | 2, [illegible] |
| 10 | 5, 82 | 2, 13 | 5, 85 | 2, 18 | 5, 88 | 2, 15 | 5, 92 | 2, 12 | 5, [illegible] | 2, [illegible] | [illegible] | 2, [illegible] | [illegible] | [illegible] |
| 15 | 4, 41 | 1, 68 | 4, 45 | 1, 71 | 4, 48 | 1, 69 | 4, 51 | 1, 67 | 4, 55 | 1, 63 | 4, 59 | 1, 60 | 4, 62 | 1, 56 |
| 20 | 3, [illegible] | 1, 17 | 3, 00 | 1, 18 | 3, 02 | 1, 17 | 3, 04 | 1, 15 | 3, 06 | 1, [illegible] | [illegible] | 1, [illegible] | [illegible] | [illegible] |
| 25 | 1, 52 | 0, 60 | 1, 51 | 0, 60 | 1, 52 | 0, 60 | 1, 53 | 0, 59 | 1, 55 | 0, 58 | 1, 55 | 1, 56 | 1, 56 | 0, 55 |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| IX. 0 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | 1, 52 | 0, 60 | 1, 51 | 0, 60 | 1, 52 | 0, 60 | 1, 53 | 0, 59 | 1, 55 | [illegible] | 1, [illegible] | [illegible] | 1, [illegible] | [illegible] |
| 10 | 3, 01 | 1, 17 | 3, 00 | 1, 18 | 3, 02 | 1, 17 | 3, 04 | 1, 15 | 3, 00 | 1, [illegible] | [illegible] | 1, [illegible] | [illegible] | [illegible] |
| 15 | 4, 47 | 1, 68 | 4, 46 | 1, 72 | 4, 49 | 1, 70 | 4, 52 | 1, 67 | 4, 55 | 1, 63 | 4, 58 | 1, 60 | 4, 63 | 1, 56 |
| 20 | 5, 88 | 2, 13 | 5, 87 | 2, 19 | 5, 90 | 2, 16 | 5, 94 | 2, 13 | 6, 00 | 2, 09 | 6, 05 | 2, 05 | 6, 10 | 2, 00 |
| 25 | 7, [illegible] | 2, [illegible] | 7, [illegible] | [illegible] | 7, [illegible] | [illegible] | 7, [illegible] | [illegible] | 7, [illegible] | [illegible] | 7, [illegible] | [illegible] | 7, [illegible] | [illegible] |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| X. 0 | 8, 40 | 2, 82 | 8, 46 | 2, 87 | 8, 51 | 2, 83 | 8, 57 | 2, 79 | 8, 63 | 2, 73 | 8, 70 | 2, 70 | 8, 76 | 2, 63 |
| 5 | 9, 50 | 3, 03 | 9, 63 | 3, 06 | 9, 69 | 3, 03 | 9, 75 | 2, 99 | 9, 82 | 2, 93 | 9, 90 | 2, 89 | 10, 00 | 2, 82 |
| 10 | 10, 58 | 3, 13 | 10, 70 | 3, 16 | 10, 76 | 3, 12 | 10, 83 | 3, 08 | 10, 92 | 3, 03 | 11, 00 | 2, 99 | 11, 10 | 2, 92 |
| 15 | 11, 52 | 3, 13 | 11, 66 | 3, 16 | 11, 73 | 3, 12 | 11, 81 | 3, 07 | 11, 90 | 3, 03 | 12, 00 | 2, 99 | 12, 12 | 2, 92 |
| 20 | 12, 34 | 3, 03 | 12, 51 | 3, 06 | 12, 59 | 3, 02 | 12, 68 | 2, 98 | 12, 76 | 2, 93 | 12, 88 | 2, 89 | 13, 00 | 2, 82 |
| 25 | 13, 05 | 2, 83 | 13, 26 | 2, 87 | 13, 34 | 2, 84 | 13, 43 | 2, 80 | 13, 52 | 2, 75 | 13, 64 | 2, 70 | 13, 76 | 2, 65 |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| XI. 0 | 13, [illegible] | [illegible] | 13, [illegible] | [illegible] | 13, [illegible] | [illegible] | [illegible] | [illegible] | 14, 1[illegible] | [illegible] | 14, 3[illegible] | 2, 45 | 14, 43 | 2, 40 |
| 5 | 14, 18 | 2, 21 | 14, 42 | 2, 27 | 14, 51 | 2, 24 | 14, 61 | 2, 21 | 14, 70 | 2, 16 | 14, 83 | 2, 13 | 14, 98 | 2, 16 |
| 10 | 14, 59 | 1, 83 | 14, 84 | 1, 88 | 14, 93 | 1, 86 | 15, 03 | 1, 83 | 15, 13 | 1, 78 | 15, 26 | 1, 76 | 15, 40 | 1, 73 |
| 15 | 14, 90 | 1, 40 | 15, 15 | 1, 45 | 15, 25 | 1, 43 | 15, 35 | 1, 41 | 15, 45 | 1, 37 | 15, 60 | 1, 35 | 15, 75 | 1, 33 |
| 20 | 15, 11 | 0, 95 | 15, 36 | 0, 99 | 15, 46 | 0, 97 | 15, 56 | 0, 96 | 15, 66 | 0, 93 | 15, 82 | 0, 92 | 15, 97 | 0, 90 |
| 25 | 15, 23 | 0, 48 | 15, 47 | 0, 50 | 15, 56 | 0, 49 | 15, 67 | 0, 48 | 15, 78 | 0, 46 | 15, 93 | 0, 46 | 16, 08 | 0, 45 |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| XII. 0 | 15, 27 | 0, 00 | 15, 48 | 0, 00 | 15, 57 | 0, 00 | 15, 68 | 0, 00 | 15, 78 | 0, 00 | 15, 93 | 0, 00 | 16, 08 | 0, 00 |

| | Interval between the Observations. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 5h. 0′ | | 5h. 20′ | | 5h. 40′ | | 6h. 0′ | | 6h. 20′ | | 6h. 40′ | | 7h. 0′ | |
| | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part |
| | + s | + s | + s | + s | + s | + s | + s | + s | + s | + s | + s | + s | + s | + s |
| VI. 0 | | ,00 | 16, 22 | 0, 00 | 16, 40 | 0, 00 | 16, 59 | 0, 00 | 16, 78 | 0, 00 | 17, 00 | 0, 00 | 17, 23 | 0, 00 |
| 5 | | ,45 | 16, 20 | 0, 43 | 16, 40 | 0, 42 | 16, 59 | 0, 40 | 16, 77 | 0, 40 | 17, 00 | 0, 39 | 17, 23 | 0, 36 |
| 10 | | ,86 | 16, 08 | 0, 85 | 16, 26 | 0, 83 | 16, 46 | 0, 80 | 16, 66 | 0, 78 | 16, 89 | 0, 75 | 17, 13 | 0, 72 |
| 15 | | 1, 28 | 15, 86 | 1, 25 | 16, 05 | 1, 22 | 16, 23 | 1, 19 | 16, 43 | 1, 15 | 16, 66 | 1, 10 | 16, 88 | 1, 07 |
| 20 | | 1, 69 | 15, 53 | 1, 64 | 15, 71 | 1, 60 | 15, 90 | 1, 55 | 16, 10 | 1, 50 | 16, 30 | 1, 43 | 16, 53 | 1, 39 |
| 25 | | | 15, 1 | 1, 98 | 15, 26 | 1, 92 | 15, 43 | 1, 86 | 15, 66 | 1, 80 | 15, 86 | 1, 73 | 16, 08 | 1, 66 |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| VII. 0 | | ,33 | 14, 55 | 2, 26 | 14, 72 | 2, 20 | 14, 89 | 2, 13 | 15, 08 | 2, 06 | 15, 28 | 2, 00 | 15, 50 | 1, 92 |
| 5 | | ,56 | 13, 00 | 2, 50 | 14, 05 | 2, 40 | 14, 22 | 2, 35 | 14, 40 | 2, 28 | 14, 60 | 2, 20 | 14, 80 | 2, 12 |
| 10 | | 2, 73 | 13, 1 | 2, 6 | 13, 28 | 2, 6 | 13, 43 | 2, 52 | 13, 6 | 2, 4 | 13, 78 | 2, 35 | 13, 98 | 2, 25 |
| 15 | | 2, 3 | 12, 7 | 2, 75 | 12, 88 | 2, 6 | 12, 51 | 2, 7 | 12, 68 | 2, 52 | 12, 85 | 2, 43 | 13, 03 | 2, 33 |
| 20 | | 2, 83 | 11, 25 | 2, 7 | 11, 37 | 2, 7 | 11, 53 | 2, 61 | 11, 15 | 2, 53 | 11, 9 | 2, 45 | 11, 6 | 2, 33 |
| 25 | | 2, 75 | 10, 13 | 2, 72 | 10, 25 | 2, 62 | 10, 38 | 2, 52 | 10, 50 | 2, 4 | 10, 65 | 2, 3 | 10, 78 | 2, 26 |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| VIII. 0 | 8, 8 | 2, 59 | 8, 92 | 2, 52 | 9, 02 | 2, 45 | 9, 12 | 2, 38 | 9, 23 | 2, 30 | 9, 35 | 2, 22 | 9, 49 | 2, 13 |
| 5 | 7, 52 | 2, 30 | 7, 60 | 2, 25 | 7, 69 | 2, 20 | 7, 77 | 2, 13 | 7, 86 | 2, 06 | 7, 96 | 1, 99 | 8, 08 | 1, 92 |
| 10 | 6, 12 | 1, 98 | 6, 19 | 1, 92 | 6, 25 | 1, 86 | 6, 32 | 1, 82 | 6, 40 | 1, 75 | 6, 49 | 1, 69 | 6, 59 | 1, 62 |
| 15 | 4, 6 | 1, 53 | 4, 72 | 1, 50 | 4, 76 | 1, 46 | 4, 82 | 1, 43 | 4, 86 | 1, 38 | 4, 93 | 1, 32 | 5, 02 | 1, 26 |
| 20 | 3, 15 | 1, 07 | 3, 19 | 1, 03 | 3, 22 | 1, 02 | 3, 25 | 0, 99 | 3, 28 | 0, 95 | 3, 33 | 0, 92 | 3, 39 | 0, 88 |
| 25 | 1, 5 | 0, 55 | 1, 60 | 0, 53 | 1, 62 | 0, 51 | 1, 63 | 0, 50 | 1, 66 | 0, 49 | 1, 69 | 0, 48 | 1, 70 | 0, 45 |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| IX. 0 | 0, 0 | 0, 0 | 0, 00 | 0, 00 | 0, 0 | 0, 0 | 0, 00 | 0, 00 | 0, 00 | 0, 0 | 0, 00 | 0, 00 | 0, 00 | 0, 00 |
| 5 | 1, 5 | 0, 5 | 1, 6 | 0, 53 | 1, 63 | 0, 5 | 1, 63 | 0, 5 | 1, 6 | 0, 4 | 1, 68 | 0, 46 | 1, 72 | 0, 45 |
| 10 | 3, 15 | 1, 0 | 3, 19 | 1, 0 | 3, 23 | 1, 03 | 3, 25 | 0, 99 | 3, 2 | 0, 9 | 3, 33 | 92 | 3, 39 | 0, 87 |
| 15 | 4, 7 | 1, 5 | 4, 72 | 1, 5 | 4, 7 | 1, 4 | 4, 82 | 1, 43 | 4, 88 | 1, 3 | 4, 93 | 1, 32 | 5, 02 | 1, 26 |
| 20 | 6, 18 | 1, 9 | 6, 2 | 1, 9 | 6, 2 | 1, 87 | 6, 33 | 1, 8 | 6, 42 | 1, 75 | 6, 50 | 1, 68 | 6, 6 | 1, 61 |
| 25 | 7, 5 | 2, 1 | 7, 60 | 2, 0 | 7, 71 | 2, 0 | 7, 79 | 2, 13 | 7, 8 | 2, 7 | 7, 1 | 1, 6 | 8, 1 | 1, 00 |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| X. 0 | 8, 8 | 2, 5 | 8, 9 | 2, 5 | 9, 0 | 2, 4 | 9, 15 | 2, 38 | 9, 2 | 2, 3 | 9, 36 | 2, 22 | 9, 51 | 2, 13 |
| 5 | 10, 0 | 2, 7 | 10, 1 | 2, 6 | 10, 2 | 2, 6 | 10, 42 | 2, 55 | 10, 5 | 2, 4 | 10, 6 | 2, 36 | 10, 8 | 2, 28 |
| 10 | 11, 1 | 2, 8 | 11, 3 | 2, 7 | 11, 4 | 2, 7 | 11, 58 | 2, 6 | 11, 7 | 2, 5 | 11, 8 | 2, 4 | 12, 0 | 2, 35 |
| 15 | 12, 0 | 2, 7 | 12, 2 | 2, 7 | 12, 4 | 2, 6 | 12, 5 | 2, 6 | 12, 7 | 2, 5 | 12, 9 | 2, 4 | 13, 1 | 2, 35 |
| 20 | 12, 8 | 2, 5 | 13, 0 | 2, 5 | 13, 1 | 2, 6 | 13, 3 | 2, 5 | 13, 5 | 2, 4 | 13, 7 | 2, 3 | 14, 0 | 2, 26 |
| 25 | 13, 6 | 2, 3 | 13, 8 | 2, 3 | 13, 9 | 2, 3 | 14, 1 | 2, 2 | 14, 3 | 2, 1 | 14, 5 | 2, 0 | 14, 8 | 2, 13 |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| XI. 0 | 14, 5 | 2, 1 | 14, 7 | 2, 0 | 14, 8 | 2, 0 | 15, 0 | 2, 1 | 15, 2 | 2, 1 | 15, 4 | 2, 0 | 15, 6 | 1, 9 |
| 5 | 15, 1 | 2, 0 | 15, 3 | 1, 9 | 15, 4 | 1, 9 | 15, 6 | 1, 9 | 15, 7 | 1, 8 | 15, 9 | 1, 7 | 16, 2 | 1, 6 |
| 10 | 15, 6 | 1, 8 | 15, 8 | 1, 8 | 15, 9 | 1, 8 | 16, 0 | 1, 8 | 16, 2 | 1, 8 | 16, 4 | 1, 7 | 16, 6 | 1, 6 |
| 15 | 15, 9 | 1, 7 | 16, 0 | 1, 7 | 16, 2 | 1, 7 | 16, 3 | 1, 6 | 16, 5 | 1, 6 | 16, 7 | 1, 6 | 16, 9 | 1, 5 |
| 20 | 16, 2 | 1, 6 | 16, 3 | 1, 6 | 16, 4 | 1, 6 | 16, 5 | 1, 5 | 16, 7 | 1, 5 | 16, 8 | 1, 4 | 17, 0 | 1, 3 |
| 25 | 16, 4 | 1, 4 | 16, 5 | 1, 4 | 16, 6 | 1, 4 | 16, 7 | 1, 4 | 16, 8 | 1, 3 | 17, 0 | 1, 3 | 17, 1 | 1, 2 |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| XII. 0 | 16, 5 | 1, 3 | 16, 38 | 0, 00 | 16, 55 | 0, 00 | 16, 73 | 0, 00 | 16, 93 | 0, 00 | 17, 16 | 0, 00 | 17, 40 | 0, 00 |

| Longitude of the Sun | Interval between the Observations. | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 7h. 22m | | 7h. 40m | | 7h. 57m | | 8h. 20m | | 8h. 40m | | 9h. 0m | | 9h. 20m | |
| | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part |
| Sign. ° | + ′ | + ′ | + ′ | + ′ | + ′ | + ′ | + ′ | + ′ | + ′ | + ′ | + ′ | − ′ | − ′ | + ′ |
| VI. 0 | 17, 46 | 0, 00 | 17, 73 | 0, 00 | 18, 00 | 0, 00 | 18, 35 | 0, 00 | 18, 60 | 0, 00 | 19, 03 | 0, 00 | 19, 40 | 0, 00 |
| 5 | 17, 48 | 0, 38 | 17, 75 | 0, 39 | [illegible] | 0, 38 | [illegible] | 0, 36 | [illegible] | 0, 28 | [illegible] | 0, 28 | [illegible] | 0, 25 |
| 10 | 17, 37 | 0, 67 | 17, 63 | 0, 68 | [illegible] | 0, 68 | 18, 22 | 0, 58 | 18, 48 | 0, 55 | [illegible] | 0, 57 | [illegible] | 0, 45 |
| 15 | 17, 18 | 1, 00 | 17, 44 | 0, 97 | 17, 68 | 0, 91 | 17, 94 | 0, 87 | 18, 20 | 0, 82 | [illegible] | 0, 75 | [illegible] | 0, 67 |
| 20 | 16, 78 | 1, 30 | 17, 03 | 1, 25 | 17, 32 | 1, 18 | 17, 62 | 1, 12 | 17, 93 | 1, 05 | [illegible] | 0, 96 | [illegible] | 0, 87 |
| 25 | 16, 38 | 1, 60 | 16, 56 | 1, 51 | [illegible] | 1, 41 | 17, 12 | 1, 35 | 17, 44 | 1, 28 | [illegible] | 1, 16 | 18, 11 | 1, 05 |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| VII. 0 | 15, 73 | 1, 83 | 15, 97 | 1, 78 | [illegible] | 1, 68 | 16, 53 | 1, 58 | 16, 82 | 1, 48 | 17, 11 | 1, 38 | [illegible] | 1, 23 |
| 5 | 15, 02 | 2, 02 | 15, 25 | 1, 97 | [illegible] | 1, 87 | 15, 78 | 1, 78 | 16, 08 | 1, 68 | 16, 38 | 1, 58 | [illegible] | 1, 43 |
| 10 | 14, 10 | 2, 15 | 14, 42 | 2, 10 | [illegible] | 2, 00 | [illegible] | 1, 90 | 15, 11 | 1, 79 | 15, 4 | 1, 68 | [illegible] | 1, 53 |
| 15 | 13, 22 | 2, 23 | 13, 43 | 2, 18 | [illegible] | 2, 08 | [illegible] | 1, 98 | 14, 11 | 1, 78 | 14, 38 | 1, 68 | [illegible] | 1, 53 |
| 20 | 12, 13 | 2, 25 | 12, 33 | 2, 18 | [illegible] | 2, 08 | [illegible] | 1, 98 | 12, 97 | 1, 78 | 13, 22 | 1, 68 | 13, 48 | 1, 53 |
| 25 | 10, 93 | 2, 10 | 11, 10 | 2, 07 | 11, 28 | 1, 98 | 11, 47 | 1, 88 | 11, 65 | 1, 78 | 11, 92 | 1, 68 | 12, 13 | 1, 53 |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| VIII. 0 | 9, 62 | 2, 03 | 9, 78 | 1, 93 | 9, 93 | 1, 83 | [illegible] | 1, 73 | 10, 27 | 1, 63 | [illegible] | 1, 48 | [illegible] | 1, 33 |
| 5 | 8, 20 | 1, 83 | 8, 33 | 1, 73 | 8, 47 | 1, 63 | 8, 60 | 1, 53 | 8, 75 | 1, 43 | [illegible] | 1, 28 | [illegible] | 1, 13 |
| 10 | 6, 63 | 1, 53 | 6, 73 | 1, 43 | [illegible] | 1, 33 | 7, 02 | 1, 30 | 7, 13 | 1, 20 | 7, 27 | 1, 18 | 7, 42 | 1, 08 |
| 15 | 5, 08 | 1, 23 | 5, 18 | 1, 13 | [illegible] | 1, 03 | 5, 33 | 1, 00 | 5, 43 | 0, 90 | 5, 54 | 0, 88 | 5, 63 | 0, 80 |
| 20 | 3, 43 | 0, 83 | 3, 47 | 0, 80 | [illegible] | 0, 75 | 3, 60 | 0, 70 | 3, 56 | 0, 68 | 3, 72 | 0, 63 | [illegible] | 0, 55 |
| 25 | 1, 73 | 0, 43 | 1, 75 | 0, 41 | [illegible] | 0, 38 | [illegible] | 0, 36 | [illegible] | 0, 35 | [illegible] | 0, 33 | [illegible] | 0, 28 |
| | − | − | − | − | − | − | − | − | − | − | − | − | − | − |
| IX. 0 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 | 0, 00 |
| 5 | 1, 73 | 0, 43 | 1, 75 | 0, 41 | [illegible] | 0, 38 | [illegible] | 0, 36 | [illegible] | 0, 35 | [illegible] | 0, 33 | [illegible] | 0, 28 |
| 10 | 3, 43 | 0, 83 | 3, 47 | 0, 80 | [illegible] | 0, 75 | 3, 60 | 0, 70 | 3, 56 | 0, 68 | 3, 72 | 0, 63 | 3, 80 | 0, 55 |
| 15 | 5, 08 | 1, 23 | 5, 18 | 1, 13 | [illegible] | 1, 03 | [illegible] | 1, 00 | [illegible] | 0, 90 | [illegible] | 0, 88 | 5, 65 | 0, 80 |
| 20 | 6, 78 | 0, 53 | 6, 87 | 1, 40 | [illegible] | 1, 30 | [illegible] | 1, 20 | [illegible] | 1, 10 | [illegible] | 1, 08 | [illegible] | 1, 00 |
| 25 | 8, 33 | 1, 03 | 8, 41 | 1, 73 | [illegible] | 1, 63 | [illegible] | 1, 53 | [illegible] | 1, 43 | [illegible] | 1, 33 | [illegible] | 1, 18 |
| | − | − | − | − | − | − | − | − | − | − | − | − | − | − |
| X. 0 | 0, 66 | 2, 03 | 0, 82 | 1, 93 | 0, 97 | 1, 83 | [illegible] | 1, 73 | 10, 23 | 1, 63 | [illegible] | 1, 48 | [illegible] | 1, 33 |
| 5 | 11, 08 | 1, 83 | 11, 16 | 1, 73 | [illegible] | 1, 63 | [illegible] | 1, 53 | [illegible] | 1, 43 | [illegible] | 1, 28 | [illegible] | 1, 13 |
| 10 | [illegible] | 1, 53 | [illegible] | 1, 43 | [illegible] | 1, 33 | [illegible] | 1, 30 | [illegible] | 1, 20 | [illegible] | 1, 18 | [illegible] | 1, 08 |
| 15 | [illegible] | 1, 23 | [illegible] | 1, 13 | [illegible] | 1, 03 | [illegible] | 1, 00 | [illegible] | 0, 90 | [illegible] | 0, 88 | [illegible] | 0, 80 |
| 20 | [illegible] | 0, 83 | [illegible] | 0, 80 | [illegible] | 0, 75 | [illegible] | 0, 70 | [illegible] | 0, 68 | [illegible] | 0, 63 | [illegible] | 0, 55 |
| 25 | [illegible] | 0, 43 | [illegible] | 0, 41 | [illegible] | 0, 38 | [illegible] | 0, 36 | [illegible] | 0, 35 | [illegible] | 0, 33 | [illegible] | 0, 28 |
| | − | − | − | − | − | − | − | − | − | − | − | − | − | − |
| XI. 0 | 15, 84 | 1, 83 | 16, 00 | 1, 73 | [illegible] | 1, 63 | 16, 60 | 1, 53 | 16, 95 | 1, 43 | 17, 26 | 1, 33 | 17, 60 | 1, 23 |
| 5 | 16, 48 | 1, 63 | 16, 70 | 1, 53 | [illegible] | 1, 43 | 17, 20 | 1, 33 | 17, 50 | 1, 23 | [illegible] | 1, 13 | [illegible] | 1, 03 |
| 10 | 16, 03 | 1, 33 | 17, 11 | 1, 23 | [illegible] | 1, 13 | 17, 70 | 1, 13 | 18, 10 | 1, 05 | 18, 43 | 0, 96 | 18, 80 | 0, 88 |
| 15 | 17, 40 | 1, 03 | 17, 55 | 0, 98 | [illegible] | 0, 88 | [illegible] | 0, 88 | 18, 48 | 0, 82 | 18, 83 | 0, 75 | 19, 20 | 0, 69 |
| 20 | 17, 53 | 0, 73 | 17, 68 | 0, 68 | [illegible] | 0, 63 | 18, 40 | 0, 60 | 18, 73 | 0, 55 | 19, 08 | 0, 52 | 19, 46 | 0, 46 |
| 25 | 17, 60 | 0, 38 | 17, 93 | 0, 33 | [illegible] | 0, 33 | 18, 53 | 0, 30 | 18, 86 | 0, 28 | 19, 23 | 0, 26 | 19, 60 | 0, 23 |
| | − | − | − | − | − | − | − | − | − | − | − | − | − | − |
| XII. 0 | 17, 66 | 0, 00 | 17, 93 | 0, 00 | 18, 22 | 0, 00 | 18, 55 | 0, 00 | 18, 88 | 0, 00 | 19, 23 | 0, 00 | 19, 62 | 0, 00 |

| | Interval between the Observations. | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 9h. 40m | | 10h. 0m | | 10h. 20m | | 10h. 40m | | 11h. 0m | | 11h. 20m | | 11h. 40m | | 12h. 0m | |
| | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part | First part | Second part |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| VI. 0 | 19, 8 | 0, 02 | 20, 23 | 0, 01 | [illegible] | [illegible] | 21. 1[illegible] | 0, 00 | 21, 69 | 0, 00 | 22, 23 | [illegible] | 22, 83 | [illegible] | [illegible] | [illegible] |
| 5 | 19, 8 | 0, 21 | 20, 23 | 0, 18 | [illegible] | [illegible] | [illegible] | 0, 13 | 21, 69 | 0, 10 | 22, 22 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 10 | 19, 6 | 0, 42 | 20, 12 | 0, 36 | [illegible] | [illegible] | 21, 02 | 0, 25 | 21, 53 | 0, 20 | 22, 06 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 19, 42 | 0, 62 | 19, 83 | 0, 53 | [illegible] | [illegible] | [illegible] | 0, 37 | 21, 23 | 0, 29 | 21, 76 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 19, 0[illegible] | 0, 79 | 19, 42 | 0, 70 | 19, 85 | 0, 61 | [illegible] | 0, 49 | 20, 80 | 0, 36 | 21, 33 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 18, 4[illegible] | 0, 93 | 18, 86 | 0, 83 | 19, 2[illegible] | 0, 71 | 19, 78 | 0, 58 | 20, 22 | 0, 45 | 20, 73 | 0, 30 | [illegible] | [illegible] | [illegible] | [illegible] |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| VII. 0 | 17, 8[illegible] | 1, 04 | 18, 18 | 0, 96 | 18, 5[illegible] | 0, 81 | [illegible] | 0, 66 | 19, 40 | 0, 51 | 19, 9[illegible] | 0, 37 | [illegible] | 0, 10 | 21, 08 | 0, [illegible] |
| 5 | 16, 9[illegible] | 1, 23 | 17, 35 | 1, [illegible] | 17, 73 | 0, [illegible] | 18, 1[illegible] | 0, 73 | 18, [illegible] | 0, 5[illegible] | 19, [illegible] | 0, 4[illegible] | 19, 5[illegible] | 0, 20 | 20, 12 | 0, [illegible] |
| 10 | 16, 03 | 1, 2[illegible] | 16, 38 | 1, 1[illegible] | 16, 75 | 0, [illegible] | 17, 13 | 0, 7[illegible] | 17, 5[illegible] | 0, [illegible] | 18, [illegible] | 0, 4[illegible] | 18, 50 | 0, 21 | 19, 00 | 0, [illegible] |
| 15 | 14, 9[illegible] | 1, 33 | 15, 2[illegible] | 1, 16 | 15, 6[illegible] | 1, [illegible] | 15, 9[illegible] | 0, 8[illegible] | 16, 3[illegible] | 0, 6[illegible] | 16, 8[illegible] | 0, 4[illegible] | 17, 2[illegible] | 0, 21 | 17, 7[illegible] | [illegible] |
| 20 | 13, 7[illegible] | 1, 3[illegible] | 14, 02 | 1, 16 | 14, 33 | 1, [illegible] | 14, 6[illegible] | 0, 8[illegible] | 15, 0[illegible] | 0, 6[illegible] | 15, 42 | 0, 4[illegible] | 15, 8[illegible] | [illegible] | 17, [illegible] | [illegible] |
| 25 | 12, 3[illegible] | 1, 3[illegible] | 12, 62 | 1, 13 | 12, 9[illegible] | 0, 67 | 13, 2[illegible] | 0, 5[illegible] | 13, 55 | 0, 62 | 13, 9[illegible] | 0, 2[illegible] | 14, 2[illegible] | [illegible] | 13, [illegible] | [illegible] |
| | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + | + |
| VIII. [illegible] | [illegible] | [illegible] | 11, 12 | 1, 05 | 11, 3[illegible] | 0, 9[illegible] | 11, 63 | 0, 75 | 11, 92 | 0, 58 | 12, 22 | 0, 4[illegible] | 12, 53 | [illegible] | 13, [illegible] | [illegible] |
| [illegible] | 9, 2[illegible] | 1, 37 | 9, 49 | 1, 23 | 9, 7[illegible] | 0, 8[illegible] | 9, 9[illegible] | 0, 6[illegible] | 10, 1[illegible] | 0, 5[illegible] | 10, 4[illegible] | 0, 3[illegible] | 10, 7[illegible] | 0, 1[illegible] | 11, 0[illegible] | [illegible] |
| 10 | 7, 5[illegible] | 1, 9[illegible] | 7, 73 | 1, 5[illegible] | 7, 9[illegible] | 1, 0[illegible] | 8, 0[illegible] | 0, 5[illegible] | 8, 2[illegible] | 0, 4[illegible] | 8, 4[illegible] | 0, 3[illegible] | 8, 7[illegible] | 0, 1[illegible] | 8, 9[illegible] | [illegible] |
| 15 | 5, 7[illegible] | 1, 7[illegible] | 5, 88 | 1, 63 | 6, 0[illegible] | 1, 3[illegible] | 6, 1[illegible] | 0, 4[illegible] | 6, 3[illegible] | 0, 3[illegible] | 6, 4[illegible] | 0, 2[illegible] | 6, 6[illegible] | 0, 1[illegible] | 6, 8[illegible] | [illegible] |
| 20 | 3, 9[illegible] | 1, 5[illegible] | 4, 0[illegible] | 1, 4[illegible] | 4, 1[illegible] | 1, 3[illegible] | 4, 1[illegible] | 0, 3[illegible] | 4, 2[illegible] | 0, 2[illegible] | 4, 3[illegible] | 0, 1[illegible] | 4, 4[illegible] | [illegible] | 4, [illegible] | [illegible] |
| 25 | 1, 9[illegible] | 1, 3[illegible] | 2, 0[illegible] | 1, 2[illegible] | 2, 0[illegible] | 1, 1[illegible] | 2, 0[illegible] | 0, 2[illegible] | 2, 0[illegible] | 0, 1[illegible] | 2, 1[illegible] | [illegible] | 2, 2[illegible] | [illegible] | 2, 2[illegible] | [illegible] |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| IX. 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0, 0[illegible] | [illegible] | 0, 00 | [illegible] | 0, 0[illegible] | [illegible] |
| 5 | 1, 0[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0, 1[illegible] | [illegible] | 0, 1[illegible] | 2, 1[illegible] | [illegible] | 2, 2[illegible] | [illegible] | 2, 3[illegible] | [illegible] |
| 10 | 3, 1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 5, 2[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 7, 3[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| X. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0, 75 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| XI. 0 | 17, 98 | 1, 1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0, 60 | 19, 66 | 0, 52 | 20, 16 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | 18, 66 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0, 60 | 20, 40 | 0, 45 | 20, 98 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 10 | 19, 18 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0, 50 | 21, 00 | 0, 36 | 21, 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 19, 60 | 0 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0, 38 | 21, 45 | 0, 29 | 21, 99 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 20 | 19, 86 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0, 20 | 21, 75 | 0, 20 | 22, 28 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 20, 02 | 0, [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 0, 13 | 21, 90 | 0, 1[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| XII. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 20, 92 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

T. XXXIV. Lengths, in Minutes of the Equator, of One Degree of the different Parallels of Latitude, both for the Sphere, and Spheroid.

| | Degree in the Sphere | Diff. | Degree in the Spheroid | Differ. | | Degree in the Sphere | Diff. | Degree in the Spheroid | Differ. |
|---|---|---|---|---|---|---|---|---|---|
| | ′ | ′ | ′ | ″ | | ′ | ′ | ′ | ″ |
| 0 | 60, 000 | 0, 000 | 60, 000 | 0, 009 | 45 | 42, 426 | 0, 707 | 42, 435 | 0, 748 |
| 1 | 59, 991 | 0, 009 | 59, 991 | 0, 027 | 46 | 41, 719 | 0, 745 | 41, 741 | 0, 759 |
| 2 | 59, 963 | 0, 045 | 59, 964 | 0, 046 | 47 | 40, 974 | 0, 772 | 40, 982 | 0, 771 |
| 3 | 59, 918 | 0, 064 | 59, 918 | 0, 063 | 48 | 40, 148 | 0, 784 | 40, 217 | 0, 783 |
| 4 | 59, 854 | 0, 082 | 59, 855 | 0, 082 | 49 | 39, 364 | 0, 797 | 39, 434 | 0, 796 |
| 5 | 59, 772 | 0, 101 | 59, 773 | 0, 100 | 50 | 38, 567 | 0, 808 | 38, 638 | 0, 807 |
| 6 | 59, 671 | 0, 118 | 59, 673 | 0, 117 | 51 | 37, 759 | 0, 819 | 37, 831 | 0, 818 |
| 7 | 59, 553 | 0, 137 | 59, 556 | 0, 136 | 52 | 36, 940 | 0, 831 | 37, 011 | 0, 830 |
| 8 | 59, 416 | 0, 155 | 59, 420 | 0, 154 | 53 | 36, 109 | 0, 842 | 36, 181 | 0, 841 |
| 9 | 59, 261 | 0, 173 | 59, 266 | 0, 172 | 54 | 35, 267 | 0, 852 | 35, 340 | 0, 851 |
| 10 | 59, 088 | 0, 190 | 59, 094 | 0, 190 | 55 | 34, 415 | 0, 863 | 34, 489 | 0, 862 |
| 11 | 58, 898 | 0, 209 | 58, 904 | 0, 207 | 56 | 33, 552 | 0, 874 | 33, 627 | 0, 874 |
| 12 | 58, 689 | 0, 227 | 58, 697 | 0, 226 | 57 | 32, 678 | 0, 883 | 32, 753 | 0, 883 |
| 13 | 58, 462 | 0, 244 | 58, 471 | 0, 243 | 58 | 31, 795 | 0, 893 | 31, 870 | 0, 893 |
| 14 | 58, 218 | 0, 262 | 58, 228 | 0, 260 | 59 | 30, 902 | 0, 902 | 30, 977 | 0, 902 |
| 15 | 57, 956 | 0, 280 | 57, 968 | 0, 279 | 60 | 30, 000 | 0, 911 | 30, 075 | 0, 911 |
| 16 | 57, 676 | 0, 298 | 57, 689 | 0, 295 | 61 | 29, 089 | 0, 921 | 29, 164 | 0, 921 |
| 17 | 57, 378 | 0, 315 | 57, 394 | 0, 314 | 62 | 28, 168 | 0, 930 | 28, 243 | 0, 930 |
| 18 | 57, 063 | 0, 332 | 57, 080 | 0, 330 | 63 | 27, 239 | 0, 939 | 27, 313 | 0, 938 |
| 19 | 56, 731 | 0, 349 | 56, 750 | 0, 348 | 64 | 26, 300 | 0, 947 | 26, 375 | 0, 947 |
| 20 | 56, 382 | 0, 367 | 56, 402 | 0, 365 | 65 | 25, 357 | 0, 953 | 25, 422 | 0, 954 |
| 21 | 56, 015 | 0, 384 | 56, 037 | 0, 382 | 66 | 24, 404 | 0, 960 | 24, 468 | 0, 960 |
| 22 | 55, 631 | 0, 401 | 55, 655 | 0, 398 | 67 | 23, 444 | 0, 968 | 23, 506 | 0, 967 |
| 23 | 55, 230 | 0, 417 | 55, 257 | 0, 416 | 68 | 22, 476 | 0, 974 | 22, 537 | 0, 975 |
| 24 | 54, 813 | 0, 435 | 54, 841 | 0, 432 | 69 | 21, 502 | 0, 981 | 21, 561 | 0, 978 |
| 25 | 54, 378 | 0, 450 | 54, 409 | 0, 449 | 70 | 20, 521 | 0, 987 | 20, 583 | 0, 984 |
| 26 | 53, 928 | 0, 468 | 53, 960 | 0, 465 | 71 | 19, 534 | 0, 993 | 19, 599 | 0, 990 |
| 27 | 53, 460 | 0, 483 | 53, 495 | 0, 482 | 72 | 18, 541 | 0, 999 | 18, 609 | 0, 996 |
| 28 | 52, 977 | 0, 500 | 53, 013 | 0, 497 | 73 | 17, 542 | 1, 004 | 17, 613 | 1, 002 |
| 29 | 52, 477 | 0, 515 | 52, 516 | 0, 514 | 74 | 16, 538 | 1, 009 | 16, 611 | 1, 007 |
| 30 | 51, 962 | 0, 532 | 52, 002 | 0, 529 | 75 | 15, 529 | 1, 014 | 15, 574 | 1, 012 |
| 31 | 51, 430 | 0, 547 | 51, 473 | 0, 547 | 76 | 14, 515 | 1, 018 | 14, 558 | 1, 017 |
| 32 | 50, 883 | 0, 563 | 50, 926 | 0, 562 | 77 | 13, 497 | 1, 022 | 13, 537 | 1, 021 |
| 33 | 50, 320 | 0, 578 | 50, 364 | 0, 576 | 78 | 12, 475 | 1, 026 | 12, 512 | 1, 025 |
| 34 | 49, 742 | 0, 593 | 49, 791 | 0, 592 | 79 | 11, 449 | 1, 030 | 11, 483 | 1, 028 |
| 35 | 49, 149 | 0, 608 | 49, 199 | 0, 606 | 80 | 10, 419 | 1, 033 | 10, 450 | 1, 033 |
| 36 | 48, 541 | 0, 623 | 48, 593 | 0, 621 | 81 | 9, 386 | 1, 036 | 9, 414 | 1, 038 |
| 37 | 47, 918 | 0, 637 | 47, 972 | 0, 636 | 82 | 8, 350 | 1, 038 | 8, 376 | 1, 041 |
| 38 | 47, 281 | 0, 652 | 47, 336 | 0, 650 | 83 | 7, 312 | 1, 040 | 7, 335 | 1, 044 |
| 39 | 46, 629 | 0, 665 | 46, 686 | 0, 663 | 84 | 6, 272 | 1, 043 | 6, 291 | 1, 046 |
| 40 | 45, 964 | 0, 679 | 46, 023 | 0, 677 | 85 | 5, 229 | 1, 044 | 5, 245 | 1, 047 |
| 41 | 45, 285 | 0, 693 | 45, 346 | 0, 690 | 86 | 4, 185 | 1, 045 | 4, 198 | 1, 047 |
| 42 | 44, 592 | 0, 707 | 44, 656 | 0, 703 | 87 | 3, 140 | 1, 046 | 3, 151 | 1, 047 |
| 43 | 43, 885 | 0, 721 | 43, 953 | 0, 716 | 88 | 2, 094 | 1, 047 | 2, 104 | 1, 047 |
| 44 | 43, 164 | 0, 734 | 43, 237 | 0, 732 | 89 | 1, 047 | | 1, 057 | |
| 45 | 42, 426 | | 42, 505 | | | | | | |

T. XXXV. Lengths, in Minutes of the Equator, of the different Arches of the Meridian in the Spheroid, from the Equator to the Pole; and also of the respective Degrees of Latitude.

| Latitude | Arch of the Meridian | Degree of Latitude | Differ. | Latitude | Arch of the Meridian | Degree of Latitude | Differ. |
|---|---|---|---|---|---|---|---|
| ° | ′ | ′ | ′ | ° | ′ | ′ | ′ |
| 0 | 0, 000 | | | 45 | 2687, 838 | | |
| | | 59, 628 | 0, 001 | | | 59, 912 | 0, 010 |
| 1 | 59, 628 | 59, 629 | 0, 001 | 46 | 2747, 750 | 59, 922 | 0, 009 |
| 2 | 119, 257 | 59, 630 | 0, 001 | 47 | 2807, 672 | 59, 931 | 0, 010 |
| 3 | 178, 887 | 59, 631 | 0, 001 | 48 | 2867, 603 | 59, 941 | 0, 010 |
| 4 | 238, 518 | | | 49 | 2927, 544 | | |
| | | 59, 632 | 0, 002 | | | 59, 951 | 0, 009 |
| 5 | 298, 150 | 59, 634 | 0, 002 | 50 | 2987, 495 | 59, 960 | 0, 010 |
| 6 | 357, 784 | 59, 636 | 0, 002 | 51 | 3047, 455 | 59, 970 | 0, 009 |
| 7 | 417, 420 | 59, 638 | 0, 003 | 52 | 3107, 425 | 59, 979 | 0, 010 |
| 8 | 477, 058 | 59, 641 | 0, 003 | 53 | 3167, 404 | 59, 989 | 0, 009 |
| 9 | 536, 699 | | | 54 | 3227, 393 | | |
| | | 59, 644 | 0, 003 | | | 59, 998 | 0, 009 |
| 10 | 596, 343 | 59, 647 | 0, 004 | 55 | 3287, 391 | 60, 007 | 0, 009 |
| 11 | 655, 990 | 59, 651 | 0, 004 | 56 | 3347, 398 | 60, 016 | 0, 009 |
| 12 | 715, 641 | 59, 655 | 0, 004 | 57 | 3407, 414 | 60, 025 | 0, 009 |
| 13 | 775, 296 | 59, 659 | 0, 004 | 58 | 3467, 439 | 60, 034 | 0, 008 |
| 14 | 834, 955 | | | 59 | 3527, 473 | | |
| | | 59, 663 | 0, 005 | | | 60, 042 | 0, 009 |
| 15 | 894, 618 | 59, 668 | 0, 005 | 60 | 3587, 515 | 60, 051 | 0, 008 |
| 16 | 954, 286 | 59, 673 | 0, 006 | 61 | 3647, 566 | 60, 059 | 0, 008 |
| 17 | 1013, 959 | 59, 679 | 0, 006 | 62 | 3707, 625 | 60, 067 | 0, 008 |
| 18 | 1073, 638 | 59, 685 | 0, 006 | 63 | 3767, 692 | 60, 075 | 0, 007 |
| 19 | 1133, 323 | | | 64 | 3827, 767 | | |
| | | 59, 691 | 0, 006 | | | 60, 082 | 0, 008 |
| 20 | 1193, 014 | 59, 697 | 0, 006 | 65 | 3887, 849 | 60, 090 | 0, 007 |
| 21 | 1252, 711 | 59, 703 | 0, 007 | 66 | 3947, 939 | 60, 097 | 0, 007 |
| 22 | 1312, 414 | 59, 710 | 0, 007 | 67 | 4008, 036 | 60, 104 | 0, 007 |
| 23 | 1372, 124 | 59, 717 | 0, 007 | 68 | 4068, 140 | 60, 111 | 0, 006 |
| 24 | 1431, 841 | | | 69 | 4128, 251 | | |
| | | 59, 724 | 0, 008 | | | 60, 117 | 0, 007 |
| 25 | 1491, 565 | 59, 732 | 0, 007 | 70 | 4188, 368 | 60, 124 | 0, 006 |
| 26 | 1551, 297 | 59, 739 | 0, 008 | 71 | 4248, 492 | 60, 130 | 0, 005 |
| 27 | 1611, 036 | 59, 747 | 0, 008 | 72 | 4308, 622 | 60, 135 | 0, 006 |
| 28 | 1670, 783 | 59, 755 | 0, 009 | 73 | 4368, 757 | 60, 141 | 0, 005 |
| 29 | 1730, 538 | | | 74 | 4428, 898 | | |
| | | 59, 764 | 0, 008 | | | 60, 146 | 0, 005 |
| 30 | 1790, 302 | 59, 772 | 0, 009 | 75 | 4489, 044 | 60, 151 | 0, 004 |
| 31 | 1850, 074 | 59, 781 | 0, 008 | 76 | 4549, 195 | 60, 155 | 0, 005 |
| 32 | 1909, 855 | 59, 789 | 0, 009 | 77 | 4609, 350 | 60, 160 | 0, 004 |
| 33 | 1969, 644 | 59, 798 | 0, 009 | 78 | 4669, 510 | 60, 164 | 0, 003 |
| 34 | 2029, 442 | | | 79 | 4729, 674 | | |
| | | 59, 807 | 0, 009 | | | 60, 167 | 0, 004 |
| 35 | 2089, 249 | 59, 816 | 0, 010 | 80 | 4789, 841 | 60, 171 | 0, 003 |
| 36 | 2149, 065 | 59, 826 | 0, 009 | 81 | 4850, 012 | 60, 174 | 0, 002 |
| 37 | 2208, 891 | 59, 835 | 0, 009 | 82 | 4910, 186 | 60, 176 | 0, 003 |
| 38 | 2268, 726 | 59, 844 | 0, 010 | 83 | 4970, 362 | 60, 179 | 0, 002 |
| 39 | 2328, 570 | | | 84 | 5030, 541 | | |
| | | 59, 854 | 0, 009 | | | 60, 181 | 0, 001 |
| 40 | [illegible] | 59, 863 | 0, 010 | 85 | 5090, 722 | 60, 182 | 0, 002 |
| 41 | [illegible] | 59, 873 | 0, 010 | 86 | 5150, 904 | 60, 184 | 0, 001 |
| 42 | [illegible] | 59, 883 | 0, 010 | 87 | 5211, 088 | 60, 185 | 0, 000 |
| 43 | [illegible] | 59, 893 | 0, 009 | 88 | 5271, 273 | 60, 185 | 0, 001 |
| 44 | [illegible] | 59, 902 | | 89 | 5331, 458 | 60, 186 | |
| 45 | 2687, 838 | | | 90 | 5391, 644 | | |

T. XXXVI. Distances from the visible Horizon to the Observer, according to the Elevation of the Eye above the Sea; and to other Objects, according to the Heights depressed under the same Level.

| Distance in Feet | Distance in Miles | Distance in Feet | Distance in Miles | Distance in Feet | Distance in Miles | Distance in Feet | Distance in Miles |
|---|---|---|---|---|---|---|---|
| 1 | 1. 149 | 65 | 9. 259 | 370 | 22. 092 | 1000 | 36. 318 |
| 2 | 1. 623 | 70 | 9. 600 | 380 | 22. 488 | 1100 | 38. 091 |
| 3 | 1. 989 | 75 | 9. 946 | 390 | 23. 031 | 1200 | 39. 785 |
| 4 | 2. 297 | 80 | 10. 272 | 400 | 23. 670 | 1300 | 41. 410 |
| 5 | 2. 568 | 85 | 10. 587 | 410 | 23. 905 | 1400 | 43. 002 |
| 6 | 2. 813 | 90 | 10. 896 | 420 | 24. 536 | 1500 | 44. 481 |
| 7 | 3. 039 | 95 | 11. 194 | 430 | 25. 816 | 1600 | 45. 939 |
| 8 | 3. 249 | 100 | 11. 485 | 440 | 24. 091 | 1700 | 47. 363 |
| 9 | 3. 445 | 105 | 11. 769 | 450 | 24. 318 | 1800 | 48. 740 |
| 10 | 3. 632 | 110 | 12. 045 | 460 | 24. 632 | 1900 | 50. 081 |
| 11 | 3. 809 | 115 | 12. 316 | 470 | 24. 589 | 2000 | 51. 392 |
| 12 | 3. 979 | 120 | 12. 581 | 480 | 27. 192 | 2100 | 52. 682 |
| 13 | 4. 141 | 125 | 12. 841 | 490 | 25. 423 | 2200 | 53. 899 |
| 14 | 4. 300 | 130 | 13. 096 | 500 | 25. 681 | 2300 | 55. 079 |
| 15 | 4. 448 | 135 | 13. 345 | 510 | 25. 936 | 2400 | 56. 264 |
| 16 | 4. 594 | 140 | 13. 605 | 520 | 26. 192 | 2500 | 57. 424 |
| 17 | 4. 736 | 145 | 13. 837 | 530 | 26. 442 | 2600 | 58. 561 |
| 18 | 4. 875 | 150 | 14. 061 | 540 | 26. 689 | 2700 | 59. 677 |
| 19 | 5. 009 | 155 | 14. 289 | 550 | 26. 934 | 2800 | 60. 773 |
| 20 | 5. 139 | 160 | 14. 507 | 560 | 27. 178 | 2900 | 61. 848 |
| 21 | 5. 266 | 165 | 14. 728 | 570 | 27. 420 | 3000 | 62. 903 |
| 22 | 5. 390 | 170 | 14. 942 | 580 | 27. 659 | 3100 | 63. 943 |
| 23 | 5. 508 | 175 | 15. 156 | 590 | 27. 897 | 3200 | 64. 966 |
| 24 | 5. 620 | 180 | 15. 364 | 600 | 28. 132 | 3300 | 65. 973 |
| 25 | 5. 742 | 185 | 15. 571 | 610 | 28. 365 | 3400 | 66. 965 |
| 26 | 5. 856 | 190 | 15. 831 | 620 | 28. 597 | 3500 | 67. 945 |
| 27 | 5. 968 | 195 | 16. 018 | 630 | 28. 827 | 3600 | 68. 910 |
| 28 | 6. 077 | 200 | 16. 242 | 640 | 29. 055 | 3700 | 69. 863 |
| 29 | 6. 185 | 205 | 16. 444 | 650 | 29. 281 | 3800 | 70. 797 |
| 30 | 6. 291 | 210 | 16. 643 | 660 | 29. 505 | 3900 | 71. 725 |
| 31 | 6. 394 | 215 | 16. 840 | 670 | 29. 728 | 4000 | 72. 636 |
| 32 | 6. 495 | 220 | 17. 035 | 680 | 29. 949 | 4100 | 73. 536 |
| 33 | 6. 594 | 225 | 17. 228 | 690 | 30. 168 | 4200 | 74. 427 |
| 34 | 6. 691 | 230 | 17. 419 | 700 | 30. 386 | 4300 | 75. 311 |
| 35 | 6. 786 | 235 | 17. 610 | 710 | 30. 602 | 4400 | 76. 184 |
| 36 | 6. 881 | 240 | 17. 798 | 720 | 30. 817 | 4500 | 77. 048 |
| 37 | 6. 974 | 245 | 17. 977 | 730 | 31. 030 | 4600 | 77. 904 |
| 38 | 7. 066 | 250 | 18. 159 | 740 | 31. 242 | 4700 | 78. 750 |
| 39 | 7. 172 | 255 | 18. 340 | 750 | 31. 453 | 4800 | 79. 589 |
| 40 | 7. 244 | 260 | 18. 518 | 760 | 31. 662 | 4900 | 80. 420 |
| 41 | 7. 334 | 265 | 18. 696 | 770 | 31. 870 | 5000 | 81. 243 |
| 42 | 7. 423 | 270 | 18. 872 | 780 | 32. 076 | 5100 | 82. 058 |
| 43 | 7. 511 | 275 | 19. 045 | 790 | 32. 281 | 5200 | 82. 865 |
| 44 | 7. 598 | 280 | 19. 218 | 800 | 32. 484 | 5300 | 83. 664 |
| 45 | 7. 684 | 285 | 19. 389 | 810 | 32. 686 | 5400 | 84. 456 |
| 46 | 7. 769 | 290 | 19. 558 | 820 | 32. 888 | 5500 | 85. 241 |
| 47 | 7. 854 | 295 | 19. 726 | 830 | 33. 088 | 5600 | 86. 018 |
| 48 | 7. 937 | 300 | 19. 892 | 840 | 33. 286 | 5700 | 86. 790 |
| 49 | 8. 020 | 305 | 20. 057 | 850 | 33. 484 | 5800 | 87. 555 |
| 50 | 8. 101 | 310 | 20. 221 | 860 | 33. 681 | 5900 | 88. 317 |
| 51 | 8. 202 | 315 | 20. 384 | 870 | 33. 875 | 6000 | 89. 071 |
| 52 | 8. 282 | 320 | 20. 545 | 880 | 34. 070 | 6100 | 89. 820 |
| 53 | 8. 361 | 325 | 20. 705 | 890 | 34. 263 | 6200 | 90. 563 |
| 54 | 8. 440 | 330 | 20. 863 | 900 | 34. 455 | 6300 | 91. 299 |
| 55 | 8. 517 | 335 | 21. 021 | 910 | 34. 645 | 6400 | 92. 029 |
| 56 | 8. 595 | 340 | 21. 177 | 920 | 34. 835 | 6500 | 92. 754 |
| 57 | 8. 671 | 345 | 21. 332 | 930 | 35. 024 | 6600 | 93. 473 |
| 58 | 8. 747 | 350 | 21. 486 | 940 | 35. 212 | 6700 | 94. 187 |
| 59 | 8. 822 | 355 | 21. 639 | 950 | 35. 399 | 6800 | 94. 896 |
| 60 | 8. 896 | 360 | 21. 791 | 960 | 35. 585 | 6900 | 95. 600 |

T. XXXVII. Corrections to be applied to the Time of High Water at Full and Change of the Moon, to find the Time of High Water on any other Day.

| Interval of Time | Correct. after New Moon | Correct. before First Quarter | Correct. after First Quarter | Correct. before Full Moon | Correct. after Full Moon | Correct. before Last Quarter | Correct. after Last Quarter | Correct. before New Moon |
|---|---|---|---|---|---|---|---|---|
| Days h | h m | h m | h m | h m | h m | h m | h m | h m |
| 0. 0 | 0. 0 | 5. 6 | 5. 7 | 0. 0 | 0. 0 | 5. 6 | 5. 6 | 0. 0 |
| 0. 3 | 0. 4 | 4. 58 | 5. 14 | 0. 4 | 0. 4 | 4. 58 | 5. 14 | 0. 4 |
| 0. 6 | 0. 8 | 4. 51 | 5. 22 | 0. 9 | 0. 8 | 4. 51 | 5. 22 | 0. 9 |
| 0. 9 | 0. 13 | 4. 44 | 5. 31 | 0. 13 | 0. 13 | 4. 44 | 5. 31 | 0. 13 |
| 0. 12 | 0. 17 | 4. 37 | 5. 40 | 0. 18 | 0. 17 | 4. 37 | 5. 40 | 0. 18 |
| 0. 15 | 0. 22 | 4. 30 | 5. 50 | 0. 23 | 0. 22 | 4. 30 | 5. 50 | 0. 23 |
| 0. 18 | 0. 26 | 4. 23 | 6. 0 | 0. 27 | 0. 26 | 4. 23 | 6. 0 | 0. 27 |
| 0. 21 | 0. 31 | 4. 16 | 6. 10 | 0. 32 | 0. 31 | 4. 16 | 6. 10 | 0. 32 |
| 1. 0 | 0. 36 | 4. 9 | 6. 20 | 0. 37 | 0. 36 | 4. 9 | 6. 20 | 0. 37 |
| 1. 3 | 0. 41 | 4. 3 | 6. 29 | 0. 42 | 0. 41 | 4. 3 | 6. 29 | 0. 42 |
| 1. 6 | 0. 45 | 3. 56 | 6. 39 | 0. 47 | 0. 45 | 3. 56 | 6. 39 | 0. 47 |
| 1. 9 | 0. 49 | 3. 50 | 6. 49 | 0. 52 | 0. 49 | 3. 50 | 6. 49 | 0. 52 |
| 1. 12 | 0. 54 | 3. 44 | 6. 58 | 0. 57 | 0. 54 | 3. 44 | 6. 58 | 0. 57 |
| 1. 15 | 0. 58 | 3. 38 | 7. 8 | 1. 2 | 0. 58 | 3. 38 | 7. 8 | 1. 2 |
| 1. 18 | 1. 2 | 3. 32 | 7. 18 | 1. 7 | 1. 2 | 3. 32 | 7. 18 | 1. 7 |
| 1. 21 | 1. 7 | 3. 27 | 7. 27 | 1. 12 | 1. 7 | 3. 27 | 7. 27 | 1. 12 |
| 2. 0 | 1. 11 | 3. 21 | 7. 37 | 1. 17 | 1. 11 | 3. 21 | 7. 37 | 1. 17 |
| 2. 3 | 1. 15 | 3. 16 | 7. 46 | 1. 23 | 1. 15 | 3. 16 | 7. 46 | 1. 23 |
| 2. 6 | 1. 19 | 3. 11 | 7. 56 | 1. 28 | 1. 19 | 3. 11 | 7. 56 | 1. 28 |
| 2. 9 | 1. 24 | 3. 6 | 8. 5 | 1. 33 | 1. 24 | 3. 6 | 8. 5 | 1. 33 |
| 2. 12 | 1. 28 | 3. 1 | 8. 14 | 1. 39 | 1. 28 | 3. 1 | 8. 14 | 1. 39 |
| 2. 15 | 1. 32 | 2. 56 | 8. 23 | 1. 45 | 1. 32 | 2. 56 | 8. 23 | 1. 45 |
| 2. 18 | 1. 37 | 2. 50 | 8. 31 | 1. 51 | 1. 37 | 2. 50 | 8. 31 | 1. 51 |
| 2. 21 | 1. 41 | 2. 45 | 8. 39 | 1. 57 | 1. 41 | 2. 45 | 8. 39 | 1. 57 |
| 3. 0 | 1. 46 | 2. 40 | 8. 47 | 2. 4 | 1. 46 | 2. 40 | 8. 47 | 2. 4 |
| 3. 3 | 1. 50 | 2. 35 | 8. 55 | 2. 10 | 1. 50 | 2. 35 | 8. 55 | 2. 10 |
| 3. 6 | 1. 54 | 2. 30 | 9. 2 | 2. 16 | 1. 54 | 2. 30 | 9. 2 | 2. 16 |
| 3. 9 | 1. 59 | 2. 25 | 9. 9 | 2. 23 | 1. 59 | 2. 25 | 9. 9 | 2. 23 |
| 3. 12 | 2. 3 | 2. 21 | 9. 17 | 2. 29 | 2. 3 | 2. 21 | 9. 17 | 2. 29 |
| 3. 15 | 2. 7 | 2. 16 | 9. 24 | 2. 36 | 2. 7 | 2. 16 | 9. 24 | 2. 36 |
| 3. 18 | 2. 12 | 2. 12 | 9. 31 | 2. 44 | 2. 12 | 2. 12 | 9. 31 | 2. 44 |
| 3. 21 | 2. 16 | 2. 7 | 9. 37 | 2. 51 | 2. 16 | 2. 7 | 9. 37 | 2. 51 |
| 4. 0 | 2. 21 | 2. 3 | 9. 44 | 2. 58 | 2. 21 | 2. 3 | 9. 44 | 2. 58 |

# GEOGRAPHICAL TABLE,

CONTAINING

THE LATITUDES OF PLACES,

WITH

*THEIR LONGITUDES*

FROM THE

MERIDIAN OF THE ROYAL OBSERVATORY AT GREENWICH:

ALSO,

THE TIME OF HIGH WATER

AT

*THE FULL AND CHANGE OF THE MOON,*

AT THOSE PLACES WHERE IT IS KNOWN.

| Names of Places | Continent | Coaſt, Sea, or Country | Latitude | Longitude, In Degrees | Longitude, In Time | H. W. |
|---|---|---|---|---|---|---|
| | | | | | h m s | h m |
| Aalborg | Europe. | Denmark | 57. 2. 57 N | 9. 56. 30 E | 0. 39. 46 E | |
| Aahuus | Europe. | Denmark | 56. 9. 35 N | 10. 14. 0 E | 0. 40. 56 E | |
| Aberdeen | Europe. | Scotland | 57. 5. 0 N | 2. 21. 30 W | 0. 9. 26 W | 0. 45 |
| Abbeville | Europe. | France | 50. 7. 4 N | 1. 49. 45 E | 0. 7. 19 E | 10. 30 |
| Abo | Europe. | Findland | 60. 27. 7 N | 22. 15. 0 E | 1. 29. 0 E | |
| Acheen Head | Aſia | Sumatra | 5. 22. 0 N | 95. 26. 0 E | 6. 21. 44 E | |
| Adventure (Bay) | Aſia | New Holland | 43. 21. 20 S | 147. 31. 40 E | 9. 50. 7 E | |
| Adventure (Iſle) | America | Pacific Ocean | 17. 5. 15 S | 144. 17. 45 W | 9. 37. 11 W | |
| Aerſchot | Europe. | Netherlands | 50. 59. 15 N | 4. 49. 31 E | 0. 19. 18 E | |
| Agde | Europe. | France | 43. 18. 43 N | 3. 27. 55 E | 0. 13. 52 E | |
| Agen | Europe. | France | 44. 12. 22 N | 0. 36. 20 E | 0. 2. 25 E | |
| Agimere | Aſia | Agimere | 26. 35. 0 N | 75. 20. 0 E | 5. 1. 20 E | |
| St. Agnes (Lights) | Europe. | Scillies | 49. 53. 47 N | 6. 20. 30 W | 0. 25. 22 W | |
| Agra | Aſia | India | 27. 12. 30 N | 78. 17. 0 E | 5. 13. 8 E | |
| Agria | Europe. | Hungary | 47. 53. 54 N | 20. 22. 0 E | 1. 21. 28 E | |
| Aguada (Point) | Aſia | India | 15. 28. 55 N | 73. 48. 39 E | 4. 55. 15 E | |
| Aire | Europe. | France | 43. 41. 52 N | 0. 15. 45 W | 0. 1. 3 W | |
| Aix | Europe. | France | 43. 31. 48 N | 5. 26. 30 E | 0. 21. 46 E | |
| Aix (Iſle) | Europe. | France | 46. 1. 38 N | 1. 11. 0 W | 0. 4. 44 W | |
| Akerman | Europe. | Turkey | 46. 11. 58 N | 30. 43. 45 E | 2. 2. 55 E | |
| Alais | Europe. | France | 44. 7. 22 N | 0. 35. 50 E | 0. 2. 23 E | |
| Albano | Europe. | Italy | 41. 43. 50 N | 12. 38. 0 E | 0. 50. 32 E | |
| Albany | America | New Wales | 52. 14. 41 N | 81. 52. 50 W | 5. 27. 31 W | |
| Albi | Europe. | France | 43. 55. 36 N | 2. 8. 18 E | 0. 8. 33 E | |
| Alkmaer | Europe. | Holland | 52. 38. 34 N | 4. 38. 0 E | 0. 18. 32 E | |
| Aleppo | Aſia | Turkey | 36. 11. 25 N | 37. 10. 0 E | 2. 2840 E | |
| Alexandretta | Aſia | Syria | 36. 34. 47 N | 36. 14. 45 E | 2. 24. 59 E | |
| Alexandria | Africa | Egypt | 31. 11. 20 N | 30. 10. 15 E | 2. 0. 41 E | |
| Alez | Europe. | France | 42. 59. 50 N | 2. 15. 0 E | 0. 9. 0 E | |
| Algiers | Africa | Algiers | 36. 49. 30 N | 2. 12. 45 E | 0. 8. 51 E | |
| Aloſt | Europe. | Netherlands | 50. 56. 18 N | 4. 1. 58 E | 0. 16. 8 E | |
| Altengaard | Europe. | Lapland | 69 55. 0 N | 23. 4. 0 E | 1. 32. 16 E | |
| Ambrym (Iſle) | Aſia | Pacific Ocean | 16. 9. 30 S | 168. 12. 30 E | 11. 12. 50 E | |
| Ameſbury | Europe. | England | 51. 10. 19 N | 1. 46. 37 W | 0. 7. 6 W | |
| Amiens | Europe. | France | 49. 53. 38 N | 2. 17. 56 E | 0. 9. 12 E | |
| Amſterdam | Europe. | Holland | 52. 21. 56 N | 4. 51. 30 E | 0. 19. 26 E | 3. 0 |
| Amſterdam (Har.) | America | Curazao | 12. 8. 0 N | 68. 20. 30 W | 4. 33. 22 W | |
| Amſterdam (Iſle) | Aſia | Indian Ocean | 37. 51. 0 S | 77. 44. 0 E | 5. 10. 56 E | |
| Anadirſkoi Noſs | Aſia | Beering's Str. | 64. 14. 30 N | 173. 31. 0 W | 11. 34. 4 W | |
| Ancona | Europe. | Italy | 43. 37. 54 N | 13. 30. 30 E | 0. 54. 2 E | |
| Andaman (Little) | Aſia | Bengal Bay | 10. 40. 0 N | 92. 24. 0 E | 6. 9. 36 E | |
| Anderſon's Iſland | America | Beering's Str. | 63. 4. 0 N | 167. 38. 0 W | 11. 10. 32 W | |
| Anger Point | Aſia | Java | 6. 3. 17 S | 106. 1. 57 E | 7. 4. 8 E | |
| Angers | Europe. | France | 47. 28. 8 N | 0. 33. 52 W | 0. 2. 15 W | |
| Angouleme | Europe. | France | 45. 39. 3 N | 0. 8. 47 E | 0. 0. 35 E | |
| Angra | Europe. | Tercera | 38. 39. 7 N | 27. 12. 42 W | 1. 48. 51 W | |
| C. Angra Pequena | Africa | Caffraria | 26. 36. 50 S | 15. 16. 30 E | 1. 1. 6 E | |
| Anholt (Lights) | Europe. | Categat | 56. 44. 20 N | 11. 40. 0 E | 0. 46. 40 E | |
| Angenga | Aſia | India | 8. 39. 25 N | 76. 50. 4 E | 5. 7. 20 E | |
| St. Ann (Cape) | Africa | Sierra Leone | 7. 7. 30 N | 12. 22. 0 W | 0. 49. 28 W | |
| Annamaboe | Africa | Gold Coaſt | 5. 9. 52 N | 1. 39. 4 W | 0. 6. 36 W | |
| Annamocka | Aſia | Pacific Ocean | 20. 15. 20 S | 174. 45. 0 W | 11. 39. 0 W | 6. 0 |
| Annobona | Africa | Atlantic Ocean | 1. 25. 0 S | 5. 45. 0 E | 0. 23. 0 E | |
| St. Anthony's (Cape) | America | Staten Land | 54. 46. 45 S | | | |
| Antibes | Europe. | France | 43. 34. 43 N | 7. 7. 20 E | 0. 28. 29 E | |
| Antigua (St. John's) | America | Carib Sea | 17. 4. 30 N | 62. 9. 0 W | 4. 8. 36 W | |
| Anton. Gill's Bay | Africa | Madagaſcar | 15. 27. 23 S | 50. 23. 15 E | 3. 21. 33 E | |
| Antwerp | Europe. | Flanders | 51. 13. 18 N | 4. 24. 15 E | 0. 17. 37 E | 6. 0 |
| Aor (Pulo) | Aſia | Chineſe Seas | 2. 45. 0 N | 104. 40. 20 E | 6. 58. 41 E | |
| Apæ (Iſle) | Aſia | Pacific Ocean | 16. 46. 15 S | 168. 27. 30 E | 11. 13. 50 E | |
| Appenrade | Europe. | Denmark | 55. 2. 57 N | 9. 20. 4 E | 0. 37. 44 E | |

| Names of Places | Continent | Coaſt, Sea, or Country | Latitude | Longitude, In Degrees | Longitude, In Time | H. W. |
|---|---|---|---|---|---|---|
| | | | | | h m s | h m |
| C. Appollonia | Africa | Gold Coaſt | 4. 59. 12 N | 3. 10. 11 W | 0. 12. 41 W | |
| F. Appollonia | Africa | Gold Coaſt | 4 59. 14 N | 3. 4 37 W | 0. 12. 18 W | |
| Apt | Europe | France | 43. 52. 29 N | 5. 23. 37 E | 0. 21. 34 E | |
| Aracta | Aſia | Turkey | 36. 1. 0 N | 38. 50. 0 E | 2. 35. 20 E | |
| Arakootai Iſle | America | Pacific Ocean | 20. 1. 30 S | 158. 14. 30 W | 10. 32. 58 W | |
| Archangel | Europe | Ruſſia | 64. 34. 0 N | 38. 54. 30 E | 2. 35. 38 E | 6. 0 |
| Arcot | Aſia | Arcot | 12. 51. 24 N | 79. 28. 4 E | 5. 17. 52 E | |
| Arenſburg | Europe | Baltic | 58. 15. 9 N | 22. 13. 15 E | 1. 28. 53 E | |
| Arica | America | Peru | 18. 26. 40 S | 71. 13. 0 W | 4. 44. 52 W | |
| Arles | Europe | France | 43. 40. 28 N | 4. 37. 24 E | 0. 18. 30 E | |
| Arras | Europe | France | 50. 17. 37 N | 2. 45. 41 E | 0. 11. 3 E | |
| Aruba (W. End) | America | Leeward Iſles | 12. 35. 30 N | 69. 29. 45 W | 4. 37. 59 W | |
| Aſcenſion (Iſle) | Africa | S. Atlantic Ocean | 7. 56. 30 S | 14. 21. 15 W | 0. 57. 25 W | |
| Aſſiſi | Europe | Italy | 43. 4. 22 N | 12. 35. 13 E | 0. 50. 21 E | |
| Aſtracan | Aſia | Siberia | 46. 21. 12 N | 48. 2. 45 E | 3. 12. 11 E | |
| Ath | Europe | Netherlands | 50. 42. 17 N | 3. 46. 17 E | 0. 15. 5 E | |
| Athens | Europe | Turkey | 38. 5. 0 N | 23. 52. 30 E | 1. 35. 30 E | |
| Atooi | America | Sandwich Iſles | 21. 57. 0 N | 159. 39. 30 W | 10. 38. 38 W | |
| Auch | Europe | France | 43. 38. 39 N | 0. 34. 56 E | 0. 2 18 E | |
| St. Auguſtin (Bay) | Africa | Madagaſcar | 23. 27. 52 S | 44. 9. 0 E | 2. 56. 36 E | |
| Aurillac | Europe | France | 44. 55. 10 N | 2. 27. 0 W | 0. 9 48 W | |
| Aurora (Iſle) | Aſia | Pacific Ocean | 15. 8. 0 S | 168. 17. 0 E | 11. 13 8 E | |
| Autun | Europe | France | 46. 56. 48 N | 4. 17. 44 E | 0. 17 11 E | |
| Auxerre | Europe | France | 47. 47. 57 N | 3. 34. 6 E | 0. 14 16 E | |
| Aveiro | Europe | Portugal | 40. 38. 17 N | 8. 29. 15 W | 0. 33 57 W | |
| Avignon | Europe | France | 43. 56. 58 N | 4. 48. 1 E | 0. 19 13 E | |
| Avranches | Europe | France | 48. 41. 21 N | 1. 21. 51 W | 0. 5 27 W | 6. 0 |
| Awattcha | Aſia | Kamtchatka | 53. 0. 37 N | 158. 44. 30 E | 10. 34 58 E | 4. 30 |
| Babee (Pulo) | Aſia | Straits of Sunda | 5. 45. 0 N | 106. 20. 30 E | 7. 5. 22 E | |
| Babylon (Ancient) | Aſia | Meſopotamia | 33. 0. 0 N | 42. 40. 30 E | 2. 51. 0 E | |
| Bagdad | Aſia | Meſopotamia | 33. 19. 40 N | 44. 22. 15 E | 2. 57. 29 E | |
| Ballaſore | Aſia | India | 21. 20. 0 N | 87. 1. 26 E | 5. 48. 0 E | |
| Ballabea (Iſle) | Aſia | New Caledonia | 20. 7. 0 S | 164. 22. 0 E | 10. 57. 28 E | |
| Banana (Big) | Africa | Sierra Leone | 8. 5. 30 N | 13. 5. 0 W | 0. 52. 20 W | |
| Bancoot | Aſia | India | 17. 56. 40 N | 73. 7. 54 E | 4. 52. 32 E | |
| Bangalore | Aſia | Myſore | 13. 0. 0 N | 77. 37. 10 E | 5. 10 29 E | |
| Banguey (Peak) | Aſia | Malacca | 7. 18. 0 N | 117. 17. 30 E | 7. 49. 10 E | |
| Bank's Iſle | Aſia | New Zeeland | 43. 43. 0 S | 173. 3. 55 E | 11. 32. 16 E | |
| Bantead | Europe | England | 51. 19. 25 N | 0. 11. 29 W | 0. 0. 45 W | |
| Bantam Point | Aſia | Java | 5. 50. 20 S | 106. 9. 3 E | 7. 4. 36 E | |
| Barbas (Cape) | Africa | Sanhaga | 22. 15. 30 N | 16. 40. 0 W | 1. 6. 40 W | |
| Barbuda (Iſle) | America | Atlantic Ocean | 17. 49. 45 N | 61. 50. 0 W | 4. 7. 20 W | |
| Barcelona | Europe | Spain | 41. 26. 0 N | 2. 13. 0 E | 0. 8. 52 E | |
| Barfleur (Cape) | Europe | France | 49. 40. 21 N | 1. 15. 36 W | 0. 5. 2 W | 7. 30 |
| Barlingues | Europe | Portugal | 39. 26. 0 N | 9. 35. 20 W | 0. 38. 21 W | |
| Barnevelt's (Iſle) | America | Terra del Fuego | 55. 49. 0 S | 66. 58. 0 W | 4. 27. 52 W | |
| Barren Iſle | Aſia | Bay of Bengal | 12. 14. 0 N | 93. 42. 0 E | 6. 14. 48 E | |
| St. Batholomew (Iſle) | Aſia | New Hebrides | 15. 42. 0 S | 167. 17. 30 E | 11. 0. 10 E | |
| Baſle | Europe | Switzerland | 47. 33. 34 N | 7. 35. 12 E | 0. 30. 21 E | |
| Baſſe Terre | America | Guadaloupe | 15. 59. 45 N | 62. 0. 45 W | 4. 8. 3 W | |
| Baſſein (Fort) | Aſia | India | 19. 19. 0 N | 72. 55. 24 E | 4. 51. 42 E | |
| Baſſes (Great) | Aſia | Ceylon | 6. 7. 30 N | 81. 42. 30 E | 5. 26. 51 E | |
| Batavia | Aſia | Java | 6. 11. 0 S | 106. 50. 0 E | 7. 7. 20 E | |
| Bath | Europe | England | 51. 22. 30 N | 2. 21. 30 W | 0. 9. 26 W | |
| Batterſea | Europe | England | 51. 28. 30 N | 0. 12. 24 W | 0. 0. 49 W | |
| Bauld (Cape) | America | Newfoundland | 51. 39. 45 N | 55. 27. 30 W | 3. 41. 50 W | |
| Bayeux | Europe | France | 49. 16. 34 N | 0. 42. 11 W | 0. 2. 49 W | |
| Bayonne | Europe | France | 43. 29. 15 N | 1. 28. 41 W | 0. 5. 55 W | 3. 30 |
| Bazas | Europe | France | 44. 26. 0 N | 0. 13. 17 W | 0. 0. 53 W | |
| Beachy Head | Europe | England | 50. 44. 24 N | 0. 15. 12 E | 0. 1. 1 E | 10. 30 |
| Bear (Iſle) | America | Hudſon's Bay | 54. 34. 0 N | 79. 50. 0 W | 5. 19. 44 W | 12. 0 |
| Beauvais | Europe | France | 49. 26. 0 N | 2. 4. 41 E | 0. 8. 19 E | |

| Names of Places | Continent | Coaſt, Sea, or Country | Latitude | Longitude, In Degrees | Longitude, In Time | H. W. |
|---|---|---|---|---|---|---|
| | | | ° ′ ″ | ° ′ ″ | h. m. s | h. m. |
| Beering's Iſland | Aſia | Beering's Strait | 55. 36. 0 N | 167. 46. 0 E | 11. 11. 4 E | |
| Belle Iſle | Europe | France | 47. 17. 17 N | 3. 5. 0 W | 0. 12. 20 W | 1. 30 |
| [illegible] | Europe | France | 45. 45. 29 N | 5. 41. 4 E | 0. 22. 44 E | |
| [illegible] Point | Europe | Iſle of Wight | 50. 40. 59 N | 1. 3. 26 W | 0. 4. 14 W | |
| [illegible] | Aſia | Sumatra | 3. 49. 0 S | 102. 2. 5 E | 6. 48. 10 E | |
| Bender | Europe | Turkey | 46. 50. 29 N | 29. 36. 0 E | 1. 58. 24 E | |
| Berg River | Africa | St. Helen's Bay | 32. 50. 47 S | 18. 12. 0 E | 1. 12. 48 E | |
| Bergen | Europe | Norway | 60. 23. 40 N | 5. 11. 30 E | 0 20. 46 E | 1. 30 |
| [illegible] op Zoom | Europe | Holland | 51. 29. 46 N | 4. 10. 57 E | 0. 17. 8 E | |
| Berlin | Europe | Germany | 52. 31. 30 N | 13. 23. 0 E | 0. 53. 32 E | |
| Bermudas (Iſle) | America | Atlantic Ocean | 32. 35. 0 N | 63. 28. 0 W | 4. 13. 52 W | 7. 0 |
| Bernaul | Aſia | Siberia | 53. 19. 50 N | 82. 12. 15 E | 5. 28. 49 E | |
| St. Bertrand | Europe | France | 43. 1. 27 N | 0. 34. 4 E | 0. 2. 16 E | |
| [illegible] | Europe | France | 47. 14. 12 N | 6. 2. 46 E | 0. 24. 11 E | |
| Beſſetted | Europe | Iceland | 64. 0. 0 N | 21. 53. 45 W | 1. 27. 35 W | |
| [illegible] | Europe | England | 50. 50. 47 N | 0. 28. 43 E | 0. 1. 55 E | |
| [illegible] | Europe | France | 43. 20. 23 N | 3. 12. 24 E | 0. 12. 50 E | |
| [illegible] Iſland | America | Pacific Ocean | 17. 49. 0 S | 149. 43. 24 W | 9. 30. 54 W | |
| [illegible] | Europe | Lorrain | 49. 2. 21 N | 7. 26. 20 E | 0. 29. 45 E | |
| [illegible] Cape | Africa | Negroland | [illegible] 55. 30 N | 17. 12. 0 W | 1. 8. 40 W | 9. 45 |
| Blanco (Cape) | America | Patagonia | 47. 20. 0 S | 64. 42. 0 W | 4. 18. 48 W | |
| Blanco (Cape) | America | Pacific Ocean | 43. 12. 0 N | 124. 7. 30 W | 8. 16. 30 W | |
| Bligh's Cape | Aſia | Kerguelen's Land | 48. 20. 30 S | 68. 38. 45 E | 4. 34. 35 E | |
| [illegible] | Europe | France | 47. 35. 2 N | 1. 22. 1 E | 0. 5. 28 E | |
| Boddam's Iſle | Aſia | Indian Ocean | 5. 22. 0 S | 72. 15. 0 E | 4. 49. 0 E | |
| [illegible] Cape | Africa | Negroland | [illegible] 12. 30 N | 14. 27. 0 W | 0. 57. 48 W | 0. 0 |
| Bolabola (Iſle) | America | Pacific Ocean | 16. 30. 30 S | 151. 52. 0 W | 10. 7. 28 W | |
| Bologna | Europe | Italy | 44. 29. 50 N | 11. 20. 25 E | 0. 45. 22 E | |
| Bolcheretſk | Aſia | Kamtſchatka | 52. 54. 30 N | 156. 56. 45 E | 10. 27. 47 E | |
| Bolt Head | Europe | England | 50. 17. 0 N | 3. 32. 30 W | 0. 15. 34 W | |
| Bombay | Aſia | India | 18. 56. 44 N | 72. 54. 24 E | 4. 51. 38 E | |
| Bombay (Light-houſe) | Aſia | India | 18. 53. 0 N | 72. 52. 54 E | 4. 51. 32 E | |
| Bonaviſta (Iſle) | Africa | Cape Verd | 10. 3. 40 N | 22. 45. 32 W | 1. 31. 2 W | |
| [illegible] | Europe | Netherlands | 52. 48. 17 N | 5. 22. 18 E | 0. 21. 21 E | |
| Boſcawen's Iſle | Aſia | Pacific Ocean | 15. 50. 0 S | 174. 7. 45 W | 11. 36. 31 W | |
| Boſton | America | New England | 42. 25. 0 N | 70. 37. 15 W | 4. 42. 29 W | 11. 25 |
| Botany (Iſland) | Aſia | New Caledonia | 22. 26. 45 S | 167. 10. 45 E | 11. 9. 7 E | |
| Botany Bay | Aſia | New Holland | 34. 6. 0 S | 151. 15. 0 E | 10. 5. 0 E | 8. 0 |
| Boulogne | Europe | France | 50. 43. 31 N | 1. 36. 35 E | 0. 6. 26 E | 11. 0 |
| Bourbon (Iſle) | Africa | Indian Ocean | 20. 52. 54 S | 55. 30. 0 E | 3. 42. 0 E | |
| [illegible] | Europe | France | 44. 50. 14 N | 0. 34. 15 W | 0. 2. 17 W | 3. 0 |
| [illegible] | Aſia | Turkey | 40. 14. 0 N | 26. 20. 52 E | 1. 45. 47 E | |
| [illegible] | Europe | France | 47. 4. 50 N | 2. 23. 45 E | 0. 9. 35 E | |
| Bow Iſland | America | Pacific Ocean | 18. 17. 0 S | 140. 43. 0 W | 9. 22. 52 W | |
| [illegible] | Europe | Germany | 52. 27. 0 N | 12. 53. 0 E | 0. 51. 32 E | |
| Braſſe (Pulo) | Aſia | Straits of Malacca | [illegible] | 98. 11. 0 E | 6. 32. 44 E | |
| Brava (Iſle) | Africa | Cape Verd | 14. 50. 58 N | 24. 43. 4 W | 1. 38. 52 W | |
| Breaker's Point | America | Pacific Ocean | 49. 15. 30 N | 126. 41. 30 W | 8. 26. 46 W | |
| Breda | Europe | Holland | 51. 35. 30 N | 4. 46. 0 E | 0. 19. 4 E | |
| [illegible] | Europe | Germany | 52. 5. 12 N | 8. 48. 34 E | 0. 35. 18 E | 6. 0 |
| Breſlaw | Europe | Sileſia | 51. 6. 34 N | 17. 35. 30 E | 1. 10. 22 E | |
| [illegible] | Europe | France | 48. 22. 40 N | 4. 30. 0 W | 0. 18. 0 W | 3. 15 |
| [illegible] Iſland | America | Barbadoes | 13. 5. 0 N | 59. 41. 15 W | 3. 58. 45 W | |
| St. [illegible] | Europe | France | 48. 41. 0 N | 2. 44. 10 W | 0. 10. 57 W | |
| [illegible] | Europe | England | 50. 49. 32 N | 0. 11. 55 W | 0. 0. 48 W | 10. 0 |
| Briſtol | Europe | England | 51. 28. 0 N | 2. 34. 45 W | 0. 10. 19 W | 7. 0 |
| Briſtol (Cape) | America | Sandwich Land | 59. 2. 30 S | 26. 51. 0 W | 1. 47. 24 W | |
| Briſtol River | America | Beering's Strait | 58. 25. 0 N | 158. 7. 30 W | 10. 32. 30 W | |
| Broach Point | Aſia | India | 21. 38. 30 N | 72. 43. 24 E | 4. 50. 54 E | |
| Brothers (The) | Aſia | Sea of Borneo | 5. 10. 20 S | 118. 54. 4 E | 7. 55. 36 E | |
| Bruges | Europe | Netherlands | 51. 12. 20 N | 3. 13. 15 E | 0. 12. 53 E | |
| Brunn | Europe | Moravia | 49. 11. 28 N | 16. 37. 0 E | 1. 6. 28 E | |
| Brudel | Europe | Brabant | 50. 51. 0 N | 4. 21. 15 E | 0. 17. 25 E | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Buda | Europe | Hungary | 47. 29. 45 N | 18. 57. 0 E | 1 16. 48 E | |
| Buenos Ayres | America | Paraguay | 34. 35. 0 S | 58. 22. 0 W | 3 53. 28 W | |
| Burgeo (Iſles) | America | Newfoundland | 47. 36. 0 N | 57. 30. 0 W | 3 49. 0 W | |
| Burhanpore | Aſia | Indoſtan | 21. 12. 0 N | 77. 0. 0 E | 5 8. 0 E | |
| Byron's Iſle | Aſia | Pacific Ocean | 1. 0. 0 S | 173. 0. 0 W | 11 32. 0 W | |
| Cape Breton | America | Terra Firma | 46. 0. 0 N | 63. 0. 0 W | 4 12. 0 W | |
| Cape Cabron | America | Hiſpaniola | 19. 0. 0 N | 69. 30. 0 W | 4 37. 48 W | |
| Cadiz | Europe | Spain | 36. 31. 0 N | 6. 17. 14 W | 0 25. 9 W | 0 22 |
| Caen | Europe | France | 49. 11. 0 N | 0. 22. 0 W | 0 1. 28 W | 0 0 |
| Calais | Europe | France | 50. 57. 30 N | 1. 52. 0 E | 0 7. 28 E | |
| Cairo | Africa | Egypt | 30. 2. 0 N | 31. 25. 0 E | 2 5. 40 E | |
| Calenberg | Europe | Poland | 54. 18. 0 N | 22. 40. 0 E | 1 30. 40 E | |
| Calais | Europe | France | 50. 57. 0 N | 1. 52. 0 E | 0 7. 28 E | 11 30 |
| Calcutta (Fort William) | Aſia | Bengal | 22. 34. 48 N | 88. 7. 0 E | 5 52. 28 E | 30 0 |
| Calibo | America | Peru | 12. 1. 0 S | 70. 0. 0 W | 4 40. 0 W | |
| Calmar | Europe | Sweden | 56. 40. 0 N | 16. 21. 15 E | 1 5. 25 E | |
| Calpy | Aſia | India | 26. 7. 15 N | 80. 0. 0 E | 5 20. 0 E | |
| Calymere Point | Aſia | India | 10. 20. 0 N | 79. 45. 0 E | 5 19. 0 E | |
| Cambay | Europe | France | 47. 10. 27 N | 2. 14. 0 E | 0 8. 56 E | |
| Cambridge | Europe | England | 52. 12. 30 N | 0. 0. 15 E | 0 0. 1 E | |
| Canada | America | North America | 48. 0. 0 N | 71. 0. 0 W | 4 44. 0 W | |
| Canibilan | Europe | India | 8. 0. 0 N | 122. 30. 0 E | 8 2. 0 E | |
| Canopus (Cape) | Aſia | New Zealand | 41. 40. 0 S | 174. 20. 0 E | 11. 39. 20 E | |
| Canary (Iſle) N.E. Point | Africa | Atlantic Ocean | 28. 13. 0 N | 15. 38. 45 W | 1. 2. 35 W | 5. 0 |
| Candia (Iſle) | Europe | Mediterran. Sea | 35. 18. 0 N | 24. 28. 0 E | 1. 41. 52 E | |
| Candlemas Iſles | Aſia | Sandwich Land | 57. 10. 0 S | 27. 11. 0 W | 1 48. 44 W | |
| Canonore (Fort) | Aſia | India | 11. 51. 0 N | 75. 24. 0 E | 5 1. 36 E | |
| Canſo (Port) | America | Nova Scotia | 45. 20. 0 N | 60. 0. 0 W | 4 0. 0 W | |
| Canterbury | Europe | England | 51. 16. 0 N | 1. 5. 0 E | 0 4. 20 E | |
| Canton | Aſia | China | 23. 6. 0 N | 112. 48. 0 E | 7. 35. 12 E | |
| Capricorn (Cape) | Aſia | New Holland | 23. 30. 0 S | 151. 0. 0 E | 10. 4. 24 E | |
| Carcaſſone | Europe | France | 43. 12. 0 N | 2. 21. 0 E | 0 9. 24 E | |
| Carleferoon | Europe | Sweden | 56. 0. 0 N | 15. 0. 0 E | 1. 0. 0 E | |
| Carlſtadt Fort | Europe | Iſle of Wight | 50. 41. 18 N | 1. 18. 0 W | 0. 5. 12 W | |
| Carnarvon | Europe | France | 44. 0. 0 N | 5. 0. 15 E | 0. 20. 0 E | |
| Carthagena | Europe | Ireland | 51. 53. 0 N | 7. 0. 0 W | 0. 28. 0 W | |
| Carthagena | Europe | Spain | 37. 0. 0 N | 1. 0. 0 W | 0. 4. 0 W | |
| Carthagena | America | Terra Firma | 10. 0. 0 N | 75. 0. 0 W | 5. 0. 0 W | |
| Carron Head | Aſia | Arabia | 12. 47. 0 N | 54. 0. 0 E | 3. 12. 0 E | |
| Caſan | Aſia | Ruſſia | 55. 48. 0 N | 49. 0. 0 E | 3. 16. 0 E | |
| Catbine | Aſia | Tartary | 50. 20. 0 N | 106. 0. 0 E | 7. 4. 24 E | |
| Caſſel (Heſs) | Europe | Germany | 51. 19. 0 N | 9. 31. 45 E | 0. 38. 7 E | |
| Caſtres | Europe | France | 43. 37. 0 N | 2. 8. 0 E | 0. 8. 32 E | |
| St. Catharine's Iſle | America | Brazil | 27. 0. 0 S | 48. 0. 0 W | 3. 12. 0 W | |
| St. Catharine's Point | Europe | Iſle of Wight | 50. 34. 0 N | 1. 17. 0 W | 0. 5. 8 W | |
| Cavan | Europe | Ireland | 54. 0. 0 N | 7. 22. 0 W | 0. 29. 28 W | |
| Cavaillon | Europe | France | 43. 50. 0 N | 5. 0. 0 E | 0. 20. 0 E | |
| Cayenne | America | Terra Firma | 4. 55. 15 N | 52. 0. 0 W | 3. 28. 0 W | |
| Cayo | Europe | Ireland | 54. 58. 0 N | 8. 31. 0 W | 0. 34. 4 W | |
| Cayenne | Europe | France | 44. 50. 4 N | 0. 34. 0 E | 0. 2. 16 E | |
| Cayes Iſland | America | Pacific Ocean | 17. 0. 0 S | 140. 0. 0 W | 9. 20. 0 W | |
| Chalon ſur Saone | Europe | France | 46. 46. 0 N | 4. 50. 0 E | 0. 19. 20 E | |
| Chalons ſur Marne | Europe | France | 48. 57. 0 N | 4. 22. 0 E | 0. 17. 28 E | |
| Chamaigne | Aſia | Siberia | 61. 0. 0 N | 165. 0. 0 E | 11. 0. 0 E | |
| Chamont | Europe | Ruſſia | 52. 0. 0 N | 36. 0. 0 E | 2. 24. 0 E | |
| Champion Bay | America | Hudſon's Bay | 64. 0. 0 N | 73. 0. 0 W | 4. 52. 0 W | 60. 0 |
| Chanal Iſles Cayes | America | Southern Ocean | 0. 0. 0 S | 90. 0. 0 W | 6. 0. 0 W | |
| Chandernagore | Aſia | Bengal | 22. 52. 0 N | 88. 24. 0 E | 5 53. 36 E | |

| Names of Places | Continent | Coast, Sea, or Country | Latitude | In Degrees | In Time | H. W. |
|---|---|---|---|---|---|---|
| | | | | | h m s | h m |
| Q. Charlotte's Isle... | [illegible] | [illegible] | 19. 18. 0 S | 138. 20. 0 W | 9. 13. 20 W | |
| Q. Charlotte Sound... | Asia... | New Zeeland... | 41. 5. 57 S | 174. 20. 30 E | 11. 37. 23 E | 9. 0 |
| Charlotte Town..... | America | St. [illegible] | 46. 14. 0 N | 63. 50. 0 W | 4. 11. 20 W | |
| Charlton Island..... | America | Hudson's Bay... | 52. 3. 0 N | 79. 5. 0 W | 5. 16. 20 W | |
| [illegible] | [illegible] | France..... | 48. 46. 54 N | 1. 20. 0 E | 0. 5. 56 E | |
| [illegible] | [illegible] | France..... | 49. 28. 30 N | 1. 37. 18 W | 0. 6. 26 W | 7. 30 |
| Cherson..... | Europe. | [illegible] | 46. 38. 29 N | 32. 50. 15 E | 2. 11. 45 E | |
| [illegible] | [illegible] | England..... | 50. 58. 11 N | 0. 40. 30 W | 0. 3. 6 W | |
| Chilbambrum Pagod.. | Asia... | India..... | 11. 24. 42 N | 79. 48. 6 E | 5. 19. 12 E | |
| Chifflehurft..... | Europe. | England..... | 51. 19. 30 N | 0. 4. 30 E | 0. 0. 19 E | |
| Choule (Fort)..... | Asia... | India..... | 18. 30. 0 N | 72. 50. 30 E | 4. 52. 0 E | |
| Chrittchurch..... | Europe. | England..... | 50. 43. 47 N | 1. 46. 3 W | 0. 7. 4 W | |
| Chriftiana..... | Europe. | Norway..... | 59. 54. 20 N | 10. 43. 45 E | 0. 43. 15 E | |
| Chriftiansfelt..... | Europe. | Denmark..... | 55. 21. 27 N | 9. 20. 46 E | 0. 37. 50 E | |
| Chriftmas Harbour.... | Africa.. | Kerguelen's Land | 49. 41. 15 S | 69. 2. 0 E | 4. 36. 8 E | 10. 0 |
| Chriftmas Isle..... | America | Pacific Ocean... | 1. 57. 45 N | 157. 35. 0 W | 10. 30. 20 W | |
| Chriftmas Sound..... | America | Terra del Fuego. | 55. 21. 57 S | 70. 2. 30 W | 4. 40. 11 W | 2. 30 |
| St. Chriftopher's Island. | America | Carib. Sea..... | 17. 15. 0 N | 62. 42. 0 W | 4. 10. 49 W | |
| Churchill River..... | America | Hudson's Bay... | 58. 47. 30 N | 94. 13. 48 W | 6. 16. 55 W | 7. 20 |
| Civita Vecchia..... | Europe. | Italy..... | 42. 5. 44 N | 11. 46. 15 E | 0. 47. 5 E | |
| Clapham (Obfervatory) | Europe. | England..... | 51. 27. 13 N | 0. 8. 30 W | 0. 0. 35 W | |
| St. Claude..... | Europe. | France..... | 46. 43. 10 N | 5. 51. 30 E | 0. 23. 27 E | |
| [illegible] | [illegible] | Ireland..... | 51. 19. 0 N | 9. 23. 15 W | 0. 37. 33 W | 4. 30 |
| Clerke's Isle..... | Asia... | Beering's Strait. | 65. 15. 0 N | 169. 45. 0 W | 11. 18. 40 W | |
| Clerke's Rocks..... | America | Atlantic Ocean.. | 55. 5. 30 S | 34. 42. 0 W | 2. 18. 48 W | |
| Clermont..... | Europe. | France..... | 45. 46. 44 N | 3. 5. 2 E | 0. 12. 20 E | |
| Cochin..... | Afia.... | Malabar..... | 9. 58. 0 N | 76. 15. 34 E | 5. 5. 2 E | |
| Cocos Isles { Great | Afia.... | Bay of Bengal.. | 14. 5. 0 N | 93. 14. 0 E | 6. 12. 56 E | |
| Cocos Isles { Little | Afia... | Bay of Bengal.. | 13. 58. 0 N | 93. 7. 0 E | 6. 12. 28 E | |
| [illegible] | [illegible] | Portugal..... | 40. 12. 0 N | 8. 24. 0 W | 0. 33. 36 W | |
| Colenet (Cape)..... | Afia... | New Caledonia. | 22. 30. 0 S | 164. 50. 0 E | 10. 59. 44 E | |
| [illegible] | [illegible] | France..... | 42. 31. 31 N | 3. 5. 2 E | 0. 12. 20 E | |
| Colmar..... | Europe. | France..... | 48. 4. 44 N | 7. 20. 11 E | 0. 29. 19 E | |
| Cologne..... | Europe. | Germany..... | 50. 55. 21 N | 6. 55. 0 E | 0. 27. 40 E | |
| Colville (Cape)..... | Afia... | New Zeeland... | 37. 24. 45 S | 175. 43. 30 E | 11. 42. 15 E | |
| Comerin (Cape)..... | Afia... | India..... | 8. 4. 0 N | 77. 33. 0 E | 5. 10. 15 E | |
| [illegible] | [illegible] | Italy..... | 44. 46. 27 N | 12. 9. 47 E | 0. 48. 39 E | |
| Compiegne..... | Europe. | France..... | 49. 24. 30 N | 2. 49. 41 E | 0. 11. 19 E | |
| Conception..... | America | Chili..... | 36. 45. 14 S | 73. 6. 15 W | 4. 52. 25 W | |
| Condom..... | Europe. | France..... | 43. 57. 30 N | 0. 22. 7 E | 0. 1. 28 E | |
| Condore (Pulo)..... | Afia... | Chinese Sea..... | 8. 45. 45 N | 106. 42. 0 E | 7. 6. 52 E | 4. 15 |
| Conftantinople..... | Europe. | Turkey..... | 41. 1. 12 N | 28. 55. 5 E | 1. 55. 40 E | |
| [illegible] | [illegible] | [illegible] | 54. 58. 0 N | 6. 40. 0 W | 0. 26. 40 W | |
| Cooper's Isle..... | America | Atlantic Ocean.. | 51. 57. 0 S | 36. 4. 0 W | 2. 24. 17 W | |
| Copenhagen..... | Europe. | Denmark..... | 55. 41. 4 N | 12. 35. 1 E | 0. 50. 21 E | |
| Coquimbo..... | America | Chili..... | 29. 54. 0 S | 71. 15. 45 W | 4. 45. 3 W | |
| [illegible] | [illegible] | France..... | 47. 55. 14 N | 1. 10. 1 W | 0. 4. 41 W | |
| Cork..... | Europe. | Ireland..... | 51. 53. 54 N | 8. 28. 15 W | 0. 33. 53 W | 6. 30 |
| Corneto..... | Europe. | Italy..... | 42. 15. 31 N | 11. 43. 0 E | 0. 46. 52 E | |
| Cornwallis (Fort)..... | Afia... | Andaman..... | 13. 20. 30 N | 92. 51. 0 E | 6. 11. 24 E | 10. 0 |
| Cornwallis (Fort)..... | Afia.... | Pulo Pinnang... | 5. 27. 0 N | 100. 20. 30 E | 6. 41. 46 E | |
| Coronation (Cape)..... | Afia... | New Caledonia. | 22. 5. 0 S | 167. 8. 0 E | 11. 8. 32 E | |
| Corvo..... | Europe. | Azores..... | 39. 43. 30 N | 31. 4. 30 W | 2. 4. 0 W | |
| Coudre Isle (N.W. fide) | America | Canada..... | 47. 15. 30 N | 70. 18. 37 W | 4. 41. 10 W | |
| Coullaba Island..... | Afia... | Indian Ocean... | 18. 30. 0 N | 72. 50. 0 E | 4. 51. 40 E | |
| Coutances..... | Europe. | France..... | 49. 2. 58 N | 1. 26. 3 W | 0. 5. 46 W | |
| Courtray..... | Europe. | Netherlands.... | 50. 49. 45 N | 3. 17. 11 E | 0. 13. 8 E | |
| Cowes (Weft)..... | Europe. | Isle of Wight... | 50. 46. 15 N | 1. 17. 17 W | 0. 5. 9 W | 1. 30 |
| Cracatoa (Isle)..... | Afia... | Straits of Sunda. | 6. 6. 0 S | 105. 31. 45 E | 7. 2. 7 E | |
| Cracow..... | Europe. | Poland..... | 50. 10. 0 N | 19. 52. 0 E | 1 19. 28 E | |
| Cremona..... | Europe. | Italy..... | 45. 7. 40 N | 10. 0. 22 E | 0 40. 1 E | |
| Creffmunfter..... | Europe. | Germany..... | 48. 5. 30 N | 14. 7. 11 E | 0 56. 28 E | |

| Names of Places | Continent | Island, Sea, or Country | Latitude | Longitude from London | Longitude from Paris | H. W. |
|---|---|---|---|---|---|---|
| | | | ° ′ ″ | ° ′ ″ | ° ′ ″ | h. m. |
| Croiſic | Europe | France | 47. 17. 40 N | 2. 31. 42 W | 0. 10. 7 W | |
| Crooked Iſle | America | Lucayes | 22. 48. 50 N | 74. 26. 5 W | 4. 57. 44 W | |
| Croque Harbour | America | Newfoundland | 51. 3. 17 N | 55. 50. 0 W | 3. 43. 20 W | |
| Croſs Cape | America | Pacific Ocean | 57. 58. 30 N | 136. 44. 30 W | 9. 6. 58 W | |
| Cuddalore | Aſia | India | 11. 41. 0 N | 79. 37. 45 E | 5. 18. 31 E | |
| Cumberland (Cape) | Aſia | New Hebrides | 14. 39. 30 S | 166. 47. 0 E | 11. 7. 8 E | |
| Cumberland Houſe | America | New Wales | 53. 56. 40 N | 102. 9. 0 W | 6. 48. 36 W | |
| Cumberland Iſle | America | Pacific Ocean | 19. 18. 0 S | 140. 52. 0 W | 9. 23. 28 W | |
| Cummin (Iſle) | Aſia | Chineſe Sea | 31. 40. 0 N | 121. 4. 0 E | 8. 4. 16 E | |
| Curreuſe Iſle | Aſia | Almirantes | 4. 19. 0 S | 55. 47. 0 E | 3. 43. 8 E | 5. 10 |
| Dagger-Ort | Europe | Baltic | 58. 56. 1 N | 22. 9. 0 E | 1. 28. 36 E | |
| Damoan Fort | Aſia | India | 20. 22. 0 N | 73. 2. 45 E | 4. 52. 11 E | |
| Danger (Point) | Aſia | New Holland | 28. 8. 22 S | 153. 33. 10 E | 10. 14. 13 E | |
| Danger (Iſles of) | Aſia | Pacific Ocean | 10. 56. 0 S | 165. 59. 0 W | 11. 3. 56 W | |
| Dantzig | Europe | Poland | 54. 22. 0 N | 18. 40. 0 E | 1. 14. 40 E | |
| Darby (Cape) | America | Beering's Strait | 64. 21. 0 N | 163. 0. 0 W | 10. 52. 0 W | |
| Daſſen Iſland | Africa | Caffers | 33. 25. 0 S | 18. 1. 52 E | 1. 12. 7 E | |
| Dax | Europe | France | 43. 42. 19 N | 1. 3. 16 W | 0. 4. 13 W | |
| Deal Caſtle | Europe | England | 51. 13. 5 N | 1. 23. 59 E | 0. 5. 36 E | 11. 15 |
| Delhi | Aſia | India | 28. 37. 0 N | 77. 40. 0 E | 5. 10. 40 E | |
| Dengeneſs | Europe | England | 50. 54. 52 N | 0. 57. 40 E | 0. 3. 51 E | 11. 15 |
| Dennis (St.) | Africa | I. Bourbon | 20. 51. 43 S | 55. 30. 0 E | 3. 42. 0 E | |
| Dereham (Eaſt) | Europe | England | 52. 40. 20 N | 0. 54. 30 E | 0. 3. 38 E | |
| Devi-cotta | Aſia | India | 11. 21. 0 N | 79. 47. 0 E | 5. 19. 8 E | |
| Diamond Iſland | Aſia | Bay of Bengal | 15. 50. 0 N | 94. 17. 54 E | 6. 17. 11 E | |
| Diarbekir | Aſia | Diarbek | 37. 54. 0 N | 39. 20. 0 E | 2. 37. 20 E | |
| Die | Europe | France | 44. 45. 31 N | 5. 22. 15 E | 0. 21. 29 E | |
| Diego (Cape) | America | Terra del Fuego | 54. 33. 0 S | 65. 14. 0 W | 4. 20. 56 W | |
| Diego Garcia | Aſia | Indian Ocean | 7. 20. 0 S | 72. 24. 52 E | 4. 49. 39 E | |
| Diego Ramirez | America | South. Ocean | 56. 32. 30 S | 67. 55. 0 W | 4. 31. 40 W | |
| Dieppe | Europe | France | 49. 55. 34 N | 1. 4. 29 E | 0. 4. 57 E | 11. 15 |
| Digby (Cape) | Aſia | Kerguelen's Land | 49. 23. 30 S | 70. 32. 0 E | 4. 42. 8 E | |
| Digges (Iſle) | America | Hudſon's Bay | 62. 41. 0 N | 78. 30. 0 W | 5. 17. 0 W | |
| Digne | Europe | France | 44. 5. 18 N | 6. 14. 4 E | 0. 24. 56 E | |
| Dijon | Europe | France | 47. 19. 25 N | 5. 1. 45 E | 0. 20. 7 E | |
| Dilla (Mount) | Aſia | Malabar Coaſt | 11. 59. 40 N | 75. 14. 30 E | 5. 0. 58 E | |
| Dillingen | Europe | Germany | 48. 34. 10 N | 10. 29. 12 E | 0. 41. 57 E | |
| Diſappointment (Cape) | America | South Georgia | 54. 58. 0 S | 36. 15. 0 W | 2. 25. 0 W | |
| Diſappointment (Iſland) | America | Pacific Ocean | 14. 7. 0 S | 141. 22. 0 W | 9. 25. 28 W | |
| Diſeada (Cape) | America | Terra del Fuego | 53. 4. 15 S | 74. 18. 0 W | 4. 57. 12 W | |
| Diſerada | America | Carib. Iſles | 16. 35. 0 N | 61. 11. 15 W | 4. 4. 45 W | |
| Diu Head | Aſia | Guzarat | 20. 42. 0 N | 71. 3. 30 E | 4. 44. 14 E | |
| Dix Cove Fort | Africa | Gold Coaſt | 4. 44. 0 N | 2. 37. 44 W | 0. 10. 21 W | |
| Dixmude | Europe | Netherlands | 51. 2. 5 N | 2. 54. 30 E | 0. 11. 37 E | |
| Dol | Europe | France | 48. 33. 8 N | 1. 45. 0 W | 0. 7. 0 W | |
| Domar (Pulo) | Aſia | Chineſe Sea | 2. 47. 0 N | 105. 21. 0 E | 7. 1. 24 E | |
| Dominique (Iſle) | America | Windward Iſles | 15. 18. 23 N | 61. 35. 30 W | 4. 6. 22 W | |
| Donna Maria (Cape) | America | Hiſpaniola | 18. 37. 20 N | 74. 35. 52 W | 4. 58. 23 W | |
| Dorcheſter | Europe | England | 50. 42. 58 N | 2. 25. 40 W | 0. 9. 43 W | |
| Douay | Europe | France | 50. 22. 10 N | 3. 3. 37 E | 0. 13. 10 E | |
| Douglas (Cape) | America | Cook's River | 58. 56. 0 N | 153. 50. 0 W | 10. 15. 20 W | |
| Dover | Europe | England | 51. 7. 48 N | 1. 19. 2 E | 0. 5. 16 E | 11. 15 |
| Drake's Iſland | Europe | Plymouth Sound | 50. 21. 30 N | 4. 13. 30 W | 0. 16. 54 W | 5. 45 |
| Dreſden | Europe | Saxony | 51. 2. 54 N | 13. 41. 15 E | 0. 54. 45 E | |
| Dreux | Europe | France | 48. 44. 17 N | 1. 21. 24 E | 0. 5. 26 E | |
| Dronthiem | Europe | Norway | 63. 26. 6 N | 10. 22. 0 E | 0. 41. 28 E | 2. 15 |
| Druja | Europe | Ruſſia | 55. 47. 29 N | 27. 13. 30 E | 1. 48. 54 E | |
| Dublin | Europe | Ireland | 53. 22. 0 N | 6. 17. 0 W | 0. 25. 8 W | 9. 45 |
| Dublin Obſervatory | Europe | Ireland | 53. 23. 7 N | 6. 20. 30 W | 0. 25. 22 W | |
| Dundee | Europe | Scotland | 56. 25. 0 N | 3. 2. 30 W | 0. 12. 10 W | |
| Dundra-Head | Aſia | Ceylon | 5. 51. 0 N | 80. 41. 20 E | 5. 22. 45 E | |

| Names of Places | Continent | Coaſt, Sea, or Country | Latitude | Longitude, In Degrees | Longitude, In Time | H. W. |
|---|---|---|---|---|---|---|
| | | | ° ′ ″ | ° ′ ″ | h m s | h m |
| Dunkirk | Europe. | France | 51. 2. 9N | 2. 22. 4 E | 0. 9. 28 E | 11. 45 |
| Duſky Bay | Aſia | New Zeeland | 45. 47. 27 S | 166. 18. 9 E | 11. 5. 13 E | 10. 57 |
| Dun-Note | Europe | England | 50. 37. 7N | 1. 11. 36W | 0. 4. 46W | 9. 45 |
| Eagle Iſland | Aſia | Almirantes | 5. 10. 0 S | 55. 37. 0 E | 3. 42. 28 E | 3. 30 |
| Eaoowe (Iſle) | Aſia | Pacific Ocean | 21. 24. 0 S | 174. 30. 0W | 11. 38. 0W | 7. 0 |
| Eaſt Cape | Aſia | Beering's Strait | 66. 5. 30N | 169. 44. 0W | 11. 18. 56W | |
| Eaſt Cape | Aſia | New Zeeland | 37. 44. 25 S | 178. 58. 0 E | 11. 55. 52 E | |
| Eaſt Main (Fort) | America | Labrador | 52. 15. 0N | 78. 57. 49W | 5. 15. 51W | |
| Eaſter Iſland | America | Pacific Ocean | 27. 6. 30 S | 109. 46. 45W | 7. 19. 7W | 2. 0 |
| Ecaterinburg | Aſia | Siberia | 56. 50. 15N | 60. 50. 0 E | 4. 3. 20 E | |
| Edam (Iſle) | Aſia | Batavia Bay | 5. 57. 30 S | 106. 51. 0 E | 7. 7. 24 E | |
| Edgecumbe (Cape) | America | Pacific Ocean | 57. 4. 30N | 135. 55. 30W | 9. 3. 42W | |
| Edinburg | Europe | Scotland | 55. 56. 42N | 3. 12. 15W | 0. 12. 49W | 4. 30 |
| Edward's (Prince) Iſles | Africa | Ind. Ocean N. | 46. 39. 30 S | 38. 2. 30 E | 2. 32. 10 E | |
| | | Ind. Ocean S. | 46. 52. 30 S | 37. 47. 0 E | 2. 31. 8 E | |
| Edyſtone | Europe | Engliſh Channel | 50. 8. 0N | 4. 24. 0W | 0. 17. 36W | 5. 30 |
| Egmont (Cape) | Aſia | New Zeeland | 39. 23. 20 S | 174. 12. 30 E | 11. 36. 50 E | |
| Egment (Iſle) | America | Pacific Ocean | 19. 20. 0 S | 138. 46. 0W | 9. 15. 4W | |
| Eimeo (Iſle) | America | Pacific Ocean | 17. 30. 0 S | 149. 54. 0W | 9. 59. 36W | |
| Elias's (St.) Mount | America | Pacific Ocean | 60. 24. 30N | 141. 0. 0W | 9. 24. 0W | |
| Elephant Point | Aſia | Ceylon | 6. 20. 0N | 81. 39. 15 E | 5. 26. 37 E | |
| Elizabeth (Cape) | America | Pacific Ocean | 59. 11. 0N | 152. 12. 0W | 10. 8. 48W | |
| Elmina Caſtle | Africa | Gold Coaſt | 5. 1. 38N | 2. 0. 12W | 0. 8. 1W | |
| Eltham | Europe. | England | 51. 27. 4N | 0. 3. 10 E | 0. 0. 13 E | |
| Embrum | Europe. | France | 44. 34. 7N | 6. 25. 54 E | 0. 25. 44 E | |
| Enatum (Iſle) | Aſia | Pacific Ocean | 20. 10. 0 S | 170. 4. 0 E | 11. 20. 16 E | |
| Enckhuyſen | Europe. | Holland | 52. 42. 22N | 5. 10. 0 E | 0. 20. 40 E | |
| Engliſh Road | Aſia | Eaoowe | 21. 20. 30 S | 174. 49. 0W | 11. 39 16W | |
| Endeavour River | Aſia | New Holland | 15. 27. 11 S | 145. 10. 0 E | 9. 40. 40 E | |
| Enos | Europe. | Turkey | 40. 41. 58N | 25. 58. 30 E | 1. 43. 54 E | |
| Erranunga (Iſle) | Aſia | Pacific Ocean | 18. 46. 30 S | 169. 18. 30 E | 11. 17. 14 E | |
| Erzerum | Aſia | Turkey | 39. 56. 35N | 48. 35. 45 E | 3. 14. 23 E | |
| Eſpiritu Santo | America | Cuba | 21. 57. 41N | 79. 49. 30W | 5. 19. 18W | |
| Eutiachia (Town) | America | Carib. Sea | 17. 29. 0N | 63. 2. 0W | 4. 12. 8W | |
| Evout's Iſles | America | Terra del Fuego | 55. 34. 30 S | 66. 59. 0W | 4. 27. 56W | |
| Evreux | Europe. | France | 49. 1. 30N | 1. 8. 54 E | 0. 4. 36 E | |
| Exeter | Europe. | England | 50. 44. 0N | 3. 34. 30W | 0. 14. 18W | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Falmouth | Europe. | England | 50. 8. 0N | 5. 3. 0W | 0. 20. 12W | 5. 30 |
| Falſe (Cape) | Africa | Caffres | 34. 16. 0 S | 18. 44. 0 E | 1. 14. 56 E | |
| Falſe Bay | Africa | Caffres | 34. 10. 0 S | 18. 33. 0 E | 1. 14 12 E | |
| Fano | Europe. | Italy | 43. 51. 0N | 12. 59. 38 E | 0. 51. 59 E | |
| Fareham | Europe. | England | 50. 51. 20N | 1. 10. 11W | 0. 4. 41W | |
| Farewell (Cape) | America | Greenland | 59. 38. 0N | 42. 42. 0W | 2. 50. 48W | |
| Farewell (Cape) | Aſia | New Zeeland | 40. 37. 0 S | 172. 49. 38 E | 11. 31. 19 E | |
| Farn[illegible] | Europe. | England | 51. 13. 7N | 0. 47. 52W | 0. 3. 11W | |
| Fayal (Town) | Europe. | Azores | 38. 32. 20N | 28. 41. 5W | 1. 54. 44W | 2. 20 |
| Fecamp | Europe. | France | 49. 45. 24N | 0. 22. 48 E | 0. 1. 31 E | |
| Felix and Amb. Iſles | America | Pacific Ocean | 26. 16. 0 S | 79. 16. 0W | 5. 17. 4W | |
| Ferdinand Noronha | America | Brazil | 3. 56. 20 S | 32. 38. 0W | 2. 10. 32W | |
| Fermo | Europe. | Italy | 43. 10. 18N | 13. 41. 26 E | 0. 54. 46 E | |
| Fernando Po | Africa | Atlantic Ocean | 3. 28. 0N | 8. 40. 0 E | 0. 34. 40 E | |
| Ferrara | Europe. | Italy | 44. 49. 46N | 11. 36. 15 E | 0. 46. 25 E | |
| Ferraria (Point) | Europe. | St. Michael (Az.) | 37. 49. 41N | 25. 59. 49W | 1. 43. 59W | |
| Ferro (Town) | Africa | Canaries | 27. 47. 35N | 17. 45. 8W | 1. 11. 1W | |
| Finiſterre (Cape) | Europe. | Spain | 42. 53. 30N | 9. 18. 24W | 0. 37. 14W | |
| Fizeron (Cape) | Europe. | Portugal | 39. 19. 0N | 11. 43. 53W | 0. 46. 56W | |
| Fladſtrand | Europe. | Denmark | 57. 27. 3N | 10. 33. 15 E | 0. 42. 13 E | |
| Flattery (Cape) | America | New Albion | 48. 15. 30N | 124. 58. 30W | 8. 19. 54W | |

| Names of Places | Continent | Coast, Sea, or Country | Latitude | Longitude In Degrees | Longitude In Time | H. S. |
|---|---|---|---|---|---|---|
| Flatlaag | Europe | Denmark | 54. 47. 8 N | 9. 27. 6 E | 0 37 48 E | |
| Florence | Europe | Italy | 43. 46. 30 N | 11. 3. 30 E | 0 44 14 E | |
| Flores | Europe | Azores | 39. 30. 20 N | 31. 11. 22 W | 2 4 45 W | |
| Flour (Saint) | Europe | France | 45. 1. 53 N | 3. 5. 24 E | 0 12 22 E | |
| Flushing | Europe | Holland | 51. 26. 37 N | 3. 34. 9 E | 0 14 17 E | |
| Fogo Island | America | Pacific Ocean | 19. 12. 0 N | 157. 19. 30 W | 10 29 18 W | |
| Foia (Cape) | Europe | Turkey | 35. 38. 51 N | 27. 2. 30 E | 1 48 10 E | |
| Folkstone | Europe | England | 51. 5. 45 N | 1. 11. 29 W | 0 4 58 W | |
| Fontarabia | Europe | Spain | 43. 21. 36 N | 1. 47. 29 W | 0 7 11 W | |
| South Foreland (light-h.) | Europe | England | 51. 8. 21 N | 1. 22. 6 E | 0 5 28 E | |
| North Foreland | Europe | England | 51. 22. 30 N | 1. 26. 30 E | 0 5 46 E | |
| Fortaventura (West P.) | Africa | Canaries | 28. 4. 0 N | 14. 30. 30 W | 0 58 2 W | |
| Fort Dauphin | Africa | Madagascar | 17. 40. 14 S | 49. 52. 30 E | 3 19 30 E | |
| Fortescue (Cape) | America | Pacific Ocean | 44. 53. 0 N | 124 0 0 W | 8 16 0 W | |
| Fourpoint Head | Europe | Wales | 53. 0. 0 N | 3. 30. 30 W | 0 14 2 W | |
| Fourteen Islands | Africa | Indian Ocean | 20. 9. 43 S | 57. 31. 3 E | 3 50 5 E | |
| Francfort (on the Main) | Europe | Germany | 50. 7. 40 N | 8. 44. 45 E | 0 34 59 E | |
| Francfort (on the Oder) | Europe | Germany | 52. 22. 8 N | 14. 43. 0 E | 0 58 52 E | |
| Francisco (St.) | America | New Albion | 37. 48. 30 N | 122. 7. 20 W | 8 8 29 W | 11. 5 |
| Francois (Cape) | America | Hispaniola | 19. 46. 40 N | 72. 17. 45 W | 4 49 11 W | |
| Francois (Old Cape) | America | Hispaniola | 19. 40. 30 N | 70. 2. 0 W | 4 40 8 W | |
| Frant | Europe | England | 51. 5. 54 N | 0. 15. 13 E | 0 1. 1 E | |
| Frawenburg | Europe | Prussia | 54. 22. 15 N | 20. 7. 30 E | 1 20 30 E | |
| Free Town | Africa | Sierra Leone | 8. 30. 0 N | 13. 15. 15 W | 0 53 1 W | |
| Frehel (Light) | Europe | France | 48. 41. 0 N | 2. 25. 30 W | 0 9. 42 W | |
| Freins | Europe | France | 43. 23. 0 N | 6. 44. 30 E | 0 26 58 E | |
| Friendly Isles | America | Southern Land | 19. 0. 0 S | 182. 30. 0 W | 12 10 0 W | |
| Frio (Cape) | America | Brasil | 23. 54. 0 S | 42. 1. 45 W | 2 48 7 W | |
| Frio (Cape) | Africa | Caffraria | 18. 40. 0 S | 12. 20. 0 E | 0 49 20 E | |
| Fronfac (Strait) | America | New Norway | 45. 0. 0 N | 61. 30. 0 W | 4 6 0 W | |
| Fuego Island | Africa | Cape Verd | 15. 0. 0 N | 24. 0. 0 W | 1 36 0 W | |
| Fulham | Europe | England | 51. 28. 0 N | 0. 12. 0 W | 0 0 48 W | |
| Funchal | Africa | Madeira | 32. 37. 20 N | 16. 55. 30 W | 1 7 42 W | 12. 4 |
| Furneaux (Island) | America | Pacific Ocean | 47. 54. 0 S | 183. 0. 0 W | 12 12 0 W | |
| Furnes | Europe | Netherlands | 51. 4. 23 N | 2. 40. 30 E | 0 10 42 E | |
| Gabon | Africa | New Guinea | 0. 6. 0 S | 126. 23. 45 E | 8 25 55 E | |
| Galle (Cape) | Asia | Ceylon | 6. 1. 0 N | 80. 19. 20 E | 5 21 17 E | |
| Galipoli | Europe | Turkey | 40. 25. 33 N | 26. 37. 15 E | 1 46 29 E | |
| Gand | Europe | Netherlands | 51. 3. 15 N | 3. 43. 20 E | 0 14 53 E | |
| Ganjam | Asia | India | 19. 22. 30 N | 85. 18. 30 E | 5 41 14 E | |
| Gap | Europe | France | 44. 33. 37 N | 6. 4. 47 E | 0 24 19 E | |
| Gaspar (Island) | Asia | Straits of Gasper | 2. 25. 0 S | 107. 7. 45 E | 7 8 31 E | |
| Gaspee | America | Gf. St. Lawrence | 48. 47. 30 N | 64. 27. 30 W | 4 17 50 W | |
| Gavareca (Cape) | Asia | Kamtschatka | 51. 20. 30 N | 158. 26. 0 E | 10 34 4 E | |
| Geinhausen | Europe | Germany | 50. 13. 25 N | 0. 12. 38 E | 0 0 50 E | |
| Geneva | Europe | Savoy | 46. 12. 17 N | 6. 8. 24 E | 0 24 33 E | |
| Genoa | Europe | Italy | 44. 25. 0 N | 8. 51. 15 E | 0 35 25 E | |
| St. George (Isle) | Europe | Azores | 38. 53. 30 N | 28. 10. 0 W | 1 52 40 W | |
| St. George (Town) | America | Bermudas | 32. 22. 20 N | 64. 42. 0 W | 4 18 48 W | |
| St. George (Fort) | America | Hispaniola | 18. 30. 0 N | 73. 55. 0 W | 4 55 40 W | |
| St. George (Fort) | Asia | India | 13. 0. 0 N | 80. 15. 0 E | 5 21 0 E | |
| St. George (Cape) | America | Newfoundland | 48. 0. 0 N | 58. 45. 0 W | 3 55 0 W | |
| St. George (Cape) | Asia | New Holland | 22. 0. 0 S | 113. 30. 0 E | 7 34 0 E | |
| St. George (Cape) | Asia | New Britain | 4. 0. 0 S | 153. 45. 0 E | 10 15 0 E | |
| George (Cape) | America | South Georgia | 54. 0. 0 S | 36. 0. 0 W | 2 24 0 W | |
| George (Cape) | Asia | Kerguelen's Land | 49 44 30 S | 70 10. 0 E | 4 40 40 E | |
| Gerish | Asia | Malabar | 11. 0. 0 N | 75. 30. 0 E | 5 2 0 E | |
| Ghent | Europe | Flanders | 51. 3. 0 N | 3. 40. 30 E | 0 14 43 E | |
| Gibraltar | Europe | Spain | 36. 4. 40 N | 5. 4. 0 W | 0 20 16 W | 11. 6 |
| Gilbert's Isle | America | Terra del Fuego | 55. 0. 0 S | 71. 0. 45 W | 4 44 3 W | |
| Gironde | Europe | France | 44. 30. 45 N | 0. 40. 15 E | 0 2. 41 E | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | ° ′ ″ | ° ′ ″ | h m s | h m |
| Glaſgow | Europe. | Scotland | 55. 51. 32 N | 4. 16. 0 W | 0. 17. 4 W | |
| Gloceſter Houſe | America | New Wales | 51. 24. 26 N | 87. 26. 2 W | 5. 49. 44 W | |
| Gloceſter Iſle | America | Pacific Ocean | 19. 11. 0 S | 140. 20. 0 W | 9. 21. 20 W | |
| Gluchow | Europe. | Ruſſia | 51. 40. 30 N | 34. 20. 0 E | 2. 17. 20 E | |
| Gluckſtad | Europe. | Holſtein | 53. 47. 44 N | 9. 27. 0 E | 0. 37. 48 E | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Goat Iſle | Aſia | Chineſe Sea | 13. 55. 0 N | 120. 2. 0 E | 8. 0. 8 E | |
| Goave (Le Petit) | America | Hiſpaniola | 18. 27. 0 N | 72. 45. 34 W | 4. 51. 2 W | |
| [illegible] | Europe | Zeeland | 51. 30. 18 N | 3. 53. 5 E | 0. 15. 32 E | |
| [illegible] | Aſia | India | 21. 40. 30 N | 72. 21. 15 E | 4. 49. 25 E | |
| [illegible] | Africa | Canaries | 28. 5. 40 N | 17. 8. 0 W | 1. 8. 32 W | |
| Gonave (Iſle N.E. Point) | America | Hiſpaniola | 18. 48. 35 N | 72. 56. 27 W | 4. 51. 46 W | |
| Goodwood | Europe. | England | 50. 52. 21 N | 0. 44. 9 W | 0. 2. 57 W | |
| Good Hope (Cape) | Africa | Caffraria | 34. 29. 0 S | 18. 23. 15 E | 1. 13. 33 E | 3. 0 |
| Good Hope (Town) | Africa | Caffraria | 33. 55. 42 S | 18. 23. 7 E | 1. 13. 32 E | 2. 30 |
| Goree (Iſle) | Africa | Atlantic Ocean | 14. 40. 5 N | 17. 24. 30 W | 1. 9. 38 W | 1. 30 |
| Gotha | Europe. | Germany | 50. 56. 17 N | 10. 41. 46 E | 0. 42. 46 E | |
| Gothaab | America | Greenland | 64. 9. 55 N | 51. 46. 45 W | 3. 27. 7 W | |
| Gottenburg | Europe. | Sweden | 57. 42. 0 N | 11. 57. 30 E | 0. 47. 50 E | |
| Gottingen (Obſervat.) | Europe. | Germany | 51. 31. 54 N | 9. 54. 15 E | 0. 39. 37 E | |
| Goudhurſt | Europe. | England | 51. 6. 50 N | 0. 27. 39 E | 0. 1. 51 E | |
| Grafton (Iſle) | Aſia | Bathees | 21. 4. 0 N | 120. 55. 11 E | 8. 3. 41 E | |
| Grafton (Cape) | Aſia | New Holland | 16. 53. 30 S | 145. 42. 45 E | 9. 42. 51 E | |
| Grenada (Fort Royal) | America | Caribbean Sea | 12. 2. 54 N | 61. 51. 15 W | 4. 7. 25 W | |
| Granville | Europe. | France | 48. 50. 16 N | 1. 36. 15 W | 0. 6. 25 W | 6. 45 |
| Graſſe | Europe. | France | 43. 39. 19 N | 6. 55. 9 E | 0. 27. 41 E | |
| Gratioſa | Europe. | Azores | 39. 11. 0 N | 27. 54. 30 W | 1. 51. 38 W | |
| Gratz | Europe. | Germany | 47. 4. 9 N | 15. 25. 45 E | 1. 1. 43 E | |
| Gravelines | Europe. | Flanders | 50. 59. 10 N | 2. 7. 35 E | 0. 8. 30 E | 0. 0 |
| Gravois (Point) | America | Hiſpaniola | 18. 0. 55 N | 74. 2. 15 W | 4. 56. 9 W | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Grenaae | Europe. | Denmark | 56. 24. 57 N | 10. 53. 21 E | 0. 43. 53 E | |
| Gregory (Cape) | America | Pacific Ocean | 43. 29. 0 N | 124. 9. 0 W | 8. 16. 36 W | |
| Grenoble | Europe. | France | 45. 11. 42 N | 5. 43. 34 E | 0. 22. 54 E | |
| Grenville (Cape) | America | Pacific Ocean | 57. 31. 0 N | 152. 37. 30 W | 10. 10. 30 W | |
| [illegible] | [illegible] | [illegible] | 47. 36. 4 N | 3. 26. 23 W | 0. 13. 46 W | |
| Grinſted (Eaſt) | Europe. | England | 51. 7. 28 N | 0. 0. 16 E | 0. 0. 1 E | |
| Grinſted (Weſt) | Europe. | England | 50. 58. 24 N | 0. 19. 53 W | 0. 1. 20 W | |
| Gryphiſwald | Europe. | Germany | 54. 5. 15 N | 13. 35. 15 E | 0. 54. 5 E | |
| Guadaloupe | America | Caribbean Sea | 15. 59. 30 N | 61. 48. 15 W | 4. 7. 15 W | |
| Guiaquil | America | Peru | 2. 11. 18 S | 79. 20. 52 W | 5. 17. 23 W | |
| Gurief | Aſia | Siberia | 47. 7. 7 N | 51. 59. 15 E | 3. 27. 57 E | |
| Haderſleben | Europe. | Denmark | 55. 15. 6 N | 9. 30. 15 E | 0. 38. 1 E | |
| Hague | Europe. | Holland | 52. 4. 12 N | 4. 16. 2 E | 0. 17. 4 E | 8. 15 |
| Halifax | America | Nova Scotia | 44. 44. 0 N | 63. 36. 0 W | 4. 14. 24 W | 7. 30 |
| Hamburg | Europe | Germany | 53. 33. 3 N | 9. 55. 15 E | 0. 39. 41 E | 6. 0 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Hampſtead | Europe. | England | 51. 33. 19 N | 0. 10. 42 W | 0. 0. 43 W | |
| Hang-lip (Cape) | Africa | Caffraria | 34. 16. 0 S | 18. 44. 0 E | 1. 14. 56 E | |
| Hanover | Europe. | Germany | 52. 22. 18 N | 9. 44. 15 E | 0. 38. 57 E | |
| Harbro' (Market) | Europe. | England | 52. 28. 30 N | 0. 57. 25 W | 0. 3. 50 W | |
| Hareſield | Europe. | England | 51. 36. 10 N | 0. 29. 15 W | 0. 1. 57 W | |
| Haerlem | Europe. | Holland | 52. 22. 14 N | 4. 37. 0 E | 0. 18. 28 E | |
| Harrow on the Hill | Europe. | England | 51. 34. 27 N | 0. 20. 3 W | 0. 1. 20 W | |
| Haſtings | Europe. | England | 50. 52. 10 N | 0. 41. 10 E | 0. 2. 45 E | 11. 0 |
| Havannah | America | Cuba | 23. 11. 52 N | 82. 8. 36 W | 5. 28. 34 W | |
| Havant | Europe. | England | 50. 51. 5 N | 0. 58. 38 W | 0. 3. 55 W | |
| Havre-de-Grace | Europe. | France | 49. 29. 14 N | 0. 6. 23 E | 0. 0. 26 E | 9. 0 |
| Hawkhill | Europe. | Scotland | 55. 57. 37 N | 3. 10. 15 W | 0. 12. 41 W | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

| Names of Places | Continents | Countries, Seas, or Coasts | Latitude | Longitude | | Variation |
|---|---|---|---|---|---|---|
| | | | | In Degrees | In Time | |
| St. Helena (Ja-To.) | Africa | S Atlantic Ocean | 15. 55. 0 S | 5. 43. 30 W | 0 22 54 W | 8. 15 |
| [illegible] | [illegible] | England | 50. 42. 57 N | 1. 45. 1 W | 0 7 1 W | |
| Henley Houfe | [illegible] | New Wales | 51. 14. 28 N | 84 46 15 W | 5 39 3 W | |
| Henlopen (Cape) | [illegible] | [illegible] | [illegible] | 75. 12 30 W | [illegible] | 9. 0 |
| Henry (Cape) | America | Virginia | 36. 57. 0 N | 76 31 30 W | 5 6 0 W | |
| Heraclia | Europe. | Turkey | 41. 1. 3 N | 27. 54. 30 E | 1 51. 38 E | |
| St. Hermogenes (Ifle) | America | Cook's River | 58. 15. 0 N | 152. 13 [illegible] W | 10 8 52 W | |
| Hernofand | Europe. | Sweden | 62. 38. 0 N | 17. 50 15 E | 1. 11. 21 E | |
| Hermes (Ifle) | America | Pacific Ocean | 19. 17. 0 S | 158. 56. 2 W | 10 35 44 W | |
| Heffeloe (Ifle) | Europe. | Categat | 56. 11. 46 N | 11. 43. 45 E | 0. 46. 55 E | |
| Heve (Cape) | Europe. | France | 49. 30. 42 N | 0. 4. 0 E | 0 0 16 E | |
| Highbury Houfe | Europe. | England | 51. 33. 13 N | 0. 5. 57 W | 0 0 23 W | |
| Hi[illegible] | Europe. | England | 51. 18. 46 N | 1. 20. 16 W | 0 5. 21 W | |
| High[illegible] | Europe. | England | 51. 34. 16 N | 0. 8. 50 W | 0 0 35 W | |
| Hinchinbroke (Ifle) | Afia | Pacific Ocean | 17. 25. 0 S | 150 30. 0 E | 11. 42 [illegible] E | |
| Hinchinbroke (Cape) | America | Pr. Wm's. Sound | 60. 10. 0 N | 148. 35. 0 W | 9 54. 20 W | |
| Hiorling | Europe. | Denmark | 57. 27. 44 N | 9. 30. 57 E | 0 38. 0 E | |
| Hoai-Nagan | Afia | China | 31 34. 40 N | 118. 40. 30 E | 7 55 0 E | |
| Hogue (Cape la) | Europe. | France | 49. 43. 0 N | 1. 56. 30 W | 0 7. 47 W | 24. 0 |
| Hola | Europe. | Iceland | 65 43 0 N | 19. 14. 0 W | 1 16. 56 W | |
| Holme Point | Europe | England | 53. 34. 0 N | 0 30. 45 E | 0 2. 3 E | |
| Honfleur | Europe | France | 49. 25. 13 N | 0 13 59 E | 0. 55 0 E | 24. 0 |
| Hood's Ifle | America | Pacific Ocean | 0. 26. 0 S | 138 52. 0 W | 9 15. 28 W | |
| Hoogfteeten | Europe. | Netherlands | 51. 29. 45 N | 4. 40. 17 E | 0 18. 41 E | |
| Horn (Cape) | America | Terra del Fuego | 55. 58. 30 S | 67. 0. 0 W | 4 28. 4 W | |
| Horndon | Europe. | England | 51. 34. 0 N | 0. 22. 0 W | 0 1. 28 W | |
| Horfham | Europe. | England | 51. 3. 30 N | 0. 19. 48 W | 0 1. 19 W | |
| Hout Bay | Africa | Caffraria | 34. 3. 0 S | 18 19. 0 E | 1 13 16 E | |
| Howe's Ifle | America | Pacific Ocean | 16. 46. 30 S | 154. 6. 45 W | 10 16. 27 W | |
| Howe (Cape) | Afia | New Holland | 37. 31. 15 S | 145. 31. 0 E | 9 38. 4 E | |
| Huahine (Ifle) | America | Pacific Ocean | 16. 44. 0 S | 151. 6. 0 W | 10 4. 24 W | |
| Huen (Ifle) | Europe. | Sound | 55. 54. 38 N | 12. 41. 30 E | 0 50. 46 E | |
| Hudfon's Houfe | America | New Wales | 53. 0. 32 N | 106. 27. 48 W | 7 5. 51 W | |
| Hunftan Light | Europe. | England | 52. 58. 40 N | 0. 28. 0 E | 0 1. 52 E | |
| Hurn Light | Europe. | England | 50. 42. 23 N | 1. 32. 50 W | 0 6. 11 W | |
| Hy[illegible]eux | Europe. | England | 50. 51. 35 N | 0. 19. 42 E | 0 1. 19 E | |
| Hyeres | Europe. | Denmark | 54. 28. 48 N | 9. 4. 7 E | 0 36. 16 E | |
| Ilyinfkoi | Afia | [illegible] | [illegible] | 7 31. 0 E | 0 30. 4 E | |
| Jackfon (Port) | Afia | New Holland | 33 31. 0 S | 151 22. 0 E | 10 5. 28 E | |
| Jaffrabad (Fort) | Afia | [illegible] | [illegible] | [illegible] | [illegible] | |
| Jakuttk | Afia | Siberia | [illegible] | [illegible] | [illegible] | |
| Jakuttkoi-Nofs | Afia | Kamtfchattka | [illegible] | 161. 44 [illegible] W | 10 47 [illegible] W | |
| Janeiro (Rio) | America | Brafil | 22 54 10 S | [illegible] W | [illegible] W | 2 5 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Java (Ifle) | Afia | Straits of Malacca | 7. 30 N | [illegible] | 0 31 [illegible] | |
| Jaffy | Europe | Moldavia | 47. 9. 0 N | [illegible] | [illegible] | |
| Java Head | Afia | Java | 6. 45 30 S | [illegible] | [illegible] | |
| Ice Cape | America | [illegible] | [illegible] | 161. [illegible] W | [illegible] W | |
| [illegible] Ifle | Africa | Atlantic Ocean | 9 [illegible] N | [illegible] | [illegible] | |
| Jenikale | Europe | Crimea | 45. 21 0 N | [illegible] | [illegible] | |
| Jenifei | Afia | [illegible] | [illegible] | [illegible] | [illegible] | |
| Jeremie (Point) | America | Hifpaniola | 18. 40. 20 N | [illegible] W | [illegible] | |
| Jericho | Afia | Paleftine | 31. 55. 0 N | [illegible] | [illegible] | |
| St. Ildefonfo's Ifles | America | Terra del Fuego | 55. 51. 0 S | [illegible] | [illegible] | |
| Ilgintkoi | Afia | Siberia | [illegible] | [illegible] | [illegible] | |
| Immer (Ifle) | Afia | Pacific Ocean | 19. 1 [illegible] S | [illegible] | [illegible] | |
| Ingelheim | Europe. | Germany | 48. 45. 50 N | [illegible] | [illegible] | |
| Ingonifh (Cape) | America | Newfoundland | 50. 27. 17 N | [illegible] W | [illegible] | |
| Johanna (Peak) | Africa | Comora Iles | 12. 16 [illegible] S | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |

| Names of Places | Continent | Ifle, Sea, or Country | Latitude | Longitude from London, by Time | Variation of the Compass, W. |
|---|---|---|---|---|---|
| [illegible] | [illegible] | Newfoundland | [illegible] N | 3. [illegible] W | [illegible] |
| [illegible] | [illegible] | California | [illegible] N | 7. 18. 41 W | |
| Joy (Port) | America | Isle of St. John's | [illegible] | [illegible] W | |
| Irkutsk | Asia | Siberia | [illegible] N | 6. 56. 14 E | |
| Irraname (Isle) | Asia | Pacific Ocean | [illegible] | [illegible] E | |
| Iflamabad | Asia | India | [illegible] N | 6. 7. 10 E | |
| Isle of Pines | Asia | Pacific Ocean | [illegible] | [illegible] E | |
| [illegible] | [illegible] | [illegible] | [illegible] N | [illegible] W | |
| Ismael | Europe | Turkey | [illegible] N | 1. 55. 20 E | |
| Ispahan | Asia | Persia | [illegible] N | 3. 27. 20 E | |
| St. Juan (Cape) | America | Staten Land | [illegible] | 4. 15. 8 W | |
| Juan Fernandes (Isle) | America | Pacific Ocean | [illegible] | 5. 14. 12 W | |
| Judda | Asia | Arabia | [illegible] N | 2. 37. 28 E | |
| [illegible] | [illegible] | [illegible] | [illegible] | 9. 19. 30 E | |
| St. Julian (Port) | America | [illegible] | [illegible] | 4. 34. 56 W | 4. 45 |
| [illegible] | [illegible] | Anticoſta (Iſle) | [illegible] N | 4. 14. 33 W | |
| Juthia | Asia | India | [illegible] N | 6. 43. 20 E | |
| [illegible] | Europe | Ruſſia | [illegible] N | 2. 24. 20 E | |
| Kamenec | Europe | Poland | [illegible] N | 1. 48. 5 E | |
| Keeling's Iſlands | Aſia | India Ocean | [illegible] | 6. 30. 34 E | |
| Kamtſchatkoi-Noſs | Aſia | Kamtſchatka | [illegible] N | 10. 53. 30 E | |
| Karakakoo (Bay) | America | Sandwich Iſles | [illegible] N | 10. 23. 46 W | 3. 45 |
| Kateringburg | Aſia | Siberia | [illegible] N | 4. 3. 20 E | |
| [illegible] | [illegible] | Pacific Ocean | [illegible] N | 9. 40. 0 W | |
| [illegible] | Aſia | India | [illegible] N | 5. 55. 21 E | |
| Keppel's Iſland | Aſia | Pacific Ocean | [illegible] | 9. 36. 42 W | |
| Kiam-Cheu | Aſia | China | [illegible] N | 7. 25. 57 E | |
| Kidnapper's Cape | Aſia | New Zeeland | [illegible] S | 11. 49. 4 E | |
| Kiel | Europe | Holſtein | [illegible] N | 0. 37. 39 E | |
| [illegible] | [illegible] | Ireland | [illegible] N | 0. 33. 53 W | 5. [illegible] |
| Kiow | [illegible] | Ukraine | [illegible] N | 2. 1. 50 E | |
| Kiringintkoi | Aſia | Siberia | [illegible] N | 7. 12. 8 E | |
| Kirk-Newton | Europe | Scotland | [illegible] N | 0. 14. 2 W | |
| [illegible] | [illegible] | New England | [illegible] N | 4. 42. 58 W | |
| Koamaroo (Cape) | Aſia | New Zealand | [illegible] S | 11. 38. 18 E | |
| Kola | Europe | Lapland | [illegible] N | [illegible] E | |
| [illegible] | [illegible] | Norway | [illegible] N | 0. 47. 51 E | |
| [illegible] | [illegible] | [illegible] | [illegible] N | 0. 6. 18 W | |
| [illegible] | [illegible] | Denmark | [illegible] N | 0. 44. 34 E | |
| [illegible] | [illegible] | Crimea | [illegible] N | 2. 13. 40 E | |
| [illegible] | Aſia | Kamtſchatka | [illegible] N | [illegible] E | |
| Kowima (Lower) | Aſia | Kamtſchatka | [illegible] N | [illegible] E | |
| [illegible] | [illegible] | Baltic | [illegible] N | [illegible] E | |
| Kronottkoi-Noſs | Aſia | Kamtſchatka | [illegible] N | [illegible] E | |
| [illegible] | [illegible] | [illegible] | [illegible] | 0. 49. 45 E | |
| Kurik | Europe | Ruſſia | [illegible] N | 2. 25. 50 E | |
| La Ciotat | Europe | France | [illegible] N | 0. 22. 27 E | |
| Ladrone (Grand) | Aſia | Chineſe Sea | [illegible] N | 7. 35. 44 E | |
| Lagoon Iſle (Cook's) | America | Pacific Ocean | [illegible] | [illegible] W | |
| Lagoon Iſle (Bligh's) | America | Pacific Ocean | [illegible] | [illegible] W | |
| Lagos | Europe | Turkey | [illegible] N | [illegible] E | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] W | |
| Lambhuus | Europe | Iceland | [illegible] N | [illegible] W | |
| Lampſaco | Aſia | Turkey | [illegible] N | [illegible] E | |
| Lanzarota (Eaſt Point) | Africa | Canaries | [illegible] N | 0 [illegible] W | |
| Landau | Europe | France | [illegible] N | 0. [illegible] E | |
| Landſeroon | Europe | Sweden | [illegible] N | 0. [illegible] E | |
| Langres | Europe | France | [illegible] N | 0. [illegible] E | |
| Laon | Europe | France | [illegible] N | 0. 14. [illegible] E | |

| Names of Places | Continent | Coast, Sea, or Country | Latitude | Longitude, In Degrees | Longitude, In Time | H. W. |
|---|---|---|---|---|---|---|
| | | | | ° ′ ″ | h. m. s. | h. m. |
| St. Lawrence's (Isle)... | Asia.... | Beering's Strait . | 63. 47. 0 N | 171. 45. 0 E | 11. 27. 0 E | |
| Lauſanne..... | Europe. | Switzerland.... | 46. 31. 5 N | 6. 45. 15 E | 0. 27. 1 E | |
| Lavaur..... | Europe. | France..... | 43. 40. 52 N | 1. 49. 3 E | 0. 7. 16 E | |
| Le Croiſic..... | Europe. | France..... | 47. 17. 43 N | 2. 30. 30 W | 0. 10. 2 W | |
| Leſtoure..... | Europe. | France..... | 43. 55. 54 N | 0. 37. 11 E | 0. 2. 29 E | |
| Leeds..... | Europe. | England..... | 53. 47. 33 N | 1. 38. 30 W | 0. 6. 34 W | |
| Leiceſter..... | Europe. | England..... | 52. 38. 0 N | 1. 8. 30 W | 0. 4. 34 W | |
| Leipſic..... | Europe. | Saxony..... | 51. 22. 22 N | 12. 20. 30 E | 0. 49. 22 E | |
| Le Mans..... | Europe. | France..... | 48. 0. 35 N | 0. 11. 49 E | 0. 0. 47 E | |
| Leopards Iſle..... | Africa.. | Sierra Leone.... | 8. 40. 10 N | 13. 8. 0 W | 0. 52. 32 W | |
| Leoſtoffe..... | Europe. | England..... | 52. 29. 0 N | 1. 44. 9 E | 0. 6. 57 E | 10. 30 |
| Leper's Iſland..... | Aſia ... | Pacific Ocean... | 15. 23. 30 S | 167. 58. 15 E | 11. 11. 53 E | |
| Le Puy..... | Europe. | France..... | 45. 2. 41 N | 3. 52. 46 E | 0. 15. 31 E | |
| Leſcar..... | Europe. | France..... | 43. 19. 52 N | 0. 26. 7 W | 0. 1. 44 W | |
| Letkeard..... | Europe. | England..... | 50. 26. 50 N | 4. 41. 45 W | 0. 18. 47 W | |
| Leſparre..... | Europe. | France..... | 45. 18. 33 N | 0. 57. 3 W | 0. 3. 48 W | |
| Liverpool..... | Europe. | England..... | 53. 22. 0 N | 2. 56. 45 W | 0. 11. 47 W | 11. 8 |
| Lewis Town..... | America | Penſylvania.... | 38. 47. 27 N | 75. 15. 48 W | 5. 1. 3 W | |
| Leyden..... | Europe. | Holland..... | 52. 8. 40 N | 4. 28. 0 E | 0. 17. 52 E | |
| Liege..... | Europe. | Netherlands.... | 50. 39. 22 N | 5. 31. 30 E | 0. 22. 6 E | |
| Lilienthal..... | Europe. | Saxony..... | 53. 8. 25 N | 8. 58. 0 E | 0. 35. 52 E | |
| Lima..... | America | Peru..... | 12. 1. 56 S | 76. 54. 0 W | 5. 7. 36 W | |
| Limoges..... | Europe. | France..... | 45. 49. 44 N | 1. 15. 55 E | 0. 5. 4 E | |
| Lintz..... | Europe. | Germany..... | 48. 16. 0 N | 13. 57. 30 E | 0. 55. 50 E | |
| Liſieux..... | Europe. | France..... | 49. 8. 50 N | 0. 13. 32 E | 0. 0. 54 E | |
| Liſle..... | Europe. | Flanders..... | 50. 37. 50 N | 3. 4. 16 E | 0. 12. 17 E | |
| Liſbon..... | Europe. | Portugal..... | 38. 42. 20 N | 9. 9. 10 W | 0. 36. 37 W | 2. 15 |
| Lion's Bank..... | Europe. | Atlantic Ocean.. | 56. 40. 0 N | 17. 45. 0 W | 1. 11. 0 W | |
| Liſburne (Cape)..... | Aſia ... | New Hebrides.. | 15. 40. 45 S | 166. 57. 0 E | 11. 7. 48 E | |
| Liſburne (Cape)..... | America | Beering's Strait . | 68. 5. 0 N | 163. 20. 30 W | 11. 7. 22 W | |
| Livourno..... | Europe. | Italy..... | 43. 33. 2 N | 10. 16. 30 E | 0. 41. 6 E | |
| Lizard..... | Europe. | England..... | 49. 57. 30 N | 5. 13. 0 W | 0. 20. 52 W | 7. 50 |
| Loire (St.)..... | Europe. | France..... | 43. 0. 3 N | 1. 8. 5 E | 0. 4. 32 E | |
| London-pit Hill..... | Europe. | England..... | 51. 28. 7 N | 0. 1. 25 W | 0. 0. 6 W | |
| Lorient..... | Europe. | France..... | 43. 43. 47 N | 3. 18. 48 E | 0. 13. 15 E | |
| Loheia..... | Aſia ... | Arabia..... | 15. 42. 8 N | 42. 8. 30 E | 2. 48. 34 E | |
| Lombez..... | Europe. | France..... | 43. 28. 21 N | 0. 54. 24 E | 0. 3. 38 E | |
| London (St. Paul's).... | Europe. | England..... | 51. 30. 49 N | 0. 5. 47 W | 0. 0. 23 W | 2. 45 |
| ——— Spital Square.. | Europe. | England..... | 51. 31. 9 N | 0. 4. 20 W | 0. 0. 17 W | |
| ——— Chriſt's Hoſpi. | Europe. | England..... | 51. 30. 52 N | 0. 5. 51 W | 0. 0. 23 W | |
| ——— Mr. Graham's . | Europe. | England..... | 51. 30. 52 N | 0. 6. 10 W | 0. 0. 25 W | |
| ——— Surry-ſtr. Obſ. | Europe. | England..... | 51. 30. 40 N | 0. 6. 45 W | 0. 0. 27 W | |
| ——— Somerſet Place | Europe. | England..... | 51. 30. 43 N | 0. 6. 54 W | 0. 0. 28 W | |
| ——— Saville Houſe . | Europe. | England..... | 51. 30. 38 N | 0. 7. 42 W | 0. 0. 31 W | |
| Londonderry..... | Europe. | Ireland..... | 54. 59. 20 N | 7. 14. 49 W | 0. 28. 59 W | 6. - |
| Lopatka (Cape)..... | Aſia ... | Kamtſchatika... | 51. 0. 15 N | 156. 42. 30 E | 10. 26. 50 E | |
| Lorenzo (Cape)..... | America | Peru..... | 1. 2. 0 S | 80. 59. 45 W | 5. 23. 59 W | |
| Loretto..... | Europe. | Italy..... | 43. 27. 0 N | 13. 34. 50 E | 0. 54. 19 E | |
| Louis (Port)..... | America | Hiſpaniola..... | 18. 18. 40 N | 73. 16. 49 W | 4. 53. 7 W | |
| Louis (Port)..... | Aſia ... | Mauritius..... | 20. [illegible] S | [illegible] E | [illegible] E | |
| Louisbourg..... | America | Cape Breton.... | 45. [illegible] N | [illegible] W | [illegible] W | |
| Louveau..... | Aſia ... | India..... | 12. 42. 30 N | 101. 1. 30 E | 6. 44. 6 E | |
| Louvain..... | Europe. | Netherlands.... | 50. 53. 26 N | 4. 41. 32 E | 0. 18. 46 E | |
| Lubni..... | Europe. | Ruſſia..... | 50. 0. 37 N | 33. 3. 30 E | 2. 12. 14 E | |
| St. Lucar (Cape)..... | America | Mexico..... | 22. 45. 0 N | 110. 0. 0 W | 7. 20. 0 W | |
| St. Lucia (Iſle)..... | America | Antilles..... | 13. 24. 30 N | 60. 51. 30 W | 4. 3. 26 W | |
| Lucipara..... | Aſia ... | Straits of Banka. | 3. 11. 20 S | 106. 18. 46 E | 7. 5. 15 E | |
| St. Lunaire Bay..... | America | Newfoundland.. | 51. 29. 0 N | 55. 30. 0 W | 3. 42. 0 W | |
| Lunden..... | Europe. | Sweden..... | 55. 42. 13 N | 13. 11. 5 E | 0. 52. 44 E | |
| Luneville..... | Europe. | France..... | 48. 35. 33 N | 6. 30. 6 E | 0. 26. 0 E | |
| Luſon..... | Europe. | France..... | 46. [illegible] N | [illegible] W | [illegible] W | |

| Names of Places | Continent | Coast, State, or Country | Latitude | Longitude from London | Longitude from Ferro | H. W. |
|---|---|---|---|---|---|---|
| | | | ° ′ ″ | ° ′ ″ | h m s | h m |
| Luxembourg | Europe. | Netherlands. | 49. 37. 20 N | 6. 13. 45 E | 0. 24. 55 E | |
| Lydd | Europe. | England | 50. 57. 7 N | 0. 54. 15 E | 0. 3. 37 E | |
| Lynn Regis | Europe. | England | 52. 45. 34 N | 0. 24. 29 E | 0. 1. 38 E | 6. 45 |
| Lyons | Europe. | France | 45. 45. 52 N | 4. 49. 9 E | 0. 19. 17 E | |
| Macao (Pia Grand) | Asia | China | 22. 11. 20 N | 113. 35. 15 E | 7. 34. 15 E | 5. 50 |
| Macaſſar | Asia | Celebes | 5. 9. 0 S | 119. 48. 45 E | 7. 59. 15 E | |
| Macklesfield Shoal | Asia | Chineſe Sea | 15. 51. 18 N | 114. 18. [illegible] E | [illegible] | |
| Maçon | Europe. | France | 46. 18. 27 N | 4. 49. [illegible] E | [illegible] | |
| Madeira (Funchal) | Africa | Atlantic Ocean | 32. 37. 20 N | 16. 55. [illegible] W | [illegible] | 12. [illegible] |
| Madras | Asia | India | 13. 4. 54 N | 80. 24. 49 E | 5. 21. 39 E | |
| Madre de Dios (Port) | America | Marqueſas | 9. 55. 30 S | 139. 8. [illegible] W | [illegible] | 2. 30 |
| Madrid | Europe. | Spain | 40. 25. 18 N | 3. 38. 30 W | 0. 14. 34 W | |
| Maeſtricht | Europe. | Netherlands | 50. 51. 7 N | 5. 49. 45 E | 0. 22. 43 E | |
| Mafamale | Africa | Zanquebar | 16. 21. 0 S | 40. 20. [illegible] E | [illegible] | |
| Magdalen (Iſles) | America | Gf. St. Lawrence | 47. 17. 0 N | 61. 26. 0 W | 4. 5 [illegible] W | |
| Magdalena (Iſle) | America | Pacific Ocean | 10. 25. [illegible] S | [illegible] W | [illegible] | |
| Mahon (Port) | Europe. | Minorca | 39. 51. 48 N | 3. 48. 30 E | 0. 15. [illegible] E | |
| Majorca (Iſle) | Europe. | Mediterran. Sea. | 39. 35. 0 N | 2. 29. 45 E | 0. [illegible] E | |
| Maize (Cape) | America | Cuba | 20. 18. 0 N | 74. 23. 0 W | 4. 57. [illegible] W | |
| Malacca | Aſia | India | 2. 12. 6 N | 102. 8. 45 E | 6. 48. [illegible] E | |
| Malicoy (Iſland) | Aſia | Indian Ocean | 8. 15. 30 N | 73. 9. 30 E | 4. 52. [illegible] E | |
| Mallicola (Iſle) | Aſia | Pacific Ocean | 16. 15. 30 S | 167. 39. 15 E | 11. 10. [illegible] E | |
| Maloes (St.) | Europe. | France | 48. 39. 3 N | 2. 1. 26 W | 0. 8. 0 W | 6. [illegible] |
| Malmoe | Europe. | Sweden | 55. 36. 37 N | 13. 1. 4 E | 0. 52. [illegible] E | |
| Malta (Town) | Africa | Mediterran. Sea. | 35. 53. 50 N | 14. 28. 30 E | 0. 57. 54 E | |
| Manchester | Europe. | England | 53. 26. 30 N | 2. 15. 0 W | 0. 9. 0 W | |
| Mangalore | Aſia | Malabar | 12. 50. 0 N | 74. 57. 24 E | 4. 59. 50 E | |
| Mangeea (Iſle) | America | Pacific Ocean | 21. 56. 45 S | 158. 3. 0 W | 10. 32. 12 W | |
| Manheim | Europe. | Germany | 49. 28. 59 N | 8. 27. 22 E | 0. 33. 49 E | |
| Manilla | Aſia | Philippines | 14. 36. 8 N | 120. 51. 15 E | 8. 3. [illegible] E | |
| Mansfelt (Iſle) | America | Hudſon's Bay | 62. 38. 30 N | 80. 33. 0 W | 5. 22. [illegible] W | |
| Maria V. Diem. (C.) | Aſia | New Zeeland | 34. 29. 15 S | 172. 46. 30 E | 11. 31. [illegible] E | |
| St. Marcou (Iſle) | Europe. | France | 49. 29. 52 N | 1. 8. 56 W | 0. 4. 30 W | |
| Marigalante (Iſle) | America | Atlantic Ocean | 15. 55. 15 N | 61. 11. 0 W | 4. 4. [illegible] W | |
| Marmara (Iſle) | Aſia | Sea of Marmara | 40. 37. 4 N | 27. 30. 35 E | 1. 50. [illegible] E | |
| [illegible] | [illegible] | [illegible] | 46. [illegible] N | [illegible] | 1. 2. [illegible] E | |
| Marſeilles | Europe. | France | 43. 17. 43 N | 5. 22. 12 E | 0. 21. [illegible] E | |
| St. Martha | America | Terra Firma | 11. 19. 2 N | 74. 4. 30 W | 4. 56. [illegible] W | |
| St. Martin's Cape | Africa | St. Helen's Bay | 32. 41. 43 S | 17. 55. 0 E | 1. 11. [illegible] E | |
| St. Martin's Iſle | America | Caribbean Sea | 18. 4. 20 N | 63. 2. 0 W | 4. 12. [illegible] W | |
| Martinico (Iſle) | America | Weſt Indies | 14. 44. 0 N | 61. 21. 16 W | 4. 5. [illegible] W | |
| Martin-Vaz | America | Atlantic Ocean | 20. 28. 16 S | 29. 1. 0 W | 1. 56. [illegible] W | 3. 45 |
| St. Mary's Iſle | Europe. | Scilly Iſles | 49. 55. 30 N | 6. 16. 45 W | 0. 25. [illegible] W | |
| St. Mary's Town | [illegible] | [illegible] | [illegible] N | [illegible] W | 1. [illegible] W | |
| Mas-a-fuera (Iſle) | America | Pacific Ocean | 33. 45. 0 S | 80. 22. 0 W | 5. 21. 28 W | |
| [illegible] | [illegible] | New [illegible] | [illegible] S | [illegible] | [illegible] | |
| Maſulipatam | Aſia | [illegible] | 10. 8. 30 N | 81. 11. [illegible] E | [illegible] | |
| St. Matthew's Light | [illegible] | [illegible] | 48. 19. 34 N | 4. 45. [illegible] W | [illegible] | |
| Mauritius (Point Louis) | Africa | Indian Ocean | 20. 9. 45 S | 57. 29. 15 E | 3. 49. 57 E | |
| Maurua (Iſle) | America | Pacific Ocean | 10. 25. 40 S | 152. 32. 40 W | 10. 10. [illegible] W | |
| Mayance | Europe. | Germany | 49. 54. 0 N | 8. 20. 0 E | 0. 33. [illegible] E | |
| Mayne's (John) Iſle | Europe. | North. Ocean | 71. 10. 0 N | 9. 49. 30 W | 0. 39. 18 W | |
| Mayo (Iſle) | Africa | Cape Verd | 15. 12. 40 N | 23. 14. 7 W | 1. 32. 56 W | |
| Mayotta (Peak) | Africa | Comora Iſles | 12. 50. 15 S | 45. 25. 0 E | 3. 1 [illegible] E | |
| Meaux | Europe. | France | 48. 57. 40 N | 2. 52. 30 E | 0. 11. 30 E | |
| [illegible] | [illegible] | [illegible] | 51. [illegible] N | [illegible] | [illegible] | |
| Mende | Europe. | France | 44. 31. 2 N | 3. 29. 35 E | 0. 13. 58 E | |
| Mercury Bay | Aſia | New Zeeland | 36. 48. 0 S | 176. 6. 20 E | 11. 44. 25 E | |
| Merguí | Aſia | Siam | 12. 10. 30 N | 98. 19. 15 E | 6. 33. 17 E | |
| Meſurado Bay | Africa | Grain Coaſt | 6. 18. 20 N | 10. 49. 0 W | 0. 43. 16 W | |

| Names of Places | Continent | Coaſt, Sea, or Country | Latitude | Longitude, In Degrees | Longitude, In Time | H. M. |
|---|---|---|---|---|---|---|
| Metz | Europe. | France | 49. 7. 10 N | 6. 10. 13 E | 0. 24. 41 E | |
| Mew-Stone | Aſia | New Holland | 43. 47. 15 S | 146. 26. 30 E | 9. 45. 46 E | |
| Mexico | America | Mexico | 19. 54. 0 N | 99. 41. 45 W | 6. 38. 47 W | |
| Mezieres | Europe. | France | 49. 45. 47 N | 4. 43. 16 E | 0. 18. 53 E | |
| [illegible] | America | Pacific Ocean | 17. 52. 20 S | 148. 6. 0 W | 9. 52. 24 W | |
| [illegible] | [illegible] | Azores | 37. 47. 0 N | 25. 42. 0 W | 1. 42. 48 W | |
| [illegible] | [illegible] | Zeeland | 51. 30. 6 N | 3. 36. 35 E | 0. 14. 26 E | |
| [illegible] | [illegible] | Friendly Iſles | 21. 20. 30 S | 174. 34. 0 W | 11. 38. 16 W | |
| [illegible] | [illegible] | Italy | 45. 28. 0 N | 9. 10. 52 E | 0. 36. 43 E | |
| [illegible] | [illegible] | [illegible] | 36. 41. 0 N | 25. 0. 0 E | 1. 40. 0 E | |
| [illegible] | [illegible] | [illegible] | 51. 19. 50 N | 1. [illegible] | [illegible] | |
| [illegible] | [illegible] | France | 48. 5. 7 N | 1. [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | 7. 29. 0 N | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | 56. 30. 10 N | [illegible] | [illegible] | |
| Mocca | Aſia | Arabia | 13. 16. 0 N | 44. [illegible] | [illegible] | |
| Mocha (Iſle) | America | Pacific Ocean | 38. 22. 30 S | 74 [illegible] | [illegible] | |
| Modena | Europe. | Italy | 44 34. 0 N | 11. 12. 30 E | 0. 44. 50 E | |
| [illegible] | [illegible] | [illegible] | 41. 54. 0 N | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Mons | Europe. | Netherlands | 50. 27. 10 N | 3. [illegible] | [illegible] | |
| Monſieurs | Aſia | Borneo | 4. 23. 40 S | 115. [illegible] | [illegible] | |
| Montague (Cape) | America | Sandwich Land. | 58. 33. 0 S | 26. [illegible] | [illegible] | |
| Montagu (Iſle) | Aſia | New Hebrides | 17. 26. 0 S | 168. [illegible] | [illegible] | |
| Montalto | Europe. | Italy | 42. 59. 44 N | 13. 35. 14 E | 0. 54. 21 E | |
| Montauban | Europe. | France | 44. 0. 55 N | 1. [illegible] E | [illegible] E | |
| Monte-Chriſti | America | Peru | 1. 2. 0 S | 80 [illegible] W | [illegible] W | |
| Montego Bay | America | Jamaica | 18. 31. 0 N | 78. [illegible] W | [illegible] W | |
| Monterrey | America | New Albion | 36. 36. 20 N | 121. 34. [illegible] W | [illegible] W | 7. [illegible] |
| Montlambert | Europe. | France | 50. 43. 2 N | 1. [illegible] | [illegible] | |
| Montmirail | Europe. | France | 48. 52. 8 N | 3 [illegible] | [illegible] | |
| Montpellier | Europe. | France | 43. 36. 29 N | 3 [illegible] | [illegible] | |
| Montſerrat (Iſle) | America | Caribbean Sea | 16. 49. 0 N | 62 [illegible] W | [illegible] W | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Mooſe Fort | America | New Wales | 51. 15. 54 N | 80 [illegible] W | [illegible] W | |
| Morant (Point) | America | Jamaica | 17. 58. 0 N | 76 [illegible] W | [illegible] W | |
| Morokinnee | America | Sandwich Iſles | 20. 39. 0 N | 156. [illegible] | [illegible] W | |
| Morotoi | America | Sandwich Iſles | 21. 10. [illegible] | [illegible] | [illegible] | |
| Moſcow | Europe. | Moſcovy | 55. 45. [illegible] | [illegible] | [illegible] | |
| Moſdok | Europe. | Ruſſia | 43. 43. [illegible] | [illegible] | [illegible] | [illegible] 13 |
| Moſketto Cove | America | Greenland | 64. 55. [illegible] | [illegible] | [illegible] W | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Mount (Cape) | Africa | Grain Coaſt | 6. 46. [illegible] | 11 [illegible] W | [illegible] W | |
| Mowee (Eaſt Point) | America | Sandwich Iſles | 20. 50 [illegible] | [illegible] W | [illegible] W | |
| Mowee (Weſt Point) | America | Sandwich Iſles | 20. 53 [illegible] | [illegible] W | [illegible] W | |
| Mulgrave (Point) | America | Beering's Strait | 67. 45. 30 [illegible] | [illegible] W | [illegible] W | |
| Munich | Europe. | Bavaria | 48. 7. 35 [illegible] | 11 [illegible] E | [illegible] | |
| Muſwell Hill | Europe. | England | 51. 35. 3 [illegible] | [illegible] | [illegible] W | |
| Nagpour | Aſia | India | 21. 8. 30 N | 79 [illegible] | [illegible] | |
| Namur | Europe. | Netherlands | 50. 28. 3 N | 4 [illegible] | [illegible] | |
| Nancovery Harbour | Aſia | Nicobar Iſles | 7. 58. 0 N | [illegible] | [illegible] | |
| Nancy | Europe. | France | 48. 41. 55 N | 6. 10. 15 E | 0. 24. 41 E | |
| Nangaſacht | Aſia | Japan | ~~32. 32. 0 N~~ | ~~128. 46. 15 E~~ | 8. 55. 5 E | |
| Nankin | Aſia | China | 32. 4. 40 N | 118. 47 [illegible] E | [illegible] | |
| Nantes | Europe. | France | 47. 13. 7 N | 1. 3 [illegible] W | [illegible] W | [illegible] |
| Naples | Europe. | Italy | 40. 50. 15 N | 14 [illegible] | [illegible] | |
| Narbonne | Europe. | France | 43. 10. 58 N | 3 [illegible] | [illegible] | |
| Narcondam | Aſia | Bengal Bay | 13. 25. 15 N | 94. 7. 0 E | 6. 16. 28 E | |
| Narva | Europe. | Livonia | 59. 23. 27 N | 28. 21. 45 E | [illegible] E | |
| Navaſſa (Iſle) | America | Atlantic Ocean | 18. 23. 30 N | 75. 1. 15 W | [illegible] W | |
| Needles (Light) | Europe. | Iſle of W [illegible] | [illegible] | [illegible] W | [illegible] W | |

N. 49. 50

129. 52. 10 L.

| Name of Place | Continent | Coast, Sea, or Country | Latitude | Longitude, In Degrees | Longitude, In Time | H. W. |
|---|---|---|---|---|---|---|
| | | | | | | h m |
| [illegible] | Asia | India | 10. 46. 0 N | 79. 4. 45 E | 5. 19. 14 E | |
| Negrais (Cape) | Asia | India | 15. 56. 30 N | 94. 18. 0 E | 6. 17. 12 E | |
| Netchin | Europe | Ruſſia | 51. 2. 45 N | 31. 49. 30 E | 2. 7. 18 E | |
| Neuſtadt | Europe | Auſtria | 47. 48. 27 N | 16. 13. 17 E | 1. 4. 53 E | |
| Nevers | Europe | France | 46. 59. 17 N | 3. 9. 16 E | 0. 12. 37 E | |
| Newbury | America | New England | 43. 2. 0 N | 70. 37. 30 W | 4. 42. 30 W | |
| Newenham (Cape) | America | Beering's Strait | 58. 41. 30 N | 162. 19. 30 W | 10. 49. 18 W | |
| Newington (Stoke) | Europe | England | 51. 33. 40 N | 0. 4. 59 W | 0. 0. 20 W | |
| Newtee (Point) | Aſia | India | 15. 56. 0 N | 73. 36. 0 E | 4. 54. 24 E | |
| New-werk (Iſle) | Europe | Lower Saxony | 53. 55. 19 N | 8. 31. 9 E | 0. 34. 6 E | |
| [illegible] | [illegible] | [illegible] | 54. 48. 55 S | [illegible] | 4. 19. 44 W | |
| Nice | Europe | Italy | 43. 41. 47 N | 7. 16. 22 E | 0. 29. 5 E | |
| Nicholas Mole (St.) | America | Hiſpaniola | 19. 49. 20 N | 73. 29. 45 W | 4. 53. 59 W | |
| Nicobar (Great) | Aſia | Bengal Bay | 7. 4. 0 N | 93. 44. 0 E | 6. 14. 56 E | |
| Nicobar (Car) | Aſia | Bengal Bay | 9. 10. 0 N | 92. 50. 0 E | 6. 11. 20 E | |
| Nieuport | Europe | Flanders | 51. 7. 41 N | 2. 45. 5 E | 0. 11. 0 E | 11. 45 |
| Ningpo | Aſia | China | 29. 57. 45 N | 120. 18. 0 E | 8. 1. 12 E | |
| Nimes | Europe | France | 43. 50. 12 N | 4. 18. 39 E | 0. 17. 15 E | |
| Noir (Cape) | America | Terra del Fuego | 54. 32. 30 S | 73. 3. 15 W | 4. 52. 13 W | |
| Noirmoutier (Iſle) | Europe | France | 47. 0. 5 N | 2. 14. 22 W | 0. 8. 57 W | |
| [illegible] | [illegible] | [illegible] | 49. 30. 7 N | [illegible] | [illegible] | 0. 20 |
| Norburg | Europe | Denmark | 55. 3. 43 N | 9. 45. 18 E | 0. 39. 1 E | |
| Norfolk Iſland | Aſia | Pacific Ocean | 29. 1. 45 S | 168. 10. 0 E | 11. 12. 40 E | |
| Noriton | America | Penſylvania | 40. 9. 56 N | 75. 28. 30 W | 5. 1. 54 W | |
| North Cape | Europe | Lapland | 71. 10. 30 N | 25. 49. 0 E | 1. 43. 16 E | 3. 44 |
| [illegible] | [illegible] | [illegible] | 54. 4. 45 S | [illegible] | 2. 33. 0 W | |
| [illegible] | Aſia | Beering's Strait | 65. 30. 0 N | 179. 15. 0 W | 11. 59. 0 W | |
| North Iſland | Aſia | Straits of Sunda | 5. 37. 5 S | 105. 55. 0 E | 7. 3. 40 E | |
| North Iſland | Aſia | Chineſe Sea | 25. 14. 0 N | 141. 14. 0 E | 9. 24. 56 E | |
| [illegible] | America | Beering's Straits | 64. 30. 30 N | 168. 47. 30 W | 10. 51. 10 W | |
| Noyon | Europe | France | 49. 34. 59 N | 2. 59. 48 E | 0. 11. 59 E | |
| Nuremberg | Europe | Germany | 49. 27. 3 N | 11. 0. 45 E | 0. 44. 3 E | |
| Oaitipeha Bay | America | Otaheite | 17. 45. 45 S | 149. 8. 57 W | 9. 56. 3 W | |
| Ochotſk | Aſia | Tartary | 59. 20. 10 N | 143. 12. 30 E | 9. 32. 50 E | |
| [illegible] | [illegible] | [illegible] | 16. 45. 30 S | 151. 37. 15 W | 10. 6. 30 W | 11. 30 |
| [illegible] | [illegible] | [illegible] | 22. 26. 30 S | 150. 48. 45 W | 10. 3. 15 W | |
| Ohevahoa (Iſle) | America | Marqueſas | 9. 40. 40 S | 139. 1. 45 W | 9. 16. 7 W | |
| [illegible] | [illegible] | [illegible] | 9. 55. 30 S | 139. 6. 0 W | 9. 16. 24 W | 2. 30 |
| Oldenburg | Europe | Weſtphalia | 53. 8. 40 N | 8. 14. 20 E | 0. 32. 57 E | |
| [illegible] | [illegible] | [illegible] | 48. 11. 1 N | 2. 3[illegible] W | 0. 9. [illegible] W | |
| Oleron (Iſle) | Europe | France | 46. 2. 51 N | 1. 24. 27 W | 0. 5. 38 W | |
| Olinde | America | Braſil | 8. 13. 0 S | 35. 5. 30 W | 2. 20. 22 W | |
| Oloniſe (Sableſo) | Europe | France | 46. 29. 52 N | 1. 47. 0 W | 0. 7. 8 W | |
| Omergon (Tower) | Aſia | India | 20. 10. 30 N | 72. 50. 30 E | 4. 51. 40 E | |
| [illegible] | [illegible] | [illegible] | [illegible] | 2. 14. 57 E | 0. 9. 0 E | |
| [illegible] | America | Marqueſas | 9. 58. 0 S | 138. 51. 0 W | 9. 15. 24 W | |
| Onecheow (Iſle) | America | Sandwich Iſles | 21. 49. 30 N | 160. 13. 30 W | 10. 40. 54 W | |
| Oonalaſka | America | Beering's Strait | 53. 54. 29 N | 166. 22. 15 W | 11. 5. 29 W | |
| Oonemak (Cape) | America | Beering's Strait | 54. 30. 30 N | 165. 31. 0 W | 11. 2. 4 W | |
| Opara (Iſle) | America | Pacific Ocean | 27. 36. 0 S | 144. 18. 32 W | 9. 36. 54 W | |
| Oporto | Europe | Portugal | 41. 10. 0 N | 8. 22. 0 W | 0. 33. 28 W | |
| Orange | Europe | France | 44. 8. 10 N | 4. 48. 8 E | 0. 19. 13 E | |
| [illegible] | [illegible] | [illegible] | 41. 3. 0 N | 140. 8. 30 W | 10. 4. 0 W | |
| Orel | Europe | Ruſſia | 52. 56. 40 N | 35. 57. 0 E | 2. 23. 48 E | |
| Orenburg | Aſia | Tartary | 51. 46. 3 N | 55. 7. 35 E | 3. 40. 30 E | |
| Orford (Cape) | America | Pacific Ocean | 42. 52. 0 N | [illegible] W | 8. 17. 4 W | |
| Orford-Neſs | Europe | England | 52. 4. 30 N | 1. 18. 1 E | 0. 5. 12 E | |
| Orleans | Europe | France | 47. 54. 10 N | 1. 54. 30 E | 0. 7. 39 E | |
| Orleans (New) | America | Louiſiana | 29. 57. 45 N | [illegible] W | 5. 50. 0 W | |
| Oratava | Africa | Teneriffe | 28. 23. 15 N | 16. 31. 30 W | 1. 6. 10 W | |

| Names of Places | Continent | Coaſt, Sea, or Country | Latitude | Longitude, In Degrees | Longitude, In Time | H. W. |
|---|---|---|---|---|---|---|
| | | | | | | |
| Orſk | Aſia | Tartary | 51. 12. 32 N | 58. 32. 0 E | 3. 54. 8 E | |
| Ortegal (Cape) | Europe | Spain | 43. 46. 37 N | 7. 38. 0 W | 0. 30. 32 W | |
| Oſimo | Europe | Italy | 43. 29. 36 N | 13. 27. 8 E | 0. 53. 49 E | |
| Oſnaburg | Europe | Germany | 52. 16. 14 N | 7. 47. 30 E | 0. 31. 10 E | |
| Oſnaburg (Iſle) | America | Pacific Ocean | 17. 52. 20 S | 148. 6. 0 W | 9. 52. 24 W | |
| Oſtend | Europe | Netherlands | 51. 15. 10 N | 2. 56. 30 E | 0. 11. 46 E | 11. 45 |
| [illegible] | Europe | Italy | 41. 45. 35 N | 12. 16. 20 E | 0. 49. 5 E | |
| [illegible] | America | Pacific Ocean | 10. 51. 30 S | 158. 23. 0 W | 10. 33. 32 W | |
| Overhogy | Europe | Norway | 59. 6. 52 N | 11. 22. 15 E | 0. 45. 29 E | |
| [illegible] | Europe | England | 50. 39. 57 N | 0. 40. 0 W | 0. 2. 40 W | |
| [illegible] | America | Huahine | 16. 42. 46 S | 151. 9. 6 W | 10. 4. 36 W | 11. 50 |
| [illegible] | [illegible] | [illegible] | [illegible] N | [illegible] W | [illegible] W | |
| [illegible] | [illegible] | [illegible] | [illegible] N | [illegible] W | [illegible] W | |
| [illegible] | [illegible] | [illegible] | [illegible] N | [illegible] W | [illegible] W | |
| [illegible] | [illegible] | [illegible] | [illegible] N | [illegible] W | [illegible] W | |
| [illegible] | Europe | [illegible] | [illegible] N | [illegible] W | [illegible] E | |
| [illegible] | Europe | [illegible] | [illegible] N | [illegible] E | [illegible] E | |
| [illegible] | Europe | [illegible] | [illegible] N | [illegible] W | [illegible] W | |
| [illegible] | America | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | America | [illegible] | [illegible] | [illegible] W | [illegible] W | |
| [illegible] | Europe | [illegible] | [illegible] N | [illegible] W | [illegible] E | |
| [illegible] | Aſia | [illegible] | [illegible] | [illegible] E | [illegible] E | |
| [illegible] | America | [illegible] | [illegible] | [illegible] W | [illegible] W | |
| [illegible] | America | [illegible] | [illegible] | [illegible] W | [illegible] W | |
| Palma (Iſle) | [illegible] | [illegible] | [illegible] N | [illegible] W | [illegible] W | |
| [illegible] | [illegible] | [illegible] | [illegible] N | [illegible] W | [illegible] W | |
| [illegible] | [illegible] | [illegible] | [illegible] N | [illegible] W | [illegible] W | |
| Palmiras (Point) | Aſia | India | 20. 44. 0 N | 87. 1. 26 E | 5. 48. 6 E | 9 [illegible] |
| Palmiers | Europe | France | 43. 6. 44 N | 1. 36. 21 E | 0. 6. 25 E | |
| Panama | America | Mexico | 8. 58. 12 N | 80. 15. 15 W | 5. 21. 1 W | |
| Paoom (Iſle) | Aſia | New Hebrides | 16. 30. 0 S | 168. 28. 45 E | 11. 13. 55 E | |
| Para | America | R. Amazons | 1. 28. 0 S | 48. 40. 0 W | 3. 14. 40 W | |
| Paris (Obſervatory) | Europe | France | 48. 50. 14 N | 2. 20. 0 E | 0. 9. 20 E | |
| Parma | Europe | Italy | 44. 44. 30 N | 10. 26. 30 E | 0. 41. 46 E | |
| Paſſado | America | Peru | 0. 10. 0 S | 82. 0. 0 W | 5. 28. 0 W | |
| Patrixfiord | Europe | Iceland | 65. 35. 45 N | 24. 10. 0 W | 1. 36. 40 W | |
| Pau | Europe | France | 43. 15. 0 N | 0. 9. 0 W | 0. 0. 36 W | |
| St. Paul's Iſle | Africa | Indian Ocean | 38. 44. 0 S | 77. 18. 0 E | 5. 9. 12 E | |
| St. Paul de Leon | Europe | [illegible] | [illegible] | [illegible] W | [illegible] W | |
| Pavia | Europe | Italy | 45. 10. 59 N | 9. 11. 30 E | 0. 36. 46 E | |
| Pednathias Head | Europe | Scilly Iſles | 49. 52. 2 N | [illegible] | [illegible] | |
| Pedra Blanca | Aſia | Chineſe Sea | 22. 16. 0 N | 115. 22. 57 E | 7. 41. 32 E | |
| Pedra Branca | Aſia | Straits of Malacca | 1. 18. 0 N | 104. 31. 49 E | 6. 58. 7 E | |
| Pedra (Point) | Aſia | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Pellew Iſles | Aſia | Chineſe Sea | 7. 19. 0 N | 134. 40. 0 E | 8. 58. 40 E | |
| Pello | Europe | Finland | 66. 48. 16 N | 23. 58. 15 E | 1. 35. 53 E | |
| Pera (Pulo) | Aſia | Straits of Malacca | [illegible] | 99. 8. 30 E | 6. 36. 34 E | |
| Perigueux | Europe | France | 45. 11. 8 N | 0. 43. 19 E | 0. 2. 53 E | |
| Perinaldo | Europe | Italy | 43. 53. 20 N | 7. 42. 45 E | 0. 30. 51 E | |
| Permera (Rocks) | Aſia | Indian Ocean | 13. 13. 0 N | 74. 44. 0 E | 4. 58. 56 E | |
| Peros Banhos | Aſia | Indian Ocean | 5. 22. 0 N | 71. 53. 0 E | 4. 47. 32 E | |
| Perpetua (Cape) | America | Pacific Ocean | 44. 4. 30 N | 124. 14. 0 W | 8. 16. 56 W | |
| Perpignan | Europe | France | 42. 41. 53 N | 2. 53. 35 E | 0. 11. 34 E | |
| Peſaro | Europe | Italy | 43. 55. 1 N | 12. 53. 21 E | 0. 51. 33 E | |
| St. Peterſburg | Europe | Ruſſia | 59. 56. 23 N | 30. 19. 15 E | 2. 1. 17 E | |
| St. Peter's Fort | America | Martinico | 14. 44. 0 N | 61. 21. 16 E | 4. 5. 25 W | |
| St. Peter's Iſle | America | Atlantic Ocean | 46. 46. 30 N | 56. 17. 0 W | 3. 45. 8 W | |
| St. Peter and Paul | Aſia | Kamtſchatka | 53. 0. 37 N | 158. 44. 30 E | 10. 34. 58 E | 4. 36 |
| Petit Goave | America | Hiſpaniola | 18. 27. 0 N | 72. 45. 34 W | [illegible] | |

| | | | | | | |
|---|---|---|---|---|---|---|
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Petworth | Europe | England | 50. 59. 17 N | [illegible] W | [illegible] W | |
| [illegible] | [illegible] | England | [illegible] | [illegible] | [illegible] E | |
| Philadelphia | America | Penſylvania | 39. 56. 54 N | [illegible] W | [illegible] W | |
| Philip (St.) | Europe | Flanders | 51. 16. 55 N | [illegible] E | [illegible] E | |
| St. Philips Fort | Europe | Minorca | 39. 50. 46 N | [illegible] E | [illegible] E | |
| Philipſburg | Europe | Germany | 49. 14. 1 N | [illegible] E | 0. 28. 46 E | |
| [illegible] Iſle | Europe | Netherlands | 50. 11. 19 N | [illegible] E | [illegible] E | |
| Pickerſgill's Harbour | Aſia | New Zeeland | 45. 47. 27 S | 166. 18. 9 E | 11. 5. 13 E | 10. 37 |
| Pickerſgill's Iſle | America | Atlantic Ocean | 54. 42. 30 S | 36. 58. 0 W | 2. 27. [illegible] W | |
| Pico | Europe | Azores | 38. 26. 52 N | 28. 27. 40 W | 1. 5[illegible]. 51 W | |
| Pines (Iſle of) | Aſia | New Caledonia | 22. 38. 0 S | 167. 38. 0 E | 11. 10. 32 E | |
| Piſa | Europe | Italy | 43. 43. 7 N | 10. 22. 52 E | 0. 41. 31 E | |
| Piſcadores | Aſia | Pacific Ocean | 11. 15. 0 N | 167. 20. 20 E | 11. 9. 21 E | |
| Plate-Rack N.E. Point | America | Weſt Indies | 20. 31. 0 N | 69. 33. 0 W | 4. 38. 12 W | |
| Plate-Rack S. Point | America | Weſt Indies | 20. 13. 35 N | 69. 37. 45 W | 4. 38. 31 W | |
| Plate-Rack N.W. Pt. | America | Weſt Indies | 20. 30. 0 N | 70. 4. 30 W | 4. 40. 18 W | |
| Plymouth | Europe | England | 50. 22. 30 N | 4. 12. 45 W | 0. 16. 51 W | 6. 0 |
| Poitiers | Europe | France | 46. 34. 50 N | 0. 20. 48 E | 0. 1. 23 E | |
| Pollingen | Europe | Germany | 47. 48. 17 N | 11. 7. 30 E | 0. 44. 30 E | |
| Pondicherry | Aſia | India | 11. 55. 41 N | 79. 51. 30 E | 5. 19. 26 E | |
| Ponoi | Europe | Lapland | 67. 4. 30 N | 41. 7. 45 E | 2. 44. 31 E | |
| Pontoiſe | Europe | France | 49. 3. 2 N | 2. 5. 37 E | 0. 8. 22 E | |
| Pool | Europe | England | 50. 42. 50 N | 1. 58. 55 W | 0. 7. 56 W | |
| Pooly topu | Aſia | India | 8. 8. 0 N | 77. 15. 45 E | 5. 9. 3 E | |
| Popayan | America | New Granada | 2. 27. 30 N | 76. 16. 15 W | 5. 5. 5 W | |
| Port au Prince | America | Hiſpaniola | 18. 33. 42 N | 72. 27. 33 W | 4. 49. 50 W | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | |
| Portland (Iſle) | Europe | North Sea | 63. 22. 0 N | 18. 54. 0 W | 1. 15. 36 W | |
| Portland (Iſle) | Aſia | Pacific Ocean | 39. 24. 40 S | 177. 51. 45 E | 11. 51. 27 E | |
| Porto | Europe | Italy | 41. 46. 44 N | 12. 14. 10 W | 0. 48. 57 W | |
| Porto Bello | America | Mexico | 9. 33. 30 N | 79. 44. 15 W | 5. 18. 57 W | |
| Porto Novo | Aſia | India | 11. 30. 0 N | 79. 45. 30 E | 5. 19. 2 E | |
| Porto Praya | Africa | St. Jago | 14. 53. 30 N | 23. 30. 17 W | 1. 34. 1 W | 11. 0 |
| Porto Rica N.E. Pt. | America | Weſt Indies | 18. 29. 0 N | 65. 51. 25 W | 4. 23. 26 W | |
| Porto Rica N.W. Pt. | America | Weſt Indies | 18. 31. 30 N | 67. 18. 0 W | 4. 29. 12 W | |
| Porto Sancto (Iſle) | Africa | Atlantic Ocean | 33. 5. 35 N | 16. 14. 51 W | 1. 4. 59 W | |
| Port Paix | America | Hiſpaniola | 19. 56. 30 N | 72. 58. 0 W | 4. 51. 52 W | |
| Port Praſlin | Aſia | New Britain | 4. 49. 27 S | 153. 6. 30 E | 10. 12. 26 E | |
| Port Royal | America | Jamaica | 18. 0. 0 N | 76. 44. 45 W | 5. 6. 59 W | |
| Port Royal | America | Martinico | 14. 35. 55 N | 61. 9. 0 W | 4. 4. 36 W | |
| [illegible] | Europe | England | 50. 47. 27 N | 1. 5. 57 W | 0. 4. 24 W | 11. 15 |
| [illegible] | Europe | [illegible] | [illegible] | [illegible] | 0. [illegible]. 15 W | |
| Portſmouth | America | New England | [illegible] N | 70. 41. 15 W | 4 [illegible]. [illegible] W | |
| Poſen | Europe | Poland | [illegible] N | [illegible] 15 E | 1. [illegible] 1 E | |
| Prague | Europe | Bohemia | [illegible] N | [illegible] | 0. 57. 41 E | |
| [illegible] | [illegible] | [illegible] | [illegible] N | [illegible] 30 E | 7. 47. 50 E | |
| [illegible] S. W. Point | [illegible] | [illegible] | [illegible] N | [illegible] 0 E | 7. 46. 40 E | |
| Praule | Europe | [illegible] | [illegible] 0 N | 3. 49 15 W | 0. 15. 17 W | |
| Preparis (Iſle) | Aſia | Bay of Bengal | [illegible] 0 N | 93. 34. [illegible] | 6. 14. 16 E | |
| [illegible] | Europe | [illegible] | [illegible] 7 N | 17. 10. [illegible] | 1. 8. 42 E | |
| [illegible] | Aſia | Straits of Sunda | 6. 35. 10 S | 105. 14. 20 | 7. 0. 57 E | |
| Prince's Iſland | Africa | Atlantic Ocean | 1. 37. 0 N | [illegible] 40. 0 | 0. 30. 40 E | |
| Prince of Wales's Fort | America | New Wales | 58. 47. 32 N | 94. 13. 55 W | 6. 16. 56 W | 7. [illegible] |
| Prince of Wales's (Cape) | America | Beering's Strait | 65. 45. 30 N | 168. [illegible] W | 11. 13. 10 W | |
| [illegible] | [illegible] | Pacific Ocean | 19. 0. 0 N | 141. [illegible] W | 9. 25. 28 W | |
| Providence | America | New England | 41. 5[illegible]. [illegible] N | [illegible] W | [illegible] W | |
| [illegible] | [illegible] | New Caledonia | 20. 1[illegible]. [illegible] | [illegible] 41 [illegible] | 10. 58. 45 E | 6 [illegible] |
| Pyletinart's Iſland | Aſia | Pacific Ocean | 22 [illegible] N | [illegible] W | 11. 43. 18 W | |

| Names of Places | Continent | Coast, Sea, or Country | Latitude | Longitude from London | Longitude from Paris | Q. V. |
|---|---|---|---|---|---|---|
| | | | ° ′ ″ | ° ′ ″ | ° ′ ″ | |
| Quebec | America | Canada | 46. 48. 38 N | 71. 5. 2 W | 2. 44. 12 W | |
| Quebec (Bay) | America | Pacific Ocean | 7. 27. 0 N | [illegible] | [illegible] | |
| Quedah | Asia | [illegible] | 6. [illegible] N | [illegible] | [illegible] E | |
| Quimper | Europe | France | 47. 58. 2 N | 4. 6. 0 W | 0. 16. 14 W | |
| St. Quintin | Europe | France | 49. 50. 51 N | 3. 17. [illegible] E | 0. 15. 19 E | |
| Quiros (Cape) | Asia | New Hebrides | 14. 56. 8 S | [illegible] | 11. 0. [illegible] E | |
| Quito | America | Peru | 0. 13. 27 S | 78. 14. 15 W | 1. 12. 41 W | |
| Race (Cape) | America | Newfoundland | 46. 49. [illegible] N | 53. 3. [illegible] W | 2. 24. 14 W | |
| Rakah (Ancient) | Asia | Mesopotamia | 36. 1. 0 N | [illegible] | [illegible] E | |
| Ramsgate | Europe | England | 51. 19. 4 N | 1. 17. 0 E | 0. 19. 10 E | |
| Rantigan | Europe | England | 51. 19. 1 N | 1. 24. [illegible] E | 0. 23. 1 E | |
| Rasai (Isle) | America | Sandwich Isles | [illegible] 40. 0 N | [illegible] W | 11. 27. 41 W | |
| Randers | Europe | Denmark | 56. 28. 48 N | [illegible] | [illegible] | |
| Ratisbon | Europe | Germany | 49. 0. 0 N | 12. [illegible] E | [illegible] E | |
| Ravenna | Europe | Italy | 44. 25. 5 N | 12. 12. [illegible] E | [illegible] E | |
| Rimini | Europe | Italy | 44. 25. 4 N | 12. 25. [illegible] E | [illegible] E | |
| Rio | America | Brazil | 23. 10. 0 N | 35. 33. [illegible] W | [illegible] W | |
| River | Europe | England | 51. 22. 47 N | [illegible] | 2. 4. 47 E | |
| Red-Buoy | Europe | Mouth of Medway | 51. 30. 0 N | [illegible] | [illegible] | |
| Refuge (Port) | Asia | Bligh's Island | 15. 38. 0 S | 178. [illegible] W | 11. 21. 4 W | |
| Reikianes (Cape) | Europe | Iceland | 63. 55. 0 N | [illegible] W | [illegible] W | |
| Rennes | Europe | France | 48. 6. 56 N | [illegible] W | [illegible] W | |
| Resolution Bay | America | Marquetas | 9. 55. 30 S | [illegible] W | 9. [illegible] W | |
| Resolution (Isle) | America | Hudson's Straits | 61. [illegible] 0 N | 64. 10. [illegible] W | [illegible] W | |
| Resolution (Isle) | America | Pacific Ocean | 17. 23. 0 S | [illegible] W | [illegible] W | |
| Resolution (Port) | Asia | Tanna | 19. 31. 45 S | [illegible] | 11. [illegible] E | |
| Revel | Europe | Livonia | 59. 26. 32 N | [illegible] | [illegible] E | |
| Rhe (Light-h.) | Europe | France | 46. 14. 49 N | 1. 31. [illegible] W | [illegible] W | |
| Rheims | Europe | France | 49. 15. 16 N | 4. [illegible] E | [illegible] E | |
| Rhodez | Europe | France | 44. 21. 0 N | [illegible] | 10. 17 E | |
| Richmond (Point) | America | Newfoundland | 50. 40. 10 N | [illegible] W | 3. 49. 32 W | |
| Richmond (Observ.) | Europe | England | 51. [illegible] 8 N | [illegible] W | [illegible] W | |
| Rieux | Europe | France | 43. [illegible] 3 N | [illegible] | 4. 48 E | |
| Rieux | Europe | France | 43. 4. 7 N | [illegible] | [illegible] E | |
| Riga | Europe | Livonia | 56. 50. 4 N | [illegible] | [illegible] | |
| Rimini | Europe | Italy | 44. 3. 43 N | [illegible] | [illegible] | |
| Ringsted | Europe | Denmark | 55. 26. 51 N | [illegible] | [illegible] | |
| Ringwood | Europe | England | [illegible] 50. 58 N | [illegible] | [illegible] W | |
| Rio Janeiro | America | Brazil | [illegible] 54. 10 N | 43. [illegible] W | [illegible] W | |
| Ripa-Transone | Europe | Italy | 43. 0. 24 N | [illegible] | [illegible] E | |
| Rochelle | Europe | France | 46. 9 23 N | [illegible] W | [illegible] W | |
| Rochefort | Europe | France | 45. 56. [illegible] N | [illegible] 57. 49 W | [illegible] W | |
| Rodosto | Europe | Turkey | [illegible] 38. 24 N | 27. [illegible] | [illegible] E | |
| Rodrigue (Isle) | Africa | Indian Ocean | 19. 4. [illegible] 40 S | [illegible] | 4. 12. [illegible] | |
| Roeskilde | Europe | Denmark | [illegible] [illegible] [illegible] N | [illegible] 5. 27 | [illegible] | |
| Rogue Key | America | Bahama Channel | 22. 1. 3 N | [illegible] | [illegible] | |
| Rome (St. Peter's) | Europe | Italy | 41 53. 54 N | [illegible] | [illegible] | |
| Romney | Europe | England | 50. [illegible] 7 N | [illegible] | [illegible] | |
| Rosamond (Obs.) | Europe | England | 50. 59. 25 N | [illegible] | [illegible] | |
| Rosa (Isle) | Asia | Straits of Malacca | [illegible] | [illegible] | [illegible] | |
| Rosenheim | Europe | Bavaria | 47. [illegible] N | [illegible] | [illegible] | |
| Rotterdam | Europe | Holland | [illegible] [illegible] N | [illegible] | [illegible] | |
| Rotumah (Isle) | Asia | Friendly Isles | 11. [illegible] 22 S | [illegible] | [illegible] | |
| Rouen | Europe | France | [illegible] 49. 26 N | [illegible] | [illegible] | |
| Round Island | America | Barbadoes | [illegible] [illegible] 3 N | [illegible] W | [illegible] W | |
| Roxent (Cape) | Europe | Portugal | [illegible] 38. 2 N | [illegible] | [illegible] W | |
| Ruan | Europe | France | 45. [illegible] 2 N | [illegible] | [illegible] | |
| Rumpang | Asia | [illegible] | [illegible] [illegible] N | [illegible] | [illegible] | |
| Ryswick | Europe | Holland | [illegible] [illegible] N | [illegible] | [illegible] | |

| Names of Places | Coast, Sea, or Country | Lat. | Long. | Time | H. W. |
|---|---|---|---|---|---|
| Saba (Isle) | America | Caribbean Sea | 17. 39. 30 N | 63. 17. 14 W | |
| [illegible] | [illegible] | Nova Scotia | 43. 25. 45 N | 64. [illegible] W | |
| [illegible] | [illegible] | [illegible] Coast | 11. [illegible] 0 N | 73. [illegible] W | |
| [illegible] | [illegible] | Hudson's Straits | 60. 7. 0 N | 64. [illegible] W | |
| [illegible] | [illegible] | Denmark | 57. 20. 2 N | [illegible] | |
| [illegible] | [illegible] | Silesia | 51. 42. 12 N | [illegible] | |
| [illegible] | [illegible] | [illegible] | 43. 44. 46 N | [illegible] W | |
| [illegible]es (Rocks) W. end | [illegible] | Bay of Biscay | [illegible]. 5 N | [illegible] W | |
| [illegible] | [illegible] | [illegible] | 49. 0. 3 N | [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible]. 3. 45 S | [illegible] | |
| [illegible] (New) | [illegible] | [illegible] | 34. 5. 0 N | [illegible] W | |
| [illegible] | [illegible] | [illegible] | 51. 3. [illegible] N | [illegible] W | |
| [illegible] | [illegible] | [illegible] | 63. 9. [illegible] N | [illegible] W | |
| [illegible] | [illegible] | Atlantic Ocean | 16. 38. [illegible] N | [illegible] W | |
| [illegible] | [illegible] | Turkey | 40. 11. [illegible] N | [illegible] | |
| [illegible] | [illegible] | Atlantic Ocean | 32. 3. [illegible] N | [illegible] W | |
| [illegible] | [illegible] | [illegible] | 19. 15. [illegible] N | [illegible] W | |
| [illegible] | [illegible] | [illegible] | 48. [illegible] N | [illegible] | |
| Sambelong (Great) | Asia | Bengal Bay | 7. [illegible] N | [illegible] | |
| Samgabooda | America | Oonalaska | [illegible] N | [illegible] W | |
| Sancta Cruz | Africa | Teneriffe | [illegible] N | 16. 22. 30 W | |
| Sancta Cruz | Africa | Grand Canary | [illegible] N | 15. 47. [illegible] W | |
| Sandown Caſtle | Europe | England | 51. 14. [illegible] N | 1. 23. 59 E | |
| [illegible] | Europe | Lapland | 68. 56. 15 N | 16. 57. 0 E | |
| [illegible] | Europe | England | 51. 16. [illegible] N | 1. 2. 15 E | |
| Sandwich Bay | America | South Georgia | 54. 42. 0 S | 36. 12. 0 W | |
| Sandwich (Cape) | Aſia | New Holland | 18. 17. 11 S | 146. 1. 13 E | |
| Sandwich (Cape) | Aſia | Mallicola | 16. 28. 0 S | 167. 59. 0 E | |
| [illegible] | Aſia | Mallicola | 16. 25. [illegible] S | 167. 55. 0 E | |
| Sandwich Iſle | Aſia | New Hebrides | 17. 41. [illegible] S | 168. 35. 0 E | |
| Sandy Bay | America | [illegible] | 43. 31. 9 S | 65. 3. 15 W | |
| Sandy Cape | Aſia | New Holland | [illegible]. 45. 4 S | [illegible]. 32 E | |
| Sandy-Hook Lights | America | New Jerſey | 44. 20. [illegible] N | 74. [illegible]. 42 W | |
| Sapata (Pulo) | Aſia | Chineſe Sea | 10. [illegible] N | [illegible]. 51 E | |
| [illegible] | [illegible] | Ruſſia | 51. [illegible] N | 4[illegible] | |
| [illegible] | [illegible] | France | 44. [illegible] N | 1. [illegible] E | |
| Sarum (Old) | [illegible] | [illegible] | 51. 5. [illegible] N | 1. [illegible] W | |
| Saunder's (Cape) | Aſia | New Zeeland | 41. 51. [illegible] S | 175. [illegible]. 0 E | |
| Saunder's (Cape) | America | South Georgia | 54. [illegible] S | [illegible]. 7. [illegible] W | |
| Saunder's Iſle | America | Sandwich Land | 58. [illegible] S | [illegible] W | |
| Savage Iſle | Aſia | Pacific Ocean | 19. [illegible] S | [illegible] | |
| Savanna (Lights) | America | Georgia | 32. [illegible] N | [illegible] | |
| Schwezingen | Europe | Germany | 49. [illegible] N | 8. 26. 15 E | |
| Scilly Lights | Europe | St. Georg. Chan. | 49. [illegible] N | 6. 29. 30 W | |
| Scolt Head | Europe | England | 52. [illegible] N | 0. 44. 11 E | |
| Sebaſtian (Cape St.) | [illegible] | Madagaſcar | [illegible] | 46. 25. 0 E | |
| Sedan | Europe | France | [illegible] | 4. 57. 36 E | |
| [illegible] | Europe | [illegible] | 48. [illegible] N | 0. 10. 44 E | |
| [illegible] | [illegible] | [illegible] | 51. 6. [illegible] N | 106. 40. 45 E | |
| Selſea | Europe | [illegible] | [illegible] N | 0. 47. 54 W | |
| Senegal | [illegible] | Negroland | 15. [illegible] N | 16. 31. 30 W | |
| [illegible] | [illegible] | [illegible] | [illegible] N | 6. 24. [illegible] | |
| Senlis | Europe | France | 49. [illegible] N | 2. [illegible] | |
| Senones | Europe | [illegible] | 48. [illegible] N | 6 [illegible] | |
| Sens | Europe | [illegible] | 48. [illegible] N | 3. [illegible] | |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] 34. [illegible] W | |
| Seringapatam | [illegible] | [illegible] | [illegible] | 76 [illegible] | |
| Seven Iſlands | [illegible] | Chineſe Sea | [illegible] | [illegible] 5 [illegible] | |
| Severndroog | Aſia | India | [illegible]. 47 N | 73. [illegible] | |
| Sevaſtopolis | Europe | Crimea | 44. [illegible] N | 33. [illegible] | |

| Names of Places | Continent | Coaſt, Sea, or Country | Latitude | Longitude, In Degrees | Longitude, In Time | H. W. |
|---|---|---|---|---|---|---|
| Seychelles (Iſle) | Aſia | Almirantes | 4. 35. 0 S | 55. 35. 0 E | 3. 42. 20 E | 5. 30 |
| Shepherd's Iſles | Aſia | New Hebrides | 16. 58. 0 S | 166. 42. 0 E | 11. 14. 28 E | |
| [illegible] | Europe | England | 51. 20. 32 N | [illegible] | [illegible] | |
| Shoalneſs | America | Beering's Strait | 59. 37. 0 N | 162. 18. 30 W | 10. 49. 14 W | |
| Shoreham | Europe | England | 50. 50. 7 N | 0. 16. 19 W | 0. 1. 5 W | 9. 30 |
| Siam | Aſia | India | 14. 18. 0 N | 100. 50. 0 E | 6. 43. 20 E | |
| Siao Iſle | Aſia | Chineſe Sea | 2. 49. 0 N | 125. 3. 45 E | 8. 20. 15 E | |
| Sidney Cove | Aſia | Port Jackſon | 33. 51. 7 S | 151. 13. 30 E | 10. 4. 54 E | |
| [illegible] | Europe | Italy | 43. 22. 0 N | 11. 10. 0 E | 0. 44. 40 E | |
| [illegible] | Africa | Sierra Leone | 8. 29. 30 N | 13. 9. 17 W | 0. 52. 37 W | |
| Sirian | Europe | Ruſſia | 53. 9. 53 N | 48. 24. 45 E | 3. 13. 39 E | |
| Si-nghan-fu | Aſia | China | 34. 16. 30 N | 108. 43. 45 E | 7. 14. 55 E | |
| Sinigaglia | Europe | Italy | 43. 43. 16 N | 13. 11. 30 E | 0. 52. 46 E | |
| Siſteron | Europe | France | 44. 11. 51 N | 5. 56. 18 E | 0. 23. 45 E | |
| Skagen (Lights) | Europe | Denmark | 57. 43. 44 N | 10. 37. 45 E | 0. 42. 31 E | |
| Skirmiſh Bay | Aſia | Chatham Iſles | 43. 49. 3 S | 176. 35. 0 E | 11. 46. 20 E | |
| Sledge Iſland | America | Beering's Strait | 64. 30. 0 N | 166. 8. 0 E | 11. 4. 32 E | |
| Sluys | Europe | Holland | 51. 18. 35 N | 3. 22. 54 E | 0. 13. 32 E | |
| Smeinogorſk | Aſia | Siberia | 51. 9. 27 N | 82. 8. 0 E | 5. 28. 32 E | |
| Smokey Cape | Aſia | New Holland | 30. 54. 18 S | 153. 1. 40 E | 10. 12. 7 E | |
| Smyrna | Aſia | Natolia | 38. 28. 7 N | 27. 6. 33 E | 1. 48. 26 E | |
| Snœfell (Mount) | Europe | Iceland | 64. 52. 20 N | 23. 54. 0 W | 1. 35. 36 W | |
| Socono (Iſle) | America | Pacific Ocean | 18. 48. 0 N | 110. 10. 0 W | 7. 20. 40 W | |
| Soiſſons | Europe | France | 49. 22. 52 N | 3. 19. 16 E | 0. 13. 17 E | |
| Sombavera (Iſles) | America | Caribbean Sea | 18. 38. 0 N | 63. 37. 30 W | 4. 14. 30 W | |
| Sonderburg | Europe | Denmark | 54. 54. 59 N | 9. 48. 10 E | 0. 39. 13 E | |
| Soolo | Aſia | Philippines | 5. 57. 0 N | 121. 15. 30 E | 8. 5. 0 E | |
| Southampton | Europe | England | 50. 54. 0 N | 1. 23. 56 W | 0. 5. 36 W | |
| South Cape | Aſia | New Zeeland | 47. 16. 50 S | 167. 20. 9 E | 11. 9. 21 E | |
| South Cape | Aſia | New Holland | 43. 42. 30 S | 146. 58. 0 E | 9. 47. 52 E | |
| South Iſland | Aſia | Chineſe Sea | 24. 22. 30 N | 141. 24. 0 E | 9. 25. 36 E | |
| Southern Thule | America | Sandwich Land | 59. 34. 0 S | 27. 45. 0 W | 1. 51. 0 W | |
| Spartel (Cape) | Africa | Morocco | 35. 46. 0 N | 5. 57. 12 W | 0. 23. 49 W | |
| Speaker Bank | Aſia | Indian Ocean | 4. 45. 0 S | 72. 57. 0 E | 4. 51. 48 E | |
| Spichell (Cape) | Europe | Portugal | 38. 22. 15 N | 9. 20. 12 W | 0. 37. 21 W | |
| Spring Grove | Europe | England | 51. 28. 34 N | 10. 20. 31 W | 0. 1. 21 W | |
| Sproe (Iſle) | Europe | Great Belt | 55. 19. 56 N | 10. 56. 15 E | 0. 43. 47 E | |
| Stade | Europe | Germany | 53. 36. 5 N | 9. 23. 15 E | 0. 37. 33 E | |
| Stalbridge | Europe | England | 50. 57. 0 N | 2. 23. 30 W | 0. 9. 34 W | |
| Start Point | Europe | England | 50. 14. 20 N | 3. 44. 0 W | 0. 14. 56 W | |
| Stephen's (Cape) | Aſia | New Zeeland | 40. 36. 50 S | 173. 58. 30 E | 11. 35. 54 E | |
| Stephen's (Cape) | Aſia | Beering's Straits | 63. 33. 30 N | 162. 17. 0 W | 10. 49. 8 W | |
| Stephen's (Iſle) | Aſia | Cook's Straits | 40. 35. 26 S | 174. 0. 22 E | 11. 36. 1 E | |
| Stephen's (Port) | Aſia | New Holland | 32. 45. 0 S | 152. 12. 0 E | 10. 8. 48 E | |
| Stickhuſen | Europe | Germany | 53. 13. 33 N | 7. 40. 6 E | 0. 30. 40 E | |
| Stockholm | Europe | Sweden | 59. 20. 31 N | 18. 3. 51 E | 1. 12. 15 E | |
| Strabane | Europe | Ireland | 54. 49. 29 N | 7. 23. 5 W | 0. 29. 32 W | |
| Straſburg | Europe | France | 48. 34. 56 N | 7. 44. 36 E | 0. 30. 58 E | |
| Straumneſs | Europe | Iceland | 65. 39. 40 N | 24. 29. 15 W | 1. 37. 57 W | |
| Streatham | Europe | England | 51. 25. 46 N | 0. 7. 47 W | 0. 0. 31 W | |
| Stromneſs | Europe | Orkneys | 58. 56. 22 N | 3. 31. 15 W | 0. 14. 5 W | 9. 0 |
| Succeſs Bay | America | Terra del Fuego | 54. 49. 45 S | 65. 25. 0 W | 4. 21. 40 W | |
| Succeſs (Cape) | America | Terra del Fuego | 55. 1. 0 S | 65. 27. 0 W | 4. 21. 48 W | |
| Suez | Africa | Egypt | 30. 2. 0 N | 32. 28. 30 E | 2. 9. 54 E | |
| Sulpher Iſland | Aſia | Pacific Ocean | 24. 48. 0 N | 141. 20. 0 E | 9. 25. 20 E | |
| Surat | Aſia | India | 21. 11. 0 N | 73. 2. 34 E | 4. 52. 10 E | |
| Swilly Iſland | Aſia | New Holland | 43. 55. 30 S | 147. 7. 30 E | 9. 48. 30 E | |
| Swinfield | Europe | England | 51. 8. 48 N | 1. 11. 15 E | 0. 4. 45 E | |
| Table Cape | Aſia | New Zeeland | 39. 6. 40 S | 178. 2. 20 E | 11. 52. 9 E | |
| Table Iſland | Aſia | New Hebrides | 15. 38. 0 S | 167. 7. 0 E | 11. 8. 28 E | |
| Tackararee Point | Africa | Gold Coaſt | 4. 46. 53 N | 2. 27. 44 W | 0. 9. 51 W | |

| Names of Places | Continent | Coaſt, Sea, or Country | Latitude | Longitude, In Degrees | Longitude, In Time | H. W. |
|---|---|---|---|---|---|---|
| | | | ° ′ ″ | ° ′ ″ | h m s | h m |
| Taganrok | Aſia | Tartary | 47. 12. 40 N | 38. 38. 45 E | 2. 34. 35 E | |
| Tahoora | America | Sandwich Iſles | 21. 42. 30 N | 160. 24. 30 W | 10. 41. 38 W | |
| Tahowrooa | America | Sandwich Iſles | 20. 38. 0 N | 156. 36. 30 W | 10. 26. 26 W | |
| Tamboü | Europe | Ruſſia | 52. 43. 44 N | 41. 45. 0 E | 2. 47. 0 E | |
| Tanjore | Aſia | India | 10. 46. 30 N | 79. 48. 26 E | 5. 19. 14 E | |
| Tanna | Aſia | New Hebrides | 19. 32. 25 S | 169. 41. 5 E | 11. 18. 44 E | 3. 0 |
| Taoukaa Iſle | America | Pacific Ocean | 14. 30. 30 S | 145. 9. 30 W | 9. 40. 38 W | |
| Tarapia | Europa | Turkey | 41. 8. 24 N | 29. 0. 28 E | 1. 56. 2 E | |
| Tarafcon | Europe | France | 43. 48. 20 N | 4. 39. 36 E | 0. 18. 38 E | |
| Tarbes | Europe | France | 43. 13. 52 N | 0. 3. 59 E | 0. 0. 16 E | |
| Tasman Head | Aſia | New Holland | 45. 33. 30 S | 147. 30. 30 E | 9. 50. 2 E | |
| Taſſa (Iſle) | Europe | Sea of Marmara | 40. 46. 40 N | 24. 38. 54 E | 1. 38. 36 E | |
| Taſſacorta | Africa | Palma Iſle | 28. 38. 0 N | 17. 58. 0 W | 1. 11. 52 W | |
| Taya (Pulo) | Aſia | Chineſe Sea | 0. 44. 30 S | 106. 3. 15 E | 7. 4. 13 E | |
| Tellicherry | Aſia | Malabar Coaſt | 11. 45. 20 N | 75. 29. 3 E | 5. 1. 56 E | |
| Temontengis | Aſia | Soloo | 5. 57. 0 N | 120. 53. 30 E | 8. 3. 54 E | |
| Teneriffe (Peake) | Africa | Canaries | 28. 15. 38 N | 16. 45. 33 W | 1. 7. 2 W | |
| Tenterden | Europe | England | 51. 4. 8 N | 0. 41. 8 E | 0. 2. 45 E | |
| Tercera | Europe | Azores | 38. 39. 7 N | 27. 12. 42 W | 1. 48. 51 W | |
| Terra [illegible] | Europe | Italy | 41. 18. 14 N | 13. 13. 7 E | 0. 52. 52 E | |
| St. Thadeus Nois | Aſia | Samarkand | [illegible] N | 179. 5. 0 E | 11. 56. 20 E | |
| Thalpeny Iſle | Aſia | Lacca N. Pt. | 10. 10. 30 N | 73. 49. 30 E | 4. 55. 18 E | |
| | | Lacca S. Point | [illegible] N | 73. 48. 0 E | 4. 55. 12 E | |
| Thionville | Europe | France | 49. 21. 30 N | 6. 10. 30 E | 0. 24. 42 E | |
| St. Thomas's Iſle | America | Virgin Iſles | 18. 21. 55 N | 64. 51. 30 W | 4. 19. 26 W | |
| St. Thomas's Iſle | Africa | Atlantic Ocean | 0. 19. 0 N | 6. 42. 30 E | 0. 26. 50 E | |
| Thorley Hall | Europe | England | 51. 50. 45 N | 0. 9. 0 E | 0. 0. 36 E | |
| Three Hill Iſland | Aſia | New Hebrides | 17. 4. 0 S | 168. 35. 0 E | 11. 14. 20 E | |
| Three King's Iſle | Aſia | New Zeeland | 34. 10. 15 S | 172. 25. 8 E | 11. 29. 41 E | |
| Three Points (Cape) | Africa | Gold Coaſt | 4. 40. 30 N | 2. 43. 32 W | 0. 10. 54 W | |
| Thrumb Cap | America | Pacific Ocean | 18. 36. 41 S | 139. 13. 45 W | 9. 16. 55 W | |
| Thule (Southern) | America | Sandwich Land | 59. 34. 0 S | 27. 45. 0 W | 1. 51. 0 W | |
| Thury | Europe | France | 49. 21. 28 N | 2. 18. 30 E | 0. 9. 14 E | |
| Tiburon (Cape) | America | Hiſpaniola | 18. 19. 25 N | 74. 34. 12 W | 4. 58. 17 W | |
| Timoan (Pulo) | Aſia | Gulf of Siam | 2. 53. 30 N | 104. 24. 37 E | 6. 57. 38 E | |
| Timor W. Point | Aſia | India | 10. 6. 52 S | 124. 4. 36 E | 8. 16. 18 E | |
| Timor-Land | Aſia | India | 8. 3. 0 S | 132. 17. 0 E | 8. 49. 8 E | |
| Tiniani (Iſle) | Aſia | Pacific Ocean | 15. 0. 0 N | 145. 55. 30 E | 9. 43. 42 E | |
| Toboltki | Aſia | Siberia | 58. 12. 18 N | 68. 18. 30 E | 4. 33. 14 E | |
| Tolaga Bay | Aſia | New Zeeland | 38. 22. 0 S | 178. 35. 54 E | 11. 54. 24 E | |
| Toledo | Europe | Spain | 39. 50. 0 N | 3. 20. 0 W | 0. 13. 20 W | |
| Tomſk | Aſia | Siberia | 56. 29. 58 N | 84. 58. 30 E | 5. 39. 54 E | |
| Tondern | Europe | Denmark | 54. 56. 19 N | 8. 53. 17 E | 0. 35. 33 E | |
| Tonga-Tabu (Iſle) | Aſia | Pacific Ocean | 21. 8. 36 S | 175. 1. 50 E | 11. 40. 7 E | 6. 50 |
| Tongres | Europe | Netherlands | 50. 47. 7 N | 5. 27. 23 E | 0. 21. 53 E | |
| Tonnerre | Europe | France | 47. 51. 8 N | 3. 58. 44 E | 0. 15. 55 E | |
| Toobouai (Iſle) | America | Pacific Ocean | 23. 25. 0 S | 149. 20. 30 W | 9. 57. 22 W | |
| Tornea | Europe | Sweden | 65. 50. 50 N | 24. 14. 0 E | 1. 36. 56 E | |
| Tortudas | America | Weſt Indies E. Point | 20. 0. 55 N | 72. 42. 35 W | 4. 50. 50 W | |
| | | Weſt Indies W. Pt. | 20. 5. 20 N | 73. 1. 26 W | 4. 52. 6 W | |
| Toul | Europe | France | 48. 40 N | 5. 53. 18 E | 0. 23. 33 E | |
| Toulon | Europe | France | 43. 7. 16 N | 5. 55. 26 E | 0. 23. 42 E | |
| Toulouſe | Europe | France | 43. 35. 46 N | 1. 26. 45 E | 0. 5. 47 E | |
| Tournai | Europe | Netherlands | 50. 36. 57 N | 3. 33. 17 E | 0. 13. 33 E | |
| Tours | Europe | France | 47. 23. 46 N | 0. 41. 32 E | 0. 2. 46 E | |
| Trafalgar | Europe | Spain | 36. 7. 56 N | 6. 3. 0 W | 0. 24. 45 W | |
| Traitor's Head | Aſia | Erramanga | 18. 43. 30 S | 169. 20. 30 E | 11. 17. 22 E | |
| Tranquebar | Aſia | India | 10. 56. 0 N | 79. 40. 30 E | 5. 18. 42 E | |
| Treguier | Europe | France | 48. 46. 54 N | 3. 13. 49 W | 0. 12. 55 W | |
| Treves | Europe | Germany | 49. 46. 37 N | 6. 38. 5 E | 0. 26. 32 E | |
| Trinidada | America | Cuba | 21. 47. 45 N | 80. 19. 36 W | 5. 21. 18 W | |

| Names of Places | Continent | Coaſt, Sea, or Country | Latitude | In Degrees | In Time | A. W |
|---|---|---|---|---|---|---|
| Trinidada (Iſle) | America | Atlantic Ocean | 20. 30. 30 S | 29. 33. 0 W | 1. 58. 12 W | |
| Trinity Iſland | America | Pacific Ocean | 56. 35. 0 N | 154. 53. 0 W | 10. 19. 32 W | |
| Tripoli | Africa | Barbary | 32. 56. 4 N | 13. 21. 7 E | 0. 53. 24 E | |
| Tritchinopoly | Aſia | India | 10. 49. 0 N | 78. 38. 30 E | 5. 14. 34 E | |
| Tropez (St.) | Europe | France | 43. 16. 58 N | 6. 38. 30 E | 0. 26. 34 E | |
| Troyes | Europe | France | 48. 18. 5 N | 4. 4. 54 E | 0. 16. 18 E | |
| Tſchekatki | Europe | Ruſſia | 57. 13. 4 N | 30. 45. 0 E | 2. 3. 0 E | |
| Tſchukotſkoi | Aſia | Bering's Strait | 64. 14. 30 N | 173. 31. 0 W | 11. 34. 4 W | |
| Tubingen | Europe | Germany | 48. 31. 4 N | 9. 2. 30 E | 0. 36. 10 E | |
| Tulles | Europe | France | 45. 16. 3 N | 1. 40. 2 E | 0. 7. 4 E | |
| Turin | Europe | Italy | 45. 4. 15 N | 7. 42. 0 E | 0. 30. 48 E | |
| Turnagain (Cape) | Aſia | New Zeeland | 40. 32. 30 S | 176. 40. 0 E | 11. 46. 40 E | |
| Turk's Iſles | America | Weſt Indies | 21. 11. 0 N | 71. 15. 22 W | 4. 44. 1 W | |
| Turtle Iſland | Aſia | Pacific Ocean | 10. 36. 45 N | 177. 57. 0 W | 11. 51. 48 W | |
| Two Groups | America | Pacific Ocean | 18. 12. 30 S | 142. 11. 45 W | 9. 28. 47 W | |
| Typa | Aſia | China | 22. 9. 20 N | 113. 43. 45 E | 7. 34. 55 E | |
| Tyrnaw | Europe | Hungary | 48. 23. 30 N | 17. 34. 30 E | 1. 10. 18 E | |
| Ubes (St.) | Europe | Portugal | 38. 22. 15 N | 8. 54. 22 W | 0. 35. 37 W | |
| Ufa | Europe | Ruſſia | 54. 42. 45 N | 55. 55. 30 E | 3. 43. 54 E | |
| Ukatcah | America | Pacific Ocean | 10. 45. 0 S | 151 31. 0 W | 10. 6. 4 W | |
| Ulm | Europe | Germany | 48. 23. 45 N | 9. 58. 51 E | 0 39 55 E | |
| Umba | Europe | Lapland | 66. 30. 48 N | 34. 14. 45 E | 2. 16. 59 E | |
| Unſt | Europe | Shetland | 60. 44. 0 N | 0. 46. 0 W | 0 3. 4 W | |
| Upſal | Europe | Sweden | 59. 51. 50 N | 17. 38. 9 E | 1. 10. 33 E | |
| Uralſk | Aſia | Tartary | 51. 11. 0 N | 51. 35. 15 E | 3. 26. 29 E | |
| Uraniberg | Europe | Denmark | 55. 54. 17 N | 12. 53. 0 E | 0 51. 51 E | |
| Urbine | Europe | Italy | 43. 43. 30 N | 12. 36. 58 E | 0 50. 27 E | |
| Uſhant Lights | Europe | France | 48. 28. 8 N | 5. 3. 21 W | 0. 20. 13 W | |
| Uſtie Norod | Europe | Ruſſia | 59. 43. 54 N | 50. 32. 15 E | 3 40. 9 E | |
| Uſt-kamenogorſk | Aſia | Siberia | 49. 50. 49 N | 82. 38. 3 E | 5. 30. 32 E | |
| Utretch | Europe | Netherlands | 52. 5. 0 N | 5. 9. 45 E | 0. 20. 39 E | |
| Uzes | Europe | France | 44. 0. 54 N | 4. 25. 2 E | 0. 17. 40 E | |
| Vabres | Europe | France | 43. 56. 27 N | 2. 52. 15 E | 0 11. 31 E | |
| Vaiſon | Europe | France | 44. 14. 28 N | 5. 3. 54 E | 0. 20. 15 E | |
| Valence | Europe | France | 44 55. 30 N | 4 53. 15 E | 0 19. 53 E | |
| Valenciennes | Europe | France | 50. 21. 8 N | 3 31. 45 E | 0 14. 7 E | |
| Valery (St.) ſur Som | Europe | France | 50. 11. 21 N | 1. 37. 30 E | 0. 6. 30 E | 12. 0 |
| Valery (St.) en Caup | Europe | France | 49 52. 1 N | 0 1. 15 E | 0. 4. 29 E | 9. 45 |
| Valparaiſo | America | Chili | 33. 1. 20 S | 71. 10. 15 W | 4. 44 1 W | |
| Van Dieman's Road | Aſia | Tonga-Tabu | 21. 4. 15 S | 173. 0. 0 W | 11. 32 24 W | 7. 15 |
| Vannes | Europe | France | 47. 39. 28 N | 2. 45. 30 W | 0. 11. 1 W | 3. 45 |
| Vauxes Tomb | Aſia | India | 21. 4. 30 N | 70 45. 22 E | 4 43. 1 E | |
| Vence | Europe | France | 43 43. 11 N | 7. 1. 30 E | 0. 28. 6 E | |
| Venice | Europe | Italy | 45. 27. 0 N | 12. 3. 0 E | 0. 48. 12 E | |
| Venus (Point) | America | Otaheite | 17. 29. 15 S | 149 30. 22 W | 9 58. 1 W | 10. 58 |
| Vera Cruz | America | Mexico | 19. 9. 30 N | 96. 8. 7 W | 6 32. 32 W | |
| Verd (Cape) | Africa | Negroland | 14. 47. 11 N | 17. 33. 11 W | 1. 10. 13 W | |
| Verdun | Europe | France | 49. 9. 44 N | 5. 22. 41 E | 0 21. 31 E | |
| Verona | Europe | Italy | 45. 27. 0 N | 11. 1. 0 E | 0 44. 4 E | |
| Verſailles | Europe | France | 48 48. 20 N | 2 7. 7 E | 0 8 28 E | |
| Victoria (Fort) | Aſia | Malabar Coaſt | 17. 50. 0 N | 173. 7. 54 E | 4 54 | |
| Vienna (Obſervatory) | Europe | Germany | 48. 12. 50 N | 16 21 54 E | 1 5 26 E | 0 |
| Vigo | Europe | Spain | 42. 14. 20 N | 8 47. 4 W | 0 35. 5 W | |
| Villa Franca | Europe | Italy | 43 42. 0 N | 7. 19. 15 E | 0 29. 17 E | |
| St. Vincents (Cape) | Europe | Portugal | 37. 1. 0 N | 9 0. 15 W | 0. 36. 0 W | |
| St. Vincents (Iſle) | America | Caribbean Sea | 13. 10. 15 N | 61 10. 45 W | 4. 0 40 W | |
| Virgin Rocks | Aſia | Malabar Coaſt | 15. 55. 3 N | 73 30. 0 E | 4 54. 0 E | |
| Viſſingha | Europe | Italy | 43. 53. 20 N | 7. 17. 30 E | 0 29. 10 E | |
| Virgin-Gorda (Fort) | America | Weſt Indies | 18. 18. 0 N | 64. 11. 45 W | 4. 17. 15 W | |

| Names of Places | Continent | Coaſt, Sea, or Country | Latitude | Longitude, In Degrees | Longitude, In Time | H. W. |
|---|---|---|---|---|---|---|
| Virgin (Cape) | America | Patagonia | 52. 23. 0 S | 67. 54. 0 W | 4. 31. 36 W | 10. 0 |
| Vilagapatam | Aſia | India | 17. 42. 0 N | 83. 23. 52 E | 5. 33. 35 E | |
| Viviers | Europe | France | 44. 28. 57 N | 4. 40. 45 E | 0. 18. 43 E | |
| Wakefield | Europe. | England | 53. 41. 0 N | 1. 35. 0 W | 0. 6. 20 W | |
| Wales (Prince of) Cape | America | Beering's Strait | 65. 45. 30 N | 168. 17. 30 W | 11. 13. 10 W | |
| Wales (Prince of) Fort | America | New Wales | 58. 47. 32 N | 94. 13. 48 W | 6. 16. 55 W | 7. 20 |
| Wales (Prince of) Iſles | America | Pacific Ocean | 14. 58. 0 S | 147. 48. 0 W | 9. 51. 12 W | |
| Wallis's Iſle | Aſia | Pacific Ocean | 13. 17. 0 S | 176. 45. 0 W | 11. 47. 0 W | |
| Walviſch Bay | Africa | Caffraria | 22. 54. 51 S | 14. 40. 0 E | 0. 58. 40 E | |
| Wanſtead | Europe. | England | 51. 34. 20 N | 0. 2. 30 E | 0. 0. 10 E | |
| Waraſden | Europe. | Hungary | 46. 18. 18 N | 16. 25. 51 E | 1. 5. 43 E | |
| [illegible] | [illegible] | [illegible] | 70. 22. 30 N | 31. 6. 0 E | 2. 4. 24 E | |
| Warſaw | Europe. | Poland | 52. 14. 28 N | 21. 1. 5 E | 1. 24. 4 E | |
| Warwick (Cape) | America | Hudſon's Straits. | 61. 20. 0 N | 65. 10. 0 W | 4. 21. 4 W | |
| Wateeoo | America | Pacific Ocean | 20. 1. 30 S | 155. 14. 30 W | 10. 21. 58 W | |
| Watling's Iſle (W. Pt.) | America | Bahamas | 23. 56. 0 N | 74. 42. 32 W | 4. 58. 10 W | |
| Weſt Cape | Aſia | New Zealand | 41. 36. 15 S | 174. 6. 15 E | 11. 4. 25 E | |
| Weſtman (Iſles) | Europe. | Northern Ocean. | 63. 20. 30 N | 20. 27. 45 E | 1. 21. 51 E | |
| Whitſunday Cape | America | Cook's River | 58. 15. 0 N | 152. 36. 0 W | 10. 10. 24 W | |
| Whitſun Iſland | America | Pacific Ocean | 19. 26. 0 S | 138. 12. 0 W | 9. 12. 48 W | |
| Whitſuntide Iſle | Aſia | Pacific Ocean | 15. 44. 20 S | 168. 20. 15 E | 11. 13. 21 E | |
| Whytootachee | America | Pacific Ocean | 18. 51. 40 S | 159. 39. 45 W | 10. 38. 39 W | |
| Wiborg | Europe. | N. Jutland | 57. 27. 11 N | 9. 26. 15 E | 0. 37. 45 W | |
| Wicklow | Europe. | Ireland | 52. 59. 0 N | 6. 1. 0 W | 0. 24. 4 W | 7. 30 |
| Wildeſhauſen | Europe. | Germany | 52. 54. 26 N | 8. 27. 39 E | 0. 33. 51 E | |
| William (Fort) | Aſia | Bengal | 22. 34. 0 N | 88. 27. 56 E | 5. 53. 52 E | |
| Willis's Iſle | America | St. Georgia | 54. 0. 0 S | 38. 29 40 W | 2. 33. 59 W | |
| Wilna | Europe. | Poland | 54. 41. 0 N | 25. 14. 51 E | 1. 40. 59 W | |
| Winchelſea | Europe. | England | 50. 55. 28 N | 0. 42. 31 E | 0. 2. 50 E | |
| Windſor | Europe. | England | 51. 29. 0 N | 0. 35. 28 W | 0. 2. 22 W | |
| Wittemburg | Europe. | Germany | 51. 53. 0 N | 12. 42. 45 E | 0. 50. 51 E | |
| Woahoo (Iſle) | America | Sandwich Iſles | 21. 40. 30 N | 158. 1. 30 W | 10. 32. 6 W | |
| Wologda | Europe. | Ruſſia | 59. 13. 33 N | 40. 10. 0 E | 2. 40. 40 E | |
| Wolſtenholme Cape, | America | Hudſon's Straits. | 62. 39. 0 N | 77. 48. 0 W | 5. 11. 12 W | |
| Woody Point | America | Pacific Ocean | 50. 0. 30 N | 127. 57. 0 W | 8. 31. 44 W | |
| Worceſter | Europe. | England | 52. 9. 30 N | 2. 0. 15 W | 0. 8. 1 W | |
| Woroneſch | Europe. | Ruſſia | 51. 40. 30 N | 39. 20. 45 E | 2. 37. 23 E | |
| Woſiak | Europe. | Ruſſia | 61. 15. 0 N | | | |
| Wrotham | Europe. | England | 51. 18. 54 N | 0. 19. 12 E | 0. 1. 17 E | |
| Wurtzburg | Europe. | Germany | 49. 46. 6 N | 9. 54. 45 E | 0. 39. 39 E | |
| Xamhay | Aſia | China | 31. 16. 0 N | 121. 31. 45 E | 8. 6. 7 E | |
| Yeu (Iſle d') | Europe. | France | 46. 42. 26 N | 2. 19. 50 W | 0. 9. 19 W | |
| Ylo | America | Peru | 17. 36. 15 S | 71. 13. 0 W | 4. 44. 52 W | |
| York | Europe. | England | 53. 57. 45 N | 1. 6. 4 W | 0. 4. 24 W | |
| York Cape | Aſia | New Holland | 10. 38. 20 S | 142. 12. 20 E | 9. 28. 49 E | |
| York Fort | America | New Wales | 57. 1. 48 N | 92. 17. 11 W | 6. 9. 9 W | 9. 10 |
| York (Duke of) Iſle | Aſia | Pacific Ocean | 8. 29. 0 S | 172. 22. 0 W | 11. 29. 28 W | |
| York Minſter | America | Terra del Fuego. | 55. 26. 20 S | 70. 8. 0 W | 4. 40. 32 W | |
| York (New) | America | Jerſey | 40. 43. 0 N | 74. 9. 0 W | 4. 56. 36 W | 9. 0 |
| Young (Cape) | Aſia | Chatham Iſland. | 43. 48. 0 N | 176. 58. 0 W | 11. 47. 52 W | |
| Ypres | Europe. | Netherlands | 50. 51. 10 N | 2. 52. 49 E | 0. 11. 31 E | |
| Zachu (Rocks) | America | Porto Rico | 18. 24. 0 N | 67. 45. 30 W | 4. 31. 2 W | |
| Zaricin | Europe. | Ruſſia | 48. 42. 20 N | 44. 27. 30 E | 2. 57. 50 E | |
| [illegible] | [illegible] | [illegible] | 48. 51. 15 N | 16. 1. 32 E | 1. 4. 7 E | |

# TABLES

CHIEFLY USEFUL IN

# COMMON NAVIGATION.

For $\frac{1}{4}$ Point.

| | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 01. | 00. 0 | 61 | 60. 9 | 03. 0 | 121 | 120. 9 | 06. 0 | 181 | 180. 8 | 08. 9 | 241 | 240. 7 | 11. 8 | 301 | 300. 6 | 14. 8 | 361 | 360. 6 | 17. 7 | 421 | 420. 5 | 20. 7 |
| 2 | 02. | 00. 1 | 62 | 61. 9 | 03. 0 | 122 | 121. 9 | 06. 0 | 182 | 181. 8 | 08. 9 | 242 | 241. 7 | 11. 9 | 302 | 301. 6 | 14. 8 | 362 | 361. 6 | 17. 8 | 422 | 421. 5 | 20. 7 |
| 3 | 03. | 00. 1 | 63 | 62. 9 | 03. 1 | 123 | 122. 9 | 06. 0 | 183 | 182. 8 | 08. 9 | 243 | 242. 7 | 11. 9 | 303 | 302. 6 | 14. 9 | 363 | 362. 6 | 17. 8 | 423 | 422. 5 | 20. 8 |
| 4 | 04. | 00. 2 | 64 | 63. 9 | 03. 1 | 124 | 123. 9 | 06. 1 | 184 | 183. 8 | 09. 0 | 244 | 243. 7 | 12. 0 | 304 | 303. 6 | 14. 9 | 364 | 363. 6 | 17. 9 | 424 | 423. 5 | 20. 8 |
| 5 | 05. | 00. 2 | 65 | 64. 9 | 03. 2 | 125 | 124. 9 | 06. 1 | 185 | 184. 8 | 09. 1 | 245 | 244. 7 | 12. 0 | 305 | 304. 6 | 15. 0 | 365 | 364. 6 | 17. 9 | 425 | 424. 5 | 20. 9 |
| 6 | 06. | 00. 3 | 66 | 65. 9 | 03. 2 | 126 | 125. 9 | 06. 2 | 186 | 185. 8 | 09. 1 | 246 | 245. 7 | 12. 1 | 306 | 305. 6 | 15. 0 | 366 | 365. 6 | 18. 0 | 426 | 425. 5 | 20. 9 |
| 7 | 07. | 00. 3 | 67 | 66. 9 | 03. 3 | 127 | 126. 8 | 06. 2 | 187 | 186. 8 | 09. 2 | 247 | 246. 7 | 12. 1 | 307 | 306. 6 | 15. 1 | 367 | 366. 6 | 18. 0 | 427 | 426. 5 | 21. 0 |
| 8 | 08. | 00. 4 | 68 | 67. 9 | 03. 3 | 128 | 127. 8 | 06. 3 | 188 | 187. 8 | 09. 2 | 248 | 247. 7 | 12. 2 | 308 | 307. 6 | 15. 1 | 368 | 367. 6 | 18. 1 | 428 | 427. 5 | 21. 0 |
| 9 | 09. | 00. 4 | 69 | 68. 9 | 03. 4 | 129 | 128. 8 | 06. 3 | 189 | 188. 8 | 09. 3 | 249 | 248. 7 | 12. 2 | 309 | 308. 6 | 15. 2 | 369 | 368. 6 | 18. 1 | 429 | 428. 5 | 21. 1 |
| 10 | 10. | 00. 5 | 70 | 69. 9 | 03. 4 | 130 | 129. 8 | 06. 4 | 190 | 189. 8 | 09. 3 | 250 | 249. 7 | 12. 3 | 310 | 309. 6 | 15. 2 | 370 | 369. 6 | 18. 2 | 430 | 429. 5 | 21. 1 |
| 11 | 11. | 00. 5 | 71 | 70. 9 | 03. 5 | 131 | 130. 8 | 06. 4 | 191 | 190. 8 | 09. 4 | 251 | 250. 7 | 12. 3 | 311 | 310. 6 | 15. 3 | 371 | 370. 6 | 18. 2 | 431 | 430. 5 | 21. 2 |
| 12 | 12. | 00. 6 | 72 | 71. 9 | 03. 5 | 132 | 131. 8 | 06. 5 | 192 | 191. 8 | 09. 4 | 252 | 251. 7 | 12. 4 | 312 | 311. 6 | 15. 3 | 372 | 371. 6 | 18. 3 | 432 | 431. 5 | 21. 2 |
| 13 | 13. | 00. 6 | 73 | 72. 9 | 03. 6 | 133 | 132. 8 | 06. 5 | 193 | 192. 8 | 09. 5 | 253 | 252. 7 | 12. 4 | 313 | 312. 6 | 15. 4 | 373 | 372. 6 | 18. 3 | 433 | 432. 5 | 21. 3 |
| 14 | 14. | 00. 7 | 74 | 73. 9 | 03. 6 | 134 | 133. 8 | 06. 6 | 194 | 193. 8 | 09. 5 | 254 | 253. 7 | 12. 5 | 314 | 313. 6 | 15. 4 | 374 | 373. 6 | 18. 4 | 434 | 433. 5 | 21. 3 |
| 15 | 15. | 00. 7 | 75 | 74. 9 | 03. 7 | 135 | 134. 8 | 06. 6 | 195 | 194. 8 | 09. 6 | 255 | 254. 7 | 12. 5 | 315 | 314. 6 | 15. 5 | 375 | 374. 6 | 18. 4 | 435 | 434. 5 | 21. 4 |
| 16 | 16. | 00. 8 | 76 | 75. 9 | 03. 7 | 136 | 135. 8 | 06. 7 | 196 | 195. 8 | 09. 6 | 256 | 255. 7 | 12. 6 | 316 | 315. 6 | 15. 5 | 376 | 375. 6 | 18. 5 | 436 | 435. 5 | 21. 4 |
| 17 | 17. | 00. 8 | 77 | 76. 9 | 03. 8 | 137 | 136. 8 | 06. 7 | 197 | 196. 8 | 09. 7 | 257 | 256. 7 | 12. 6 | 317 | 316. 6 | 15. 6 | 377 | 376. 6 | 18. 5 | 437 | 436. 5 | 21. 4 |
| 18 | 18. | 00. 9 | 78 | 77. 9 | 03. 8 | 138 | 137. 8 | 06. 8 | 198 | 197. 8 | 09. 7 | 258 | 257. 7 | 12. 7 | 318 | 317. 6 | 15. 6 | 378 | 377. 6 | 18. 6 | 438 | 437. 5 | 21. 5 |
| 19 | 19. | 00. 9 | 79 | 78. 9 | 03. 9 | 139 | 138. 8 | 06. 8 | 199 | 198. 8 | 09. 8 | 259 | 258. 7 | 12. 7 | 319 | 318. 6 | 15. 7 | 379 | 378. 6 | 18. 6 | 439 | 438. 5 | 21. 5 |
| 20 | 20. | 00. 9 | 80 | 79. 9 | 03. 9 | 140 | 139. 8 | 06. 9 | 200 | 199. 8 | 09. 8 | 260 | 259. 7 | 12. 8 | 320 | 319. 6 | 15. 7 | 380 | 379. 5 | 18. 7 | 440 | 439. 5 | 21. 6 |
| 21 | 21. | 00. 9 | 81 | 80. 9 | 04. 0 | 141 | 140. 8 | 06. 9 | 201 | 200. 8 | 09. 9 | 261 | 260. 7 | 12. 8 | 321 | 320. 6 | 15. 8 | 381 | 380. 5 | 18. 7 | 441 | 440. 5 | 21. 6 |
| 22 | 22. | 00. 1 | 82 | 81. 9 | 04. 0 | 142 | 141. 8 | 06. 9 | 202 | 201. 7 | 09. 9 | 262 | 261. 7 | 12. 9 | 322 | 321. 6 | 15. 8 | 382 | 381. 5 | 18. 7 | 442 | 441. 5 | 21. 7 |
| 23 | 23. | 00. 1 | 83 | 82. 9 | 04. 1 | 143 | 142. 8 | 07. 0 | 203 | 202. 8 | 10. 0 | 263 | 262. 7 | 12. 9 | 323 | 322. 6 | 15. 9 | 383 | 382. 5 | 18. 8 | 443 | 442. 5 | 21. 7 |
| 24 | 24. | 00. 1 | 84 | 83. 9 | 04. 1 | 144 | 143. 8 | 07. 1 | 204 | 203. 8 | 10. 0 | 264 | 263. 7 | 13. 0 | 324 | 323. 6 | 15. 9 | 384 | 383. 5 | 18. 8 | 444 | 443. 5 | 21. 8 |
| 25 | 25. | 00. 2 | 85 | 84. 9 | 04. 2 | 145 | 144. 8 | 07. 1 | 205 | 204. 8 | 10. 1 | 265 | 264. 7 | 13. 0 | 325 | 324. 6 | 16. 0 | 385 | 384. 5 | 18. 9 | 445 | 444. 5 | 21. 8 |
| 26 | 26. | 00. 3 | 86 | 85. 9 | 04. 2 | 146 | 145. 8 | 07. 2 | 206 | 205. 8 | 10. 1 | 266 | 265. 7 | 13. 1 | 326 | 325. 6 | 16. 0 | 386 | 385. 5 | 18. 9 | 446 | 445. 5 | 21. 9 |
| 27 | 27. | 00. 3 | 87 | 86. 9 | 04. 3 | 147 | 146. 8 | 07. 2 | 207 | 206. 8 | 10. 2 | 267 | 266. 7 | 13. 1 | 327 | 326. 6 | 16. 0 | 387 | 386. 5 | 19. 0 | 447 | 446. 5 | 21. 9 |
| 28 | 28. | 00. 4 | 88 | 87. 9 | 04. 3 | 148 | 147. 8 | 07. 3 | 208 | 207. 8 | 10. 2 | 268 | 267. 7 | 13. 2 | 328 | 327. 6 | 16. 1 | 388 | 387. 5 | 19. 0 | 448 | 447. 5 | 22. 0 |
| 29 | 29. | 00. 4 | 89 | 88. 9 | 04. 4 | 149 | 148. 8 | 07. 3 | 209 | 208. 8 | 10. 2 | 269 | 268. 7 | 13. 2 | 329 | 328. 6 | 16. 1 | 389 | 388. 5 | 19. 1 | 449 | 448. 5 | 22. 0 |
| 30 | 30. | 00. 5 | 90 | 89. 9 | 04. 4 | 150 | 149. 8 | 07. 4 | 210 | 209. 8 | 10. 3 | 270 | 269. 7 | 13. 3 | 330 | 329. 6 | 16. 2 | 390 | 389. 5 | 19. 1 | 450 | 449. 5 | 22. 1 |
| 31 | 31. | 00. 5 | 91 | 90. 9 | 04. 5 | 151 | 150. 8 | 07. 4 | 211 | 210. 7 | 10. 4 | 271 | 270. 7 | 13. 3 | 331 | 330. 6 | 16. 2 | 391 | 390. 5 | 19. 2 | 451 | 450. 5 | 22. 1 |
| 32 | 32. | 00. 6 | 92 | 91. 9 | 04. 5 | 152 | 151. 8 | 07. 5 | 212 | 211. 7 | 10. 4 | 272 | 271. 7 | 13. 3 | 332 | 331. 6 | 16. 3 | 392 | 391. 5 | 19. 2 | 452 | 451. 5 | 22. 2 |
| 33 | 33. | 00. 6 | 93 | 92. 9 | 04. 6 | 153 | 152. 8 | 07. 5 | 213 | 212. 7 | 10. 5 | 273 | 272. 7 | 13. 4 | 333 | 332. 6 | 16. 3 | 393 | 392. 5 | 19. 3 | 453 | 452. 5 | 22. 2 |
| 34 | 34. | 00. 7 | 94 | 93. 9 | 04. 6 | 154 | 153. 8 | 07. 6 | 214 | 213. 7 | 10. 5 | 274 | 273. 7 | 13. 4 | 334 | 333. 6 | 16. 4 | 394 | 393. 5 | 19. 3 | 454 | 453. 5 | 22. 3 |
| 35 | 35. | 00. 7 | 95 | 94. 9 | 04. 7 | 155 | 154. 8 | 07. 6 | 215 | 214. 7 | 10. 6 | 275 | 274. 7 | 13. 5 | 335 | 334. 6 | 16. 4 | 395 | 394. 5 | 19. 4 | 455 | 454. 5 | 22. 3 |
| 36 | 36. | 00. 8 | 96 | 95. 9 | 04. 7 | 156 | 155. 8 | 07. 7 | 216 | 215. 7 | 10. 6 | 276 | 275. 7 | 13. 5 | 336 | 335. 6 | 16. 5 | 396 | 395. 5 | 19. 4 | 456 | 455. 5 | 22. 4 |
| 37 | 37. | 00. 8 | 97 | 96. 9 | 04. 8 | 157 | 156. 8 | 07. 7 | 217 | 216. 7 | 10. 7 | 277 | 276. 7 | 13. 6 | 337 | 336. 6 | 16. 5 | 397 | 396. 5 | 19. 5 | 457 | 456. 5 | 22. 4 |
| 38 | 38. | 00. 9 | 98 | 97. 9 | 04. 8 | 158 | 157. 8 | 07. 8 | 218 | 217. 7 | 10. 7 | 278 | 277. 7 | 13. 6 | 338 | 337. 6 | 16. 6 | 398 | 397. 5 | 19. 5 | 458 | 457. 5 | 22. 5 |
| 39 | 39. | 00. 9 | 99 | 98. 9 | 04. 9 | 159 | 158. 8 | 07. 8 | 219 | 218. 7 | 10. 8 | 279 | 278. 7 | 13. 7 | 339 | 338. 6 | 16. 6 | 399 | 398. 5 | 19. 6 | 459 | 458. 5 | 22. 5 |
| 40 | 40. | 00. 9 | 100 | 99. 9 | 04. 9 | 160 | 159. 8 | 07. 9 | 220 | 219. 7 | 10. 8 | 280 | 279. 7 | 13. 7 | 340 | 339. 6 | 16. 7 | 400 | 399. 5 | 19. 6 | 460 | 459. 5 | 22. 6 |
| 41 | 41. | 00. 1 | 101 | 100. 9 | 04. 9 | 161 | 160. 8 | 07. 9 | 221 | 220. 7 | 10. 9 | 281 | 280. 7 | 13. 8 | 341 | 340. 6 | 16. 7 | 401 | 400. 5 | 19. 7 | 461 | 460. 5 | 22. 6 |
| 42 | 41. | 01. 0 | 102 | 101. 9 | 05. 0 | 162 | 161. 8 | 08. 0 | 222 | 221. 7 | 10. 9 | 282 | 281. 7 | 13. 8 | 342 | 341. 6 | 16. 8 | 402 | 401. 5 | 19. 7 | 462 | 461. 5 | 22. 7 |
| 43 | 42. | 01. 1 | 103 | 102. 9 | 05. 1 | 163 | 162. 8 | 08. 0 | 223 | 222. 7 | 10. 9 | 283 | 282. 7 | 13. 9 | 343 | 342. 6 | 16. 8 | 403 | 402. 5 | 19. 8 | 463 | 462. 5 | 22. 7 |
| 44 | 43. | 01. 1 | 104 | 103. 9 | 05. 1 | 164 | 163. 8 | 08. 1 | 224 | 223. 7 | 11. 0 | 284 | 283. 7 | 13. 9 | 344 | 343. 6 | 16. 9 | 404 | 403. 5 | 19. 8 | 464 | 463. 4 | 22. 8 |
| 45 | 44. | 02. 2 | 105 | 104. 9 | 05. 2 | 165 | 164. 8 | 08. 1 | 225 | 224. 7 | 11. 0 | 285 | 284. 7 | 14. 0 | 345 | 344. 6 | 16. 9 | 405 | 404. 5 | 19. 9 | 465 | 464. 4 | 22. 8 |
| 46 | 45. | 02. 2 | 106 | 105. 9 | 05. 2 | 166 | 165. 8 | 08. 2 | 226 | 225. 7 | 11. 1 | 286 | 285. 7 | 14. 0 | 346 | 345. 6 | 17. 0 | 406 | 405. 5 | 19. 9 | 466 | 465. 4 | 22. 9 |
| 47 | 46. | 02. 3 | 107 | 106. 9 | 05. 3 | 167 | 166. 8 | 08. 2 | 227 | 226. 7 | 11. 1 | 287 | 286. 7 | 14. 1 | 347 | 346. 6 | 17. 0 | 407 | 406. 5 | 20. 0 | 467 | 466. 4 | 22. 9 |
| 48 | 47. | 02. 4 | 108 | 107. 9 | 05. 3 | 168 | 167. 8 | 08. 3 | 228 | 227. 7 | 11. 2 | 288 | 287. 7 | 14. 1 | 348 | 347. 6 | 17. 1 | 408 | 407. 5 | 20. 0 | 468 | 467. 4 | 23. 0 |
| 49 | 48. | 02. 4 | 109 | 108. 9 | 05. 4 | 169 | 168. 8 | 08. 3 | 229 | 228. 7 | 11. 2 | 289 | 288. 7 | 14. 2 | 349 | 348. 6 | 17. 1 | 409 | 408. 5 | 20. 1 | 469 | 468. 4 | 23. 0 |
| 50 | 49. | 02. 5 | 110 | 109. 9 | 05. 4 | 170 | 169. 8 | 08. 3 | 230 | 229. 7 | 11. 3 | 290 | 289. 7 | 14. 2 | 350 | 349. 6 | 17. 2 | 410 | 409. 5 | 20. 1 | 470 | 469. 4 | 23. 1 |
| 51 | 50. | 02. 5 | 111 | 110. 9 | 05. 5 | 171 | 170. 8 | 08. 4 | 231 | 230. 7 | 11. 3 | 291 | 290. 7 | 14. 3 | 351 | 350. 6 | 17. 2 | 411 | 410. 5 | 20. 2 | 471 | 470. 4 | 23. 1 |
| 52 | 51. | 02. 6 | 112 | 111. 9 | 05. 5 | 172 | 171. 8 | 08. 4 | 232 | 231. 7 | 11. 4 | 292 | 291. 7 | 14. 3 | 352 | 351. 6 | 17. 3 | 412 | 411. 5 | 20. 2 | 472 | 471. 4 | 23. 2 |
| 53 | 52. | 02. 6 | 113 | 112. 9 | 05. 6 | 173 | 172. 8 | 08. 5 | 233 | 232. 7 | 11. 4 | 293 | 292. 7 | 14. 4 | 353 | 352. 6 | 17. 3 | 413 | 412. 5 | 20. 3 | 473 | 472. 4 | 23. 2 |
| 54 | 53. | 02. 7 | 114 | 113. 9 | 05. 6 | 174 | 173. 8 | 08. 5 | 234 | 233. 7 | 11. 5 | 294 | 293. 6 | 14. 4 | 354 | 353. 6 | 17. 4 | 414 | 413. 5 | 20. 3 | 474 | 473. 4 | 23. 3 |
| 55 | 54. | 02. 7 | 115 | 114. 9 | 05. 6 | 175 | 174. 8 | 08. 6 | 235 | 234. 7 | 11. 5 | 295 | 294. 6 | 14. 5 | 355 | 354. 6 | 17. 4 | 415 | 414. 5 | 20. 4 | 475 | 474. 4 | 23. 3 |
| 56 | 55. | 02. 8 | 116 | 115. 9 | 05. 7 | 176 | 175. 8 | 08. 6 | 236 | 235. 7 | 11. 6 | 296 | 295. 6 | 14. 5 | 356 | 355. 6 | 17. 5 | 416 | 415. 5 | 20. 4 | 476 | 475. 4 | 23. 4 |

For $7\frac{1}{4}$ Points.

For ½ Point.

| Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 01.0 | 00.1 | 61 | 60.7 | 06.0 | 121 | 120.4 | 11.9 | 181 | 180.1 | 17.7 | 241 | 239.8 | 23.6 | 301 | 299.5 | 29.5 | 361 | 359.2 | 35.4 | 421 | 419.0 | 41.3 |
| 2 | 02.0 | 00.2 | 62 | 61.7 | 06.1 | 122 | 121.4 | 12.0 | 182 | 181.1 | 17.8 | 242 | 240.8 | 23.7 | 302 | 300.5 | 29.6 | 362 | 360.2 | 35.5 | 422 | 420.0 | 41.4 |
| 3 | 03.0 | 00.3 | 63 | 62.7 | 06.2 | 123 | 122.4 | 12.1 | 183 | 182.1 | 17.9 | 243 | 241.8 | 23.8 | 303 | 301.5 | 29.7 | 363 | 361.2 | 35.6 | 423 | 421.0 | 41.5 |
| 4 | 04.0 | 00.4 | 64 | 63.7 | 06.3 | 124 | 123.4 | 12.2 | 184 | 183.1 | 18.0 | 244 | 242.8 | 23.9 | 304 | 302.5 | 29.8 | 364 | 362.2 | 35.7 | 424 | 422.0 | 41.6 |
| 5 | 05.0 | 00.5 | 65 | 64.7 | 06.4 | 125 | 124.4 | 12.3 | 185 | 184.1 | 18.1 | 245 | 243.8 | 24.0 | 305 | 303.5 | 29.9 | 365 | 363.2 | 35.8 | 425 | 423.0 | 41.7 |
| 6 | 06.0 | 00.6 | 66 | 65.7 | 06.5 | 126 | 125.4 | 12.3 | 186 | 185.1 | 18.2 | 246 | 244.8 | 24.1 | 306 | 304.5 | 30.0 | 366 | 364.2 | 35.9 | 426 | 423.9 | 41.8 |
| 7 | 07.0 | 00.7 | 67 | 66.7 | 06.6 | 127 | 126.4 | 12.4 | 187 | 186.1 | 18.3 | 247 | 245.8 | 24.2 | 307 | 305.5 | 30.1 | 367 | 365.2 | 36.0 | 427 | 424.9 | 41.9 |
| 8 | 08.0 | 00.8 | 68 | 67.7 | 06.7 | 128 | 127.4 | 12.5 | 188 | 187.1 | 18.4 | 248 | 246.8 | 24.3 | 308 | 306.5 | 30.2 | 368 | 366.2 | 36.1 | 428 | 425.9 | 42.0 |
| 9 | 09.0 | 00.9 | 69 | 68.7 | 06.8 | 129 | 128.4 | 12.6 | 189 | 188.1 | 18.5 | 249 | 247.8 | 24.4 | 309 | 307.5 | 30.3 | 369 | 367.2 | 36.2 | 429 | 426.9 | 42.1 |
| 10 | 10.0 | 01.0 | 70 | 69.7 | 06.9 | 130 | 129.4 | 12.7 | 190 | 189.1 | 18.6 | 250 | 248.8 | 24.5 | 310 | 308.5 | 30.4 | 370 | 368.2 | 36.3 | 430 | 427.9 | 42.2 |
| 11 | 10.9 | 01.1 | 71 | 70.7 | 07.0 | 131 | 130.4 | 12.8 | 191 | 190.1 | 18.7 | 251 | 249.8 | 24.6 | 311 | 309.5 | 30.5 | 371 | 369.2 | 36.4 | 431 | 428.9 | 42.2 |
| 12 | 11.9 | 01.2 | 72 | 71.7 | 07.1 | 132 | 131.4 | 12.9 | 192 | 191.1 | 18.8 | 252 | 250.8 | 24.7 | 312 | 310.5 | 30.6 | 372 | 370.2 | 36.5 | 432 | 429.9 | 42.3 |
| 13 | 12.9 | 01.3 | 73 | 72.6 | 07.2 | 133 | 132.4 | 13.0 | 193 | 192.1 | 18.9 | 253 | 251.8 | 24.8 | 313 | 311.5 | 30.7 | 373 | 371.2 | 36.6 | 433 | 430.9 | 42.4 |
| 14 | 13.9 | 01.4 | 74 | 73.6 | 07.3 | 134 | 133.4 | 13.1 | 194 | 193.1 | 19.0 | 254 | 252.8 | 24.9 | 314 | 312.5 | 30.8 | 374 | 372.2 | 36.7 | 434 | 431.9 | 42.5 |
| 15 | 14.9 | 01.5 | 75 | 74.6 | 07.4 | 135 | 134.3 | 13.2 | 195 | 194.1 | 19.1 | 255 | 253.8 | 25.0 | 315 | 313.5 | 30.9 | 375 | 373.2 | 36.8 | 435 | 432.9 | 42.6 |
| 16 | 15.9 | 01.6 | 76 | 75.6 | 07.4 | 136 | 135.3 | 13.3 | 196 | 195.1 | 19.2 | 256 | 254.8 | 25.1 | 316 | 314.5 | 31.0 | 376 | 374.2 | 36.9 | 436 | 433.9 | 42.7 |
| 17 | 16.9 | 01.7 | 77 | 76.6 | 07.5 | 137 | 136.3 | 13.4 | 197 | 196.1 | 19.3 | 257 | 255.8 | 25.2 | 317 | 315.5 | 31.1 | 377 | 375.2 | 37.0 | 437 | 434.9 | 42.8 |
| 18 | 17.9 | 01.8 | 78 | 77.6 | 07.6 | 138 | 137.3 | 13.5 | 198 | 197.0 | 19.4 | 258 | 256.8 | 25.3 | 318 | 316.5 | 31.2 | 378 | 376.2 | 37.1 | 438 | 435.9 | 42.9 |
| 19 | 18.9 | 01.9 | 79 | 78.6 | 07.7 | 139 | 138.3 | 13.6 | 199 | 198.0 | 19.5 | 259 | 257.8 | 25.4 | 319 | 317.5 | 31.3 | 379 | 377.2 | 37.1 | 439 | 436.9 | 43.0 |
| 20 | 19.9 | 02.0 | 80 | 79.6 | 07.8 | 140 | 139.3 | 13.7 | 200 | 199.0 | 19.6 | 260 | 258.7 | 25.5 | 320 | 318.5 | 31.4 | 380 | 378.2 | 37.2 | 440 | 437.9 | 43.1 |
| 21 | 20.9 | 02.1 | 81 | 80.6 | 07.9 | 141 | 140.3 | 13.8 | 201 | 200.0 | 19.7 | 261 | 259.7 | 25.6 | 321 | 319.5 | 31.5 | 381 | 379.2 | 37.3 | 441 | 438.9 | 43.2 |
| 22 | 21.9 | 02.2 | 82 | 81.6 | 08.0 | 142 | 141.3 | 13.9 | 202 | 201.0 | 19.8 | 262 | 260.7 | 25.7 | 322 | 320.4 | 31.6 | 382 | 380.2 | 37.4 | 442 | 439.9 | 43.3 |
| 23 | 22.9 | 02.3 | 83 | 82.6 | 08.1 | 143 | 142.3 | 14.0 | 203 | 202.0 | 19.9 | 263 | 261.7 | 25.8 | 323 | 321.4 | 31.7 | 383 | 381.2 | 37.5 | 443 | 440.9 | 43.4 |
| 24 | 23.9 | 02.4 | 84 | 83.6 | 08.2 | 144 | 143.3 | 14.1 | 204 | 203.0 | 20.0 | 264 | 262.7 | 25.9 | 324 | 322.4 | 31.8 | 384 | 382.2 | 37.6 | 444 | 441.9 | 43.5 |
| 25 | 24.9 | 02.4 | 85 | 84.6 | 08.3 | 145 | 144.3 | 14.2 | 205 | 204.0 | 20.1 | 265 | 263.7 | 26.0 | 325 | 323.4 | 31.9 | 385 | 383.1 | 37.7 | 445 | 442.9 | 43.6 |
| 26 | 25.9 | 02.5 | 86 | 85.6 | 08.4 | 146 | 145.3 | 14.3 | 206 | 205.0 | 20.2 | 266 | 264.7 | 26.1 | 326 | 324.4 | 32.0 | 386 | 384.2 | 37.8 | 446 | 443.9 | 43.7 |
| 27 | 26.9 | 02.6 | 87 | 86.6 | 08.5 | 147 | 146.3 | 14.4 | 207 | 206.0 | 20.3 | 267 | 265.7 | 26.2 | 327 | 325.4 | 32.1 | 387 | 385.1 | 37.9 | 447 | 444.9 | 43.8 |
| 28 | 27.9 | 02.7 | 88 | 87.6 | 08.6 | 148 | 147.3 | 14.5 | 208 | 207.0 | 20.4 | 268 | 266.7 | 26.3 | 328 | 326.4 | 32.1 | 388 | 386.1 | 38.0 | 448 | 445.9 | 43.9 |
| 29 | 28.9 | 02.8 | 89 | 88.6 | 08.7 | 149 | 148.3 | 14.6 | 209 | 208.0 | 20.5 | 269 | 267.7 | 26.4 | 329 | 327.4 | 32.2 | 389 | 387.1 | 38.1 | 449 | 446.9 | 44.0 |
| 30 | 29.9 | 02.9 | 90 | 89.6 | 08.8 | 150 | 149.3 | 14.7 | 210 | 209.0 | 20.6 | 270 | 268.7 | 26.5 | 330 | 328.4 | 32.3 | 390 | 388.1 | 38.2 | 450 | 447.9 | 44.1 |
| 31 | 30.9 | 03.0 | 91 | 90.6 | 08.9 | 151 | 150.3 | 14.8 | 211 | 210.0 | 20.7 | 271 | 269.7 | 26.6 | 331 | 329.4 | 32.4 | 391 | 389.1 | 38.3 | 451 | 448.8 | 44.2 |
| 32 | 31.8 | 03.1 | 92 | 91.6 | 09.0 | 152 | 151.3 | 14.9 | 212 | 211.0 | 20.8 | 272 | 270.7 | 26.7 | 332 | 330.4 | 32.5 | 392 | 390.1 | 38.4 | 452 | 449.8 | 44.3 |
| 33 | 32.8 | 03.2 | 93 | 92.6 | 09.1 | 153 | 152.3 | 15.0 | 213 | 212.0 | 20.9 | 273 | 271.7 | 26.8 | 333 | 331.4 | 32.6 | 393 | 391.1 | 38.5 | 453 | 450.8 | 44.4 |
| 34 | 33.8 | 03.3 | 94 | 93.5 | 09.2 | 154 | 153.3 | 15.1 | 214 | 213.0 | 21.0 | 274 | 272.7 | 26.9 | 334 | 332.4 | 32.7 | 394 | 392.1 | 38.6 | 454 | 451.8 | 44.5 |
| 35 | 34.8 | 03.4 | 95 | 94.5 | 09.3 | 155 | 154.3 | 15.2 | 215 | 214.0 | 21.1 | 275 | 273.7 | 27.0 | 335 | 333.4 | 32.8 | 395 | 393.1 | 38.7 | 455 | 452.8 | 44.6 |
| 36 | 35.8 | 03.5 | 96 | 95.5 | 09.4 | 156 | 155.2 | 15.3 | 216 | 215.0 | 21.2 | 276 | 274.7 | 27.1 | 336 | 334.4 | 32.9 | 396 | 394.1 | 38.8 | 456 | 453.8 | 44.7 |
| 37 | 36.8 | 03.6 | 97 | 96.5 | 09.5 | 157 | 156.2 | 15.4 | 217 | 216.0 | 21.3 | 277 | 275.7 | 27.2 | 337 | 335.4 | 33.0 | 397 | 395.1 | 38.9 | 457 | 454.8 | 44.8 |
| 38 | 37.8 | 03.7 | 98 | 97.5 | 09.6 | 158 | 157.2 | 15.5 | 218 | 216.9 | 21.4 | 278 | 276.7 | 27.3 | 338 | 336.4 | 33.1 | 398 | 396.1 | 39.0 | 458 | 455.8 | 44.9 |
| 39 | 38.8 | 03.8 | 99 | 98.5 | 09.7 | 159 | 158.2 | 15.6 | 219 | 217.9 | 21.5 | 279 | 277.7 | 27.3 | 339 | 337.4 | 33.2 | 399 | 397.1 | 39.1 | 459 | 456.8 | 45.0 |
| 40 | 39.8 | 03.9 | 100 | 99.5 | 09.8 | 160 | 159.2 | 15.7 | 220 | 218.9 | 21.6 | 280 | 278.7 | 27.4 | 340 | 338.4 | 33.3 | 400 | 398.1 | 39.2 | 460 | 457.8 | 45.1 |
| 41 | 40.8 | 04.0 | 101 | 100.5 | 09.9 | 161 | 160.2 | 15.8 | 221 | 219.9 | 21.7 | 281 | 279.6 | 27.5 | 341 | 339.4 | 33.4 | 401 | 399.1 | 39.3 | 461 | 458.8 | 45.2 |
| 42 | 41.8 | 04.1 | 102 | 101.5 | 10.0 | 162 | 161.2 | 15.9 | 222 | 220.9 | 21.8 | 282 | 280.6 | 27.6 | 342 | 340.4 | 33.5 | 402 | 400.1 | 39.4 | 462 | 459.8 | 45.3 |
| 43 | 42.8 | 04.2 | 103 | 102.5 | 10.1 | 163 | 162.2 | 16.0 | 223 | 221.9 | 21.9 | 283 | 281.6 | 27.7 | 343 | 341.3 | 33.6 | 403 | 401.1 | 39.5 | 463 | 460.8 | 45.4 |
| 44 | 43.8 | 04.3 | 104 | 103.5 | 10.2 | 164 | 163.2 | 16.1 | 224 | 222.9 | 22.0 | 284 | 282.6 | 27.8 | 344 | 342.3 | 33.7 | 404 | 402.1 | 39.6 | 464 | 461.8 | 45.5 |
| 45 | 44.8 | 04.4 | 105 | 104.5 | 10.3 | 165 | 164.2 | 16.2 | 225 | 223.9 | 22.1 | 285 | 283.6 | 27.9 | 345 | 343.3 | 33.8 | 405 | 403.1 | 39.7 | 465 | 462.8 | 45.6 |
| 46 | 45.8 | 04.5 | 106 | 105.5 | 10.4 | 166 | 165.2 | 16.3 | 226 | 224.9 | 22.2 | 286 | 284.6 | 28.0 | 346 | 344.3 | 33.9 | 406 | 404.1 | 39.8 | 466 | 463.8 | 45.7 |
| 47 | 46.8 | 04.6 | 107 | 106.5 | 10.5 | 167 | 166.2 | 16.4 | 227 | 225.9 | 22.2 | 287 | 285.6 | 28.1 | 347 | 345.3 | 34.0 | 407 | 405.0 | 39.9 | 467 | 464.8 | 45.8 |
| 48 | 47.8 | 04.7 | 108 | 107.5 | 10.6 | 168 | 167.2 | 16.5 | 228 | 226.9 | 22.3 | 288 | 286.6 | 28.2 | 348 | 346.3 | 34.1 | 408 | 406.0 | 40.0 | 468 | 465.8 | 45.9 |
| 49 | 48.8 | 04.8 | 109 | 108.5 | 10.7 | 169 | 168.2 | 16.6 | 229 | 227.9 | 22.4 | 289 | 287.6 | 28.3 | 349 | 347.3 | 34.2 | 409 | 407.0 | 40.1 | 469 | 466.7 | 46.0 |
| 50 | 49.8 | 04.9 | 110 | 109.5 | 10.8 | 170 | 169.2 | 16.7 | 230 | 228.9 | 22.5 | 290 | 288.6 | 28.4 | 350 | 348.3 | 34.3 | 410 | 408.0 | 40.2 | 470 | 467.7 | 46.1 |
| 51 | 50.8 | 05.0 | 111 | 110.5 | 10.9 | 171 | 170.2 | 16.8 | 231 | 229.9 | 22.6 | 291 | 289.6 | 28.5 | 351 | 349.3 | 34.4 | 411 | 409.0 | 40.3 | 471 | 468.7 | 46.2 |
| 52 | 51.7 | 05.1 | 112 | 111.5 | 11.0 | 172 | 171.2 | 16.9 | 232 | 230.9 | 22.7 | 292 | 290.6 | 28.6 | 352 | 350.3 | 34.5 | 412 | 410.0 | 40.4 | 472 | 469.7 | 46.3 |
| 53 | 52.7 | 05.2 | 113 | 112.5 | 11.1 | 173 | 172.2 | 17.0 | 233 | 231.9 | 22.8 | 293 | 291.6 | 28.8 | 353 | 351.3 | 34.6 | 413 | 411.0 | 40.5 | 473 | 470.7 | 46.4 |
| 54 | 53.7 | 05.3 | 114 | 113.5 | 11.2 | 174 | 173.2 | 17.1 | 234 | 232.9 | 22.9 | 294 | 292.6 | 28.8 | 354 | 352.3 | 34.7 | 414 | 412.0 | 40.6 | 474 | 471.7 | 46.5 |
| 55 | 54.7 | 05.4 | 115 | 114.4 | 11.3 | 175 | 174.2 | 17.2 | 235 | 233.9 | 23.0 | 295 | 293.6 | 28.9 | 355 | 353.3 | 34.8 | 415 | 413.0 | 40.7 | 475 | 472.7 | 46.6 |
| 56 | 55.7 | 05.5 | 116 | 115.4 | 11.4 | 176 | 175.2 | 17.3 | 236 | 234.9 | 23.1 | 296 | 294.6 | 29.0 | 356 | 354.3 | 34.9 | 416 | 414.0 | 40.8 | 476 | 473.7 | 46.7 |
| 57 | 56.7 | 05.6 | 117 | 116.4 | 11.5 | 177 | 176.1 | 17.4 | 237 | 235.9 | 23.2 | 297 | 295.6 | 29.1 | 357 | 355.3 | 35.0 | 417 | 415.0 | 40.9 | 477 | 474.7 | 46.8 |
| 58 | 57.7 | 05.7 | 118 | 117.4 | 11.6 | 178 | 177.1 | 17.4 | 238 | 236.9 | 23.3 | 298 | 296.6 | 29.2 | 358 | 356.3 | 35.1 | 418 | 416.0 | 41.0 | 478 | 475.7 | 46.9 |
| 59 | 58.7 | 05.8 | 119 | 118.4 | 11.7 | 179 | 178.1 | 17.5 | 239 | 237.8 | 23.4 | 299 | 297.6 | 29.3 | 359 | 357.3 | 35.2 | 419 | 417.0 | 41.1 | 479 | 476.7 | 47.0 |
| 60 | 59.7 | 05.9 | 120 | 119.4 | 11.8 | 180 | 179.1 | 17.6 | 240 | 238.8 | 23.5 | 300 | 298.6 | 29.4 | 360 | 358.3 | 35.3 | 420 | 418.0 | 41.2 | 480 | 477.7 | 47.0 |

For 7½ Point.

For $\frac{3}{4}$ Points.

| Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 01.0 | 00.1 | 61 | 60.3 | 09.2 | 121 | 119.7 | 17.7 | 181 | 179.0 | 26.6 | 241 | 238.4 | 35.4 | 301 | 297.7 | 44.2 | 361 | 357.1 | 53.0 | 421 | 416.4 | 61.8 | | | |
| 2 | 02.0 | 00.3 | 62 | 61.3 | 09.3 | 122 | 120.7 | 17.9 | 182 | 180.0 | 26.7 | 242 | 239.4 | 35.5 | 302 | 298.7 | 44.3 | 362 | 358.1 | 53.1 | 422 | 417.4 | 61.9 | | | |
| 3 | 03.0 | 00.4 | 63 | 62.3 | 09.4 | 123 | 121.7 | 18.0 | 183 | 181.0 | 26.8 | 243 | 240.4 | 35.7 | 303 | 299.7 | 44.5 | 363 | 359.1 | 53.3 | 423 | 418.4 | 62.1 | | | |
| 4 | 04.0 | 00.6 | 64 | 63.3 | 09.4 | 124 | 122.7 | 18.2 | 184 | 182.0 | 27.0 | 244 | 241.4 | 35.8 | 304 | 300.7 | 44.6 | 364 | 360.1 | 53.4 | 424 | 419.4 | 62.2 | | | |
| 5 | 04.9 | 00.7 | 65 | 64.3 | 09.5 | 125 | 123.6 | 18.3 | 185 | 183.0 | 27.1 | 245 | 242.3 | 35.9 | 305 | 301.7 | 44.8 | 365 | 361.1 | 53.6 | 425 | 420.4 | 62.4 | | | |
| 6 | 05.9 | 00.9 | 66 | 65.3 | 09.7 | 126 | 124.6 | 18.5 | 186 | 184.0 | 27.3 | 246 | 243.3 | 36.1 | 306 | 302.7 | 44.9 | 366 | 362.1 | 53.7 | 426 | 421.4 | 62.5 | | | |
| 7 | 06.9 | 01.0 | 67 | 66.3 | 09.8 | 127 | 125.6 | 18.6 | 187 | 185.0 | 27.4 | 247 | 244.3 | 36.2 | 307 | 303.7 | 45.1 | 367 | 363.0 | 53.9 | 427 | 422.4 | 62.7 | | | |
| 8 | 07.9 | 01.2 | 68 | 67.3 | 10.0 | 128 | 126.6 | 18.8 | 188 | 186.0 | 27.6 | 248 | 245.3 | 36.4 | 308 | 304.7 | 45.2 | 368 | 364.0 | 54.0 | 428 | 423.4 | 62.8 | | | |
| 9 | 08.9 | 01.3 | 69 | 68.3 | 10.1 | 129 | 127.6 | 18.9 | 189 | 186.9 | 27.7 | 249 | 246.3 | 36.5 | 309 | 305.7 | 45.3 | 369 | 365.0 | 54.1 | 429 | 424.4 | 63.0 | | | |
| 10 | 09.9 | 01.5 | 70 | 69.3 | 10.3 | 130 | 128.6 | 19.1 | 190 | 187.9 | 27.9 | 250 | 247.3 | 36.7 | 310 | 306.7 | 45.5 | 370 | 366.0 | 54.3 | 430 | 425.3 | 63.1 | | | |
| 11 | 10.9 | 01.6 | 71 | 70.3 | 10.4 | 131 | 129.6 | 19.2 | 191 | 188.9 | 28.0 | 251 | 248.3 | 36.8 | 311 | 307.7 | 45.6 | 371 | 367.0 | 54.4 | 431 | 426.3 | 63.2 | | | |
| 12 | 11.9 | 01.8 | 72 | 71.3 | 10.6 | 132 | 130.6 | 19.4 | 192 | 189.9 | 28.2 | 252 | 249.3 | 37.0 | 312 | 308.7 | 45.8 | 372 | 368.0 | 54.6 | 432 | 427.3 | 63.4 | | | |
| 13 | 12.9 | 01.9 | 73 | 72.2 | 10.7 | 133 | 131.6 | 19.5 | 193 | 190.9 | 28.3 | 253 | 250.3 | 37.1 | 313 | 309.6 | 45.9 | 373 | 369.0 | 54.7 | 433 | 428.3 | 63.5 | | | |
| 14 | 13.9 | 02.1 | 74 | 73.2 | 10.9 | 134 | 132.5 | 19.7 | 194 | 191.9 | 28.5 | 254 | 251.3 | 37.3 | 314 | 310.6 | 46.1 | 374 | 370.0 | 54.9 | 434 | 429.3 | 63.7 | | | |
| 15 | 14.9 | 02.2 | 75 | 74.2 | 11.0 | 135 | 133.5 | 19.8 | 195 | 192.9 | 28.7 | 255 | 252.3 | 37.4 | 315 | 311.6 | 46.2 | 375 | 370.9 | 55.1 | 435 | 430.3 | 63.8 | | | |
| 16 | 15.8 | 02.3 | 76 | 75.2 | 11.1 | 136 | 134.5 | 20.0 | 196 | 193.9 | 28.8 | 256 | 253.2 | 37.6 | 316 | 312.6 | 46.4 | 376 | 371.9 | 55.2 | 436 | 431.3 | 64.0 | | | |
| 17 | 16.8 | 02.5 | 77 | 76.2 | 11.3 | 137 | 135.5 | 20.2 | 197 | 194.9 | 28.9 | 257 | 254.2 | 37.7 | 317 | 313.6 | 46.5 | 377 | 372.9 | 55.3 | 437 | 432.3 | 64.1 | | | |
| 18 | 17.8 | 02.6 | 78 | 77.2 | 11.4 | 138 | 136.5 | 20.3 | 198 | 195.9 | 29.0 | 258 | 255.2 | 37.9 | 318 | 314.6 | 46.7 | 378 | 373.9 | 55.5 | 438 | 433.3 | 64.3 | | | |
| 19 | 18.8 | 02.8 | 79 | 78.1 | 11.6 | 139 | 137.5 | 20.4 | 199 | 196.8 | 29.2 | 259 | 256.2 | 38.0 | 319 | 315.5 | 46.8 | 379 | 374.9 | 55.6 | 439 | 434.2 | 64.4 | | | |
| 20 | 19.8 | 02.9 | 80 | 79.1 | 11.7 | 140 | 138.5 | 20.6 | 200 | 197.8 | 29.3 | 260 | 257.2 | 38.1 | 320 | 316.5 | 47.0 | 380 | 375.9 | 55.8 | 440 | 435.2 | 64.6 | | | |
| 21 | 20.8 | 03.1 | 81 | 80.1 | 11.9 | 141 | 139.5 | 20.7 | 201 | 198.8 | 29.5 | 261 | 258.2 | 38.3 | 321 | 317.5 | 47.1 | 381 | 376.9 | 55.9 | 441 | 436.2 | 64.7 | | | |
| 22 | 21.8 | 03.2 | 82 | 81.1 | 12.0 | 142 | 140.5 | 20.9 | 202 | 199.8 | 29.6 | 262 | 259.2 | 38.4 | 322 | 318.5 | 47.3 | 382 | 377.9 | 56.1 | 442 | 437.2 | 64.9 | | | |
| 23 | 22.7 | 03.4 | 83 | 82.1 | 12.2 | 143 | 141.4 | 21.0 | 203 | 200.8 | 29.8 | 263 | 260.1 | 38.6 | 323 | 319.5 | 47.4 | 383 | 378.9 | 56.2 | 443 | 438.2 | 65.0 | | | |
| 24 | 23.7 | 03.5 | 84 | 83.1 | 12.3 | 144 | 142.4 | 21.2 | 204 | 201.8 | 29.9 | 264 | 261.1 | 38.7 | 324 | 320.5 | 47.5 | 384 | 379.8 | 56.4 | 444 | 439.2 | 65.2 | | | |
| 25 | 24.7 | 03.7 | 85 | 84.1 | 12.5 | 145 | 143.4 | 21.3 | 205 | 202.8 | 30.1 | 265 | 262.1 | 38.9 | 325 | 321.5 | 47.7 | 385 | 380.8 | 56.5 | 445 | 440.2 | 65.3 | | | |
| 26 | 25.7 | 03.8 | 86 | 85.1 | 12.6 | 146 | 144.4 | 21.4 | 206 | 203.8 | 30.2 | 266 | 263.1 | 39.0 | 326 | 322.5 | 47.8 | 386 | 381.8 | 56.6 | 446 | 441.2 | 65.4 | | | |
| 27 | 26.7 | 04.0 | 87 | 86.1 | 12.8 | 147 | 145.4 | 21.6 | 207 | 204.8 | 30.4 | 267 | 264.1 | 39.2 | 327 | 323.5 | 48.0 | 387 | 382.8 | 56.8 | 447 | 442.2 | 65.6 | | | |
| 28 | 27.7 | 04.1 | 88 | 87.1 | 12.9 | 148 | 146.4 | 21.7 | 208 | 205.7 | 30.5 | 268 | 265.1 | 39.3 | 328 | 324.5 | 48.1 | 388 | 383.8 | 56.9 | 448 | 443.2 | 65.7 | | | |
| 29 | 28.7 | 04.3 | 89 | 88.1 | 13.1 | 149 | 147.4 | 21.9 | 209 | 206.7 | 30.7 | 269 | 266.1 | 39.5 | 329 | 325.4 | 48.3 | 389 | 384.8 | 57.1 | 449 | 444.1 | 65.9 | | | |
| 30 | 29.7 | 04.4 | 90 | 89.1 | 13.2 | 150 | 148.4 | 22.0 | 210 | 207.7 | 30.8 | 270 | 267.1 | 39.6 | 330 | 326.4 | 48.4 | 390 | 385.8 | 57.2 | 450 | 445.1 | 66.0 | | | |
| 31 | 30.7 | 04.6 | 91 | 90.1 | 13.4 | 151 | 149.4 | 22.2 | 211 | 208.7 | 30.9 | 271 | 268.1 | 39.8 | 331 | 327.4 | 48.6 | 391 | 386.8 | 57.4 | 451 | 446.1 | 66.2 | | | |
| 32 | 31.7 | 04.7 | 92 | 91.1 | 13.5 | 152 | 150.3 | 22.3 | 212 | 209.7 | 31.1 | 272 | 269.1 | 39.9 | 332 | 328.4 | 48.7 | 392 | 387.8 | 57.5 | 452 | 447.1 | 66.3 | | | |
| 33 | 32.6 | 04.8 | 93 | 92.0 | 13.6 | 153 | 151.3 | 22.4 | 213 | 210.7 | 31.2 | 273 | 270.0 | 40.1 | 333 | 329.4 | 48.9 | 393 | 388.7 | 57.7 | 453 | 448.1 | 66.5 | | | |
| 34 | 33.6 | 05.0 | 94 | 93.0 | 13.8 | 154 | 152.3 | 22.6 | 214 | 211.7 | 31.4 | 274 | 271.0 | 40.2 | 334 | 330.4 | 49.0 | 394 | 389.7 | 57.8 | 454 | 449.1 | 66.6 | | | |
| 35 | 34.6 | 05.1 | 95 | 94.0 | 13.9 | 155 | 153.3 | 22.7 | 215 | 212.7 | 31.5 | 275 | 272.0 | 40.3 | 335 | 331.4 | 49.2 | 395 | 390.7 | 58.0 | 455 | 450.1 | 66.8 | | | |
| 36 | 35.6 | 05.3 | 96 | 95.0 | 14.1 | 156 | 154.3 | 22.9 | 216 | 213.7 | 31.7 | 276 | 273.0 | 40.5 | 336 | 332.4 | 49.3 | 396 | 391.7 | 58.1 | 456 | 451.1 | 66.9 | | | |
| 37 | 36.6 | 05.4 | 97 | 96.0 | 14.2 | 157 | 155.3 | 23.1 | 217 | 214.7 | 31.8 | 277 | 274.0 | 40.6 | 337 | 333.4 | 49.5 | 397 | 392.7 | 58.3 | 457 | 452.1 | 67.1 | | | |
| 38 | 37.6 | 05.6 | 98 | 97.0 | 14.4 | 158 | 156.3 | 23.2 | 218 | 215.6 | 32.0 | 278 | 275.0 | 40.8 | 338 | 334.4 | 49.6 | 398 | 393.7 | 58.4 | 458 | 453.1 | 67.2 | | | |
| 39 | 38.6 | 05.7 | 99 | 98.0 | 14.5 | 159 | 157.3 | 23.4 | 219 | 216.6 | 32.1 | 279 | 276.0 | 40.9 | 339 | 335.4 | 49.8 | 399 | 394.7 | 58.6 | 459 | 454.1 | 67.4 | | | |
| 40 | 39.6 | 05.9 | 100 | 99.0 | 14.7 | 160 | 158.3 | 23.5 | 220 | 217.6 | 32.3 | 280 | 277.0 | 41.1 | 340 | 336.4 | 49.9 | 400 | 395.7 | 58.7 | 460 | 455.1 | 67.5 | | | |
| 41 | 40.6 | 06.0 | 101 | 99.9 | 14.8 | 161 | 159.3 | 23.7 | 221 | 218.6 | 32.4 | 281 | 278.0 | 41.2 | 341 | 337.4 | 50.1 | 401 | 396.7 | 58.8 | 461 | 456.1 | 67.7 | | | |
| 42 | 41.5 | 06.2 | 102 | 100.9 | 15.0 | 162 | 160.2 | 23.8 | 222 | 219.6 | 32.6 | 282 | 278.9 | 41.4 | 342 | 338.3 | 50.2 | 402 | 397.7 | 59.0 | 462 | 457.0 | 67.8 | | | |
| 43 | 42.5 | 06.3 | 103 | 101.9 | 15.1 | 163 | 161.2 | 23.9 | 223 | 220.6 | 32.7 | 283 | 279.9 | 41.5 | 343 | 339.3 | 50.3 | 403 | 398.6 | 59.1 | 463 | 458.0 | 67.9 | | | |
| 44 | 43.5 | 06.5 | 104 | 102.9 | 15.3 | 164 | 162.2 | 24.1 | 224 | 221.6 | 32.9 | 284 | 280.9 | 41.7 | 344 | 340.3 | 50.5 | 404 | 399.6 | 59.3 | 464 | 459.0 | 68.1 | | | |
| 45 | 44.5 | 06.6 | 105 | 103.9 | 15.4 | 165 | 163.2 | 24.2 | 225 | 222.6 | 33.0 | 285 | 281.9 | 41.8 | 345 | 341.3 | 50.6 | 405 | 400.6 | 59.4 | 465 | 460.0 | 68.2 | | | |
| 46 | 45.4 | 06.8 | 106 | 104.9 | 15.6 | 166 | 164.2 | 24.4 | 226 | 223.5 | 33.2 | 286 | 282.9 | 42.0 | 346 | 342.2 | 50.8 | 406 | 401.6 | 59.6 | 466 | 461.0 | 68.4 | | | |
| 47 | 46.4 | 06.9 | 107 | 105.9 | 15.7 | 167 | 165.2 | 24.5 | 227 | 224.5 | 33.3 | 287 | 283.9 | 42.1 | 347 | 343.2 | 50.9 | 407 | 402.6 | 59.7 | 467 | 462.0 | 68.5 | | | |
| 48 | 47.4 | 07.1 | 108 | 106.9 | 15.9 | 168 | 166.2 | 24.7 | 228 | 225.5 | 33.4 | 288 | 284.9 | 42.3 | 348 | 344.2 | 51.1 | 408 | 403.6 | 59.9 | 468 | 463.0 | 68.7 | | | |
| 49 | 48.4 | 07.2 | 109 | 107.9 | 16.0 | 169 | 167.2 | 24.8 | 229 | 226.5 | 33.6 | 289 | 285.9 | 42.4 | 349 | 345.2 | 51.2 | 409 | 404.6 | 60.0 | 469 | 464.0 | 68.8 | | | |
| 50 | 49.3 | 07.4 | 110 | 108.9 | 16.2 | 170 | 168.2 | 25.0 | 230 | 227.5 | 33.7 | 290 | 286.9 | 42.6 | 350 | 346.2 | 51.4 | 410 | 405.6 | 60.2 | 470 | 465.0 | 69.0 | | | |
| 51 | 50.3 | 07.5 | 111 | 109.9 | 16.3 | 171 | 169.1 | 25.1 | 231 | 228.5 | 33.9 | 291 | 287.9 | 42.7 | 351 | 347.2 | 51.5 | 411 | 406.6 | 60.3 | 471 | 466.0 | 69.1 | | | |
| 52 | 51.3 | 07.7 | 112 | 110.9 | 16.5 | 172 | 170.1 | 25.3 | 232 | 229.5 | 34.0 | 292 | 288.9 | 42.9 | 352 | 348.2 | 51.7 | 412 | 407.6 | 60.5 | 472 | 467.0 | 69.3 | | | |
| 53 | 52.3 | 07.8 | 113 | 111.9 | 16.6 | 173 | 171.1 | 25.4 | 233 | 230.5 | 34.2 | 293 | 289.9 | 43.0 | 353 | 349.2 | 51.8 | 413 | 408.6 | 60.6 | 473 | 468.0 | 69.4 | | | |
| 54 | 53.3 | 08.0 | 114 | 112.9 | 16.8 | 174 | 172.1 | 25.6 | 234 | 231.5 | 34.3 | 294 | 290.9 | 43.1 | 354 | 350.2 | 51.9 | 414 | 409.6 | 60.8 | 474 | 469.0 | 69.6 | | | |
| 55 | 54.4 | 08.1 | 115 | 113.7 | 16.9 | 175 | 173.1 | 25.7 | 235 | 232.4 | 34.5 | 295 | 291.8 | 43.3 | 355 | 351.2 | 52.1 | 415 | 410.5 | 60.9 | 475 | 469.9 | 69.7 | | | |
| 56 | 55.4 | 08.3 | 116 | 114.7 | 17.1 | 176 | 174.1 | 25.8 | 236 | 233.4 | 34.6 | 296 | 292.8 | 43.4 | 356 | 352.2 | 52.2 | 416 | 411.5 | 61.1 | 476 | 470.9 | 69.8 | | | |
| 57 | 56.4 | 08.4 | 117 | 115.7 | 17.2 | 177 | 175.1 | 26.0 | 237 | 234.4 | 34.8 | 297 | 293.8 | 43.6 | 357 | 353.2 | 52.4 | 417 | 412.5 | 61.2 | 477 | 471.9 | 70.0 | | | |
| 58 | 57.4 | 08.6 | 118 | 116.7 | 17.4 | 178 | 176.1 | 26.1 | 238 | 235.4 | 34.9 | 298 | 294.8 | 43.7 | 358 | 354.2 | 52.5 | 418 | 413.5 | 61.4 | 478 | 472.9 | 70.1 | | | |
| 59 | 58.4 | 08.7 | 119 | 117.7 | 17.5 | 179 | 177.1 | 26.3 | 239 | 236.4 | 35.1 | 299 | 295.8 | 43.9 | 359 | 355.1 | 52.7 | 419 | 414.5 | 61.5 | 479 | 473.9 | 70.3 | | | |
| 60 | 59.4 | 08.9 | 120 | 118.7 | 17.7 | 180 | 178.0 | 26.4 | 240 | 237.4 | 35.2 | 300 | 296.8 | 44.0 | 360 | 356.1 | 52.8 | 420 | 415.5 | 61.7 | 480 | 474.9 | 70.4 | | | |

For $7\frac{1}{2}$ Points.

For 1 Point.



For 1 ¼ Point.

| Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1.0 | 0.0 | 61 | 59.2 | 14.8 | 121 | 117.4 | 29.4 | 181 | 175.6 | 44 | 241 | 233.8 | 58.5 | 301 | 292.0 | 73.1 | 361 | 350.2 | 87.7 | 421 | 408.4 | 102.2 |
| 2 | 2.0 | 0.5 | 62 | 60.1 | 15.1 | 122 | 118.3 | 29.6 | 182 | 176.5 | 44.2 | 242 | 234.7 | 58.7 | 302 | 293.0 | 73.3 | 362 | 351.2 | 87.9 | 422 | 409.4 | 102.4 |
| 3 | 2.9 | 0.7 | 63 | 61.1 | 15.3 | 123 | 119.3 | 29.9 | 183 | 177.5 | 44.4 | 243 | 235.7 | 59.0 | 303 | 293.9 | 73.5 | 363 | 352.2 | 88.1 | 423 | 410.3 | 102.6 |
| 4 | 3.9 | 1.0 | 64 | 62.1 | 15.6 | 124 | 120.3 | 30.1 | 184 | 178.5 | 44.7 | 244 | 236.7 | 59.2 | 304 | 294.9 | 73.8 | 364 | 353.2 | 88.4 | 424 | 411.3 | 102.9 |
| 5 | 4.9 | 1.2 | 65 | 63.1 | 15.8 | 125 | 121.3 | 30.4 | 185 | 179.5 | 44.9 | 245 | 237.7 | 59.5 | 305 | 295.9 | 74.0 | 365 | 354.2 | 88.6 | 425 | 412.3 | 103.1 |
| 6 | 5.9 | 1.5 | 66 | 64.0 | 16.0 | 126 | 122.2 | 30.6 | 186 | 180.4 | 45.1 | 246 | 238.6 | 59.7 | 306 | 296.8 | 74.2 | 366 | 355.1 | 88.8 | 426 | 413.2 | 103.4 |
| 7 | 6.8 | 1.7 | 67 | 65.0 | 16.3 | 127 | 123.2 | 30.9 | 187 | 181.4 | 45.4 | 247 | 239.6 | 59.9 | 307 | 297.8 | 74.5 | 367 | 356.1 | 89.1 | 427 | 414.2 | 103.6 |
| 8 | 7.8 | 2.0 | 68 | 66.0 | 16.5 | 128 | 124.2 | 31.1 | 188 | 182.4 | 45.6 | 248 | 240.6 | 60.2 | 308 | 298.8 | 74.7 | 368 | 357.1 | 89.3 | 428 | 415.2 | 103.9 |
| 9 | 8.8 | 2.2 | 69 | 66.9 | 16.8 | 129 | 125.1 | 31.4 | 189 | 183.4 | 45.9 | 249 | 241.5 | 60.4 | 309 | 299.8 | 75.0 | 369 | 358.1 | 89.6 | 429 | 416.1 | 104.1 |
| 10 | 9.7 | 2.4 | 70 | 67.9 | 17.0 | 130 | 126.1 | 31.6 | 190 | 184.3 | 46.1 | 250 | 242.5 | 60.7 | 310 | 300.7 | 75.2 | 370 | 359.0 | 89.8 | 430 | 417.1 | 104.4 |
| 11 | 10.7 | 2.7 | 71 | 68.9 | 17.3 | 131 | 127.1 | 31.8 | 191 | 185.3 | 46.4 | 251 | 243.5 | 60.9 | 311 | 301.7 | 75.5 | 371 | 360.0 | 90.1 | 431 | 418.1 | 104.6 |
| 12 | 11.7 | 2.9 | 72 | 69.8 | 17.5 | 132 | 128.0 | 32.1 | 192 | 186.3 | 46.6 | 252 | 244.4 | 61.2 | 312 | 302.7 | 75.7 | 372 | 361.0 | 90.3 | 432 | 419.0 | 104.9 |
| 13 | 12.6 | 3.2 | 73 | 70.8 | 17.7 | 133 | 129.0 | 32.3 | 193 | 187.2 | 46.9 | 253 | 245.4 | 61.4 | 313 | 303.6 | 76.0 | 373 | 361.9 | 90.6 | 433 | 420.0 | 105.1 |
| 14 | 13.6 | 3.4 | 74 | 71.8 | 18.0 | 134 | 129.9 | 32.5 | 194 | 188.2 | 47.1 | 254 | 246.4 | 61.7 | 314 | 304.6 | 76.2 | 374 | 362.9 | 90.8 | 434 | 421.0 | 105.4 |
| 15 | 14.6 | 3.7 | 75 | 72.8 | 18.2 | 135 | 130.9 | 32.8 | 195 | 189.2 | 47.4 | 255 | 247.4 | 61.9 | 315 | 305.6 | 76.5 | 375 | 363.9 | 91.1 | 435 | 421.9 | 105.7 |
| 16 | 15.5 | 3.9 | 76 | 73.7 | 18.5 | 136 | 131.9 | 33.0 | 196 | 190.2 | 47.6 | 256 | 248.3 | 62.2 | 316 | 306.5 | 76.7 | 376 | 364.8 | 91.3 | 436 | 422.9 | 105.9 |
| 17 | 16.5 | 4.1 | 77 | 74.7 | 18.7 | 137 | 132.9 | 33.3 | 197 | 191.1 | 47.9 | 257 | 249.3 | 62.4 | 317 | 307.5 | 77.0 | 377 | 365.8 | 91.6 | 437 | 423.8 | 106.2 |
| 18 | 17.4 | 4.4 | 78 | 75.7 | 19.0 | 138 | 133.8 | 33.5 | 198 | 192.1 | 48.1 | 258 | 250.3 | 62.7 | 318 | 308.5 | 77.2 | 378 | 366.8 | 91.8 | 438 | 424.8 | 106.4 |
| 19 | 18.4 | 4.6 | 79 | 76.6 | 19.2 | 139 | 134.8 | 33.8 | 199 | 193.1 | 48.4 | 259 | 251.2 | 62.9 | 319 | 309.4 | 77.5 | 379 | 367.7 | 92.1 | 439 | 425.7 | 106.7 |
| 20 | 19.4 | 4.9 | 80 | 77.6 | 19.5 | 140 | 135.8 | 34.0 | 200 | 194.0 | 48.6 | 260 | 252.2 | 63.2 | 320 | 310.4 | 77.7 | 380 | 368.7 | 92.3 | 440 | 426.7 | 106.9 |
| 21 | 20.4 | 5.1 | 81 | 78.6 | 19.7 | 141 | 136.8 | 34.3 | 201 | 195.0 | 48.8 | 261 | 253.2 | 63.4 | 321 | 311.4 | 78.0 | 381 | 369.7 | 92.6 | 441 | 427.7 | 107.2 |
| 22 | 21.3 | 5.3 | 82 | 79.5 | 19.9 | 142 | 137.7 | 34.5 | 202 | 195.9 | 49.1 | 262 | 254.1 | 63.7 | 322 | 312.3 | 78.2 | 382 | 370.6 | 92.8 | 442 | 428.6 | 107.4 |
| 23 | 22.3 | 5.6 | 83 | 80.5 | 20.2 | 143 | 138.7 | 34.7 | 203 | 196.9 | 49.3 | 263 | 255.1 | 63.9 | 323 | 313.3 | 78.5 | 383 | 371.6 | 93.1 | 443 | 429.6 | 107.7 |
| 24 | 23.3 | 5.8 | 84 | 81.5 | 20.4 | 144 | 139.7 | 35.0 | 204 | 197.9 | 49.6 | 264 | 256.1 | 64.2 | 324 | 314.3 | 78.7 | 384 | 372.6 | 93.3 | 444 | 430.5 | 107.9 |
| 25 | 24.3 | 6.1 | 85 | 82.5 | 20.7 | 145 | 140.7 | 35.2 | 205 | 198.9 | 49.8 | 265 | 257.1 | 64.4 | 325 | 315.3 | 79.0 | 385 | 373.5 | 93.6 | 445 | 431.5 | 108.2 |
| 26 | 25.2 | 6.3 | 86 | 83.4 | 20.9 | 146 | 141.6 | 35.5 | 206 | 199.8 | 50.1 | 266 | 258.0 | 64.7 | 326 | 316.2 | 79.2 | 386 | 374.5 | 93.8 | 446 | 432.4 | 108.4 |
| 27 | 26.2 | 6.6 | 87 | 84.4 | 21.1 | 147 | 142.6 | 35.7 | 207 | 200.8 | 50.3 | 267 | 259.0 | 64.9 | 327 | 317.2 | 79.5 | 387 | 375.4 | 94.1 | 447 | 433.4 | 108.6 |
| 28 | 27.2 | 6.8 | 88 | 85.4 | 21.4 | 148 | 143.6 | 36.0 | 208 | 201.8 | 50.5 | 268 | 260.0 | 65.1 | 328 | 318.2 | 79.7 | 388 | 376.4 | 94.3 | 448 | 434.4 | 108.9 |
| 29 | 28.1 | 7.0 | 89 | 86.4 | 21.6 | 149 | 144.5 | 36.2 | 209 | 202.8 | 50.8 | 269 | 260.9 | 65.4 | 329 | 319.2 | 80.0 | 389 | 377.4 | 94.5 | 449 | 435.3 | 109.1 |
| 30 | 29.1 | 7.3 | 90 | 87.3 | 21.9 | 150 | 145.5 | 36.5 | 210 | 203.8 | 51.0 | 270 | 261.9 | 65.6 | 330 | 320.1 | 80.2 | 390 | 378.3 | 94.8 | 450 | 436.3 | 109.4 |
| 31 | 30.1 | 7.5 | 91 | 88.3 | 22.1 | 151 | 146.5 | 36.7 | 211 | 204.7 | 51.3 | 271 | 262.9 | 65.9 | 331 | 321.1 | 80.5 | 391 | 379.3 | 95.0 | 451 | 437.3 | 109.6 |
| 32 | 31.0 | 7.8 | 92 | 89.2 | 22.4 | 152 | 147.4 | 36.9 | 212 | 205.7 | 51.5 | 272 | 263.8 | 66.1 | 332 | 322.1 | 80.7 | 392 | 380.3 | 95.3 | 452 | 438.2 | 109.9 |
| 33 | 32.0 | 8.0 | 93 | 90.2 | 22.6 | 153 | 148.4 | 37.2 | 213 | 206.7 | 51.8 | 273 | 264.8 | 66.4 | 333 | 323.0 | 80.9 | 393 | 381.2 | 95.5 | 453 | 439.2 | 110.1 |
| 34 | 33.0 | 8.3 | 94 | 91.2 | 22.8 | 154 | 149.4 | 37.4 | 214 | 207.7 | 52.0 | 274 | 265.8 | 66.6 | 334 | 324.0 | 81.1 | 394 | 382.2 | 95.8 | 454 | 440.2 | 110.4 |
| 35 | 34.0 | 8.5 | 95 | 92.2 | 23.1 | 155 | 150.4 | 37.7 | 215 | 208.6 | 52.2 | 275 | 266.8 | 66.8 | 335 | 325.0 | 81.4 | 395 | 383.2 | 96.0 | 455 | 441.1 | 110.6 |
| 36 | 34.9 | 8.8 | 96 | 93.1 | 23.3 | 156 | 151.3 | 37.9 | 216 | 209.6 | 52.5 | 276 | 267.7 | 67.1 | 336 | 325.9 | 81.6 | 396 | 384.1 | 96.2 | 456 | 442.1 | 110.8 |
| 37 | 35.9 | 9.0 | 97 | 94.1 | 23.6 | 157 | 152.3 | 38.2 | 217 | 210.6 | 52.7 | 277 | 268.7 | 67.3 | 337 | 326.9 | 81.8 | 397 | 385.1 | 96.4 | 457 | 443.1 | 111.1 |
| 38 | 36.9 | 9.2 | 98 | 95.1 | 23.8 | 158 | 153.3 | 38.4 | 218 | 211.6 | 52.9 | 278 | 269.7 | 67.6 | 338 | 327.9 | 82.1 | 398 | 386.1 | 96.7 | 458 | 444.1 | 111.3 |
| 39 | 37.8 | 9.5 | 99 | 96.1 | 24.1 | 159 | 154.3 | 38.6 | 219 | 212.5 | 53.2 | 279 | 270.7 | 67.8 | 339 | 328.9 | 82.3 | 399 | 387.1 | 96.9 | 459 | 445.1 | 111.5 |
| 40 | 38.8 | 9.7 | 100 | 97.0 | 24.3 | 160 | 155.2 | 38.9 | 220 | 213.5 | 53.4 | 280 | 271.6 | 68.0 | 340 | 329.8 | 82.6 | 400 | 388.0 | 97.2 | 460 | 446.0 | 111.7 |
| 41 | 39.8 | 10.0 | 101 | 98.0 | 24.6 | 161 | 156.2 | 39.1 | 221 | 214.5 | 53.7 | 281 | 272.6 | 68.3 | 341 | 330.8 | 82.8 | 401 | 389.0 | 97.4 | 461 | 447.0 | 112.0 |
| 42 | 40.7 | 10.2 | 102 | 98.9 | 24.8 | 162 | 157.2 | 39.4 | 222 | 215.5 | 53.9 | 282 | 273.6 | 68.5 | 342 | 331.8 | 83.1 | 402 | 390.0 | 97.7 | 462 | 448.0 | 112.2 |
| 43 | 41.7 | 10.4 | 103 | 99.9 | 25.0 | 163 | 158.1 | 39.6 | 223 | 216.4 | 54.2 | 283 | 274.5 | 68.8 | 343 | 332.7 | 83.3 | 403 | 390.9 | 97.9 | 463 | 448.9 | 112.4 |
| 44 | 42.7 | 10.7 | 104 | 100.8 | 25.3 | 164 | 159.1 | 39.8 | 224 | 217.4 | 54.4 | 284 | 275.5 | 69.0 | 344 | 333.7 | 83.5 | 404 | 391.9 | 98.1 | 464 | 449.9 | 112.7 |
| 45 | 43.7 | 10.9 | 105 | 101.8 | 25.5 | 165 | 160.1 | 40.1 | 225 | 218.4 | 54.7 | 285 | 276.5 | 69.3 | 345 | 334.7 | 83.8 | 405 | 392.9 | 98.4 | 465 | 450.9 | 112.9 |
| 46 | 44.6 | 11.2 | 106 | 102.8 | 25.8 | 166 | 161.0 | 40.3 | 226 | 219.3 | 54.9 | 286 | 277.4 | 69.5 | 346 | 335.6 | 84.0 | 406 | 393.9 | 98.6 | 466 | 451.8 | 113.2 |
| 47 | 45.6 | 11.4 | 107 | 103.8 | 26.0 | 167 | 162.0 | 40.6 | 227 | 220.3 | 55.2 | 287 | 278.4 | 69.8 | 347 | 336.6 | 84.3 | 407 | 394.8 | 98.9 | 467 | 452.8 | 113.4 |
| 48 | 46.6 | 11.7 | 108 | 104.7 | 26.3 | 168 | 163.0 | 40.8 | 228 | 221.3 | 55.4 | 288 | 279.4 | 70.0 | 348 | 337.6 | 84.5 | 408 | 395.8 | 99.1 | 468 | 453.8 | 113.7 |
| 49 | 47.5 | 11.9 | 109 | 105.7 | 26.5 | 169 | 163.9 | 41.1 | 229 | 222.2 | 55.7 | 289 | 280.4 | 70.3 | 349 | 338.5 | 84.8 | 409 | 396.8 | 99.4 | 469 | 454.7 | 113.9 |
| 50 | 48.5 | 12.2 | 110 | 106.7 | 26.8 | 170 | 164.9 | 41.3 | 230 | 223.2 | 55.9 | 290 | 281.3 | 70.5 | 350 | 339.5 | 85.0 | 410 | 397.7 | 99.6 | 470 | 455.7 | 114.2 |
| 51 | 49.5 | 12.4 | 111 | 107.7 | 27.0 | 171 | 165.9 | 41.6 | 231 | 224.2 | 56.2 | 291 | 282.3 | 70.8 | 351 | 340.5 | 85.3 | 411 | 398.7 | 99.9 | 471 | 456.7 | 114.4 |
| 52 | 50.4 | 12.7 | 112 | 108.6 | 27.3 | 172 | 166.8 | 41.8 | 232 | 225.1 | 56.4 | 292 | 283.3 | 71.0 | 352 | 341.5 | 85.5 | 412 | 399.7 | 100.1 | 472 | 457.6 | 114.7 |
| 53 | 51.4 | 12.9 | 113 | 109.6 | 27.5 | 173 | 167.8 | 42.1 | 233 | 226.1 | 56.7 | 293 | 284.2 | 71.3 | 353 | 342.4 | 85.8 | 413 | 400.6 | 100.4 | 473 | 458.6 | 114.9 |
| 54 | 52.4 | 13.2 | 114 | 110.6 | 27.8 | 174 | 168.8 | 42.3 | 234 | 227.1 | 56.9 | 294 | 285.2 | 71.5 | 354 | 343.4 | 86.0 | 414 | 401.6 | 100.6 | 474 | 459.6 | 115.2 |
| 55 | 53.4 | 13.4 | 115 | 111.6 | 28.0 | 175 | 169.8 | 42.6 | 235 | 228.0 | 57.2 | 295 | 286.2 | 71.8 | 355 | 344.4 | 86.3 | 415 | 402.6 | 100.9 | 475 | 460.6 | 115.4 |
| 56 | 54.3 | 13.7 | 116 | 112.5 | 28.3 | 176 | 170.7 | 42.8 | 236 | 229.0 | 57.4 | 296 | 287.1 | 71.9 | 356 | 345.3 | 86.5 | 416 | 403.6 | 101.1 | 476 | 461.5 | 115.7 |
| 57 | 55.3 | 13.9 | 117 | 113.5 | 28.5 | 177 | 171.7 | 43.1 | 237 | 230.0 | 57.7 | 297 | 288.1 | 72.2 | 357 | 346.3 | 86.7 | 417 | 404.5 | 101.3 | 477 | 462.5 | 115.9 |
| 58 | 56.3 | 14.2 | 118 | 114.5 | 28.8 | 178 | 172.7 | 43.3 | 238 | 230.9 | 57.9 | 298 | 289.1 | 72.4 | 358 | 347.3 | 86.9 | 418 | 405.5 | 101.6 | 478 | 463.5 | 116.1 |
| 59 | 57.2 | 14.4 | 119 | 115.4 | 29.0 | 179 | 173.6 | 43.6 | 239 | 231.9 | 58.2 | 299 | 290.0 | 72.7 | 359 | 348.3 | 87.2 | 419 | 406.5 | 101.8 | 479 | 464.4 | 116.3 |
| 60 | 58.2 | 14.7 | 120 | 116.4 | 29.3 | 180 | 174.6 | 43.8 | 240 | 232.8 | 58.4 | 300 | 291.0 | 72.9 | 360 | 349.2 | 87.4 | 420 | 407.4 | 102.0 | 480 | 465.4 | 116.6 |
| Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. |

For 6 ¼ Points.

For 1 $\frac{1}{2}$ Point.

| | | | | | | | | | | | | | | | | | | | | | | | |
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For $1\frac{8}{4}$ Point.

| Dist. | Lat. | Dep. | Dist. | Lat. | Dep. | Dist. | Lat. | Dep. | Dist. | Lat. | Dep. | Dist. | Lat. | Dep. | Dist. | Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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For 4 Points.



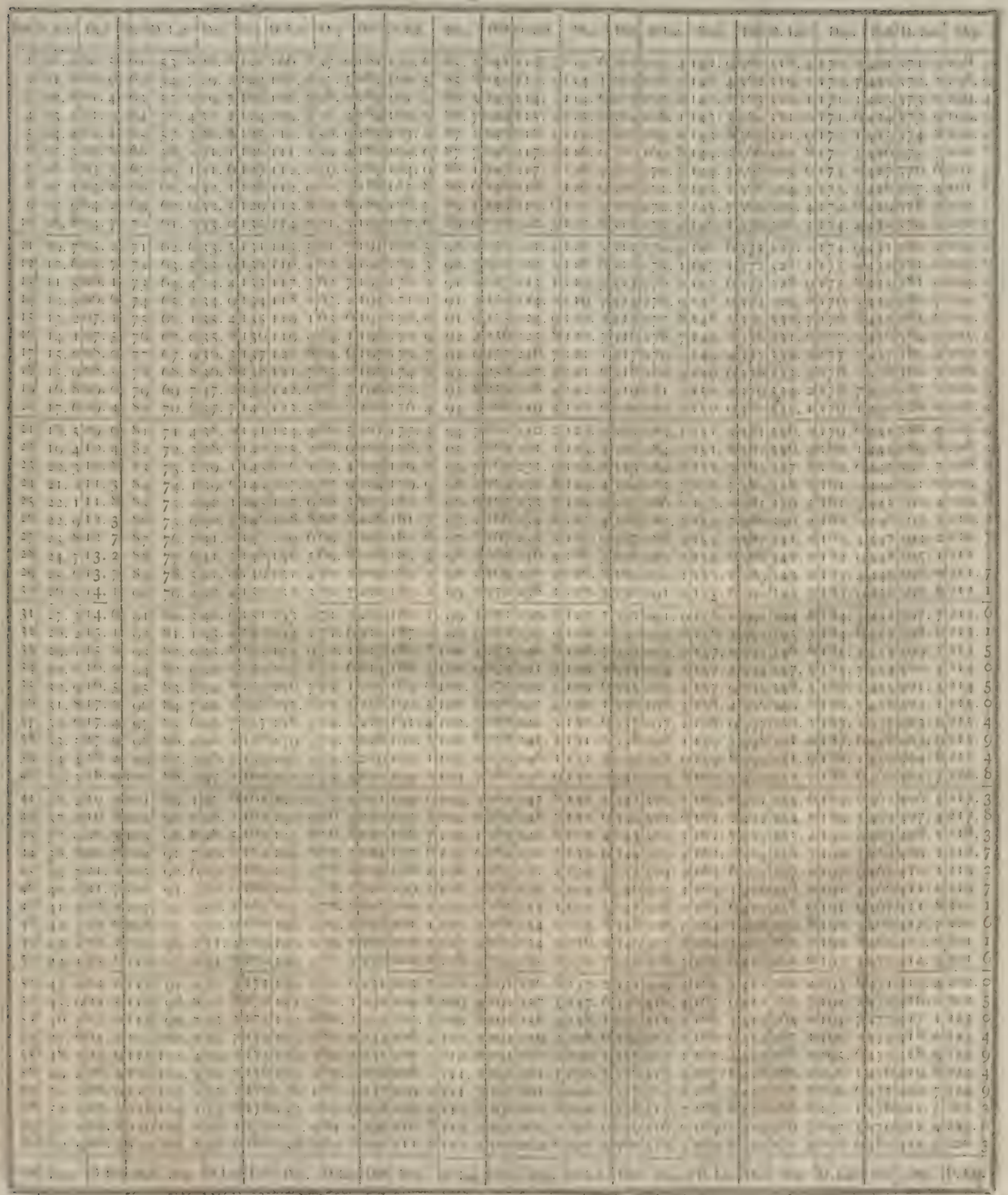
For 6 Points.

For 2 $\frac{1}{4}$ Points.

| Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 61 | 55. 1 | 26. 1 | | | 51. 7 | 121 | 163. 6 | 77. 4 | 241 | 217. 6 | 103. 0 | 301 | 272. 1 | 128. 7 | | | 154. 3 | 421 | 380. 6 | 180. 0 |
| 2 | | | 62 | 56. 0 | 26. 5 | | | 52. 4 | 122 | 164. 5 | 77. 8 | 242 | 218. 5 | 103. 5 | 302 | 273. 0 | 129. 1 | | | 154. 9 | | | 180. 4 |
| 3 | 02 | 01 | 63 | 56. 9 | 26. 9 | 123 | 111. 2 | 52. 6 | 123 | 165. 4 | 78. 3 | 243 | 219. 7 | 103. 9 | 303 | 273. 9 | 129. 5 | | | 155. 2 | 423 | 382. 4 | 180. 9 |
| 4 | 03 | 01 | 64 | 57. 8 | 27. 4 | 124 | 112. 1 | 53. 1 | 124 | 166. 3 | 78. 7 | 244 | 220. 6 | 104. 3 | 304 | 274. 8 | 130. 0 | | | 155. 6 | 424 | 383. 3 | 181. 3 |
| 5 | 04 | 02 | 65 | 58. 7 | 27. 8 | 125 | 113. 0 | 53. 5 | 125 | 167. 2 | 79. 1 | 245 | 221. 5 | 104. 8 | 305 | 275. 7 | 130. 4 | 365 | 330. 1 | 156. 1 | 425 | 384. 2 | 181. 7 |
| 6 | 05 | 02 | 66 | 59. 6 | 28. 2 | 126 | 113. 9 | 53. 9 | 126 | 168. 1 | 79. 5 | 246 | 222. 4 | 105. 2 | 306 | 276. 6 | 130. 8 | 366 | 330. 9 | 156. 5 | 426 | 385. 1 | 182. 1 |
| 7 | 06 | 03 | 67 | 60. 5 | 28. 6 | 127 | 114. 8 | 54. 3 | 127 | 169. 0 | 80. 0 | 247 | 223. 3 | 105. 6 | 307 | 277. 5 | 131. 2 | 367 | 331. 8 | 156. 9 | 427 | 386. 0 | 182. 5 |
| 8 | 07 | 03 | 68 | 61. 5 | 29. 1 | 128 | 115. 7 | 54. 7 | 128 | 169. 9 | 80. 4 | 248 | 224. 2 | 106. 0 | 308 | 278. 4 | 131. 7 | 368 | 332. 7 | 157. 3 | 428 | 386. 9 | 183. 0 |
| 9 | 08 | 04 | 69 | 62. 4 | 29. 5 | 129 | 116. 6 | 55. 2 | 129 | 170. 8 | 80. 8 | 249 | 225. 1 | 106. 5 | 309 | 279. 3 | 132. 1 | 369 | 333. 6 | 157. 8 | 429 | 387. 8 | 183. 4 |
| 10 | 09. 0 | 04. 2 | 70 | 63. 3 | 29. 9 | 130 | 117. 5 | 55. 6 | 130 | 171. 8 | 81. 2 | 250 | 226. 0 | 106. 9 | 310 | 280. 2 | 132. 5 | 370 | 334. 5 | 158. 2 | 430 | 388. 7 | 183. 8 |
| 11 | 10. 0 | 04. 7 | 71 | 64. 2 | 30. 4 | 131 | 118. 4 | 56. 0 | 131 | 172. 7 | 81. 7 | 251 | 226. 9 | 107. 3 | 311 | 281. 1 | 133. 0 | 371 | 335. 4 | 158. 6 | 431 | 389. | |
| 12 | 10. 9 | 05. 1 | 72 | 65. 1 | 30. 8 | 132 | 119. 3 | 56. 4 | 132 | 173. 6 | 82. 1 | 252 | 227. 8 | 107. 8 | 312 | 282. 1 | 133. | 372 | 336. 3 | 159. 0 | 432 | 390. 5 | |
| 13 | 11. 9 | 05. 6 | 73 | 66. 0 | 31. 2 | 133 | 120. 2 | 56. 8 | 133 | 174. 5 | 82. 5 | 253 | 228. 7 | 108. 2 | 313 | 283. 0 | 133. 9 | 373 | 337. | 159. 5 | 433 | 391. 4 | |
| 14 | 12. 8 | 06. 0 | 74 | 66. 9 | 31. 6 | 134 | 121. 1 | 57. 2 | 134 | 175. 4 | 82. 9 | 254 | 229. 6 | 108. 6 | 314 | 283. 9 | 134. 2 | 374 | 337. 9 | 159. 9 | 434 | 392. 3 | |
| 15 | 13. 8 | 06. 4 | 75 | 67. 8 | 32. 1 | 135 | 122. 0 | 57. 7 | 135 | 176. 3 | 83. 4 | 255 | 230. 5 | 109. 0 | 315 | 284. 8 | 134. 7 | 375 | 339. 0 | 160. 3 | 435 | 393. 2 | |
| 16 | 14. 7 | 06. 9 | 76 | 68. 7 | 32. 5 | 136 | 122. 9 | 58. 1 | 136 | 177. 2 | 83. 8 | 256 | 231. | 109. 5 | 316 | 285. 7 | 135. 1 | 376 | 339. 9 | 160. 8 | 436 | 394. | |
| 17 | 15. 7 | 07. 3 | 77 | 69. 6 | 32. 9 | 137 | 123. 8 | 58. 5 | 137 | 178. 1 | 84. 2 | 257 | 232. 3 | 109. 9 | 317 | 286. 6 | 135. 5 | 377 | 340. 8 | 161. 2 | 437 | 395. | |
| 18 | 16. 7 | 07. 7 | 78 | 70. 5 | 33. 3 | 138 | 124. 7 | 59. 0 | 138 | 179. 0 | 84. 7 | 258 | 233. 2 | 110. 3 | 318 | 287. 5 | 136. 0 | 378 | 341. 7 | 161. 6 | 438 | 396. | |
| 19 | 17. 6 | 08. 1 | 79 | 71. 4 | 33. 8 | 139 | 125. 6 | 59. 4 | 139 | 179. 9 | 85. 1 | 259 | 234. 1 | 110. 7 | 319 | 288. 4 | 136. 4 | 379 | 342. 6 | 162. 0 | 439 | 396. | |
| 20 | 18. 5 | 08. 5 | 80 | 72. 3 | 34. 2 | 140 | 126. 5 | 59. 8 | 140 | 180. 8 | 85. 5 | 260 | 235. 0 | 111. 2 | 320 | 289. 3 | 136. 8 | 380 | 343. 5 | 162. 5 | 440 | 397. | |
| 21 | 19. 5 | 08. 9 | 81 | 73. 2 | 34. 6 | 141 | 127. 4 | 60. 3 | 141 | 181. 7 | 85. 9 | 261 | 235. 9 | 111. 6 | 321 | 290. 2 | 137. 3 | 381 | 344. 4 | 162. 9 | 441 | 398. 7 | |
| 22 | 20. 4 | 09. 3 | 82 | 74. 1 | 35. 0 | 142 | 128. 3 | 60. 7 | 142 | 182. 6 | 86. 4 | 262 | 236. 8 | 112. 0 | 322 | 291. 1 | 137. | 382 | 345. 3 | 163. | 442 | 399. | |
| 23 | 21. 4 | 09. 7 | 83 | 75. 0 | 35. 4 | 143 | 129. 2 | 61. 1 | 143 | 183. 5 | 86. 8 | 263 | 237. 7 | 112. 4 | 323 | 292. 0 | 138. | 383 | 346. 2 | 163. 4 | 443 | 400. | |
| 24 | 22. 3 | 10. 1 | 84 | 75. 9 | 35. 8 | 144 | 130. 1 | 61. 5 | 144 | 184. 4 | 87. 2 | 264 | 238. 6 | 112. 8 | 324 | 292. 9 | 138. 4 | 384 | 347. 1 | 164. | 444 | 401. | |
| 25 | 23. 2 | 10. 5 | 85 | 76. 8 | 36. 2 | 145 | 131. 0 | 62. 0 | 145 | 185. 3 | 87. 7 | 265 | 239. 6 | 113. 3 | 325 | 293. 8 | 138. 9 | 385 | 348. 0 | 164. 4 | 445 | 402. | |
| 26 | 24. 2 | 10. 9 | 86 | 77. 7 | 36. 6 | 146 | 131. 9 | 62. 4 | 146 | 186. 2 | 88. 1 | 266 | 240. 5 | 113. 7 | 326 | 294. 7 | 139. 3 | 386 | 348. 9 | 165. | 446 | 402. | |
| 27 | 25. 1 | 11. 4 | 87 | 78. 6 | 37. 0 | 147 | 132. 8 | 62. 8 | 147 | 187. 1 | 88. 5 | 267 | 241. 4 | 114. 1 | 327 | 295. 6 | 139. 7 | 387 | 349. 9 | 165. 4 | 447 | 403. | |
| 28 | 26. 1 | 11. 8 | 88 | 79. 5 | 37. 4 | 148 | 133. 7 | 63. 2 | 148 | 188. 0 | 88. 9 | 268 | 242. 3 | 114. 5 | 328 | 296. 5 | 140. 1 | 388 | 350. 8 | 165. 9 | 448 | 404. | |
| 29 | 27. 0 | 12. 2 | 89 | 80. 4 | 37. 8 | 149 | 134. 6 | 63. 6 | 149 | 188. 9 | 89. 3 | 269 | 243. 2 | 115. 0 | 329 | 297. 4 | 140. 6 | 389 | 351. 7 | 166. 3 | 449 | 404. | |
| 30 | 27. 9 | 12. 6 | 90 | 81. 3 | 38. 3 | 150 | 135. 5 | 64. 1 | 150 | 189. 8 | 89. 8 | 270 | 244. 1 | 115. 4 | 330 | 298. 3 | 141. 0 | 390 | 352. 6 | 166. 7 | 450 | 405. | |
| 31 | 28. 9 | 13. 0 | 91 | 82. 2 | 38. 7 | 151 | 136. 4 | 64. 5 | 151 | 190. 7 | 90. 2 | 271 | 245. 0 | 115. 9 | 331 | 299. 2 | 141. 5 | | 353. 5 | 167. 2 | | | |
| 32 | 29. 8 | 13. 4 | 92 | 83. 1 | 39. 1 | 152 | 137. 4 | 65. 0 | 212 | 191. 6 | 90. 6 | 272 | 245. 9 | 116. 3 | 332 | 300. 1 | 141. 9 | | | | | | |
| 33 | 29. 8 | 13. 8 | 93 | 84. 0 | 39. 5 | 153 | 138. 3 | 65. 4 | 213 | 192. 6 | 91. 1 | 273 | 246. 8 | 116. 7 | 333 | 301. 0 | 142. 3 | | | | | | |
| 34 | 30. 7 | 14. 2 | 94 | 84. 9 | 39. 9 | 154 | 139. 2 | 65. 9 | 214 | 193. 5 | 91. 5 | 274 | 247. 7 | 117. 1 | 334 | 301. 9 | 142. 7 | | | | | | |
| 35 | 31. 7 | 14. 6 | 95 | 85. 8 | 40. 3 | 155 | 140. 1 | 66. 3 | 215 | 194. 4 | 91. 9 | 275 | 248. 6 | 117. 6 | 335 | 302. 8 | 143. 2 | | | | | | |
| 36 | 32. 6 | 15. 0 | 96 | 86. 7 | 40. 7 | 156 | 141. 0 | 66. 7 | 216 | 195. 3 | 92. 4 | 276 | 249. 5 | 118. 0 | 336 | 303. 7 | 143. 6 | | | | | | |
| 37 | 33. 6 | 15. 5 | 97 | 87. 6 | 41. 1 | 157 | 141. 9 | 67. 1 | 217 | 196. 2 | 92. 8 | 277 | 250. 4 | 118. 4 | 337 | 304. 6 | 144. 0 | | | | | | |
| 38 | 34. 5 | 15. 9 | 98 | 88. 5 | 41. 9 | 158 | 142. 8 | 67. 6 | 218 | 197. 1 | 93. 2 | 278 | 251. 3 | 118. 8 | 338 | 305. 5 | 144. 5 | | | | | | |
| 39 | 35. 4 | 16. 3 | 99 | 89. 4 | 42. 3 | 159 | 143. 7 | 68. 0 | 219 | 198. 0 | 93. 6 | 279 | 252. 2 | 119. 3 | 339 | 306. 4 | 144. 9 | | | | | | |
| 40 | 36. 4 | 16. 7 | 100 | 90. 3 | 42. 7 | 160 | 144. 6 | 68. 4 | 220 | 198. 9 | 94. 1 | 280 | 253. 1 | 119. 7 | 340 | 307. 3 | 145. 3 | | | | | | |
| 41 | 37. 3 | 17. 1 | 101 | 91. 2 | 43. 2 | 161 | 145. 5 | 68. 8 | 221 | 199. 8 | 94. 5 | 281 | 254. 0 | 120. 1 | 341 | 308. 2 | 145. 8 | | | | | | |
| 42 | 38. 3 | 17. 5 | 102 | 92. 1 | 43. 6 | 162 | 146. 4 | 69. 3 | 222 | 200. 7 | 94. 9 | 282 | 254. 9 | 120. 5 | 342 | 309. 1 | 146. 2 | | | | | | |
| 43 | 38. | 17. 9 | 103 | 93. 0 | 44. 0 | 163 | 147. 3 | 69. 7 | 223 | 201. 6 | 95. 4 | 283 | 255. 8 | 121. 0 | 343 | 310. 0 | 146. 6 | | | | | | |
| 44 | 39. | 18. 3 | 104 | 94. 0 | 44. 5 | 164 | 148. 3 | 70. 1 | 224 | 202. 5 | 95. 8 | 284 | 256. 7 | 121. 4 | 344 | 310. 9 | 147. 1 | | | | | | |
| 45 | 40. 7 | 18. 7 | 105 | 94. 9 | 44. 9 | 165 | 149. 2 | 70. 6 | 225 | 203. 4 | 96. 2 | 285 | 257. 6 | 121. 8 | 345 | 311. 8 | 147. 5 | | | | | | |
| 46 | 41. | 19. 1 | 106 | 95. 8 | 45. 3 | 166 | 150. 1 | 71. 0 | 226 | 204. | 96. 6 | 286 | 258. 5 | 122. 2 | 346 | 312. 7 | 147. 9 | | | | | | |
| 47 | 42. | 19. 5 | 107 | 96. 7 | 45. 7 | 167 | 151. 0 | 71. 4 | 227 | 205. | 97. 1 | 287 | 259. 4 | 122. 7 | 347 | 313. 6 | 148. 3 | | | | | | |
| 48 | 42. 9 | 19. 9 | 108 | 97. 6 | 46. 1 | 168 | 151. 9 | 71. 8 | 228 | 206. | 97. 5 | 288 | 260. 3 | 123. 1 | 348 | 314. 5 | 148. 7 | | | | | | |
| 49 | 43. 9 | 20. 3 | 109 | 98. 5 | 46. 6 | 169 | 152. 8 | 72. 3 | 229 | 207. | 97. 9 | 289 | 261. 2 | 123. 5 | 349 | 315. 4 | 149. 1 | | | | | | |
| 50 | 44. 8 | 20. 7 | 110 | 99. 4 | 47. | | | | | | | 290 | 262. | 124. | | | | | | | | | |
| 51 | 45. 8 | 21. 1 | 111 | 100. 3 | 47. 4 | | | | | | | 291 | 263. | 124. 4 | | | | | | | | | |
| 52 | 46. 7 | 21. 5 | 112 | 101. 2 | 47. 8 | | | | | | | 292 | 264. | 124. 8 | 352 | 317. 8 | 150. 2 | | | | | | |
| 53 | 47. 7 | 21. 9 | 113 | 102. 1 | 48. 2 | | | | | | | 293 | 264. | 125. 2 | 353 | 318. 7 | 150. 6 | | | | | | |
| 54 | 48. 6 | 22. 3 | 114 | 103. 0 | 48. 6 | | | | | | | 294 | 265. 8 | 125. 6 | 354 | 319. 6 | 151. 0 | | | | | | |
| 55 | 49. 6 | 22. 8 | 115 | 103. 9 | 49. 0 | | | | | | | 295 | 266. 7 | 126. 0 | 355 | 320. 5 | 151. 4 | | | | | | |
| 56 | 50. 5 | 23. 2 | 116 | 104. | 49. 4 | 176 | 159. 1 | 75. 3 | 236 | 213. 3 | 100. 9 | 296 | 267. 6 | 126. 4 | 356 | 321. 4 | 151. 8 | | | | | | |
| 57 | 51. 5 | 23. 6 | 117 | 105. | 49. 8 | 177 | 160. 0 | 75. 7 | 237 | 214. 2 | 101. 3 | 297 | 268. 5 | 126. 9 | 357 | 322. 3 | 152. 2 | | | | | | |
| 58 | 52. 4 | 24. | | | | 178 | 160. 9 | 76. 1 | 238 | 215. 1 | 101. 8 | 298 | 269. 4 | 127. 3 | 358 | 323. 2 | 152. 6 | | | | | | |
| 59 | 53. 4 | 25. 2 | 119 | 107. 6 | | 179 | 161. 8 | 76. 5 | 239 | 216. 1 | 102. 2 | 299 | 270. 3 | | 359 | 324. 1 | 153. | | | | | | |
| 60 | 54. 3 | 25. 7 | 120 | 108. 5 | | | | | | | | | | | 360 | 325. | 153. 4 | | | | | | |
| Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. |

For 5 $\frac{3}{4}$ Points.

For 4 ¼ Points.



For 5 ¼ Points.

For 2 ¼ Points.



For 5 ½ Points.

For 3 Points.



For 5 Points.

For $3\frac{1}{4}$ Points.

| D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 01.0 | 00.8 | 61 | 49.5 | 36.1 | 121 | 97.5 | 72.1 | 181 | 145.4 | 107.8 | 241 | 193.6 | 143.6 | 301 | 241.8 | 179.3 | 361 | 289.9 | 215.1 |
| 2 | 02.0 | 01.7 | 62 | 49.8 | 37.0 | 122 | 98.0 | 72.9 | 182 | 146.2 | 108.5 | 242 | 194.4 | 144.1 | 302 | 242.6 | 179.9 | 362 | 290.7 | 215.7 |
| 3 | 02.4 | 02.1 | 63 | 50.6 | 37.5 | 123 | 98.8 | 73.3 | 183 | 147.0 | 109.1 | 243 | 195.2 | 144.8 | 303 | 243.4 | 180.5 | 363 | 291.5 | 216.3 |
| 4 | 03.2 | 02.4 | 64 | 51.4 | 38.1 | 124 | 99.6 | 73.9 | 184 | 147.8 | 109.6 | 244 | 196.0 | 145.4 | 304 | 244.2 | 181.1 | 364 | 292.4 | 216.8 |
| 5 | 04.0 | 03.0 | 65 | 52.2 | 38.7 | 125 | 100.4 | 74.5 | 185 | 148.6 | 110.2 | 245 | 196.8 | 146.0 | 305 | 245.0 | 181.7 | 365 | 293.2 | 217.4 |
| 6 | 04.8 | 03.6 | 66 | 53.0 | 39.3 | 126 | 101.2 | 75.1 | 186 | 149.4 | 110.8 | 246 | 197.6 | 146.5 | 306 | 245.8 | 182.3 | 366 | 294.0 | 218.0 |
| 7 | 05.6 | 04.2 | 67 | 53.8 | 39.9 | 127 | 102.0 | 75.7 | 187 | 150.2 | 111.4 | 247 | 198.4 | 147.1 | 307 | 246.6 | 182.9 | 367 | 294.8 | 218.6 |
| 8 | 06.4 | 04.8 | 68 | 54.6 | 40.5 | 128 | 102.8 | 76.3 | 188 | 151.0 | 112.0 | 248 | 199.2 | 147.7 | 308 | 247.4 | 183.5 | 368 | 295.6 | 219.2 |
| 9 | 07.2 | 05.4 | 69 | 55.4 | 41.1 | 129 | 103.6 | 76.9 | 189 | 151.8 | 112.6 | 249 | 200.0 | 148.3 | 309 | 248.2 | 184.1 | 369 | 296.4 | 219.8 |
| 10 | 08.0 | 06.0 | 70 | 56.2 | 41.7 | 130 | 104.4 | 77.4 | 190 | 152.6 | 113.2 | 250 | 200.8 | 148.9 | 310 | 249.0 | 184.7 | 370 | 297.2 | 220.4 |
| 11 | 08.8 | 06.5 | 71 | 57.0 | 42.3 | 131 | 105.2 | 78.0 | 191 | 153.4 | 113.8 | 251 | 201.6 | 149.5 | 311 | 249.8 | 185.3 | 371 | 298.0 | 221.0 |
| 12 | 09.6 | 07.1 | 72 | 57.8 | 42.9 | 132 | 106.0 | 78.6 | 192 | 154.2 | 114.4 | 252 | 202.4 | 150.1 | 312 | 250.6 | 185.9 | 372 | 298.8 | 221.6 |
| 13 | 10.4 | 07.7 | 73 | 58.6 | 43.5 | 133 | 106.8 | 79.2 | 193 | 155.0 | 115.0 | 253 | 203.2 | 150.7 | 313 | 251.4 | 186.5 | 373 | 299.6 | 222.2 |
| 14 | 11.2 | 08.3 | 74 | 59.4 | 44.1 | 134 | 107.6 | 79.8 | 194 | 155.8 | 115.6 | 254 | 204.0 | 151.3 | 314 | 252.2 | 187.1 | 374 | 300.4 | 222.8 |
| 15 | 12.0 | 08.9 | 75 | 60.2 | 44.7 | 135 | 108.4 | 80.4 | 195 | 156.6 | 116.2 | 255 | 204.8 | 151.9 | 315 | 253.0 | 187.7 | 375 | 301.2 | 223.4 |
| 16 | 12.8 | 09.5 | 76 | 61.0 | 45.3 | 136 | 109.2 | 81.0 | 196 | 157.4 | 116.8 | 256 | 205.6 | 152.5 | 316 | 253.8 | 188.3 | 376 | 302.0 | 224.0 |
| 17 | 13.7 | 10.1 | 77 | 61.8 | 45.9 | 137 | 110.0 | 81.6 | 197 | 158.2 | 117.4 | 257 | 206.4 | 153.1 | 317 | 254.6 | 188.8 | 377 | 302.8 | 224.6 |
| 18 | 14.5 | 10.7 | 78 | 62.6 | 46.5 | 138 | 110.8 | 82.2 | 198 | 159.0 | 118.0 | 258 | 207.2 | 153.7 | 318 | 255.4 | 189.4 | 378 | 303.6 | 225.2 |
| 19 | 15.3 | 11.3 | 79 | 63.4 | 47.1 | 139 | 111.6 | 82.8 | 199 | 159.8 | 118.6 | 259 | 208.0 | 154.3 | 319 | 256.2 | 190.0 | 379 | 304.4 | 225.8 |
| 20 | 16.1 | 11.9 | 80 | 64.3 | 47.7 | 140 | 112.4 | 83.4 | 200 | 160.6 | 119.1 | 260 | 208.8 | 154.9 | 320 | 257.0 | 190.6 | 380 | 305.2 | 226.4 |
| 21 | 16.9 | 12.5 | 81 | 65.1 | 48.3 | 141 | 113.2 | 84.0 | 201 | 161.4 | 119.7 | 261 | 209.6 | 155.5 | 321 | 257.8 | 191.2 | 381 | 306.0 | 227.0 |
| 22 | 17.7 | 13.1 | 82 | 65.9 | 48.9 | 142 | 114.0 | 84.6 | 202 | 162.2 | 120.3 | 262 | 210.4 | 156.1 | 322 | 258.6 | 191.8 | 382 | 306.8 | 227.6 |
| 23 | 18.5 | 13.7 | 83 | 66.7 | 49.4 | 143 | 114.9 | 85.2 | 203 | 163.0 | 120.9 | 263 | 211.2 | 156.7 | 323 | 259.4 | 192.4 | 383 | 307.6 | 228.2 |
| 24 | 19.3 | 14.3 | 84 | 67.5 | 50.0 | 144 | 115.7 | 85.8 | 204 | 163.9 | 121.5 | 264 | 212.0 | 157.3 | 324 | 260.2 | 193.0 | 384 | 308.4 | 228.8 |
| 25 | 20.1 | 14.9 | 85 | 68.3 | 50.6 | 145 | 116.5 | 86.4 | 205 | 164.7 | 122.1 | 265 | 212.8 | 157.9 | 325 | 261.0 | 193.6 | 385 | 309.2 | 229.4 |
| 26 | 20.9 | 15.5 | 86 | 69.1 | 51.2 | 146 | 117.3 | 87.0 | 206 | 165.5 | 122.7 | 266 | 213.6 | 158.5 | 326 | 261.8 | 194.2 | 386 | 310.0 | 230.0 |
| 27 | 21.7 | 16.1 | 87 | 69.9 | 51.8 | 147 | 118.1 | 87.6 | 207 | 166.3 | 123.3 | 267 | 214.5 | 159.1 | 327 | 262.6 | 194.8 | 387 | 310.8 | 230.6 |
| 28 | 22.5 | 16.7 | 88 | 70.7 | 52.4 | 148 | 118.9 | 88.2 | 208 | 167.1 | 123.9 | 268 | 215.3 | 159.6 | 328 | 263.4 | 195.4 | 388 | 311.6 | 231.2 |
| 29 | 23.3 | 17.3 | 89 | 71.5 | 53.0 | 149 | 119.7 | 88.8 | 209 | 167.9 | 124.5 | 269 | 216.1 | 160.2 | 329 | 264.2 | 196.0 | 389 | 312.4 | 231.8 |
| 30 | 24.1 | 17.9 | 90 | 72.3 | 53.6 | 150 | 120.5 | 89.4 | 210 | 168.7 | 125.1 | 270 | 216.9 | 160.8 | 330 | 265.1 | 196.6 | 390 | 313.2 | 232.4 |
| 31 | 24.9 | 18.5 | 91 | 73.1 | 54.2 | 151 | 121.3 | 90.0 | 211 | 169.5 | 125.7 | 271 | 217.7 | 161.4 | 331 | 265.9 | 197.2 | 391 | 314.0 | 233.0 |
| 32 | 25.7 | 19.1 | 92 | 73.9 | 54.8 | 152 | 122.1 | 90.6 | 212 | 170.3 | 126.3 | 272 | 218.5 | 162.0 | 332 | 266.7 | 197.8 | 392 | 314.8 | 233.6 |
| 33 | 26.5 | 19.7 | 93 | 74.7 | 55.4 | 153 | 122.9 | 91.1 | 213 | 171.1 | 126.9 | 273 | 219.3 | 162.6 | 333 | 267.5 | 198.4 | 393 | 315.7 | 234.1 |
| 34 | 27.3 | 20.3 | 94 | 75.5 | 56.0 | 154 | 123.7 | 91.7 | 214 | 171.9 | 127.5 | 274 | 220.1 | 163.2 | 334 | 268.3 | 199.0 | 394 | 316.5 | 234.7 |
| 35 | 28.1 | 20.9 | 95 | 76.3 | 56.6 | 155 | 124.5 | 92.3 | 215 | 172.7 | 128.1 | 275 | 220.9 | 163.8 | 335 | 269.1 | 199.6 | 395 | 317.3 | 235.3 |
| 36 | 28.9 | 21.5 | 96 | 77.1 | 57.2 | 156 | 125.3 | 92.9 | 216 | 173.5 | 128.7 | 276 | 221.7 | 164.4 | 336 | 269.9 | 200.2 | 396 | 318.1 | 235.9 |
| 37 | 29.7 | 22.1 | 97 | 77.9 | 57.8 | 157 | 126.1 | 93.5 | 217 | 174.3 | 129.3 | 277 | 222.5 | 165.0 | 337 | 270.7 | 200.8 | 397 | 318.9 | 236.5 |
| 38 | 30.5 | 22.7 | 98 | 78.7 | 58.4 | 158 | 126.9 | 94.1 | 218 | 175.1 | 129.9 | 278 | 223.3 | 165.6 | 338 | 271.5 | 201.4 | 398 | 319.7 | 237.1 |
| 39 | 31.3 | 23.3 | 99 | 79.5 | 59.0 | 159 | 127.7 | 94.7 | 219 | 175.9 | 130.5 | 279 | 224.1 | 166.2 | 339 | 272.3 | 202.0 | 399 | 320.5 | 237.7 |
| 40 | 32.1 | 23.9 | 100 | 80.3 | 59.6 | 160 | 128.5 | 95.3 | 220 | 176.7 | 131.1 | 280 | 224.9 | 166.8 | 340 | 273.1 | 202.6 | 400 | 321.3 | 238.3 |
| 41 | 32.9 | 24.5 | 101 | 81.1 | 60.2 | 161 | 129.3 | 95.9 | 221 | 177.5 | 131.7 | 281 | 225.7 | 167.4 | 341 | 273.9 | 203.2 | 401 | 322.1 | 238.9 |
| 42 | 33.7 | 25.1 | 102 | 81.9 | 60.8 | 162 | 130.1 | 96.5 | 222 | 178.3 | 132.3 | 282 | 226.5 | 168.0 | 342 | 274.7 | 203.8 | 402 | 322.9 | 239.5 |
| 43 | 34.5 | 25.7 | 103 | 82.7 | 61.4 | 163 | 130.9 | 97.1 | 223 | 179.1 | 132.9 | 283 | 227.3 | 168.6 | 343 | 275.5 | 204.4 | 403 | 323.7 | 240.1 |
| 44 | 35.3 | 26.2 | 104 | 83.5 | 62.0 | 164 | 131.7 | 97.7 | 224 | 179.9 | 133.4 | 284 | 228.1 | 169.2 | 344 | 276.3 | 204.9 | 404 | 324.5 | 240.7 |
| 45 | 36.1 | 26.8 | 105 | 84.3 | 62.6 | 165 | 132.5 | 98.3 | 225 | 180.7 | 134.0 | 285 | 228.9 | 169.8 | 345 | 277.1 | 205.5 | 405 | 325.3 | 241.3 |
| 46 | 36.9 | 27.4 | 106 | 85.1 | 63.2 | 166 | 133.3 | 98.9 | 226 | 181.5 | 134.6 | 286 | 229.7 | 170.4 | 346 | 277.9 | 206.1 | 406 | 326.1 | 241.9 |
| 47 | 37.7 | 28.0 | 107 | 85.9 | 63.7 | 167 | 134.1 | 99.5 | 227 | 182.3 | 135.2 | 287 | 230.5 | 171.0 | 347 | 278.7 | 206.7 | 407 | 326.9 | 242.5 |
| 48 | 38.5 | 28.6 | 108 | 86.7 | 64.3 | 168 | 134.9 | 100.1 | 228 | 183.1 | 135.8 | 288 | 231.3 | 171.6 | 348 | 279.5 | 207.3 | 408 | 327.7 | 243.1 |
| 49 | 39.3 | 29.2 | 109 | 87.5 | 64.9 | 169 | 135.7 | 100.7 | 229 | 183.9 | 136.4 | 289 | 232.1 | 172.2 | 349 | 280.3 | 207.9 | 409 | 328.5 | 243.7 |
| 50 | 40.1 | 29.8 | 110 | 88.3 | 65.5 | 170 | 136.5 | 101.3 | 230 | 184.7 | 137.0 | 290 | 232.9 | 172.8 | 350 | 281.1 | 208.5 | 410 | 329.3 | 244.3 |
| 51 | 40.9 | 30.4 | 111 | 89.1 | 66.1 | 171 | 137.3 | 101.9 | 231 | 185.5 | 137.6 | 291 | 233.7 | 173.4 | 351 | 281.9 | 209.1 | 411 | 330.1 | 244.9 |
| 52 | 41.7 | 31.0 | 112 | 89.9 | 66.7 | 172 | 138.1 | 102.5 | 232 | 186.3 | 138.2 | 292 | 234.5 | 174.0 | 352 | 282.7 | 209.7 | 412 | 330.9 | 245.5 |
| 53 | 42.5 | 31.6 | 113 | 90.7 | 67.3 | 173 | 138.9 | 103.1 | 233 | 187.1 | 138.8 | 293 | 235.3 | 174.6 | 353 | 283.5 | 210.3 | 413 | 331.7 | 246.1 |
| 54 | 43.3 | 32.2 | 114 | 91.5 | 67.9 | 174 | 139.7 | 103.7 | 234 | 187.9 | 139.4 | 294 | 236.1 | 175.2 | 354 | 284.3 | 210.9 | 414 | 332.5 | 246.7 |
| 55 | 44.1 | 32.8 | 115 | 92.3 | 68.5 | 175 | 140.5 | 104.3 | 235 | 188.7 | 140.0 | 295 | 236.9 | 175.8 | 355 | 285.1 | 211.5 | 415 | 333.3 | 247.3 |
| 56 | 44.9 | 33.4 | 116 | 93.1 | 69.1 | 176 | 141.4 | 104.9 | 236 | 189.5 | 140.6 | 296 | 237.7 | 176.3 | 356 | 285.9 | 212.1 | 416 | 334.1 | 247.9 |
| 57 | 45.8 | 34.0 | 117 | 94.0 | 69.7 | 177 | 142.2 | 105.4 | 237 | 190.4 | 141.2 | 297 | 238.5 | 176.9 | 357 | 286.7 | 212.7 | 417 | 334.9 | 248.4 |
| 58 | 46.6 | 34.6 | 118 | 94.8 | 70.3 | 178 | 143.0 | 106.0 | 238 | 191.2 | 141.8 | 298 | 239.4 | 177.5 | 358 | 287.5 | 213.3 | 418 | 335.7 | 249.0 |
| 59 | 47.4 | 35.1 | 119 | 95.6 | 70.9 | 179 | 143.8 | 106.6 | 239 | 192.0 | 142.4 | 299 | 240.2 | 178.1 | 359 | 288.3 | 213.9 | 419 | 336.5 | 249.6 |
| 60 | 48.2 | 35.7 | 120 | 96.4 | 71.5 | 180 | 144.6 | 107.2 | 240 | 192.8 | 143.0 | 300 | 241.0 | 178.7 | 360 | 289.1 | 214.5 | 420 | 337.3 | 250.2 |

For $4\frac{1}{4}$ Points.

For $3\frac{1}{2}$ Points.

| Dist. | D. Lat. | Dep | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | [illegible] | [illegible] | 61 | 47. 1 | [illegible] | 121 | 93. 5 | 76. 8 | 181 | 139. 9 | 114. 8 | 241 | 186. 3 | 152. 9 | 301 | 232. 7 | 191. 0 | 361 | [illegible] | [illegible] |
| 2 | 01. 5 | 1. 3 | 62 | 47. 9 | [illegible] | 122 | 94. 3 | 77. 4 | 182 | 140. 7 | 115. 5 | 242 | 187. 1 | 153. 5 | 302 | 233. 5 | 191. 6 | 362 | [illegible] | [illegible] |
| 3 | 02. 3 | 01. 9 | 63 | 48. 7 | [illegible] | 123 | 95. 1 | 78. 0 | 183 | 141. 5 | 116. 1 | 243 | 187. 8 | 154. 2 | 303 | 234. 2 | 192. [illegible] | [illegible] | [illegible] | [illegible] |
| 4 | 03. 1 | 02. 5 | 64 | 49. 5 | [illegible] | 124 | 95. 8 | 78. 7 | 184 | 142. 2 | 116. 7 | 244 | 188. 6 | 154. 8 | 304 | 235. 0 | 192. [illegible] | [illegible] | [illegible] | [illegible] |
| 5 | 03. 9 | 03. 2 | 65 | 50. 2 | [illegible] | 125 | 96. 6 | 79. 3 | 185 | 143. 0 | 117. 4 | 245 | 189. 4 | 155. 4 | 305 | 235. 8 | [illegible] | [illegible] | [illegible] | [illegible] |
| 6 | 04. 6 | 03. 8 | 66 | 51. 0 | [illegible] | 126 | 97. 4 | 79. 9 | 186 | 143. 8 | [illegible] | 246 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7 | 05. 4 | 04. 4 | 67 | 51. [illegible] | [illegible] | 127 | 98. 2 | 80. 6 | 187 | 144. [illegible] | [illegible] | 247 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 8 | 06. 2 | 05. 1 | 68 | 52. 6 | [illegible] | 128 | 98. 9 | 81. 2 | [illegible] | [illegible] | [illegible] | 248 | 191. 7 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 9 | 07. 0 | 05. 7 | 69 | 53. 3 | [illegible] | [illegible] | 99. 7 | 81. 8 | [illegible] | [illegible] | [illegible] | 249 | 192. 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 10 | [illegible] | [illegible] | 70 | 54. 1 | [illegible] | 130 | 100. 5 | 82. 5 | [illegible] | [illegible] | [illegible] | 250 | 193. 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 11 | [illegible] | [illegible] | 71 | 54. [illegible] | [illegible] | 131 | [illegible] | 83. 1 | 191 | 147. 6 | [illegible] | 251 | 194 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 12 | [illegible] | [illegible] | 72 | 55. 7 | [illegible] | 132 | 102. 0 | 83. 7 | 192 | 148. 4 | [illegible] | 252 | 194. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 13 | [illegible] | [illegible] | 73 | 56. 4 | [illegible] | 133 | 102. 8 | 84. 4 | 193 | 149. 2 | [illegible] | 253 | 195. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | [illegible] | [illegible] | 74 | 57. 2 | [illegible] | 134 | 103. 6 | 85. 0 | 194 | [illegible] | [illegible] | 254 | 196. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | [illegible] | [illegible] | 75 | 58. 0 | [illegible] | [illegible] | [illegible] | [illegible] | 195 | [illegible] | [illegible] | [illegible] | 197. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | [illegible] | [illegible] | 76 | 58. 7 | [illegible] | [illegible] | [illegible] | [illegible] | 196 | 151. 5 | [illegible] | 256 | 197. 9 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 17 | [illegible] | [illegible] | 77 | 59. 5 | [illegible] | [illegible] | [illegible] | [illegible] | 197 | 152. 3 | 125. 0 | 257 | 198. 7 | 163. 0 | 317 | 245. 0 | 201. 1 | 377 | [illegible] | [illegible] |
| 18 | [illegible] | [illegible] | 78 | 60. 3 | [illegible] | [illegible] | [illegible] | [illegible] | 198 | 153. 1 | 125. 6 | 258 | 199. 4 | 163. 7 | 318 | 245. 8 | 201. 7 | 378 | [illegible] | [illegible] |
| 19 | [illegible] | [illegible] | 79 | 61. 1 | [illegible] | [illegible] | [illegible] | [illegible] | 199 | 153. 8 | 126. 2 | 259 | 200. 2 | 164. 3 | 319 | 246. 6 | 202. 4 | 379 | [illegible] | [illegible] |
| 20 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 260 | 201. 0 | 164. 0 | 320 | 247. 4 | 202. 0 | 380 | [illegible] | [illegible] |
| 21 | [illegible] | [illegible] | 81 | 62. 6 | 51. 4 | 141 | 109. 0 | 89. 4 | 201 | 155. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 22 | 17. [illegible] | [illegible] | 82 | 63. 4 | 52. 0 | 142 | 109. 8 | 90. 1 | 202 | 156. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 23 | 17. [illegible] | [illegible] | 83 | 64. 2 | 52. 7 | 143 | 110. 5 | 90. 7 | 203 | 156. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | 18. 5 | 15. 2 | 84 | 64. 9 | 53. 3 | 144 | 111. 3 | 91. 3 | 204 | 157. 7 | 129. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 19. 3 | 15. 9 | 85 | 65. 7 | 53. 9 | 145 | 112. 1 | 92. 0 | 205 | 158. 5 | 130. 0 | 265 | 204. 8 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | 20. 1 | 16. 5 | 86 | 66. 5 | 54. 6 | 146 | 112. 9 | 92. 6 | 206 | 159. 2 | 130. 7 | 266 | 205. 6 | 168. 7 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 20. 9 | 17. 1 | 87 | 67. 2 | 55. 2 | 147 | 113. 6 | 93. 3 | 207 | 160. 0 | 131. 3 | 267 | 206. 4 | 169. 4 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 28 | 21. 6 | 17. 8 | 88 | 68. 0 | 55. 8 | 148 | 114. 4 | 93. 9 | 208 | 160. 8 | 132. 0 | 268 | 207. 2 | 170. 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | 22. 4 | 18. 4 | 89 | 68. 8 | 56. 5 | 149 | 115. 2 | 94. 5 | 209 | 161. 6 | 132. 6 | 269 | 207. 9 | 170. 6 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | 23. 2 | 19. 0 | 90 | 69. 6 | 57. 1 | 150 | 115. 9 | 95. 2 | 210 | 162. 3 | 133. 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | 24. 0 | 19. 7 | 91 | 70. 3 | 57. 7 | 151 | 116. 7 | 95. 8 | 211 | 163. 1 | 133. 9 | 271 | 209. 5 | 171. 9 | 331 | 255. 9 | 210. 0 | 391 | 302. 3 | 248. 1 | 451 | [illegible] | [illegible] |
| 32 | 24. 7 | 20. 3 | 92 | 71. 1 | 58. 4 | 152 | 117. 5 | 96. 4 | 212 | 163. 9 | 134. 5 | 272 | 210. 3 | 172. 6 | 332 | 256. 6 | 210. 6 | 392 | 303. 0 | 248. 7 | 452 | [illegible] | [illegible] |
| 33 | 25. 5 | 20. 9 | 93 | 71. 9 | 59. 0 | 153 | 118. 3 | 97. 1 | 213 | 164. 6 | 135. 1 | 273 | 211. 0 | 173. 2 | 333 | 257. 4 | 211. 3 | 393 | 303. 8 | 249. 3 | 453 | [illegible] | [illegible] |
| 34 | 26. 3 | 21. 6 | 94 | 72. 7 | 59. 6 | 154 | 119. 0 | 97. 7 | 214 | 165. 4 | 135. 8 | 274 | 211. 8 | 173. 8 | 334 | 258. 2 | 211. 9 | 394 | 304. 6 | 250. 0 | 454 | [illegible] | [illegible] |
| 35 | 27. 1 | 22. 2 | 95 | 73. 4 | 60. 3 | 155 | 119. 8 | 98. 3 | 215 | 166. 2 | 136. 4 | 275 | 212. 6 | 174. 5 | 335 | 259. 0 | 212. 5 | 395 | 305. 3 | 250. 6 | 455 | [illegible] | [illegible] |
| 36 | 27. 8 | 22. 8 | 96 | 74. 2 | 60. 9 | 156 | 120. 6 | 99. 0 | 216 | 167. 0 | 137. 0 | 276 | 213. 3 | 175. 1 | 336 | 259. 7 | 213. 2 | 396 | 306. 1 | 251. 2 | 456 | 352. 5 | 289. 3 |
| 37 | 28. 6 | 23. 5 | 97 | 75. 0 | 61. 5 | 157 | 121. 4 | 99. 6 | 217 | 167. 7 | 137. 7 | 277 | 214. 1 | 175. 7 | 337 | 260. 5 | 213. 8 | 397 | 306. 9 | 251. 9 | 457 | 353. 3 | 290. 0 |
| 38 | 29. 4 | 24. 1 | 98 | 75. 7 | 62. 2 | 158 | 122. 1 | 100. 2 | 218 | 168. 5 | 138. 3 | 278 | 214. 9 | 176. 4 | 338 | 261. 3 | 214. 4 | 398 | 307. 7 | 252. 5 | 458 | 354. 0 | 290. 6 |
| 39 | 30. 1 | 24. 7 | 99 | 76. 5 | 62. 8 | 159 | 122. 9 | 100. 9 | 219 | 169. 3 | 138. 9 | 279 | 215. 7 | 177. 0 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | 30. 9 | 25. 4 | 100 | 77. 3 | 63. 4 | 160 | 123. 7 | 101. 5 | 220 | 170. 1 | 139. 6 | 280 | 216. 4 | 177. 6 | 340 | 262. 8 | 215. 7 | 400 | 309. [illegible] | [illegible] |
| 41 | 31. 7 | 26. 0 | 101 | 78. 1 | 64. 1 | 161 | 124. 4 | 102. 1 | 221 | 170. 8 | 140. 2 | 281 | 217. 2 | 178. 3 | 341 | 263. 6 | 216. 3 | 401 | 310. [illegible] | [illegible] |
| 42 | 32. 5 | 26. 6 | 102 | 78. 8 | 64. 7 | 162 | 125. 2 | 102. 8 | 222 | 171. 6 | 140. 8 | 282 | 218. 0 | 178. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 43 | 33. 2 | 27. 3 | 103 | 79. 6 | 65. 3 | 163 | 126. 0 | 103. 4 | 223 | 172. 4 | 141. 5 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 44 | 34. 0 | 27. 9 | 104 | 80. 4 | 66. 0 | 164 | 126. 8 | 104. 0 | 224 | 173. 1 | 142. 1 | 284 | 219. 5 | 180. 2 | 34[illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 45 | 34. 8 | 28. 5 | 105 | 81. 2 | 66. 6 | 165 | 127. 5 | 104. 7 | 225 | 173. 9 | 142. 7 | 285 | 220. 3 | 180. 8 | 345 | 266. 7 | 218. 9 | 405 | 313. 1 | 256. 9 | 465 | 359. 5 | [illegible] |
| 46 | 35. 6 | 29. 2 | 106 | 81. 9 | 67. 2 | 166 | 128. 3 | 105. 3 | 226 | 174. 7 | 143. 4 | 286 | 221. 1 | 181. 4 | 346 | 267. 5 | 219. 5 | 406 | 313. 8 | 257. 6 | 466 | 360. 2 | [illegible] |
| 47 | 36. 3 | 29. 8 | 107 | 82. 7 | 67. 9 | 167 | 129. 1 | 105. 9 | 227 | 175. 5 | 144. 0 | 287 | 221. 8 | 182. 1 | 347 | 268. 2 | 220. 1 | 407 | 314. 6 | 258. 2 | 467 | 361. 0 | 296. 3 |
| 48 | 37. 1 | 30. 4 | 108 | 83. 5 | 68. 5 | 168 | 129. 9 | 106. 6 | 228 | 176. 2 | 144. 6 | 288 | 222. 6 | 182. 7 | 348 | 269. 0 | 220. 8 | 408 | 315. 4 | 258. 8 | 468 | 361. 8 | 296. 9 |
| 49 | 37. 9 | 31. 1 | 109 | 84. 3 | 69. 1 | 169 | 130. 6 | 107. 2 | 229 | 177. 0 | 145. 3 | 289 | 223. 4 | 183. 3 | 349 | 269. 8 | 221. [illegible] | [illegible] | [illegible] | [illegible] |
| 50 | 38. 6 | 31. 7 | 110 | 85. 0 | 69. 8 | 170 | 131. 4 | 107. 8 | 230 | 177. 8 | 145. 9 | 290 | 224. 2 | 184. 0 | 350 | 270. 6 | 222. [illegible] | [illegible] | [illegible] | [illegible] |
| 51 | 39. 4 | 32. 3 | 111 | 85. 8 | 70. 4 | 171 | 132. 2 | 108. 5 | 231 | 178. 6 | 146. 5 | 291 | 224. 9 | 184. 6 | 351 | 271. 3 | 222. 7 | [illegible] | [illegible] | [illegible] |
| 52 | 40. 2 | 33. 0 | 112 | 86. 6 | 71. 0 | 172 | 133. 0 | 109. 1 | 232 | 179. 3 | 147. 2 | 292 | 225. 7 | 185. 2 | 352 | 272. 1 | 223. [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | 41. 0 | 33. 6 | 113 | 87. 3 | 71. 7 | 173 | 133. 7 | 109. 7 | 233 | 180. 1 | 147. 8 | 293 | 226. 5 | 185. 9 | 353 | 272. 9 | 223. [illegible] | [illegible] | [illegible] | [illegible] |
| 54 | 41. 7 | 34. 3 | 114 | 88. 1 | 72. 3 | 174 | 134. 5 | 110. 4 | 234 | 180. 9 | 148. 4 | 294 | 227. 3 | 186. 5 | 354 | 273. 6 | 224. [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | 42. 5 | 34. 9 | 115 | 88. 9 | 73. 0 | 175 | 135. 3 | 111. 0 | 235 | 181. 7 | 149. 1 | 295 | 228. 0 | 187. 1 | 355 | 274. 4 | 225. [illegible] | [illegible] | [illegible] | [illegible] |
| 56 | 43. 3 | 35. 5 | 116 | 89. 7 | 73. 6 | 176 | 136. 0 | 111. 6 | 236 | 182. 4 | 149. 7 | 296 | 228. 8 | 187. 8 | 356 | 275. 2 | 225. [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | 44. 1 | 36. 2 | 117 | 90. 4 | 74. 2 | 177 | 136. 8 | 112. 3 | 237 | 183. 2 | 150. 3 | 297 | 229. 6 | 188. 4 | 357 | 276. 0 | 226. [illegible] | [illegible] | [illegible] | [illegible] |
| 58 | 44. 8 | 36. 8 | 118 | 91. 2 | 74. 9 | 178 | 137. 6 | 112. 9 | 238 | 184. 0 | 151. 0 | 298 | 230. 4 | 189. 0 | 358 | 276. 7 | 227. [illegible] | [illegible] | [illegible] | [illegible] |
| 59 | 45. 6 | 37. 4 | 119 | 92. 0 | 75. 5 | 179 | 138. 4 | 113. 6 | 239 | 184. 7 | 151. 6 | 299 | 231. 1 | 189. 7 | 359 | 277. 5 | 227. [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 46. 4 | 38. 1 | 120 | 92. 8 | 76. 1 | 180 | 139. 1 | 114. 2 | 240 | 185. 5 | 152. 3 | 300 | 231. 9 | 190. 3 | 360 | 278. 3 | 228. [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | Dep. | D. Lat. | Dist. | Dep. | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

For $4\frac{1}{2}$ Points.

| Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 00. 7 | 00. 7 | 61 | 45. 2 | 41. 0 | 121 | 80. 6 | 81. 3 | 181 | 134. 1 | 121. 3 | 241 | 178. 6 | 161. | | | | | | |
| 2 | 01. 5 | 01. 3 | 62 | 45. 9 | 41. 6 | 122 | 90. 4 | 81. 9 | 182 | 134. | 122. 2 | | | 3 | 162. | | | | | |
| 3 | 02. 2 | 02. 0 | 63 | 46. 7 | 42. 3 | 123 | 91. 1 | 82. 6 | 183 | 135. 6 | 122. 0 | | | 0 | 163. | | | | | |
| | | | | | | | | | | | 36. 3 | 123. 7 | | | | | | | | |
| 5 | 03. 7 | 03. 4 | 65 | 48. 2 | 43. 0 | 125 | 92. 6 | 83. 9 | 185 | 137. 1 | 124. | | | | | | | | | |
| 6 | 04. 4 | 04. 0 | 66 | 48. 9 | 44. 3 | 126 | 93. 4 | 84. 6 | 186 | 137. 8 | | | | | | | | | | |
| | | | | | | | | | | 38. 6 | 125. | | | | | | | | | |
| | | | | | | | | | | 34. 3 | 12 | | | | | | | | | |
| 9 | 06. 7 | 06. 0 | 69 | 51. 1 | 46. 3 | 129 | 95. 6 | 86. 6 | 189 | 140. 0 | 12 | | | | | | | | | |
| 10 | 07. 4 | 06. 7 | 70 | 51. 9 | 47. 0 | 130 | 96. 3 | 87. 3 | 190 | 140. 8 | 12 | | | | | | | | | |
| 11 | 08. 2 | 07. 4 | 71 | 52. 6 | 47. 7 | 131 | 97. 1 | 88. 0 | 191 | 141. 5 | 128. 3 | 251 | 186. 0 | 168. 5 | 311 | 230. 4 | 208. 8 | 371 | 274. | |
| | | | | 53. 3 | 48. 3 | 132 | 97. 8 | 88. 6 | 192 | 142. 3 | 128. 9 | 252 | 186. 7 | 169. 2 | 312 | 231. 1 | 209. 5 | 372 | 275. | |
| 13 | 09. 0 | 08. 7 | 73 | 54. 1 | 49. 0 | 133 | 98. 5 | 89. 3 | 193 | 143. 0 | 129. 6 | 253 | 187. 5 | 169. 9 | 313 | 231. 9 | 210. 2 | 373 | 276. | |
| 14 | 10. 4 | 09. 4 | 74 | 54. 8 | 49. 7 | 134 | 99. 3 | 90. 0 | 194 | 143. 7 | 130. 3 | 254 | 188. 2 | 170. 6 | 314 | 232. 6 | 210. 9 | 374 | 277. 1 | 251. 1 |
| 15 | 11. 1 | 10. 1 | 75 | 55. 6 | 50. 4 | 135 | 100. 0 | 90. 7 | 195 | 144. 5 | 130. 9 | 255 | 188. 9 | 171. 2 | 315 | 233. 4 | 211. 5 | 375 | 277. 8 | 251. 8 |
| 16 | 11. 9 | 10. 7 | 76 | 56. 3 | 51. 0 | 136 | 100. 8 | 91. 3 | 196 | 145. 2 | 131. 6 | 256 | 189. 7 | 171. 9 | 316 | 234. 1 | 212. 2 | 376 | 278. 6 | 252. 5 |
| 17 | 12. 6 | 11. 4 | 77 | 57. 0 | 51. 7 | 137 | 101. 5 | 92. 0 | 197 | 146. 0 | 132. 3 | 257 | 190. 4 | 172. 6 | 317 | 234. 9 | 212. 9 | 377 | 279. 3 | 253. 2 |
| 18 | 13. 3 | 12. 1 | 78 | 57. 8 | 52. 4 | 138 | 102. 2 | 92. 7 | 198 | 146. 7 | 133. 0 | 258 | 191. 2 | 173. 2 | 318 | 235. 6 | 213. 5 | 378 | 280. 0 | 253. 8 |
| | | | | | | | | | | | | | 192. | | | | | | | |
| | | | | | | | | | | | | 261 | 193. | | | | | | | |
| 23 | 17. 0 | 15. 4 | 83 | 61. 5 | 55. 7 | 143 | 106. 0 | 96. 0 | 203 | 150. 4 | 136. 3 | 263 | 194. 9 | 176. 6 | 323 | 239. 3 | 216. 9 | 383 | 283. 8 | 257. 2 |
| 24 | 17. 8 | 16. 1 | 84 | 62. 2 | 56. 4 | 144 | 106. 7 | 96. 7 | 204 | 151. 1 | 137. 0 | 264 | 195. 6 | 177. 3 | 324 | 240. 0 | 217. 6 | 384 | 284. 5 | 257. 9 |
| 25 | 18. 5 | 16. 8 | 85 | 63. 0 | 57. 1 | 145 | 107. 4 | 97. 4 | 205 | 151. 9 | 137. 7 | 265 | 196. 3 | 178. 0 | 325 | 240. 8 | 218. 2 | 385 | 285. 2 | 258. 5 |
| 27 | 20. 0 | 18. 1 | 87 | 64. 5 | 58. 4 | 147 | 108. 9 | 98. 7 | 207 | 153. 4 | 139. 0 | 267 | 197. 8 | 179. 3 | 327 | 242. 3 | | | | |
| 28 | 20. 7 | 18. 8 | 88 | 65. 2 | 59. 1 | 148 | 109. 7 | 99. 4 | 208 | 154. 1 | 139. 7 | 268 | 198. 6 | 180. 0 | 328 | 243. 0 | 220. 3 | 388 | 287. 5 | 260. |
| 29 | 21. 5 | 19. 5 | 89 | 65. 9 | 59. 8 | 149 | 110. 4 | 100. 1 | 209 | 154. 9 | 140. 3 | 269 | 199. 3 | 180. 6 | 329 | 243. 7 | 220. 9 | 389 | 288. 2 | 261. |
| 31 | 23. 0 | 20. 8 | 91 | 67. 4 | 61. 1 | 151 | 111. 9 | 101. 4 | 211 | 156. 3 | 141. 7 | 271 | 200. 8 | 182. 0 | 331 | 245. 2 | 222. 3 | 391 | 289. 7 | 262. 6 |
| | 23. 4 | 22. 2 | 93 | 68. 9 | 62. 4 | 153 | 113. 4 | 102. 7 | 213 | 157. 8 | 143. 0 | 273 | 202. 3 | 183. 3 | 333 | 246. 7 | 223. 6 | 393 | 291. 2 | 263. 9 |
| | 24. 2 | 22. 8 | 94 | 69. 6 | 63. 1 | 154 | 114. 1 | 103. 4 | 214 | 158. 6 | 143. 7 | 274 | 203. 0 | 184. 0 | 334 | 247. 4 | 224. 3 | 394 | 291. 9 | 264. 6 |
| 35 | 25. 9 | 23. 5 | 95 | 70. 4 | 63. 8 | 155 | 114. 8 | 104. 1 | 215 | 159. 3 | 144. 4 | 275 | 203. 8 | 184. 7 | 335 | 248. 2 | 225. 0 | 395 | 292. 6 | 265. 3 |
| 40 | 29. 6 | 26. 9 | 100 | 74. 1 | 67. 2 | 160 | 118. 5 | 107. 4 | 220 | 163. 0 | 147. 7 | 280 | 207. 5 | 188. 0 | 340 | 251. 9 | 228. 3 | 400 | 296. 4 | 268. 6 |
| | | | | | | 162 | 120. 0 | 108. 8 | 222 | 164. 5 | 149. 1 | 282 | 208. 9 | 189. 4 | 342 | 253. 4 | 229. 7 | 402 | 297. 8 | 270. 0 |
| | | | | | | 163 | 120. 8 | 109. 5 | 223 | 165. 2 | 149. 7 | 283 | 209. 7 | 190. 0 | 343 | 254. 1 | 230. 3 | 403 | 298. 6 | 270. 6 |
| | | | | | | 164 | 121. 5 | 110. 1 | 224 | 166. 0 | 150. 4 | 284 | 210. 4 | 190. 7 | 344 | 254. 9 | 231. 0 | 404 | 299. 3 | 271. 3 |
| | | | | | | 165 | 122. 3 | 110. 8 | 225 | 166. 7 | 151. 1 | 285 | 211. 2 | 191. 4 | 345 | 255. 6 | 231. 7 | 405 | 300. 1 | 272. 0 |
| | | | | | | 166 | 123. 0 | 111. 5 | 226 | 167. 4 | 151. 8 | 286 | 211. 9 | 192. 1 | 346 | 256. 3 | 232. 3 | 406 | 300. 8 | 272. 6 |
| | | | | | | 167 | 123. 7 | 112. 1 | 227 | 168. 2 | 152. 4 | 287 | 212. 6 | 192. 7 | 347 | 257. 1 | 233. 0 | 407 | 301. 5 | 273. 3 |
| 48 | 35. 6 | 32. 2 | 108 | 80. 0 | 72. 5 | 168 | 124. 5 | 112. 8 | 228 | 168. 9 | 153. 1 | 288 | 213. 4 | 193. 4 | | | | | | |
| | | | | | 73. 2 | 169 | 125. 2 | 113. 5 | 229 | 169. 7 | 153. 8 | 289 | 214. 1 | 194. 1 | | | | | | |
| 50 | 37. 0 | 33. 6 | 110 | 81. 5 | 73. 9 | 170 | 126. 0 | 114. 2 | 230 | 170. 4 | 154. 5 | 290 | 214. 9 | 194. 7 | | | | | | |
| 51 | 37. 8 | 34. 2 | 111 | 82. 2 | 74. 5 | 171 | 126. 7 | 114. 8 | 23 | | | | | | | | | | | |
| 52 | 38. 5 | 34. 9 | 112 | 83. 0 | 75. 2 | 172 | 127. 4 | 115. 5 | 232 | 171. 9 | 155. 8 | | | | | | | | | |
| 53 | 39. 3 | 35. 6 | 113 | 83. 7 | 75. 9 | 173 | 128. 2 | 116. 2 | 23 | | | | | | | | | | | |
| 54 | 40. 0 | 36. 3 | 114 | 84. 5 | 76. 5 | 174 | 128. 9 | 116. 8 | 234 | 173. 4 | 157 | | | | | | | | | |
| 55 | 40. 7 | 36. 9 | 115 | 85. 2 | 77. 2 | 175 | 129. 7 | 117. 5 | 235 | 174. 1 | 157. 8 | 295 | 218. 6 | 198. 1 | 355 | 263. 0 | 238. 4 | 415 | 307. 5 | 278. 7 |
| 56 | 41. 5 | 37. 6 | 116 | 85. 9 | 77. 9 | 176 | 130. 4 | 118. 2 | 236 | 174. 9 | 158. 5 | 296 | 219. 3 | | | | | | | |
| 57 | 42. 2 | 38. 3 | 117 | 86. 7 | 78. 6 | 177 | 131. 1 | 118. 9 | 237 | 175. 6 | 159. 1 | 297 | 220 | | | | | | | |
| | | 38. 9 | 118 | 87. 4 | 79. 2 | 178 | 131. 9 | 119. 5 | 238 | 176. 3 | 159. 8 | 298 | 220 | | | | | | | |
| 59 | 43. 7 | 39. 6 | 119 | 88. 2 | 79. 9 | 179 | 132. 6 | 120. 2 | 239 | 177. 1 | 160. 5 | 299 | 221 | | | | | | | |
| 60 | 44. 5 | 40. 3 | 120 | 88. 9 | 80. 6 | 180 | 133. 4 | 120. 9 | 240 | 177. 8 | 161. 2 | 300 | 222 | | | | | | | |

D. Lat. Dist.

For 4 Points.



For 1 Degree.



For 89 Degrees.

For 2 Degrees.

| | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 61 | 61.0 | 02.1 | 121 | 120.9 | 04.2 | 181 | 180.9 | 06.3 | 241 | 240.9 | 08.4 | 301 | 300.8 | 10.5 | 361 | 360.8 | 12.6 | 421 | 420 |
| 2 | 62 | 62.0 | 02.2 | 122 | 121.9 | 04.3 | 182 | 181.0 | 06.4 | 242 | 241.0 | 08.4 | 302 | 301.8 | 10.5 | 362 | 361.8 | 12.6 | 422 | 421 |
| 3 | 63 | 63.0 | 02.2 | 123 | 122.9 | 04.3 | 183 | 182.0 | 06.4 | 243 | 242.0 | 08.5 | 303 | 302.8 | 10.6 | 363 | 362.8 | 12.7 | 423 | 422 |
| 4 | 64 | 64.0 | 02.2 | 124 | 123.9 | 04.3 | 184 | 183.0 | 06.4 | 244 | 243.0 | 08.5 | 304 | 303.8 | 10.6 | 364 | 363.8 | 12.7 | 424 | 423 |
| 5 | 65 | 65.0 | 02.3 | 125 | 124.9 | 04.3 | 185 | 184.0 | 06.4 | 245 | 244.0 | 08.5 | 305 | 304.8 | 10.6 | 365 | 364.8 | 12.7 | 425 | 424 |
| 6 | 66 | 66.0 | 02.3 | 126 | 125.9 | 04.4 | 186 | 185.0 | 06.5 | 246 | 245.0 | 08.6 | 306 | 305.8 | 10.7 | 366 | 365.8 | 12.8 | 426 | 425 |
| 7 | 67 | 67.0 | 02.3 | 127 | 126.9 | 04.4 | 187 | 186.0 | 06.5 | 247 | 246.0 | 08.6 | 307 | 306.8 | 10.7 | 367 | 366.8 | 12.8 | 427 | 426 |
| 8 | 68 | 68.0 | 02.4 | 128 | 127.9 | 04.4 | 188 | 187.0 | 06.5 | 248 | 247.0 | 08.6 | 308 | 307.8 | 10.7 | 368 | 367.8 | 12.8 | 428 | 427 |
| 9 | 69 | 69.0 | 02.4 | 129 | 128.9 | 04.4 | 189 | 188.0 | 06.5 | 249 | 248.0 | 08.6 | 309 | 308.8 | 10.7 | 369 | 368.8 | 12.8 | 429 | 428 |
| 10 | 70 | 70.0 | 02.4 | 130 | 129.9 | 04.5 | 190 | 189.0 | 06.6 | 250 | 249.0 | 08.7 | 310 | 309.8 | 10.8 | 370 | 369.8 | 12.9 | 430 | 429 |
| 11 | 71 | 71.0 | 02.5 | 131 | 130.9 | 04.5 | 191 | 190.0 | 06.6 | 251 | 250.0 | 08.7 | 311 | 310.8 | 10.8 | 371 | 370.8 | 12.9 | 431 | 430 |
| 12 | 72 | 72.0 | 02.5 | 132 | 131.9 | 04.5 | 192 | 191.0 | 06.6 | 252 | 251.0 | 08.7 | 312 | 311.8 | 10.8 | 372 | 371.8 | 12.9 | 432 | 431 |
| 13 | 73 | 73.0 | 02.5 | 133 | 132.9 | 04.5 | 193 | 192.0 | 06.6 | 253 | 252.0 | 08.7 | 313 | 312.8 | 10.8 | 373 | 372.8 | 12.9 | 433 | 432 |
| 14 | 74 | 74.0 | 02.6 | 134 | 133.9 | 04.6 | 194 | 193.0 | 06.7 | 254 | 253.0 | 08.8 | 314 | 313.8 | 10.9 | 374 | 373.8 | 13.0 | 434 | 433 |
| 15 | 75 | 75.0 | 02.6 | 135 | 134.9 | 04.6 | 195 | 194.0 | 06.7 | 255 | 254.0 | 08.8 | 315 | 314.8 | 10.9 | 375 | 374.8 | 13.0 | 435 | 434 |
| 16 | 76 | 76.0 | 02.7 | 136 | 135.9 | 04.7 | 196 | 195.0 | 06.8 | 256 | 255.0 | 08.9 | 316 | 315.8 | 11.0 | 376 | 375.8 | 13.1 | 436 | 435 |
| 17 | 77 | 77.0 | 02.7 | 137 | 136.9 | 04.7 | 197 | 196.0 | 06.8 | 257 | 256.0 | 08.9 | 317 | 316.8 | 11.0 | 377 | 376.8 | 13.1 | 437 | 436 |
| 18 | 78 | 78.0 | 02.7 | 138 | 137.9 | 04.7 | 198 | 197.0 | 06.8 | 258 | 257.0 | 08.9 | 318 | 317.8 | 11.0 | 378 | 377.8 | 13.1 | 438 | 437 |
| 19 | 79 | 79.0 | 02.8 | 139 | 138.9 | 04.8 | 199 | 198.0 | 06.9 | 259 | 258.0 | 09.0 | 319 | 318.8 | 11.1 | 379 | 378.8 | 13.2 | 439 | 438 |
| | 80 | 80.0 | 02.8 | 140 | 139.9 | 04.8 | 200 | 199.0 | 06.9 | 260 | 259.0 | 09.0 | 320 | 319.8 | 11.1 | 380 | 379.8 | 13.2 | 440 | 439 |
| 21 | 81 | 81.0 | 02.8 | 141 | 140.9 | 04.8 | 201 | 200.0 | 06.9 | 261 | 260.0 | 09.0 | 321 | 320.8 | 11.1 | 381 | 380.8 | 13.2 | 441 | 440 |
| 22 | 82 | 82.0 | 02.9 | 142 | 141.9 | 04.9 | 202 | 201.0 | 07.0 | 262 | 261.0 | 09.1 | 322 | 321.8 | 11.2 | 382 | 381.8 | 13.3 | 442 | 441 |
| 23 | 83 | 82.9 | 02.9 | 143 | 142.9 | 04.9 | 203 | 201.9 | 07.0 | 263 | 261.9 | 09.1 | 323 | 321.8 | 11.2 | 383 | 381.8 | 13.3 | 443 | 441 |
| 24 | 84 | 83.9 | 02.9 | 144 | 143.9 | 04.9 | 204 | 202.9 | 07.0 | 264 | 262.9 | 09.1 | 324 | 322.8 | 11.2 | 384 | 382.8 | 13.3 | 444 | 442 |
| 25 | 85 | 84.9 | 03.0 | 145 | 144.9 | 05.0 | 205 | 203.9 | 07.1 | 265 | 263.9 | 09.2 | 325 | 323.8 | 11.3 | 385 | 383.8 | 13.4 | 445 | 443 |
| 26 | 86 | 85.9 | 03.0 | 146 | 145.9 | 05.0 | 206 | 204.9 | 07.1 | 266 | 264.9 | 09.2 | 326 | 324.8 | 11.3 | 386 | 384.8 | 13.4 | 446 | 444 |
| 27 | 87 | 86.9 | 03.0 | 147 | 146.9 | 05.0 | 207 | 205.9 | 07.1 | 267 | 265.9 | 09.2 | 327 | 325.8 | 11.3 | 387 | 385.8 | 13.4 | 447 | 445 |
| 28 | 88 | 87.9 | 03.1 | 148 | 147.9 | 05.1 | 208 | 206.9 | 07.2 | 268 | 266.9 | 09.3 | 328 | 326.8 | 11.4 | 388 | 386.8 | 13.5 | 448 | 446 |
| 29 | 89 | 88.9 | 03.1 | 149 | 148.9 | 05.1 | 209 | 207.9 | 07.2 | 269 | 267.9 | 09.3 | 329 | 327.8 | 11.4 | 389 | 387.8 | 13.5 | 449 | 447 |
| 30 | 90 | 89.9 | 03.1 | 150 | 149.9 | 05.1 | 210 | 208.9 | 07.2 | 270 | 268.9 | 09.3 | 330 | 328.8 | 11.4 | 390 | 388.8 | 13.5 | 450 | 448 |
| 31 | 91 | 90.9 | 03.2 | 151 | 150.9 | 05.2 | 211 | 209.9 | 07.3 | 271 | 269.9 | 09.4 | 331 | 329.8 | 11.5 | 391 | 389.8 | 13.6 | 451 | 449 |
| 32 | 92 | 91.9 | 03.2 | 152 | 151.9 | 05.2 | 212 | 210.9 | 07.3 | 272 | 270.9 | 09.4 | 332 | 330.8 | 11.5 | 392 | 390.8 | 13.6 | 452 | 450 |
| 33 | 93 | 92.9 | 03.2 | 153 | 152.9 | 05.3 | 213 | 211.9 | 07.4 | 273 | 271.9 | 09.5 | 333 | 331.8 | 11.6 | 393 | 391.8 | 13.7 | 453 | 451 |
| 34 | 94 | 93.9 | 03.3 | 154 | 153.9 | 05.3 | 214 | 212.9 | 07.4 | 274 | 272.9 | 09.5 | 334 | 332.8 | 11.6 | 394 | 392.8 | 13.7 | 454 | 452 |
| 35 | 95 | 94.9 | 03.3 | 155 | 154.9 | 05.3 | 215 | 213.9 | 07.4 | 275 | 273.9 | 09.5 | 335 | 333.8 | 11.6 | 395 | 393.8 | 13.7 | 455 | 453 |
| 36 | 96 | 95.9 | 03.4 | 156 | 155.9 | 05.4 | 216 | 214.9 | 07.5 | 276 | 274.9 | 09.6 | 336 | 334.8 | 11.7 | 396 | 394.8 | 13.8 | 456 | 454 |
| 37 | 97 | 96.9 | 03.4 | 157 | 156.9 | 05.4 | 217 | 215.9 | 07.5 | 277 | 275.9 | 09.6 | 337 | 335.8 | 11.7 | 397 | 395.8 | 13.8 | 457 | 455 |
| 38 | 98 | 97.9 | 03.4 | 158 | 157.9 | 05.4 | 218 | 216.9 | 07.5 | 278 | 276.9 | 09.6 | 338 | 336.8 | 11.7 | 398 | 396.8 | 13.8 | 458 | 456 |
| 39 | 99 | 98.9 | 03.5 | 159 | 158.9 | 05.5 | 219 | 217.9 | 07.6 | 279 | 277.9 | 09.7 | 339 | 337.8 | 11.8 | 399 | 397.8 | 13.9 | 459 | 457 |
| 40 | 100 | 99.9 | 03.5 | 160 | 159.9 | 05.5 | 220 | 218.9 | 07.6 | 280 | 278.9 | 09.7 | 340 | 338.8 | 11.8 | 400 | 398.8 | 13.9 | 460 | 458 |
| 41 | 101 | 100.9 | 03.5 | 161 | 160.9 | 05.5 | 221 | 219.9 | 07.6 | 281 | 279.9 | 09.7 | 341 | 339.8 | 11.8 | 401 | 399.8 | 13.9 | 461 | 459 |
| 42 | 102 | 101.9 | 03.6 | 162 | 161.9 | 05.6 | 222 | 220.9 | 07.7 | 282 | 280.9 | 09.8 | 342 | 340.8 | 11.9 | 402 | 400.8 | 14.0 | 462 | 460 |
| 43 | 103 | 102.9 | 03.6 | 163 | 162.9 | 05.6 | 223 | 221.9 | 07.7 | 283 | 281.9 | 09.8 | 343 | 341.8 | 11.9 | 403 | 401.8 | 14.0 | 463 | 461 |
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For 3 Degrees.

| | D. Lat. | Dep. | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | Dist. | D. Lat. | Dep. | | | | | | | | | | | | |
| 3 | 03.0 | 00.2 | 63 | 62.9 | 03.3 | 123 | 122.8 | 06.4 | 185 | 182.7 | 09.6 | 243 | 242.7 | 12.7 | 303 | 302.6 | 15.9 | 363 | 362.5 | 19.0 | 423 | 422.4 | 22.2 |
| 4 | 04.0 | 00.2 | 64 | 63.9 | 03.3 | 124 | 123.8 | 06.5 | 184 | 183.7 | 09.6 | 244 | 243.7 | 12.8 | 304 | 303.5 | 15.9 | 364 | 363.5 | 19.1 | 424 | 423.4 | 22.2 |
| 5 | 05.0 | 00.3 | 65 | 64.9 | 03.4 | 125 | 124.8 | 06.5 | 185 | 184.7 | 09.7 | 245 | 244.7 | 12.8 | 305 | 304.5 | 16.0 | 365 | 364.5 | 19.1 | 425 | 424.4 | 22.3 |
| | | | 66 | 65.9 | 03.5 | 126 | 125.8 | 06.6 | 186 | 185.7 | 09.7 | 246 | 245.7 | 12.9 | 306 | 305.5 | 16.0 | 366 | 365.5 | 19.2 | 426 | 425.4 | 22.3 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 68 | 67.9 | 03.6 | 128 | 127.8 | 06.7 | 188 | 187.7 | 09.8 | 248 | 247.7 | 13.0 | 308 | 307.5 | 16.1 | 368 | 367.5 | 19.3 | 428 | 427.4 | 22.4 |
| | | | 69 | 68.9 | 03.6 | 129 | 128.8 | 06.8 | 189 | 188.7 | 09.9 | 249 | 248.7 | 13.0 | 309 | 308.5 | 16.2 | 369 | 368.5 | 19.3 | 429 | 428.4 | 22.5 |
| | | | 70 | 69.9 | 03.7 | 130 | 129.8 | 06.8 | 190 | 189.7 | 09.9 | 250 | 249.7 | 13.1 | 310 | 309.5 | 16.2 | 370 | 369.5 | 19.4 | 430 | 429.4 | 22.5 |
| 11 | 11.0 | 00.6 | 71 | 70.9 | 03.7 | 131 | 130.8 | 06.9 | 191 | 190.7 | 10.0 | 251 | 250.7 | 13.1 | 311 | 310.5 | 16.3 | 371 | 370.5 | 19.4 | 431 | 430.4 | 22.6 |
| 12 | 12.0 | 00.6 | 72 | 71.9 | 03.8 | 132 | 131.8 | 06.9 | 192 | 191.7 | 10.0 | 252 | 251.7 | 13.2 | 312 | 311.5 | 16.3 | 372 | 371.5 | 19.5 | 432 | 431.4 | 22.6 |
| 13 | 13.0 | 00.7 | 73 | 72.9 | 03.8 | 133 | 132.8 | 07.0 | 193 | 192.7 | 10.1 | 253 | 252.7 | 13.2 | 313 | 312.5 | 16.4 | 373 | 372.5 | 19.5 | 433 | 432.4 | 22.7 |
| 14 | 14.0 | 00.7 | 74 | 73.9 | 03.9 | 134 | 133.8 | 07.0 | 194 | 193.7 | 10.2 | 254 | 253.7 | 13.3 | 314 | 313.5 | 16.4 | 374 | 373.5 | 19.6 | 434 | 433.4 | 22.7 |
| 15 | 15.0 | 00.8 | | | | | | | | | | | | | | | | | | | | | |
| 16 | 16.0 | 00.8 | 76 | 75.9 | 04.0 | 136 | 135.8 | 07.1 | 196 | 195.7 | 10.3 | 256 | 255.6 | 13.4 | 316 | 315.5 | 16.6 | 376 | 375.5 | 19.7 | 436 | 435.4 | 22.8 |
| 17 | 17.0 | 00.9 | 77 | 76.9 | 04.0 | 137 | 136.8 | 07.2 | 197 | 196.7 | 10.3 | 257 | 256.6 | 13.5 | 317 | 316.5 | 16.6 | 377 | 376.5 | 19.8 | 437 | 436.4 | 22.9 |
| 18 | 18.0 | 00.9 | 78 | 77.9 | 04.1 | 138 | 137.8 | 07.2 | 198 | 197.7 | 10.4 | 258 | 257.6 | 13.5 | 318 | 317.5 | 16.7 | 378 | 377.4 | 19.8 | 438 | 437.4 | 22.9 |
| 19 | 19.0 | 01.0 | 79 | 78.9 | 04.1 | 139 | 138.8 | 07.3 | 199 | 198.7 | 10.4 | 259 | 258.6 | 13.6 | 319 | 318.5 | 16.7 | 379 | 378.4 | 19.9 | 439 | 438.4 | 23.0 |
| 20 | 20.0 | 01.0 | 80 | 79.9 | 04.2 | 140 | 139.8 | 07.3 | 200 | 199.7 | 10.5 | 260 | 259.6 | 13.6 | 320 | 319.5 | 16.8 | 380 | 379.4 | 19.9 | 440 | 439.4 | 23.0 |
| 21 | 21.0 | 01.1 | 81 | 80.9 | 04.2 | 141 | 140.8 | 07.4 | 201 | 200.7 | 10.5 | 261 | 260.6 | 13.7 | 321 | 320.5 | 16.8 | 381 | 380.4 | 20.0 | 441 | 440.4 | 23.1 |
| 22 | 22.0 | 01.2 | 82 | 81.9 | 04.3 | 142 | 141.8 | 07.4 | 202 | 201.7 | 10.6 | 262 | 261.6 | 13.7 | 322 | 321.5 | 16.9 | 382 | 381.4 | 20.0 | 442 | 441.4 | 23.1 |
| 23 | 23.0 | 01.2 | 83 | 82.9 | 04.3 | 143 | 142.8 | 07.5 | 203 | 202.7 | 10.6 | 263 | 262.6 | 13.8 | 323 | 322.5 | 16.9 | 383 | 382.4 | 20.1 | 443 | 442.4 | 23.2 |
| 24 | 24.0 | 01.3 | 84 | 83.9 | 04.4 | 144 | 143.8 | 07.5 | 204 | 203.7 | 10.7 | 264 | 263.6 | 13.8 | 324 | 323.5 | 17.0 | 384 | 383.4 | 20.1 | 444 | 443.4 | 23.3 |
| 25 | 25.0 | 01.3 | 85 | 84.9 | 04.4 | 145 | 144.8 | 07.6 | 205 | 204.7 | 10.7 | 265 | 264.6 | 13.9 | 325 | 324.5 | 17.0 | 385 | 384.4 | 20.2 | 445 | 444.4 | 23.3 |
| | | | | | | | | | | | | | | | | | | | | | | | |
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| 28 | 28.0 | 01.5 | 88 | 87.9 | 04.6 | 148 | 147.8 | 07.7 | 208 | 207.7 | 10.9 | 268 | 267.6 | 14.0 | 328 | 327.5 | 17.2 | 388 | 387.4 | 20.3 | 448 | 447.4 | 23.5 |
| | | | | | | 149 | 148.8 | 07.8 | 209 | 208.7 | 10.9 | 269 | 268.6 | 14.1 | 329 | 328.5 | 17.2 | 389 | 388.4 | 20.4 | 449 | 448.4 | 23.5 |
| | | | | | | 150 | 149.8 | 07.9 | 210 | 209.7 | 11.0 | 270 | 269.6 | 14.1 | 330 | 329.5 | 17.3 | 390 | 389.4 | 20.4 | 450 | 449.3 | 23.6 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 152 | 151.8 | 08.0 | 212 | 211.7 | 11.1 | 272 | 271.6 | 14.2 | 332 | 331.5 | 17.4 | 392 | 391.4 | 20.5 | 452 | 451.3 | 23.7 |
| | | | | | | 153 | 152.8 | 08.0 | 213 | 212.7 | 11.1 | 273 | 272.6 | 14.3 | 333 | 332.5 | 17.5 | 393 | 392.4 | 20.6 | 453 | 452.3 | 23.7 |
| | | | | | | 154 | 153.8 | 08.1 | 214 | 213.7 | 11.2 | 274 | 273.6 | 14.3 | 334 | 333.5 | 17.5 | 394 | 393.4 | 20.6 | 454 | 453.3 | 23.8 |
| | | | | | | 155 | 154.8 | 08.1 | 215 | 214.7 | 11.3 | 275 | 274.6 | 14.4 | 335 | 334.5 | 17.6 | 395 | 394.4 | 20.7 | 455 | 454.3 | 23.8 |
| | | | | | | 156 | 155.8 | 08.2 | 216 | 215.7 | 11.3 | 276 | 275.6 | 14.4 | 336 | 335.5 | 17.6 | 396 | 395.4 | 20.7 | 456 | 455.3 | 23.9 |
| | | | | | | 157 | 156.8 | 08.2 | 217 | 216.7 | 11.4 | 277 | 276.6 | 14.5 | 337 | 336.5 | 17.7 | 397 | 396.4 | 20.8 | 457 | 456.3 | 23.9 |
| | | | | | | 158 | 157.8 | 08.3 | 218 | 217.7 | 11.4 | 278 | 277.6 | 14.5 | 338 | 337.5 | 17.7 | 398 | 397.4 | 20.8 | 458 | 457.3 | 24.0 |
| | | | | | | 159 | 158.8 | 08.3 | 219 | 218.7 | 11.5 | 279 | 278.6 | 14.6 | 339 | 338.5 | 17.8 | 399 | 398.4 | 20.9 | 459 | 458.3 | 24.0 |
| | | | | 99.9 | 05.2 | 160 | 159.8 | 08.4 | 220 | 219.7 | 11.5 | 280 | 279.6 | 14.7 | 340 | 339.5 | 17.8 | 400 | 399.4 | 20.9 | 460 | 459.3 | 24.1 |
| | | | | 100.9 | 05.3 | 161 | 160.8 | 08.4 | 221 | 220.7 | 11.6 | 281 | 280.6 | 14.7 | 341 | | | | | | | | |
| | | | | 101.9 | 05.3 | 162 | 161.8 | 08.5 | 222 | 221.7 | 11.6 | 282 | 281.6 | 14.8 | 342 | | | | | | | | |
| | | | | 102.9 | 05.4 | 163 | 162.8 | 08.5 | 223 | 222.7 | 11.7 | 283 | 282.6 | 14.8 | 343 | 342.5 | 18.0 | 403 | 402.4 | 21.1 | | | |
| | | | | 102.9 | 05.4 | 164 | 163.8 | 08.6 | 224 | 223.7 | 11.7 | 284 | 283.6 | 14.9 | 344 | 343.5 | 18.0 | 404 | 403.4 | 21.2 | 464 | 463.3 | 24.3 |
| | | | | | | 165 | 164.8 | 08.6 | 225 | 224.7 | 11.8 | 285 | 284.6 | 14.9 | 345 | 344.5 | 18.1 | 405 | 404.4 | 21.2 | 465 | 464.3 | 24.4 |
| | | | | | | 166 | 165.8 | 08.7 | 226 | 225.7 | 11.8 | 286 | 285.6 | 15.0 | 346 | 345.5 | 18.1 | 406 | 405.4 | 21.3 | 466 | 465.3 | 24.4 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 168 | 167.8 | 08.8 | 228 | 227.7 | 11.9 | 288 | 287.6 | 15.1 | 348 | 347.5 | 18.2 | 408 | 407.4 | 21.4 | 468 | 467.3 | 24.5 |
| | | | | | | 169 | 168.8 | 08.8 | 229 | 228.7 | 12.0 | 289 | 288.6 | 15.1 | 349 | 348.5 | 18.3 | 409 | 408.4 | | | | |
| | | | | | | 170 | 169.8 | 08.9 | 230 | 229.7 | 12.0 | 290 | 289.6 | 15.2 | 350 | 349.5 | 18.3 | 410 | 409.4 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 232 | 231.7 | 12.1 | 292 | 291.6 | 15.3 | 352 | 351.5 | 18.4 | 412 | 411.4 | 21.6 | 472 | 471.3 | 24.7 |
| | | | | | | | | | 233 | 232.7 | 12.2 | 293 | 292.6 | 15.3 | 353 | 352.5 | 18.5 | 413 | 412.4 | 21.6 | 473 | 472.3 | 24.8 |
| | | | | | | | | | 234 | 233.7 | 12.2 | 294 | 293.6 | 15.4 | 354 | 353.5 | 18.5 | 414 | 413.4 | 21.7 | 474 | 473.3 | 24.8 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | 15.3 | 06.1 | 176 | 175.8 | 09.2 | 236 | 235.7 | 12.4 | 296 | 295.6 | 15.5 | 356 | 355.5 | 18.6 | 416 | 415.4 | 21.8 | 476 | 475.3 | 24.9 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | 238 | 237.7 | 12.5 | 298 | 297.6 | 15.6 | 358 | 357.5 | 18.7 | 418 | 417.4 | | | | |
| | | | | | | | | | 239 | 238.7 | 12.5 | 299 | 298.6 | 15.6 | 359 | 358.5 | 18.8 | 419 | 418.4 | | | | |

For 87 Degrees.

For 4 Degrees.

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 01.0 | 00.2 | 1 | 60 | 59.8 | 04.3 | 121 | 120.7 | 08.5 | 181 | 180.6 | 12.7 | 241 | 240.4 | 16.9 | 301 | 300.3 | 21.0 | 361 | 360.1 | 25.2 | 421 | 420.0 | 29.4 |
| 2 | 02.0 | 00.3 | 2 | 62 | 61.8 | 04.3 | 122 | 121.7 | 08.5 | 182 | 181.6 | 12.7 | 242 | 241.4 | 16.9 | 302 | 301.3 | 21.1 | 362 | 361.1 | 25.2 | 422 | 421.0 | 29.4 |
| 3 | 03.0 | 00.3 | 2 | 63 | 62.8 | 04.4 | 123 | 122.7 | 08.6 | 183 | 182.6 | 12.8 | 243 | 242.4 | 17.0 | 303 | 302.2 | 21.1 | 363 | 362.1 | 25.3 | 423 | 422.0 | 29.5 |
| 4 | 04.0 | 00.3 | 3 | 64 | 63.8 | 04.4 | 124 | 123.7 | 08.6 | 184 | 183.6 | 12.8 | 244 | 243.4 | 17.0 | 304 | 303.2 | 21.2 | 364 | 363.1 | 25.3 | 424 | 423.0 | 29.5 |
| 5 | 05.0 | 00.3 | 3 | 65 | 64.8 | 04.5 | 125 | 124.7 | 08.7 | 185 | 184.5 | 12.9 | 245 | 244.4 | 17.1 | 305 | 304.2 | 21.3 | 365 | 364.1 | 25.5 | 425 | 424.0 | 29.6 |
| 6 | 06.0 | 00.4 | 4 | 66 | 65.8 | 04.6 | 126 | 125.7 | 08.8 | 186 | 185.5 | 13.0 | 246 | 245.4 | 17.2 | 306 | 305.2 | 21.3 | 366 | 365.1 | 25.5 | 426 | 424.9 | 29.7 |
| 7 | 07.0 | 00.5 | 5 | 67 | 66.8 | 04.7 | 127 | 126.7 | 08.9 | 187 | 186.5 | 13.0 | 247 | 246.4 | 17.2 | 307 | 306.2 | 21.4 | 367 | 366.1 | 25.6 | 427 | 425.9 | 29.8 |
| 8 | 08.0 | 00.6 | 6 | 68 | 67.8 | 04.7 | 128 | 127.7 | 08.9 | 188 | 187.5 | 13.1 | 248 | 247.4 | 17.3 | 308 | 307.2 | 21.5 | 368 | 367.1 | 25.7 | 428 | 426.9 | 29.9 |
| 9 | 09.0 | 00.6 | 6 | 69 | 68.8 | 04.8 | 129 | 128.7 | 09.0 | 189 | 188.5 | 13.2 | 249 | 248.4 | 17.4 | 309 | 308.2 | 21.6 | 369 | 368.1 | 25.7 | 429 | 427.9 | 29.9 |
| 10 | 10.0 | 00.7 | 7 | 70 | 69.8 | 04.9 | 130 | 129.7 | 09.1 | 190 | 189.5 | 13.3 | 250 | 249.4 | 17.5 | 310 | 309.2 | 21.7 | 370 | 369.1 | 25.8 | 430 | 428.9 | 30.0 |
| 11 | 11.0 | 00.8 | 8 | 71 | 70.8 | 04.9 | 131 | 130.7 | 09.2 | 191 | 190.5 | 13.3 | 251 | 250.4 | 17.5 | 311 | 310.2 | 21.7 | 371 | 370.1 | 25.9 | 431 | 429.9 | 30.1 |
| 12 | 12.0 | 00.8 | 8 | 72 | 71.8 | 05.0 | 132 | 131.7 | 09.2 | 192 | 191.5 | 13.4 | 252 | 251.4 | 17.6 | 312 | 311.2 | 21.8 | 372 | 371.1 | 25.9 | 432 | 430.9 | 30.1 |
| 13 | 13.0 | 00.9 | 9 | 73 | 72.8 | 05.1 | 133 | 132.7 | 09.3 | 193 | 192.5 | 13.5 | 253 | 252.4 | 17.7 | 313 | 312.2 | 21.9 | 373 | 372.1 | 26.0 | 433 | 431.9 | 30.2 |
| 14 | 14.0 | 01.0 | 9 | 74 | 73.8 | 05.2 | 134 | 133.7 | 09.4 | 194 | 193.5 | 13.5 | 254 | 253.4 | 17.7 | 314 | 313.2 | 21.9 | 374 | 373.1 | 26.1 | 434 | 432.9 | 30.3 |
| 15 | 15.0 | 01.0 | 10 | 75 | 74.8 | 05.2 | 135 | 134.7 | 09.4 | 195 | 194.5 | 13.6 | 255 | 254.4 | 17.8 | 315 | 314.2 | 22.0 | 375 | 374.1 | 26.2 | 435 | 433.9 | 30.3 |
| 16 | 16.0 | 01.1 | 11 | 76 | 75.8 | 05.3 | 136 | 135.7 | 09.5 | 196 | 195.5 | 13.7 | 256 | 255.4 | 17.9 | 316 | 315.2 | 22.1 | 376 | 375.1 | 26.2 | 436 | 434.9 | 30.4 |
| 17 | 17.0 | 01.2 | 12 | 77 | 76.8 | 05.4 | 137 | 136.7 | 09.6 | 197 | 196.5 | 13.8 | 257 | 256.4 | 18.0 | 317 | 316.2 | 22.2 | 377 | 376.1 | 26.3 | 437 | 435.9 | 30.5 |
| 18 | 18.0 | 01.3 | 13 | 78 | 77.8 | 05.4 | 138 | 137.7 | 09.6 | 198 | 197.5 | 13.8 | 258 | 257.4 | 18.0 | 318 | 317.2 | 22.2 | 378 | 377.1 | 26.4 | 438 | 436.9 | 30.6 |
| 19 | 19.0 | 01.3 | 13 | 79 | 78.8 | 05.5 | 139 | 138.7 | 09.7 | 199 | 198.5 | 13.9 | 259 | 258.4 | 18.1 | 319 | 318.2 | 22.3 | 379 | 378.1 | 26.5 | 439 | 437.9 | 30.6 |
| 20 | 20.0 | 01.4 | 14 | 80 | 79.8 | 05.6 | 140 | 139.7 | 09.8 | 200 | 199.5 | 14.0 | 260 | 259.4 | 18.2 | 320 | 319.2 | 22.4 | 380 | 379.1 | 26.5 | 440 | 438.9 | 30.7 |
| 21 | 20.9 | 01.5 | 15 | 81 | 80.8 | 05.7 | 141 | 140.7 | 09.8 | 201 | 200.5 | 14.0 | 261 | 260.4 | 18.2 | 321 | 320.2 | 22.4 | 381 | 380.1 | 26.6 | 441 | 439.9 | 30.8 |
| 22 | 21.9 | 01.5 | 15 | 82 | 81.8 | 05.7 | 142 | 141.7 | 09.9 | 202 | 201.5 | 14.1 | 262 | 261.4 | 18.3 | 322 | 321.2 | 22.5 | 382 | 381.1 | 26.7 | 442 | 440.9 | 30.8 |
| 23 | 22.9 | 01.6 | 16 | 83 | 82.8 | 05.8 | 143 | 142.7 | 10.0 | 203 | 202.5 | 14.2 | 263 | 262.4 | 18.3 | 323 | 322.2 | 22.5 | 383 | 382.1 | 26.7 | 443 | 441.9 | 30.9 |
| 24 | 23.9 | 01.7 | 17 | 84 | 83.8 | 05.9 | 144 | 143.6 | 10.0 | 204 | 203.5 | 14.2 | 264 | 263.4 | 18.4 | 324 | 323.2 | 22.6 | 384 | 383.1 | 26.8 | 444 | 442.9 | 31.0 |
| 25 | 24.9 | 01.7 | 17 | 85 | 84.8 | 05.9 | 145 | 144.6 | 10.1 | 205 | 204.5 | 14.3 | 265 | 264.4 | 18.5 | 325 | 324.2 | 22.7 | 385 | 384.0 | 26.9 | 445 | 443.9 | 31.0 |
| 26 | 25.9 | 01.8 | 18 | 86 | 85.8 | 06.0 | 146 | 145.6 | 10.2 | 206 | 205.5 | 14.4 | 266 | 265.4 | 18.6 | 326 | 325.2 | 22.7 | 386 | 385.0 | 26.9 | 446 | 444.9 | 31.1 |
| 27 | 26.9 | 01.9 | 19 | 87 | 86.8 | 06.1 | 147 | 146.6 | 10.3 | 207 | 206.5 | 14.4 | 267 | 266.4 | 18.6 | 327 | 326.2 | 22.8 | 387 | 386.0 | 27.0 | 447 | 445.9 | 31.2 |
| 28 | 27.9 | 02.0 | 20 | 88 | 87.8 | 06.1 | 148 | 147.6 | 10.3 | 208 | 207.5 | 14.5 | 268 | 267.4 | 18.7 | 328 | 327.2 | 22.9 | 388 | 387.0 | 27.1 | 448 | 446.9 | 31.2 |
| 29 | 28.9 | 02.0 | 20 | 89 | 88.8 | 06.2 | 149 | 148.6 | 10.4 | 209 | 208.5 | 14.6 | 269 | 268.3 | 18.8 | 329 | 328.2 | 23.0 | 389 | 388.0 | 27.2 | 449 | 447.9 | 31.3 |
| 30 | 29.9 | 02.1 | 21 | 90 | 89.8 | 06.3 | 150 | 149.6 | 10.5 | 210 | 209.5 | 14.6 | 270 | 269.3 | 18.8 | 330 | 329.2 | 23.0 | 390 | 389.0 | 27.3 | 450 | 448.9 | 31.4 |
| 31 | 30.9 | 02.2 | 22 | 91 | 90.8 | 06.3 | 151 | 150.6 | 10.5 | 211 | 210.5 | 14.7 | 271 | 270.3 | 18.9 | 331 | 330.2 | 23.1 | 391 | 390.0 | 27.3 | 451 | 449.9 | 31.5 |
| 32 | 31.9 | 02.2 | 23 | 92 | 91.8 | 06.4 | 152 | 151.6 | 10.6 | 212 | 211.5 | 14.8 | 272 | 271.3 | 19.0 | 332 | 331.2 | 23.2 | 392 | 391.0 | 27.4 | 452 | 450.9 | 31.5 |
| 33 | 32.9 | 02.3 | 23 | 93 | 92.8 | 06.5 | 153 | 152.6 | 10.7 | 213 | 212.5 | 14.9 | 273 | 272.3 | 19.0 | 333 | 332.2 | 23.2 | 393 | 392.0 | 27.5 | 453 | 451.9 | 31.6 |
| 34 | 33.9 | 02.4 | 24 | 94 | 93.8 | 06.6 | 154 | 153.6 | 10.7 | 214 | 213.5 | 14.9 | 274 | 273.3 | 19.1 | 334 | 333.2 | 23.3 | 394 | 393.0 | 27.5 | 454 | 452.9 | 31.7 |
| 35 | 34.9 | 02.4 | 25 | 95 | 94.8 | 06.6 | 155 | 154.6 | 10.8 | 215 | 214.5 | 15.0 | 275 | 274.3 | 19.2 | 335 | 334.2 | 23.4 | 395 | 394.0 | 27.6 | 455 | 453.9 | 31.7 |
| 36 | 35.9 | 02.5 | 26 | 96 | 95.8 | 06.7 | 156 | 155.6 | 10.9 | 216 | 215.5 | 15.1 | 276 | 275.3 | 19.2 | 336 | 335.2 | 23.4 | 396 | 395.0 | 27.7 | 456 | 454.9 | 31.8 |
| 37 | 36.9 | 02.6 | 27 | 97 | 96.8 | 06.8 | 157 | 156.6 | 10.9 | 217 | 216.5 | 15.1 | 277 | 276.3 | 19.3 | 337 | 336.2 | 23.5 | 397 | 396.0 | 27.7 | 457 | 455.9 | 31.9 |
| 38 | 37.9 | 02.7 | 28 | 98 | 97.8 | 06.8 | 158 | 157.6 | 11.0 | 218 | 217.5 | 15.2 | 278 | 277.3 | 19.4 | 338 | 337.2 | 23.6 | 398 | 397.0 | 27.8 | 458 | 456.9 | 31.9 |
| 39 | 38.9 | 02.7 | 28 | 99 | 98.8 | 06.9 | 159 | 158.6 | 11.1 | 219 | 218.5 | 15.3 | 279 | 278.3 | 19.5 | 339 | 338.2 | 23.6 | 399 | 398.0 | 27.9 | 459 | 457.9 | 32.0 |
| 40 | 39.9 | 02.8 | 29 | 100 | 99.8 | 07.0 | 160 | 159.6 | 11.2 | 220 | 219.5 | 15.3 | 280 | 279.3 | 19.5 | 340 | 339.2 | 23.7 | 400 | 399.0 | 28.0 | 460 | 458.9 | 32.1 |
| 41 | 40.9 | 02.9 | 29 | 101 | 100.8 | 07.0 | 161 | 160.6 | 11.2 | 221 | 220.5 | 15.4 | 281 | 280.3 | 19.6 | 341 | 340.2 | 23.8 | 401 | 400.0 | 28.0 | 461 | 459.9 | 32.2 |
| 42 | 41.9 | 02.9 | 30 | 102 | 101.8 | 07.1 | 162 | 161.6 | 11.3 | 222 | 221.5 | 15.5 | 282 | 281.3 | 19.7 | 342 | 341.2 | 23.8 | 402 | 401.0 | 28.1 | 462 | 460.9 | 32.2 |
| 43 | 42.9 | 03.0 | 30 | 103 | 102.8 | 07.2 | 163 | 162.6 | 11.4 | 223 | 222.5 | 15.6 | 283 | 282.3 | 19.7 | 343 | 342.2 | 23.9 | 403 | 402.0 | 28.2 | 463 | 461.9 | 32.3 |
| 44 | 43.9 | 03.1 | 31 | 104 | 103.8 | 07.2 | 164 | 163.6 | 11.4 | 224 | 223.5 | 15.6 | 284 | 283.3 | 19.8 | 344 | 343.2 | 24.0 | 404 | 403.0 | 28.2 | 464 | 462.9 | 32.4 |
| 45 | 44.9 | 03.1 | 32 | 105 | 104.8 | 07.3 | 165 | 164.6 | 11.5 | 225 | 224.5 | 15.7 | 285 | 284.3 | 19.9 | 345 | 344.2 | 24.1 | 405 | 404.0 | 28.3 | 465 | 463.9 | 32.4 |
| 46 | 45.9 | 03.2 | 32 | 106 | 105.8 | 07.4 | 166 | 165.6 | 11.6 | 226 | 225.5 | 15.8 | 286 | 285.3 | 20.0 | 346 | 345.2 | 24.1 | 406 | 405.0 | 28.4 | 466 | 464.9 | 32.5 |
| 47 | 46.9 | 03.3 | 33 | 107 | 106.8 | 07.4 | 167 | 166.6 | 11.6 | 227 | 226.5 | 15.8 | 287 | 286.3 | 20.0 | 347 | 346.2 | 24.2 | 407 | 406.0 | 28.4 | 467 | 465.9 | 32.6 |
| 48 | 47.9 | 03.3 | 33 | 108 | 107.8 | 07.5 | 168 | 167.6 | 11.7 | 228 | 227.5 | 15.9 | 288 | 287.3 | 20.1 | 348 | 347.2 | 24.3 | 408 | 407.0 | 28.5 | 468 | 466.9 | 32.6 |
| 49 | 48.9 | 03.4 | 34 | 109 | 108.8 | 07.6 | 169 | 168.6 | 11.8 | 229 | 228.5 | 16.0 | 289 | 288.3 | 20.2 | 349 | 348.2 | 24.3 | 409 | 408.0 | 28.6 | 469 | 467.9 | 32.7 |
| 50 | 49.9 | 03.5 | 35 | 110 | 109.8 | 07.6 | 170 | 169.6 | 11.8 | 230 | 229.5 | 16.0 | 290 | 289.3 | 20.2 | 350 | 349.2 | 24.4 | 410 | 409.0 | 28.6 | 470 | 468.9 | 32.8 |
| 51 | 50.9 | 03.5 | 35 | 111 | 110.8 | 07.7 | 171 | 170.6 | 11.9 | 231 | 230.5 | 16.1 | 291 | 290.3 | 20.3 | 351 | 350.2 | 24.5 | 411 | 410.0 | 28.7 | 471 | 469.9 | 32.9 |
| 52 | 51.9 | 03.6 | 36 | 112 | 111.8 | 07.7 | 172 | 171.6 | 12.0 | 232 | 231.5 | 16.2 | 292 | 291.3 | 20.4 | 352 | 351.2 | 24.5 | 412 | 411.0 | 28.8 | 472 | 470.9 | 32.9 |
| 53 | 52.9 | 03.7 | 37 | 113 | 112.8 | 07.8 | 173 | 172.6 | 12.1 | 233 | 232.5 | 16.2 | 293 | 292.3 | 20.4 | 353 | 352.2 | 24.6 | 413 | 412.0 | 28.8 | 473 | 471.9 | 33.0 |
| 54 | 53.9 | 03.8 | 38 | 114 | 113.8 | 07.8 | 174 | 173.6 | 12.1 | 234 | 233.5 | 16.3 | 294 | 293.3 | 20.5 | 354 | 353.2 | 24.7 | 414 | 413.0 | 28.9 | 474 | 472.9 | 33.1 |
| 55 | 54.9 | 03.8 | 38 | 115 | 114.8 | 07.9 | 175 | 174.6 | 12.2 | 235 | 234.5 | 16.4 | 295 | 294.3 | 20.6 | 355 | 354.2 | 24.8 | 415 | 414.0 | 29.0 | 475 | 473.9 | 33.1 |
| 56 | 55.9 | 03.9 | 39 | 116 | 115.8 | 08.0 | 176 | 175.6 | 12.3 | 236 | 235.5 | 16.5 | 296 | 295.3 | 20.7 | 356 | 355.2 | 24.8 | 416 | 415.0 | 29.1 | 476 | 474.9 | 33.2 |
| 57 | 56.9 | 04.0 | 40 | 117 | 116.8 | 08.0 | 177 | 176.6 | 12.3 | 237 | 236.5 | 16.5 | 297 | 296.3 | 20.7 | 357 | 356.2 | 24.9 | 417 | 416.0 | 29.1 | 477 | 475.9 | 33.3 |
| 58 | 57.9 | 04.0 | 40 | 118 | 117.8 | 08.1 | 178 | 177.6 | 12.4 | 238 | 237.5 | 16.6 | 298 | 297.3 | 20.8 | 358 | 357.2 | 25.0 | 418 | 417.0 | 29.2 | 478 | 476.9 | 33.3 |
| 59 | 58.9 | 04.1 | 41 | 119 | 118.8 | 08.2 | 179 | 178.6 | 12.5 | 239 | 238.5 | 16.7 | 299 | 298.3 | 20.9 | 359 | 358.2 | 25.1 | 419 | 418.0 | 29.3 | 479 | 477.9 | 33.4 |
| 60 | 59.9 | 04.2 | 42 | 120 | 119.8 | 08.2 | 180 | 179.6 | 12.6 | 240 | 239.5 | 16.7 | 300 | 299.3 | 20.9 | 360 | 359.2 | 25.1 | 420 | 419.0 | 29.3 | 480 | 478.9 | 33.5 |

For 86 Degrees.

For 5 Degrees.

| D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 01. 0 | 00. 1 | 61 | 60. 8 | 05. 3 | 121 | 120. 5 | 10. 5 | 181 | 180. 3 | 15. 8 | 241 | 240. 1 | 21. 0 | 301 | 299. 9 | 26. 2 | 361 | 359. 6 | 31. 5 | 421 | 419. 4 | 36. 7 |
| 2 | 02. 0 | 00. 2 | 62 | 61. 8 | 05. 4 | 122 | 121. 5 | 10. 6 | 182 | 181. 3 | 15. 9 | 242 | 241. 1 | 21. 1 | 302 | 300. 8 | 26. 3 | 362 | 360. 6 | 31. 6 | 422 | 420. 4 | 36. 8 |
| 3 | 03. 0 | 00. 3 | 63 | 62. 8 | 05. 5 | 123 | 122. 5 | 10. 7 | 183 | 182. 3 | 15. 9 | 243 | 242. 1 | 21. 2 | 303 | 301. 8 | 26. 4 | 363 | 361. 6 | 31. 6 | 423 | 421. 4 | 36. 9 |
| 4 | 04. 0 | 00. 3 | 64 | 63. 8 | 05. 6 | 124 | 123. 5 | 10. 8 | 184 | 183. 3 | 16. 0 | 244 | 243. 1 | 21. 3 | 304 | 302. 8 | 26. 5 | 364 | 362. 6 | 31. 7 | 424 | 422. 4 | 37. 0 |
| 5 | 05. 0 | 00. 4 | 65 | 64. 8 | 05. 7 | 125 | 124. 5 | 10. 9 | 185 | 184. 3 | 16. 1 | 245 | 244. 1 | 21. 4 | 305 | 303. 8 | 26. 6 | 365 | 363. 6 | 31. 8 | 425 | 423. 4 | 37. 1 |
| 6 | 06. 0 | 00. 5 | 66 | 65. 7 | 05. 7 | 126 | 125. 5 | 11. 0 | 186 | 185. 3 | 16. 2 | 246 | 245. 1 | 21. 4 | 306 | 304. 8 | 26. 7 | 366 | 364. 6 | 31. 9 | 426 | 424. 4 | 37. 1 |
| 7 | 07. 0 | 00. 6 | 67 | 66. 7 | 05. 8 | 127 | 126. 5 | 11. 1 | 187 | 186. 3 | 16. 3 | 247 | 246. 1 | 21. 5 | 307 | 305. 8 | 26. 8 | 367 | 365. 6 | 32. 0 | 427 | 425. 4 | 37. 2 |
| 8 | 08. 0 | 00. 7 | 68 | 67. 7 | 05. 9 | 128 | 127. 5 | 11. 1 | 188 | 187. 3 | 16. 4 | 248 | 247. 1 | 21. 6 | 308 | 306. 8 | 26. 9 | 368 | 366. 6 | 32. 1 | 428 | 426. 4 | 37. 3 |
| 9 | 09. 0 | 00. 8 | 69 | 68. 7 | 06. 0 | 129 | 128. 5 | 11. 2 | 189 | 188. 3 | 16. 5 | 249 | 248. 1 | 21. 7 | 309 | 307. 8 | 26. 9 | 369 | 367. 6 | 32. 2 | 429 | 427. 4 | 37. 4 |
| 10 | 10. 0 | 00. 9 | 70 | 69. 7 | 06. 1 | 130 | 129. 5 | 11. 3 | 190 | 189. 3 | 16. 6 | 250 | 249. 1 | 21. 8 | 310 | 308. 8 | 27. 0 | 370 | 368. 6 | 32. 3 | 430 | 428. 4 | 37. 5 |
| 11 | 11. 0 | 01. 0 | 71 | 70. 7 | 06. 2 | 131 | 130. 5 | 11. 4 | 191 | 190. 3 | 16. 6 | 251 | 250. 1 | 21. 9 | 311 | 309. 8 | 27. 1 | 371 | 369. 6 | 32. 3 | 431 | 429. 4 | 37. 6 |
| 12 | 12. 0 | 01. 0 | 72 | 71. 7 | 06. 3 | 132 | 131. 5 | 11. 5 | 192 | 191. 3 | 16. 7 | 252 | 251. 1 | 22. 0 | 312 | 310. 8 | 27. 2 | 372 | 370. 6 | 32. 4 | 432 | 430. 4 | 37. 7 |
| 13 | 13. 0 | 01. 1 | 73 | 72. 7 | 06. 4 | 133 | 132. 5 | 11. 6 | 193 | 192. 3 | 16. 8 | 253 | 252. 1 | 22. 1 | 313 | 311. 8 | 27. 3 | 373 | 371. 6 | 32. 5 | 433 | 431. 4 | 37. 7 |
| 14 | 13. 0 | 01. 2 | 74 | 73. 7 | 06. 4 | 134 | 133. 5 | 11. 7 | 194 | 193. 3 | 16. 9 | 254 | 253. 1 | 22. 1 | 314 | 312. 8 | 27. 3 | 374 | 372. 6 | 32. 6 | 434 | 432. 4 | 37. 8 |
| 15 | 14. 9 | 01. 3 | 75 | 74. 7 | 06. 5 | 135 | 134. 5 | 11. 8 | 195 | 194. 3 | 17. 0 | 255 | 254. 0 | 22. 2 | 315 | 313. 8 | 27. 5 | 375 | 373. 6 | 32. 7 | 435 | 433. 3 | 37. 9 |
| 16 | 15. 9 | 01. 4 | 76 | 75. 7 | 06. 6 | 136 | 135. 5 | 11. 9 | 196 | 195. 3 | 17. 1 | 256 | 255. 0 | 22. 3 | 316 | 314. 8 | 27. 5 | 376 | 374. 6 | 32. 8 | 436 | 434. 3 | 38. 0 |
| 17 | 16. 9 | 01. 5 | 77 | 76. 7 | 06. 7 | 137 | 136. 5 | 11. 9 | 197 | 196. 3 | 17. 2 | 257 | 256. 0 | 22. 4 | 317 | 315. 8 | 27. 6 | 377 | 375. 6 | 32. 9 | 437 | 435. 3 | 38. 1 |
| 18 | 17. 9 | 01. 6 | 78 | 77. 7 | 06. 8 | 138 | 137. 5 | 12. 0 | 198 | 197. 2 | 17. 3 | 258 | 257. 0 | 22. 5 | 318 | 316. 8 | 27. 7 | 378 | 376. 6 | 33. 0 | 438 | 436. 3 | 38. 2 |
| 19 | 18. 9 | 01. 7 | 79 | 78. 7 | 06. 9 | 139 | 138. 5 | 12. 1 | 199 | 198. 2 | 17. 3 | 259 | 258. 0 | 22. 6 | 319 | 317. 8 | 27. 8 | 379 | 377. 6 | 33. 0 | 439 | 437. 3 | 38. 3 |
| 20 | 19. 9 | 01. 7 | 80 | 79. 7 | 07. 0 | 140 | 139. 5 | 12. 2 | 200 | 199. 2 | 17. 4 | 260 | 259. 0 | 22. 7 | 320 | 318. 8 | 27. 9 | 380 | 378. 6 | 33. 1 | 440 | 438. 3 | 38. 4 |
| 21 | 20. 9 | 01. 8 | 81 | 80. 7 | 07. 1 | 141 | 140. 5 | 12. 3 | 201 | 200. 2 | 17. 5 | 261 | 260. 0 | 22. 7 | 321 | 319. 8 | 28. 0 | 381 | 379. 5 | 33. 2 | 441 | 439. 3 | 38. 5 |
| 22 | 21. 9 | 01. 9 | 82 | 81. 7 | 07. 1 | 142 | 141. 5 | 12. 4 | 202 | 201. 2 | 17. 6 | 262 | 261. 0 | 22. 8 | 322 | 320. 8 | 28. 1 | 382 | 380. 5 | 33. 3 | 442 | 440. 3 | 38. 5 |
| 23 | 22. 9 | 02. 0 | 83 | 82. 7 | 07. 2 | 143 | 142. 5 | 12. 5 | 203 | 202. 2 | 17. 7 | 263 | 262. 0 | 22. 9 | 323 | 321. 8 | 28. 2 | 383 | 381. 5 | 33. 4 | 443 | 441. 3 | 38. 6 |
| 24 | 23. 9 | 02. 1 | 84 | 83. 7 | 07. 3 | 144 | 143. 5 | 12. 6 | 204 | 203. 2 | 17. 8 | 264 | 263. 0 | 23. 0 | 324 | 322. 8 | 28. 2 | 384 | 382. 5 | 33. 5 | 444 | 442. 3 | 38. 7 |
| 25 | 24. 9 | 02. 2 | 85 | 84. 7 | 07. 4 | 145 | 144. 4 | 12. 6 | 205 | 204. 2 | 17. 9 | 265 | 264. 0 | 23. 1 | 325 | 323. 8 | 28. 3 | 385 | 383. 5 | 33. 6 | 445 | 443. 3 | 38. 8 |
| 26 | 25. 9 | 02. 3 | 86 | 85. 7 | 07. 5 | 146 | 145. 4 | 12. 7 | 206 | 205. 2 | 18. 0 | 266 | 265. 0 | 23. 2 | 326 | 324. 8 | 28. 4 | 386 | 384. 5 | 33. 7 | 446 | 444. 3 | 38. 9 |
| 27 | 26. 9 | 02. 4 | 87 | 86. 7 | 07. 6 | 147 | 146. 4 | 12. 8 | 207 | 206. 2 | 18. 0 | 267 | 266. 0 | 23. 3 | 327 | 325. 8 | 28. 5 | 387 | 385. 5 | 33. 7 | 447 | 445. 3 | 39. 0 |
| 28 | 27. 9 | 02. 5 | 88 | 87. 7 | 07. 7 | 148 | 147. 4 | 12. 9 | 208 | 207. 2 | 18. 1 | 268 | 267. 0 | 23. 4 | 328 | 326. 7 | 28. 6 | 388 | 386. 5 | 33. 8 | 448 | 446. 3 | 39. 1 |
| 29 | 28. 9 | 02. 5 | 89 | 88. 7 | 07. 8 | 149 | 148. 4 | 13. 0 | 209 | 208. 2 | 18. 2 | 269 | 268. 0 | 23. 5 | 329 | 327. 7 | 28. 7 | 389 | 387. 5 | 33. 9 | 449 | 447. 3 | 39. 2 |
| 30 | 29. 9 | 02. 6 | 90 | 89. 7 | 07. 8 | 150 | 149. 4 | 13. 1 | 210 | 209. 2 | 18. 3 | 270 | 269. 0 | 23. 6 | 330 | 328. 7 | 28. 8 | 390 | 388. 5 | 34. 0 | 450 | 448. 3 | 39. 3 |
| 31 | 30. 9 | 02. 7 | 91 | 90. 7 | 07. 9 | 151 | 150. 4 | 13. 2 | 211 | 210. 2 | 18. 4 | 271 | 270. 0 | 23. 6 | 331 | 329. 7 | 28. 9 | 391 | 389. 5 | 34. 1 | 451 | 449. 3 | 39. 4 |
| 32 | 31. 9 | 02. 8 | 92 | 91. 7 | 08. 0 | 152 | 151. 4 | 13. 3 | 212 | 211. 2 | 18. 5 | 272 | 271. 0 | 23. 7 | 332 | 330. 7 | 28. 9 | 392 | 390. 5 | 34. 2 | 452 | 450. 3 | 39. 4 |
| 33 | 32. 9 | 02. 9 | 93 | 92. 7 | 08. 1 | 153 | 152. 4 | 13. 3 | 213 | 212. 2 | 18. 6 | 273 | 272. 0 | 23. 8 | 333 | 331. 7 | 29. 0 | 393 | 391. 5 | 34. 3 | 453 | 451. 3 | 39. 5 |
| 34 | 33. 9 | 02. 9 | 94 | 93. 7 | 08. 2 | 154 | 153. 4 | 13. 4 | 214 | 213. 2 | 18. 7 | 274 | 273. 0 | 23. 9 | 334 | 332. 7 | 29. 1 | 394 | 392. 5 | 34. 3 | 454 | 452. 3 | 39. 6 |
| 35 | 34. 9 | 03. 0 | 95 | 94. 7 | 08. 3 | 155 | 154. 4 | 13. 5 | 215 | 214. 2 | 18. 7 | 275 | 274. 0 | 24. 0 | 335 | 333. 7 | 29. 2 | 395 | 393. 5 | 34. 4 | 455 | 453. 3 | 39. 7 |
| 36 | 35. 9 | 03. 1 | 96 | 95. 7 | 08. 4 | 156 | 155. 4 | 13. 6 | 216 | 215. 2 | 18. 8 | 276 | 274. 9 | 24. 1 | 336 | 334. 7 | 29. 3 | 396 | 394. 5 | 34. 5 | 456 | 454. 3 | 39. 8 |
| 37 | 36. 9 | 03. 2 | 97 | 96. 7 | 08. 5 | 157 | 156. 4 | 13. 7 | 217 | 216. 2 | 18. 9 | 277 | 275. 9 | 24. 1 | 337 | 335. 7 | 29. 4 | 397 | 395. 5 | 34. 6 | 457 | 455. 3 | 39. 9 |
| 38 | 37. 9 | 03. 3 | 98 | 97. 7 | 08. 5 | 158 | 157. 4 | 13. 8 | 218 | 217. 2 | 19. 0 | 278 | 276. 9 | 24. 2 | 338 | 336. 7 | 29. 5 | 398 | 396. 5 | 34. 7 | 458 | 456. 3 | 40. 0 |
| 39 | 38. 9 | 03. 4 | 99 | 98. 7 | 08. 6 | 159 | 158. 4 | 13. 9 | 219 | 218. 2 | 19. 1 | 279 | 277. 9 | 24. 3 | 339 | 337. 7 | 29. 6 | 399 | 397. 5 | 34. 8 | 459 | 457. 3 | 40. 1 |
| 40 | 39. 9 | 03. 5 | 100 | 99. 7 | 08. 7 | 160 | 159. 4 | 14. 0 | 220 | 219. 2 | 19. 2 | 280 | 278. 9 | 24. 4 | 340 | 338. 7 | 29. 6 | 400 | 398. 5 | 34. 9 | 460 | 458. 3 | 40. 2 |
| 41 | 40. 9 | 03. 6 | 101 | 100. 7 | 08. 8 | 161 | 160. 4 | 14. 1 | 221 | 220. 2 | 19. 3 | 281 | 279. 9 | 24. 5 | 341 | 339. 7 | 29. 7 | 401 | 399. 5 | 35. 0 | 461 | 459. 3 | 40. 3 |
| 42 | 41. 9 | 03. 7 | 102 | 101. 6 | 08. 9 | 162 | 161. 4 | 14. 1 | 222 | 221. 2 | 19. 3 | 282 | 280. 9 | 24. 6 | 342 | 340. 7 | 29. 8 | 402 | 400. 5 | 35. 1 | 462 | 460. 3 | 40. 4 |
| 43 | 42. 8 | 03. 7 | 103 | 102. 6 | 09. 0 | 163 | 162. 4 | 14. 2 | 223 | 222. 2 | 19. 4 | 283 | 281. 9 | 24. 7 | 343 | 341. 7 | 29. 9 | 403 | 401. 5 | 35. 1 | 463 | 461. 2 | 40. 4 |
| 44 | 43. 9 | 03. 8 | 104 | 103. 6 | 09. 1 | 164 | 163. 4 | 14. 3 | 224 | 223. 1 | 19. 5 | 284 | 282. 9 | 24. 8 | 344 | 342. 7 | 30. 0 | 404 | 402. 5 | 35. 2 | 464 | 462. 2 | 40. 5 |
| 45 | 44. 9 | 03. 9 | 105 | 104. 6 | 09. 2 | 165 | 164. 4 | 14. 4 | 225 | 224. 1 | 19. 6 | 285 | 283. 9 | 24. 8 | 345 | 343. 7 | 30. 1 | 405 | 403. 5 | 35. 3 | 465 | 463. 2 | 40. 6 |
| 46 | 45. 9 | 04. 0 | 106 | 105. 6 | 09. 3 | 166 | 165. 4 | 14. 5 | 226 | 225. 1 | 19. 7 | 286 | 284. 9 | 24. 9 | 346 | 344. 7 | 30. 2 | 406 | 404. 5 | 35. 4 | 466 | 464. 2 | 40. 7 |
| 47 | 46. 9 | 04. 1 | 107 | 106. 6 | 09. 3 | 167 | 166. 4 | 14. 6 | 227 | 226. 1 | 19. 8 | 287 | 285. 9 | 25. 0 | 347 | 345. 7 | 30. 3 | 407 | 405. 5 | 35. 5 | 467 | 465. 2 | 40. 8 |
| 48 | 47. 9 | 04. 2 | 108 | 107. 6 | 09. 4 | 168 | 167. 4 | 14. 7 | 228 | 227. 1 | 19. 9 | 288 | 286. 9 | 25. 1 | 348 | 346. 7 | 30. 4 | 408 | 406. 5 | 35. 6 | 468 | 466. 2 | 40. 9 |
| 49 | 48. 9 | 04. 3 | 109 | 108. 6 | 09. 5 | 169 | 168. 4 | 14. 8 | 229 | 228. 1 | 20. 0 | 289 | 287. 9 | 25. 2 | 349 | 347. 7 | 30. 5 | 409 | 407. 5 | 35. 7 | 469 | 467. 2 | 41. 0 |
| 50 | 49. 9 | 04. 4 | 110 | 109. 6 | 09. 6 | 170 | 169. 4 | 14. 8 | 230 | 229. 1 | 20. 1 | 290 | 288. 9 | 25. 3 | 350 | 348. 7 | 30. 5 | 410 | 408. 5 | 35. 8 | 470 | 468. 2 | 41. 1 |
| 51 | 50. 9 | 04. 4 | 111 | 110. 6 | 09. 7 | 171 | 170. 3 | 14. 9 | 231 | 230. 1 | 20. 2 | 291 | 289. 9 | 25. 4 | 351 | 349. 7 | 30. 6 | 411 | 409. 5 | 35. 9 | 471 | 469. 2 | 41. 2 |
| 52 | 51. 9 | 04. 5 | 112 | 111. 6 | 09. 8 | 172 | 171. 3 | 15. 0 | 232 | 231. 1 | 20. 3 | 292 | 290. 9 | 25. 5 | 352 | 350. 7 | 30. 7 | 412 | 410. 4 | 36. 0 | 472 | 470. 2 | 41. 3 |
| 53 | 52. 9 | 04. 6 | 113 | 112. 6 | 09. 8 | 173 | 172. 3 | 15. 1 | 233 | 232. 1 | 20. 4 | 293 | 291. 9 | 25. 6 | 353 | 351. 7 | 30. 8 | 413 | 411. 4 | 36. 0 | 473 | 471. 2 | 41. 4 |
| 54 | 53. 9 | 04. 7 | 114 | 113. 6 | 09. 9 | 174 | 173. 3 | 15. 2 | 234 | 233. 1 | 20. 5 | 294 | 292. 9 | 25. 6 | 354 | 352. 6 | 30. 9 | 414 | 412. 4 | 36. 1 | 474 | 472. 2 | 41. 5 |
| 55 | 54. 9 | 04. 8 | 115 | 114. 6 | 10. 0 | 175 | 174. 3 | 15. 3 | 235 | 234. 1 | 20. 6 | 295 | 293. 9 | 25. 7 | 355 | 353. 6 | 31. 0 | 415 | 413. 4 | 36. 2 | 475 | 473. 2 | 41. 6 |
| 56 | 55. 9 | 04. 9 | 116 | 115. 6 | 10. 1 | 176 | 175. 3 | 15. 3 | 236 | 235. 1 | 20. 7 | 296 | 294. 9 | 25. 8 | 356 | 354. 6 | 31. 1 | 416 | 414. 4 | 36. 3 | 476 | 474. 2 | 41. 7 |
| 57 | 56. 9 | 05. 0 | 117 | 116. 6 | 10. 2 | 177 | 176. 3 | 15. 4 | 237 | 236. 1 | 20. 8 | 297 | 295. 9 | 25. 9 | 357 | 355. 6 | 31. 1 | 417 | 415. 4 | 36. 4 | 477 | 475. 2 | 41. 8 |
| 58 | 57. 9 | 05. 1 | 118 | 117. 6 | 10. 3 | 178 | 177. 3 | 15. 5 | 238 | 237. 1 | 20. 9 | 298 | 296. 9 | 26. 0 | 358 | 356. 6 | 31. 2 | 418 | 416. 4 | 36. 5 | 478 | 476. 2 | 41. 9 |
| 59 | 58. 8 | 05. 1 | 119 | 118. 5 | 10. 4 | 179 | 178. 3 | 15. 6 | 239 | 238. 1 | 20. 8 | 299 | 297. 9 | 26. 1 | 359 | 357. 6 | 31. 3 | 419 | 417. 4 | 36. 5 | 479 | 477. 2 | 41. 8 |
| 60 | 59. 8 | 05. 2 | 120 | 119. 5 | 10. 4 | 180 | 179. 3 | 15. 7 | 240 | 239. 1 | 20. 9 | 300 | 298. 9 | 26. 2 | 360 | 358. 6 | 31. 4 | 420 | 418. 4 | 36. 6 | 480 | 478. 2 | 41. 9 |

For 85 Degrees.

For 6 Degrees.

| D. | D. Lat | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 01. 0 | 00. 1 | 61 | 60. 7 | 06. 4 | 121 | 120. 3 | 12. 6 | 181 | 180. 0 | 18. 9 | 241 | 239. 7 | 25. 1 | 301 | 299. 3 | 31. 5 | 361 | 359. 0 | 37. 7 | | | |
| 2 | 02. 0 | 00. 2 | 62 | 61. 7 | 06. 5 | 122 | 121. 3 | 12. 8 | 182 | 181. 0 | 19. 0 | 242 | 240. 7 | 25. 3 | 302 | 300. 3 | 31. 6 | 362 | 360. 0 | 37. 8 | 422 | 420. 0 | 44. 1 |
| 3 | 03. 0 | 00. 3 | 63 | 62. 7 | 06. 6 | 123 | 122. 3 | 12. 9 | 183 | 182. 0 | 19. 1 | 243 | 241. 7 | 25. 4 | 303 | 301. 3 | 31. 7 | 363 | 361. 0 | 37. 9 | | | |
| 4 | 04. 0 | 00. 4 | 64 | 63. 6 | 06. 7 | 124 | 123. 3 | 13. 0 | 184 | 183. 0 | 19. 2 | 244 | 242. 7 | 25. 5 | 304 | 302. 3 | 31. 8 | 364 | 362. 0 | 38. 0 | 424 | 421. 7 | 44. 3 |
| 5 | 05. 0 | 00. 5 | 65 | 64. 6 | 06. 8 | 125 | 124. 3 | 13. 1 | 185 | 184. 0 | 19. 3 | 245 | 243. 7 | 25. 7 | 305 | 303. 3 | 31. 9 | 365 | 363. 0 | 38. 1 | 425 | 423. 0 | 44. 4 |
| 6 | 06. 0 | 00. 6 | 66 | 65. 6 | 06. 9 | 126 | 125. 3 | 13. 2 | 186 | 185. 0 | 19. 4 | 246 | 244. 7 | 25. 8 | 306 | 304. 3 | 32. 0 | 366 | 364. 0 | 38. 2 | 426 | 424. 0 | 44. 5 |
| 7 | 07. 0 | 00. 7 | 67 | 66. 6 | 07. 0 | 127 | 126. 3 | 13. 3 | 187 | 186. 0 | 19. 5 | 247 | 245. 7 | 25. 9 | 307 | 305. 3 | 32. 1 | 367 | 365. 0 | 38. 4 | 427 | 425. 0 | 44. 6 |
| 8 | 08. 0 | 00. 8 | 68 | 67. 6 | 07. 1 | 128 | 127. 3 | 13. 4 | 188 | 187. 0 | 19. 7 | 248 | 246. 7 | 25. 9 | 308 | 306. 3 | 32. 2 | 368 | 366. 0 | 38. 5 | 428 | 425. 7 | 44. 7 |
| 9 | 09. 0 | 00. 9 | 69 | 68. 6 | 07. 2 | 129 | 128. 3 | 13. 5 | 189 | 188. 0 | 19. 8 | 249 | 247. 7 | 26. 0 | 309 | 307. 3 | 32. 3 | 369 | 367. 0 | 38. 6 | 429 | 427. 0 | 44. 8 |
| 10 | 10. 0 | 01. 0 | 70 | 69. 6 | 07. 3 | 130 | 129. 3 | 13. 6 | 190 | 189. 0 | 19. 9 | 250 | 248. 7 | 26. 1 | 310 | 308. 3 | 32. 4 | 370 | 368. 0 | 38. 7 | 430 | 428. 0 | 44. 9 |
| 11 | 11. 0 | 01. 1 | 71 | 70. 6 | 07. 4 | 131 | 130. 3 | 13. 7 | 191 | 190. 0 | 20. 0 | 251 | 249. 7 | 26. 2 | 311 | 309. 3 | 32. 5 | 371 | 369. 0 | 38. 8 | 431 | 429. 0 | 45. 0 |
| 12 | 11. 9 | 01. 3 | 72 | 71. 6 | 07. 5 | 132 | 131. 3 | 13. 8 | 192 | 190. 9 | 20. 1 | 252 | 250. 6 | 26. 3 | 312 | 310. 3 | 32. 6 | 372 | 370. 0 | 38. 9 | 432 | 429. 7 | 45. 1 |
| 13 | 12. 9 | 01. 4 | 73 | 72. 6 | 07. 6 | 133 | 132. 3 | 13. 9 | 193 | 191. 9 | 20. 2 | 253 | 251. 6 | 26. 4 | 313 | 311. 3 | 32. 7 | 373 | 371. 0 | 39. 0 | 433 | 430. 7 | 45. 2 |
| 14 | 13. 9 | 01. 5 | 74 | 73. 6 | 07. 7 | 134 | 133. 3 | 14. 0 | 194 | 192. 9 | 20. 3 | 254 | 252. 6 | 26. 6 | 314 | 312. 3 | 32. 8 | 374 | 371. 9 | 39. 1 | 434 | 431. 7 | 45. 4 |
| 15 | 14. 9 | 01. 6 | 75 | 74. 6 | 07. 8 | 135 | 134. 3 | 14. 1 | 195 | 193. 9 | 20. 4 | 255 | 253. 6 | 26. 7 | 315 | 313. 3 | 32. 9 | 375 | 372. 9 | 39. 2 | 435 | 432. 7 | 45. 5 |
| 16 | 15. 9 | 01. 7 | 76 | 75. 6 | 07. 9 | 136 | 135. 3 | 14. 2 | 196 | 194. 9 | 20. 5 | 256 | 254. 6 | 26. 8 | 316 | 314. 3 | 33. 0 | 376 | 373. 9 | 39. 3 | 436 | 433. 7 | 45. 6 |
| 17 | 16. 9 | 01. 8 | 77 | 76. 6 | 08. 0 | 137 | 136. 2 | 14. 3 | 197 | 195. 9 | 20. 6 | 257 | 255. 6 | 26. 9 | 317 | 315. 3 | 33. 1 | 377 | 374. 9 | 39. 4 | 437 | 434. 6 | 45. 7 |
| 18 | 17. 9 | 01. 9 | 78 | 77. 6 | 08. 2 | 138 | 137. 2 | 14. 4 | 198 | 196. 9 | 20. 7 | 258 | 256. 6 | 27. 0 | 318 | 316. 3 | 33. 2 | 378 | 375. 9 | 39. 5 | 438 | 435. 6 | 45. 8 |
| 19 | 18. 9 | 02. 0 | 79 | 78. 6 | 08. 3 | 139 | 138. 2 | 14. 5 | 199 | 197. 9 | 20. 8 | 259 | 257. 6 | 27. 1 | 319 | 317. 3 | 33. 3 | 379 | 376. 9 | 39. 6 | 439 | 436. 6 | 45. 9 |
| 20 | 19. 9 | 02. 1 | 80 | 79. 6 | 08. 4 | 140 | 139. 2 | 14. 6 | 200 | 198. 9 | 20. 9 | 260 | 258. 6 | 27. 2 | 320 | 318. 3 | 33. 4 | 380 | 377. 9 | 39. 7 | 440 | 437. 6 | 46. 0 |
| 21 | 20. 9 | 02. 2 | 81 | 80. 6 | 08. 5 | 141 | 140. 2 | 14. 7 | 201 | 199. 9 | 21. 0 | 261 | 259. 6 | 27. 3 | 321 | 319. 3 | 33. 5 | 381 | 378. 9 | 39. 8 | 441 | 438. 6 | 46. 1 |
| 22 | 21. 9 | 02. 3 | 82 | 81. 6 | 08. 6 | 142 | 141. 2 | 14. 8 | 202 | 200. 9 | 21. 1 | 262 | 260. 6 | 27. 4 | 322 | 320. 3 | 33. 6 | 382 | 379. 9 | 39. 9 | 442 | 439. 6 | 46. 2 |
| 23 | 22. 9 | 02. 4 | 83 | 82. 5 | 08. 7 | 143 | 142. 2 | 14. 9 | 203 | 201. 9 | 21. 2 | 263 | 261. 6 | 27. 5 | 323 | 321. 3 | 33. 7 | 383 | 380. 9 | 40. 0 | 443 | 440. 6 | 46. 3 |
| 24 | 23. 9 | 02. 5 | 84 | 83. 5 | 08. 8 | 144 | 143. 2 | 15. 1 | 204 | 202. 9 | 21. 3 | 264 | 262. 6 | 27. 6 | 324 | 322. 3 | 33. 9 | 384 | 381. 9 | 40. 1 | 444 | 441. 6 | 46. 4 |
| 25 | 24. 9 | 02. 6 | 85 | 84. 5 | 08. 9 | 145 | 144. 2 | 15. 2 | 205 | 203. 9 | 21. 4 | 265 | 263. 6 | 27. 7 | 325 | 323. 3 | 34. 0 | 385 | 382. 9 | 40. 2 | 445 | 442. 6 | 46. 5 |
| 26 | 25. 9 | 02. 7 | 86 | 85. 5 | 09. 0 | 146 | 145. 2 | 15. 3 | 206 | 204. 9 | 21. 5 | 266 | 264. 5 | 27. 8 | 326 | 324. 3 | 34. 1 | 386 | 383. 9 | 40. 3 | 446 | 443. 6 | 46. 6 |
| 27 | 26. 9 | 02. 8 | 87 | 86. 5 | 09. 1 | 147 | 146. 2 | 15. 4 | 207 | 205. 9 | 21. 6 | 267 | 265. 5 | 27. 9 | 327 | 325. 3 | 34. 2 | 387 | 384. 9 | 40. 4 | 447 | 444. 5 | 46. 7 |
| 28 | 27. 8 | 02. 9 | 88 | 87. 5 | 09. 2 | 148 | 147. 2 | 15. 5 | 208 | 206. 9 | 21. 7 | 268 | 266. 5 | 28. 0 | 328 | 326. 3 | 34. 3 | 388 | 385. 9 | 40. 5 | 448 | 445. 5 | 46. 8 |
| 29 | 28. 8 | 03. 0 | 89 | 88. 5 | 09. 3 | 149 | 148. 2 | 15. 6 | 209 | 207. 9 | 21. 8 | 269 | 267. 5 | 28. 1 | 329 | 327. 3 | 34. 4 | 389 | 386. 9 | 40. 6 | 449 | 446. 5 | 46. 9 |
| 30 | 29. 8 | 03. 1 | 90 | 89. 5 | 09. 4 | 150 | 149. 2 | 15. 7 | 210 | 208. 8 | 22. 0 | 270 | 268. 5 | 28. 2 | 330 | 328. 3 | 34. 5 | 390 | 387. 9 | 40. 7 | 450 | 447. 5 | 47. 0 |
| 31 | 30. 8 | 03. 2 | 91 | 90. 5 | 09. 5 | 151 | 150. 2 | 15. 8 | 211 | 209. 8 | 22. 1 | 271 | 269. 5 | 28. 3 | 331 | 329. 2 | 34. 6 | 391 | 388. 9 | 40. 9 | 451 | 448. 5 | 47. 1 |
| 32 | 31. 8 | 03. 3 | 92 | 91. 5 | 09. 6 | 152 | 151. 2 | 15. 9 | 212 | 210. 8 | 22. 2 | 272 | 270. 5 | 28. 4 | 332 | 330. 3 | 34. 7 | 392 | 389. 9 | 41. 0 | 452 | 449. 5 | 47. 2 |
| 33 | 32. 8 | 03. 4 | 93 | 92. 5 | 09. 7 | 153 | 152. 2 | 16. 0 | 213 | 211. 8 | 22. 3 | 273 | 271. 5 | 28. 5 | 333 | 331. 2 | 34. 8 | 393 | 390. 8 | 41. 1 | 453 | 450. 5 | 47. 3 |
| 34 | 33. 8 | 03. 6 | 94 | 93. 5 | 09. 8 | 154 | 153. 2 | 16. 1 | 214 | 212. 8 | 22. 4 | 274 | 272. 5 | 28. 6 | 334 | 332. 2 | 34. 9 | 394 | 391. 8 | 41. 2 | 454 | 451. 5 | 47. 5 |
| 35 | 34. 8 | 03. 7 | 95 | 94. 5 | 09. 9 | 155 | 154. 2 | 16. 2 | 215 | 213. 8 | 22. 5 | 275 | 273. 5 | 28. 7 | 335 | 333. 2 | 35. 0 | 395 | 392. 8 | 41. 3 | 455 | 452. 5 | 47. 6 |
| 36 | 35. 8 | 03. 8 | 96 | 95. 5 | 10. 0 | 156 | 155. 1 | 16. 3 | 216 | 214. 8 | 22. 6 | 276 | 274. 5 | 28. 8 | 336 | 334. 2 | 35. 1 | 396 | 393. 8 | 41. 4 | 456 | 453. 5 | 47. 7 |
| 37 | 36. 8 | 03. 9 | 97 | 96. 5 | 10. 1 | 157 | 156. 1 | 16. 4 | 217 | 215. 8 | 22. 7 | 277 | 275. 5 | 28. 9 | 337 | 335. 2 | 35. 2 | 397 | 394. 8 | 41. 5 | 457 | 454. 5 | 47. 8 |
| 38 | 37. 8 | 04. 0 | 98 | 97. 5 | 10. 2 | 158 | 157. 1 | 16. 5 | 218 | 216. 8 | 22. 8 | 278 | 276. 5 | 29. 0 | 338 | 336. 2 | 35. 3 | 398 | 395. 8 | 41. 6 | 458 | 455. 5 | 47. 9 |
| 39 | 38. 8 | 04. 1 | 99 | 98. 5 | 10. 3 | 159 | 158. 1 | 16. 6 | 219 | 217. 8 | 22. 9 | 279 | 277. 5 | 29. 1 | 339 | 337. 2 | 35. 4 | 399 | 396. 8 | 41. 7 | 459 | 456. 5 | 48. 0 |
| 40 | 39. 8 | 04. 2 | 100 | 99. 5 | 10. 5 | 160 | 159. 1 | 16. 7 | 220 | 218. 8 | 23. 0 | 280 | 278. 5 | 29. 2 | 340 | 338. 2 | 35. 5 | 400 | 397. 8 | 41. 8 | 460 | 457. 5 | 48. 1 |
| 41 | 40. 8 | 04. 3 | 101 | 100. 4 | 10. 6 | 161 | 160. 1 | 16. 8 | 221 | 219. 8 | 23. 1 | 281 | 279. 5 | 29. 3 | 341 | 339. 2 | 35. 6 | 401 | 398. 8 | 41. 9 | 461 | 458. 5 | 48. 2 |
| 42 | 41. 8 | 04. 4 | 102 | 101. 4 | 10. 7 | 162 | 161. 1 | 16. 9 | 222 | 220. 8 | 23. 2 | 282 | 280. 5 | 29. 5 | 342 | 340. 1 | 35. 7 | 402 | 399. 8 | 42. 0 | 462 | 459. 5 | 48. 3 |
| 43 | 42. 8 | 04. 5 | 103 | 102. 4 | 10. 8 | 163 | 162. 1 | 17. 0 | 223 | 221. 8 | 23. 3 | 283 | 281. 5 | 29. 6 | 343 | 341. 1 | 35. 8 | 403 | 400. 8 | 42. 1 | 463 | 460. 5 | 48. 4 |
| 44 | 43. 8 | 04. 6 | 104 | 103. 4 | 10. 9 | 164 | 163. 1 | 17. 1 | 224 | 222. 8 | 23. 4 | 284 | 282. 5 | 29. 7 | 344 | 342. 1 | 35. 9 | 404 | 401. 8 | 42. 2 | 464 | 461. 5 | 48. 5 |
| 45 | 44. 8 | 04. 7 | 105 | 104. 4 | 11. 0 | 165 | 164. 1 | 17. 2 | 225 | 223. 8 | 23. 5 | 285 | 283. 4 | 29. 8 | 345 | 343. 1 | 36. 1 | 405 | 402. 8 | 42. 3 | 465 | 462. 5 | 48. 6 |
| 46 | 45. 7 | 04. 8 | 106 | 105. 4 | 11. 1 | 166 | 165. 1 | 17. 4 | 226 | 224. 8 | 23. 6 | 286 | 284. 4 | 29. 9 | 346 | 344. 1 | 36. 2 | 406 | 403. 8 | 42. 4 | 466 | 463. 5 | 48. 7 |
| 47 | 46. 7 | 04. 9 | 107 | 106. 4 | 11. 2 | 167 | 166. 1 | 17. 5 | 227 | 225. 8 | 23. 7 | 287 | 285. 4 | 30. 0 | 347 | 345. 1 | 36. 3 | 407 | 404. 8 | 42. 5 | 467 | 464. 4 | 48. 8 |
| 48 | 47. 7 | 05. 0 | 108 | 107. 4 | 11. 3 | 168 | 167. 1 | 17. 6 | 228 | 226. 8 | 23. 8 | 288 | 286. 4 | 30. 1 | 348 | 346. 1 | 36. 4 | 408 | 405. 8 | 42. 6 | 468 | 465. 4 | 48. 9 |
| 49 | 48. 7 | 05. 1 | 109 | 108. 4 | 11. 4 | 169 | 168. 1 | 17. 7 | 229 | 227. 7 | 23. 9 | 289 | 287. 4 | 30. 2 | 349 | 347. 1 | 36. 5 | 409 | 406. 8 | 42. 7 | 469 | 466. 4 | 49. 0 |
| 50 | 49. 7 | 05. 2 | 110 | 109. 4 | 11. 5 | 170 | 169. 1 | 17. 8 | 230 | 228. 7 | 24. 0 | 290 | 288. 4 | 30. 3 | 350 | 348. 1 | 36. 6 | 410 | 407. 8 | 42. 8 | 470 | 467. 4 | 49. 1 |
| 51 | 50. 7 | 05. 3 | 111 | 110. 4 | 11. 6 | 171 | 170. 1 | 17. 9 | 231 | 229. 7 | 24. 1 | 291 | 289. 4 | 30. 4 | 351 | 349. 1 | 36. 7 | 411 | 408. 7 | 43. 0 | 471 | 468. 4 | 49. 2 |
| 52 | 51. 7 | 05. 4 | 112 | 111. 4 | 11. 7 | 172 | 171. 1 | 18. 0 | 232 | 230. 7 | 24. 3 | 292 | 290. 4 | 30. 5 | 352 | 350. 1 | 36. 8 | 412 | 409. 7 | 43. 1 | 472 | 469. 4 | 49. 3 |
| 53 | 52. 7 | 05. 5 | 113 | 112. 4 | 11. 8 | 173 | 172. 1 | 18. 1 | 233 | 231. 7 | 24. 4 | 293 | 291. 4 | 30. 6 | 353 | 351. 1 | 36. 9 | 413 | 410. 7 | 43. 2 | 473 | 470. 4 | 49. 4 |
| 54 | 53. 7 | 05. 6 | 114 | 113. 4 | 11. 9 | 174 | 173. 1 | 18. 2 | 234 | 232. 7 | 24. 5 | 294 | 292. 4 | 30. 7 | 354 | 352. 1 | 37. 0 | 414 | 411. 7 | 43. 3 | 474 | 471. 4 | 49. 5 |
| 55 | 54. 7 | 05. 7 | 115 | 114. 4 | 12. 0 | 175 | 174. 1 | 18. 3 | 235 | 233. 7 | 24. 7 | 295 | 293. 4 | 30. 8 | 355 | 353. 1 | 37. 1 | 415 | 412. 7 | 43. 4 | 475 | 472. 4 | 49. 6 |
| 56 | 55. 7 | 05. 9 | 116 | 115. 4 | 12. 1 | 176 | 175. 0 | 18. 4 | 236 | 234. 7 | 24. 7 | 296 | 294. 4 | 30. 9 | 356 | 354. 0 | 37. 2 | 416 | 413. 7 | 43. 5 | 476 | 473. 4 | 49. 8 |
| 57 | 56. 7 | 06. 0 | 117 | 116. 4 | 12. 2 | 177 | 176. 0 | 18. 5 | 237 | 235. 7 | 24. 8 | 297 | 295. 4 | 31. 0 | 357 | 355. 0 | 37. 3 | 417 | 414. 7 | 43. 6 | 477 | 474. 4 | 49. 9 |
| 58 | 57. 7 | 06. 1 | 118 | 117. 4 | 12. 3 | 178 | 177. 0 | 18. 6 | 238 | 236. 7 | 24. 9 | 298 | 296. 4 | 31. 1 | 358 | 356. 0 | 37. 4 | 418 | 415. 7 | 43. 7 | 478 | 475. 4 | 50. 0 |
| 59 | 58. 7 | 06. 2 | 119 | 118. 3 | 12. 4 | 179 | 178. 0 | 18. 7 | 239 | 237. 7 | 25. 0 | 299 | 297. 4 | 31. 3 | 359 | 357. 0 | 37. 5 | 419 | 416. 7 | 43. 8 | 479 | 476. 4 | 50. 1 |
| 60 | 59. 7 | 06. 3 | 120 | 119. 3 | 12. 5 | 180 | 179. 0 | 18. 8 | 240 | 238. 7 | 25. 1 | 300 | 298. 4 | 31. 4 | 360 | 358. 0 | 37. 6 | 420 | 417. 7 | 43. 9 | 480 | 477. 4 | 50. 2 |
| D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. | D. | D. Lat. | Dep. |

For 84 Degrees.

For 7 Degrees.

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 01 | 01 | 01 | 00.5 | 07.4 | 121 | 120. | 1 | 14. | 7 | 181 | 179. | 7 | 22. | 1 | 241 | 239. | 4 | 301 | 298. | 7 | 361 | 358. | 3 | 44. | 0 | 421 | 417. | 1 | 51. |
| 2 | 02 | 02 | 02 | 01. | 07. | 122 | 121. | 1 | 14. | 9 | 182 | 180. | 6 | 22. | 2 | 242 | 240. | 1 | 302 | 299. | 7 | 362 | 359. | 3 | 44. | 1 | 422 | 418. | 8 | 51. |
| 3 | 03 | 03 | 03 | 01. | 07. | 123 | 122. | 1 | 15. | 0 | 183 | 181. | 6 | 22. | 3 | 243 | 241. | 1 | 303 | 300. | 7 | 363 | 360. | 3 | 44. | 2 | 423 | 419. | 8 | 51. |
| 4 | 04 | 04 | 04 | 02. | 07. | 124 | 123. | 1 | 15. | 1 | 184 | 182. | 6 | 22. | 4 | 244 | 242. | 1 | 304 | 301. | 7 | 364 | 361. | 3 | 44. | 4 | 424 | 420. | 8 | 51. |
| 5 | 05 | 05 | 05 | 02. | 07. | 125 | 124. | 1 | 15. | 2 | 185 | 183. | 6 | 22. | 5 | 245 | 243. | 1 | 305 | 302. | 7 | 365 | 362. | 3 | 44. | 5 | 425 | 421. | 8 | 51. |
| 6 | 06 | 06 | 06 | 03. | 07. | 126 | 125. | 1 | 15. | 3 | 186 | 184. | 6 | 22. | 7 | 246 | 244. | 1 | 306 | 303. | 7 | 366 | 363. | 3 | 44. | 6 | 426 | 422. | 8 | 51. |
| 7 | 07 | 07 | 07 | 03. | 08. | 127 | 126. | 1 | 15. | 4 | 187 | 185. | 6 | 22. | 8 | 247 | 245. | 1 | 307 | 304. | 7 | 367 | 364. | 3 | 44. | 7 | 427 | 423. | 8 | 52. |
| 8 | 08 | 08 | 08 | 04. | 08. | 128 | 127. | 1 | 15. | 5 | 188 | 186. | 6 | 22. | 9 | 248 | 246. | 1 | 308 | 305. | 7 | 368 | 365. | 3 | 44. | 8 | 428 | 424. | 8 | 52. |
| 9 | 09 | 09 | 09 | 04. | 08. | 129 | 128. | 1 | 15. | 7 | 189 | 187. | 6 | 23. | 0 | 249 | 247. | 1 | 309 | 306. | 7 | 369 | 366. | 3 | 45. | 0 | 429 | 425. | 8 | 52. |
| 10 | 09 | 09 | 09 | 05. | 08. | 130 | 129. | 1 | 15. | 8 | 190 | 188. | 6 | 23. | 2 | 250 | 248. | 1 | 310 | 307. | 7 | 370 | 367. | 3 | 45. | 1 | 430 | 426. | 8 | 52. |
| 11 | 10 | 10 | 10 | 05. | 08. | 131 | 130. | 1 | 16. | 0 | 191 | 189. | 6 | 23. | 3 | 251 | 249. | 1 | 311 | 308. | 7 | 371 | 368. | 3 | 45. | 2 | 431 | 427. | 8 | 52. |
| 12 | 11 | 11 | 11 | 06. | 08. | 132 | 131. | 1 | 16. | 1 | 192 | 190. | 6 | 23. | 4 | 252 | 250. | 1 | 312 | 309. | 7 | 372 | 369. | 3 | 45. | 3 | 432 | 428. | 8 | 52. |
| 13 | 12 | 12 | 12 | 06. | 08. | 133 | 132. | 1 | 16. | 2 | 193 | 191. | 6 | 23. | 5 | 253 | 251. | 1 | 313 | 310. | 7 | 373 | 370. | 3 | 45. | 5 | 433 | 429. | 8 | 52. |
| 14 | 13 | 13 | 13 | 07. | 08. | 134 | 133. | 1 | 16. | 3 | 194 | 192. | 6 | 23. | 6 | 254 | 252. | 1 | 314 | 311. | 7 | 374 | 371. | 3 | 45. | 6 | 434 | 430. | 8 | 52. |
| 15 | 14 | 14 | 14 | 07. | 08. | 135 | 134. | 1 | 16. | 5 | 195 | 193. | 6 | 23. | 8 | 255 | 253. | 1 | 315 | 312. | 7 | 375 | 372. | 3 | 45. | 7 | 435 | 431. | 8 | 53. |
| 16 | 15 | 15 | 15 | 08. | 08. | 136 | 135. | 1 | 16. | 6 | 196 | 194. | 6 | 23. | 9 | 256 | 254. | 1 | 316 | 313. | 7 | 376 | 373. | 3 | 45. | 8 | 436 | 432. | 8 | 53. |
| 17 | 16 | 16 | 16 | 08. | 09. | 137 | 136. | 1 | 16. | 7 | 197 | 195. | 6 | 24. | 0 | 257 | 255. | 1 | 317 | 314. | 7 | 377 | 374. | 3 | 45. | 9 | 437 | 433. | 8 | 53. |
| 18 | 17 | 17 | 17 | 09. | 09. | 138 | 137. | 1 | 16. | 8 | 198 | 196. | 6 | 24. | 1 | 258 | 256. | 1 | 318 | 315. | 7 | 378 | 375. | 3 | 46. | 0 | 438 | 434. | 8 | 53. |
| 19 | 18 | 18 | 18 | 09. | 09. | 139 | 138. | 1 | 16. | 9 | 199 | 197. | 6 | 24. | 3 | 259 | 257. | 1 | 319 | 316. | 7 | 379 | 376. | 3 | 46. | 2 | 439 | 435. | 8 | 53. |
| 20 | 19 | 19 | 19 | 10. | 09. | 140 | 139. | 1 | 17. | 1 | 200 | 198. | 6 | 24. | 4 | 260 | 258. | 1 | 320 | 317. | 7 | 380 | 377. | 3 | 46. | 3 | 440 | 436. | 8 | 53. |
| 21 | 20 | 20 | 20 | 10. | 09. | 141 | 139. | 9 | 17. | 2 | 201 | 199. | 5 | 24. | 5 | 261 | 259. | 1 | 321 | 318. | 7 | 381 | 378. | 3 | 46. | 4 | 441 | 437. | 7 | 53. |
| 22 | 21 | 21 | 21 | 10. | 10. | 142 | 140. | 9 | 17. | 3 | 202 | 200. | 5 | 24. | 6 | 262 | 260. | 1 | 322 | 319. | 7 | 382 | 379. | 3 | 46. | 5 | 442 | 438. | 7 | 53. |
| 23 | 22 | 22 | 22 | 11. | 10. | 143 | 141. | 9 | 17. | 4 | 203 | 201. | 5 | 24. | 7 | 263 | 261. | 1 | 323 | 320. | 7 | 383 | 380. | 3 | 46. | 7 | 443 | 439. | 7 | 53. |
| 24 | 23 | 23 | 23 | 11. | 10. | 144 | 142. | 9 | 17. | 5 | 204 | 202. | 5 | 24. | 9 | 264 | 262. | 1 | 324 | 321. | 7 | 384 | 381. | 3 | 46. | 8 | 444 | 440. | 7 | 54. |
| 25 | 24 | 24 | 24 | 12. | 10. | 145 | 143. | 9 | 17. | 7 | 205 | 203. | 5 | 25. | 0 | 265 | 263. | 1 | 325 | 322. | 7 | 385 | 382. | 3 | 46. | 9 | 445 | 441. | 7 | 54. |
| 26 | 25 | 25 | 25 | 12. | 10. | 146 | 144. | 9 | 17. | 8 | 206 | 204. | 5 | 25. | 1 | 266 | 264. | 1 | 326 | 323. | 7 | 386 | 383. | 3 | 47. | 0 | 446 | 442. | 7 | 54. |
| 27 | 26 | 26 | 26 | 13. | 10. | 147 | 145. | 9 | 17. | 9 | 207 | 205. | 5 | 25. | 2 | 267 | 265. | 1 | 327 | 324. | 7 | 387 | 384. | 3 | 47. | 2 | 447 | 443. | 7 | 54. |
| 28 | 27 | 27 | 27 | 13. | 10. | 148 | 146. | 9 | 18. | 0 | 208 | 206. | 4 | 25. | 3 | 268 | 266. | 1 | 328 | 325. | 7 | 388 | 385. | 3 | 47. | 3 | 448 | 444. | 7 | 54. |
| 29 | 28 | 28 | 28 | 14. | 10. | 149 | 147. | 9 | 18. | 2 | 209 | 207. | 4 | 25. | 5 | 269 | 267. | 1 | 329 | 326. | 7 | 389 | 386. | 3 | 47. | 4 | 449 | 445. | 7 | 54. |
| 30 | 29 | 29 | 29 | 14. | 11. | 150 | 148. | 9 | 18. | 3 | 210 | 208. | 4 | 25. | 6 | 270 | 268. | 1 | 330 | 327. | 7 | 390 | 387. | 3 | 47. | 5 | 450 | 446. | 6 | 54. |
| 31 | 30 | 30 | 30 | 15. | 11. | 151 | 149. | 9 | 18. | 4 | 211 | 209. | 4 | 25. | 7 | 271 | 269. | 1 | 331 | 328. | 7 | 391 | 388. | 3 | 47. | 6 | 451 | 447. | 6 | 55. |
| 32 | 31 | 31 | 31 | 15. | 11. | 152 | 150. | 9 | 18. | 5 | 212 | 210. | 4 | 25. | 8 | 272 | 270. | 1 | 332 | 329. | 7 | 392 | 389. | 3 | 47. | 8 | 452 | 448. | 6 | 55. |
| 33 | 32 | 32 | 32 | 16. | 11. | 153 | 151. | 9 | 18. | 6 | 213 | 211. | 4 | 26. | 0 | 273 | 271. | 1 | 333 | 330. | 7 | 393 | 390. | 3 | 47. | 9 | 453 | 449. | 6 | 55. |
| 34 | 33 | 33 | 33 | 16. | 11. | 154 | 152. | 9 | 18. | 8 | 214 | 212. | 4 | 26. | 1 | 274 | 272. | 1 | 334 | 331. | 7 | 394 | 391. | 3 | 48. | 0 | 454 | 450. | 6 | 55. |
| 35 | 34 | 34 | 34 | 17. | 11. | 155 | 153. | 8 | 18. | 9 | 215 | 213. | 4 | 26. | 2 | 275 | 273. | 1 | 335 | 332. | 7 | 395 | 392. | 3 | 48. | 1 | 455 | 451. | 6 | 55. |
| 36 | 35 | 35 | 35 | 17. | 11. | 156 | 154. | 8 | 19. | 0 | 216 | 214. | 4 | 26. | 3 | 276 | 274. | 1 | 336 | 333. | 7 | 396 | 393. | 3 | 48. | 3 | 456 | 452. | 6 | 55. |
| 37 | 36 | 36 | 36 | 18. | 11. | 157 | 155. | 8 | 19. | 1 | 217 | 215. | 4 | 26. | 4 | 277 | 274. | 9 | 337 | 334. | 7 | 397 | 394. | 3 | 48. | 4 | 457 | 453. | 6 | 55. |
| 38 | 37 | 37 | 37 | 18. | 11. | 158 | 156. | 8 | 19. | 3 | 218 | 216. | 4 | 26. | 6 | 278 | 276. | 9 | 338 | 335. | 7 | 398 | 395. | 3 | 48. | 5 | 458 | 454. | 6 | 55. |
| 39 | 38 | 38 | 38 | 19. | 11. | 159 | 157. | 8 | 19. | 4 | 219 | 217. | 4 | 26. | 7 | 279 | 276. | 9 | 339 | 336. | 7 | 399 | 396. | 3 | 48. | 6 | 459 | 455. | 6 | 55. |
| 40 | 39 | 39 | 39 | 19. | 12. | 160 | 158. | 8 | 19. | 5 | 220 | 218. | 4 | 26. | 8 | 280 | 277. | 9 | 340 | 337. | 7 | 400 | 397. | 3 | 48. | 7 | 460 | 456. | 6 | 56. |
| 41 | 40 | 40 | 40 | 20. | 12. | 161 | 159. | 8 | 19. | 6 | 221 | 219. | 4 | 26. | 9 | 281 | 278. | 9 | 341 | 338. | 4 | 401 | 398. | 0 | 48. | 8 | 461 | 457. | 6 | 56. |
| 42 | 41 | 41 | 41 | 20. | 12. | 162 | 160. | 8 | 19. | 7 | 222 | 220. | 3 | 27. | 1 | 282 | 279. | 9 | 342 | 339. | 4 | 402 | 399. | 0 | 48. | 9 | 462 | 458. | 5 | 56. |
| 43 | 42 | 42 | 42 | 21. | 12. | 163 | 161. | 8 | 19. | 9 | 223 | 221. | 3 | 27. | 2 | 283 | 280. | 9 | 343 | 340. | 4 | 403 | 400. | 0 | 49. | 1 | 463 | 459. | 5 | 56. |
| 44 | 43 | 43 | 43 | 21. | 12. | 164 | 162. | 8 | 20. | 0 | 224 | 222. | 3 | 27. | 3 | 284 | 281. | 9 | 344 | 341. | 4 | 404 | 401. | 0 | 49. | 2 | 464 | 460. | 5 | 56. |
| 45 | 44 | 44 | 44 | 22. | 12. | 165 | 163. | 8 | 20. | 1 | 225 | 223. | 3 | 27. | 4 | 285 | 282. | 9 | 345 | 342. | 4 | 405 | 402. | 0 | 49. | 4 | 465 | 461. | 5 | 57. |
| 46 | 45 | 45 | 45 | 22. | 12. | 166 | 164. | 8 | 20. | 2 | 226 | 224. | 3 | 27. | 5 | 286 | 283. | 9 | 346 | 343. | 4 | 406 | 403. | 0 | 49. | 5 | 466 | 462. | 5 | 57. |
| 47 | 46 | 46 | 46 | 23. | 12. | 167 | 165. | 8 | 20. | 4 | 227 | 225. | 3 | 27. | 7 | 287 | 284. | 9 | 347 | 344. | 4 | 407 | 404. | 0 | 49. | 6 | 467 | 463. | 5 | 57. |
| 48 | 47 | 47 | 47 | 23. | 12. | 168 | 166. | 7 | 20. | 5 | 228 | 226. | 3 | 27. | 8 | 288 | 285. | 9 | 348 | 345. | 4 | 408 | 405. | 0 | 49. | 7 | 468 | 464. | 5 | 57. |
| 49 | 48 | 48 | 48 | 24. | 13. | 169 | 167. | 7 | 20. | 6 | 229 | 227. | 3 | 27. | 9 | 289 | 286. | 9 | 349 | 346. | 4 | 409 | 406. | 0 | 49. | 8 | 469 | 465. | 5 | 57. |
| 50 | 49 | 49 | 49 | 24. | 13. | 170 | 168. | 7 | 20. | 7 | 230 | 228. | 3 | 28. | 0 | 290 | 287. | 8 | 350 | 347. | 4 | 410 | 407. | 0 | 50. | 0 | 470 | 466. | 5 | 57. |
| 51 | 50 | 50 | 50 | 25. | 13. | 171 | 169. | 7 | 20. | 8 | 231 | 229. | 3 | 28. | 1 | 291 | 288. | 8 | 351 | 348. | 4 | 411 | 408. | 0 | 50. | 1 | 471 | 467. | 5 | 57. |
| 52 | 51 | 51 | 51 | 25. | 13. | 172 | 170. | 7 | 21. | 0 | 232 | 230. | 3 | 28. | 3 | 292 | 289. | 8 | 352 | 349. | 4 | 412 | 409. | 0 | 50. | 2 | 472 | 468. | 5 | 57. |
| 53 | 52. | 52. | 52. | 26. | 13. | 173 | 171. | 7 | 21. | 1 | 233 | 231. | 3 | 28. | 4 | 293 | 290. | 8 | 353 | 350. | 4 | 413 | 410. | 0 | 50. | 3 | 473 | 469. | 5 | 57. |
| 54 | 53. | 53. | 53. | 26. | 13. | 174 | 172. | 7 | 21. | 2 | 234 | 232. | 3 | 28. | 5 | 294 | 291. | 8 | 354 | 351. | 4 | 414 | 410. | 0 | 50. | 4 | 474 | 470. | 5 | 57. |
| 55 | 54. | 54. | 54. | 27. | 13. | 175 | 173. | 7 | 21. | 3 | 235 | 233. | 2 | 28. | 6 | 295 | 292. | 8 | 355 | 352. | 3 | 415 | 411. | 0 | 50. | 5 | 475 | 471. | 5 | 57. |
| 56 | 55. | 55. | 55. | 27. | 14. | 176 | 174. | 7 | 21. | 4 | 236 | 234. | 2 | 28. | 7 | 296 | 293. | 8 | 356 | 353. | 3 | 416 | 412. | 0 | 50. | 6 | 476 | 472. | 4 | 58. |
| 57 | 56. | 56. | 56. | 28. | 14. | 177 | 175. | 7 | 21. | 5 | 237 | 235. | 2 | 28. | 8 | 297 | 294. | 8 | 357 | 354. | 3 | 417 | 413. | 0 | 50. | 7 | 477 | 473. | 4 | 58. |
| 58 | 57. | 57. | 57. | 28. | 14. | 178 | 176. | 7 | 21. | 7 | 238 | 236. | 2 | 29. | 0 | 298 | 295. | 8 | 358 | 355. | 3 | 418 | 414. | 0 | 50. | 9 | 478 | 474. | 4 | 58. |
| 59 | 58. | 58. | 58. | 29. | 14. | 179 | 177. | 7 | 21. | 8 | 239 | 237. | 2 | 29. | 1 | 299 | 296. | 8 | 359 | 356. | 3 | 419 | 415. | 0 | 51. | 0 | 479 | 475. | 4 | 58. |
| 60 | 59. | 59. | 59. | 29. | 14. | 180 | 178. | 7 | 21. | 9 | 240 | 238. | 2 | 29. | 2 | 300 | 297. | 8 | 360 | 357. | 3 | 420 | 416. | 0 | 51. | 1 | 480 | 476. | 4 | 58. |
| | Dist. | D. Lat. | | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. |

For 83 Degrees.

For 8 Degrees.

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3 | 03. 0 | 00. 4 | 63 | 62. 4 | 08. 8 | 123 | 121. 8 | 17. 1 | 183 | 181. 2 | 25. 5 | 243 | 240. 6 | 33. 8 | 303 | 300. 0 | 42. 2 | 363 | 359. 4 | 50. 5 | 423 | 418. 9 | 58. 9 | | | | | | | |
| 7 | 07. 0 | 01. 1 | 68 | 67. 3 | 09. 5 | 128 | 126. 8 | 17. 8 | 188 | 186. 2 | 26. 2 | 248 | 245. 6 | 34. 5 | 308 | 305. 0 | 42. 9 | 368 | 364. 2 | 51. 2 | 428 | 423. 8 | 59. 6 | | | | | | | |
| 11 | 11. 0 | 01. 5 | 71 | 70. 3 | 09. 9 | 131 | 129. 7 | 18. 2 | 191 | 189. 1 | 26. 6 | 251 | 248. 6 | 34. 9 | 311 | 307. 9 | 43. 3 | 371 | 367. 4 | 51. 6 | 431 | 426. 8 | 60. 0 | | | | | | | |
| 14 | 14. 0 | 01. 7 | 72 | 71. 3 | 10. 0 | 132 | 130. 7 | 18. 4 | 192 | 190. 1 | 26. 7 | 252 | 249. 5 | 35. 1 | 312 | 308. 9 | 43. 4 | 372 | 368. 4 | 51. 8 | 432 | 427. 8 | 60. 1 | | | | | | | |
| 17 | 17. 0 | 01. 8 | 73 | 72. 3 | 10. 2 | 133 | 131. 7 | 18. 5 | 193 | 191. 1 | 26. 9 | 253 | 250. 5 | 35. 2 | 313 | 309. 9 | 43. 6 | 373 | 369. 3 | 51. 9 | 433 | | | | | | | | | |
| 20 | 20. 0 | 02. 1 | 75 | 74. 3 | 10. 4 | 135 | 133. 7 | 18. 8 | 195 | 193. 1 | 27. 1 | 255 | 252. 5 | 35. 5 | 315 | 311. 9 | 43. 8 | 375 | 371. 3 | 52. 2 | 435 | 430. 7 | 60. 5 | | | | | | | |
| 24 | 24. 0 | 02. 4 | 77 | 76. 2 | 10. 7 | 137 | 135. 7 | 19. 2 | 197 | 195. 1 | 27. 4 | 257 | 254. 5 | 35. 8 | 317 | 313. 9 | 44. 1 | 377 | 373. 3 | 52. 5 | 437 | | | | | | | | | |
| 27 | 27. 0 | 02. 5 | 78 | 77. 2 | 10. 9 | 138 | 136. 7 | 19. 2 | 198 | 196. 1 | 27. 6 | 258 | 255. 5 | 35. 9 | 318 | 314. 9 | 44. 3 | 378 | 374. 3 | 52. | | | | | | | | | | |
| 30 | 30. 0 | 02. 8 | 80 | 79. 2 | 11. 2 | 140 | 138. 6 | 19. 6 | 200 | 198. 1 | 27. 9 | 260 | 257. 5 | 36. 2 | 320 | 316. 9 | 44. 6 | 380 | 376. 3 | 53. 0 | 440 | 435. 6 | | | | | | | | |
| 31 | 31. 0 | 02. 9 | 81 | 80. 2 | 11. 3 | 141 | 139. 6 | 19. 6 | 201 | 199. 0 | 28. 0 | 261 | 258. 5 | 36. 3 | 321 | 317. 9 | 44. 7 | 381 | 377. 3 | 53. 0 | 441 | 436. | | | | | | | | |
| 32 | 32. 0 | 03. 1 | 82 | 81. | 11. 4 | 142 | 140. 6 | 19. 8 | 202 | 200. 0 | 28. 1 | 262 | 259. 5 | 36. 5 | 322 | 318. 8 | 44. 8 | 382 | 378. 3 | 53. 2 | 442 | 437. 7 | | | | | | | | |
| 33 | 33. 0 | 03. 2 | 83 | 82. 2 | 11. 6 | 143 | 141. 6 | 19. 9 | 203 | 201. 0 | 28. 3 | 263 | 260. 4 | 36. 6 | 323 | 319. 8 | 45. 0 | 383 | 379. 2 | 53. 3 | 443 | 438. | | | | | | | | |
| 34 | 34. 0 | 03. 3 | 84 | 83. 2 | 11. 7 | 144 | 142. 6 | 20. 0 | 204 | 202. 0 | 28. 4 | 264 | 261. 4 | 36. 7 | 324 | 320. 8 | 45. 1 | 384 | 380. 2 | 53. 5 | 444 | 439. 7 | | | | | | | | |
| 35 | 35. 0 | 03. 5 | 85 | 84. 2 | 11. 9 | 145 | 143. 6 | 20. 2 | 205 | 203. 0 | 28. 5 | 265 | 262. 4 | 36. 9 | 325 | 321. 8 | 45. 2 | 385 | 381. 2 | 53. 6 | 445 | 440. 6 | | | | | | | | |
| 36 | 36. 0 | 03. 6 | 86 | 85. 2 | 12. | 146 | 144. 6 | 20. 3 | 206 | 204. 0 | 28. 7 | 266 | 263. 4 | 37. 0 | 326 | 322. 8 | 45. 4 | 386 | 382. 2 | 53. 7 | 446 | 441. | | | | | | | | |
| 37 | 37. 0 | 03. 8 | 87 | 86. 2 | 12. 1 | 147 | 145. 6 | 20. 5 | 207 | 205. 0 | 28. 8 | 267 | 264. 4 | 37. 2 | 327 | 323. 8 | 45. 5 | 387 | 383. 3 | 53. 9 | 447 | 442. | | | | | | | | |
| 38 | 38. 0 | 03. 9 | 88 | 87. 2 | 12. | 148 | 146. 6 | 20. 6 | 208 | 206. 0 | 28. 9 | 268 | 265. 4 | 37. 3 | 328 | 324. 8 | 45. 7 | 388 | 384. 2 | 54. 0 | 448 | 443. | | | | | | | | |
| 39 | 39. 0 | 04. | 89 | 88. 1 | 12. 3 | 149 | 147. 5 | 20. 7 | 209 | 207. 0 | 29. 1 | 269 | 266. 4 | 37. 4 | 329 | 325. 8 | 45. 8 | 389 | 385. 2 | 54. 1 | 449 | 444. | | | | | | | | |
| 40 | 40. 0 | 04. 2 | 90 | 89. 1 | 12. 4 | 150 | 148. 5 | 20. 9 | 210 | 208. 0 | 29. 2 | 270 | 267. 4 | 37. 6 | 330 | 326. 8 | 45. 9 | 390 | 386. 2 | 54. 3 | 450 | 445. | | | | | | | | |
| 41 | 41. 0 | 04. 3 | 91 | 90. 1 | 12. 6 | 151 | 149. 5 | 21. 0 | 211 | 208. 9 | 29. 4 | 271 | 268. 4 | 37. 7 | 331 | 327. 8 | 46. 1 | 391 | 387. 2 | 54. 4 | 451 | 446. | | | | | | | | |
| 42 | 42. 0 | 04. 5 | 92 | 91. 1 | 12. 7 | 152 | 150. 5 | 21. 2 | 212 | 209. 9 | 29. 5 | 272 | 269. 4 | 37. 9 | 332 | 328. 7 | 46. 2 | 392 | 388. 2 | 54. 6 | 452 | 447. | | | | | | | | |
| 43 | 43. 0 | 04. 6 | 93 | 92. 1 | 12. 9 | 153 | 151. 5 | 21. 3 | 213 | 210. 9 | 29. 6 | 273 | 270. 3 | 38. 0 | 333 | 329. 7 | 46. 3 | 393 | 389. 1 | 54. 7 | 453 | 448. | | | | | | | | |
| 44 | 44. 0 | 04. 8 | 94 | 93. 1 | 13. 1 | 154 | 152. 5 | 21. 4 | 214 | 211. 9 | 29. 8 | 274 | 271. 3 | 38. 1 | 334 | 330. 7 | 46. 5 | 394 | 390. 1 | 54. 8 | 454 | 449. 6 | 63. | | | | | | | |
| 45 | 45. 0 | 04. 9 | 95 | 94. 1 | 13. 3 | 155 | 153. 5 | 21. 6 | 215 | 212. 9 | 29. 9 | 275 | 272. 3 | 38. 3 | 335 | 331. 7 | 46. 6 | 395 | 391. 1 | 55. 0 | 455 | 450. | | | | | | | | |
| 46 | 46. 0 | 05. | 96 | 95. 1 | 13. 4 | 156 | 154. 4 | 21. 7 | 216 | 213. 9 | 30. 1 | 276 | 273. 3 | 38. 4 | 336 | 332. 7 | 46. 8 | 396 | 392. 1 | 55. 1 | 456 | 451. | | | | | | | | |
| 47 | 47. 0 | 05. 1 | 97 | 96. 1 | 13. 5 | 157 | 155. 5 | 21. 9 | 217 | 214. 9 | 30. 2 | 277 | 274. 3 | 38. 6 | 337 | 333. 7 | 46. 9 | 397 | 393. 1 | 55. 3 | 457 | 452. 5 | 63. 6 | | | | | | | |
| 48 | 48. 0 | 05. 2 | 98 | 97. 1 | 13. 7 | 158 | 156. 4 | 22. 0 | 218 | 215. 9 | 30. 4 | 278 | 275. 3 | 38. 7 | 338 | 334. 7 | 47. 1 | 398 | 394. 1 | 55. 4 | 458 | 453. | | | | | | | | |
| 49 | 49. 0 | 05. 4 | 99 | 98. 1 | 13. 8 | 159 | 157. 4 | 22. 1 | 219 | 216. 9 | 30. 5 | 279 | 276. 3 | 38. 8 | 339 | 335. 7 | 47. 2 | 399 | 395. 1 | 55. 5 | 459 | 454. | | | | | | | | |
| 50 | 50. 0 | 05. 5 | 100 | 99. 1 | 14. | 160 | 158. 4 | 22. 3 | 220 | 217. 9 | 30. 6 | 280 | 277. 3 | 39. 0 | 340 | 336. 7 | 47. 4 | 400 | 396. 1 | 55. 7 | 460 | 455. | | | | | | | | |
| 51 | 51. 0 | 05. 7 | 101 | 100. 0 | 14. 2 | 162 | 160. 4 | 22. 5 | 222 | 219. 8 | 30. 9 | 282 | 279. 3 | 39. 2 | 342 | 338. 6 | 47. 6 | 402 | 398. 1 | 56. 0 | 462 | 457. 5 | 64. 3 | | | | | | | |
| 52 | 52. 0 | 05. 8 | 102 | 101. 0 | 14. 3 | 163 | 161. 4 | 22. 7 | 223 | 220. 8 | 31. 0 | 283 | 280. 2 | 39. 4 | 343 | 339. 6 | 47. 7 | 403 | 399. 1 | 56. 1 | 463 | 458. 5 | 64. 4 | | | | | | | |
| 53 | 53. 0 | 06. | 103 | 102. 0 | 14. 5 | 163 | 162. 4 | 22. 8 | 224 | 221. 8 | 31. 2 | 284 | 281. 2 | 39. 5 | 344 | 340. 6 | 47. 9 | 404 | 400. 0 | 56. 2 | 464 | 459. 5 | 64. 6 | | | | | | | |
| 54 | 54. 0 | 06. 2 | 104 | 103. 0 | 14. 6 | 165 | 163. 3 | 23. 0 | 226 | 222. 8 | 31. 3 | 285 | 282. 2 | 39. 7 | 346 | 341. 6 | 48. 0 | 405 | 401. 0 | 56. 4 | 465 | 460. 4 | 64. 7 | | | | | | | |
| 55 | 55. 0 | 06. 3 | 105 | 104. 0 | 14. 8 | 166 | 164. 3 | 23. 1 | 226 | 223. 8 | 31. 5 | 286 | 283. 2 | 39. 8 | 346 | 342. 6 | 48. 2 | 406 | 402. 0 | 56. 5 | | | | | | | | | | |
| 56 | 56. 0 | 06. 5 | 106 | 105. 0 | 14. 9 | 167 | 165. 3 | 23. 3 | 228 | 225. 8 | 31. 6 | 287 | 284. 2 | 40. 0 | 348 | 343. 6 | 48. 3 | 407 | 403. 0 | 56. 7 | 467 | 462. 4 | 65. 0 | | | | | | | |
| 57 | 57. 0 | 06. 6 | 107 | 106. 0 | 15. 1 | 168 | 166. 3 | 23. 4 | 229 | 226. 8 | 31. 8 | 288 | 285. 2 | 40. 1 | 349 | 344. 6 | 48. 5 | 408 | 404. 0 | 56. 8 | 468 | 463. 4 | 65. 1 | | | | | | | |
| 58 | 58. 0 | 06. 8 | 108 | 107. 0 | 15. 2 | 169 | 167. 3 | 23. 6 | 230 | 227. 8 | 31. 9 | 289 | 286. 2 | 40. 3 | 350 | 345. 6 | 48. 6 | 409 | 405. 0 | 57. 0 | 469 | 464. 4 | 65. 3 | | | | | | | |
| 59 | 59. 0 | 06. 9 | 109 | 108. 0 | 15. 3 | 170 | 168. 3 | 23. 7 | 231 | 228. 8 | 32. 1 | 290 | 287. 2 | 40. 4 | 351 | 346. 6 | 48. 8 | 410 | 406. 0 | 57. 1 | 470 | 465. 4 | 65. 4 | | | | | | | |
| 60 | 60. 0 | 07. | 110 | 109. 0 | 15. 5 | 171 | 169. 3 | 23. 8 | 232 | 229. 8 | 32. 2 | 291 | 288. 2 | 40. 5 | 352 | 347. 6 | 48. 9 | 411 | 407. 0 | 57. 3 | 471 | 466. 4 | 65. 6 | | | | | | | |

For 82 Degrees.

For 9 Degrees.

| Dist | Dep. | D. Lat | Dist | Dep. | D. Lat | Dist | Dep. | D. Lat | Dist | Dep. | D. Lat | Dist | Dep. | D. Lat | Dist | Dep. | D. Lat | Dist | Dep. | D. Lat | Dist | Dep. | D. Lat |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 2 | 02.0 | 00.3 | 62 | 61.2 | 09.7 | 122 | 120.5 | 19.1 | 182 | 179.8 | 28.5 | 243 | 239.6 | 37.9 | 302 | 298.3 | 47.2 | 362 | 357.5 | 56.7 | 422 | 416.8 | 66.0 |
| 4 | 04.0 | 00.6 | 64 | 63.2 | 10.0 | 123 | 122.5 | 19.4 | 184 | 181.7 | 28.8 | 244 | 241.0 | 38.2 | 304 | 300.3 | 47.6 | 364 | 359.5 | 56.9 | 424 | 418.8 | 66.3 |
| 6 | 05.9 | 00.9 | 66 | 65.2 | 10.3 | 126 | 124.4 | 19.7 | 186 | 183.7 | 29.1 | 246 | 243.0 | 38.5 | 306 | 302.2 | 47.9 | 366 | 361.5 | 57.3 | 426 | 420.8 | 66.6 |
| 9 | 08.9 | 01.4 | 69 | 68.2 | 10.8 | 129 | 127.4 | 20.2 | 189 | 186.7 | 29.6 | 249 | 245.9 | 39.0 | 309 | 305.2 | 48.3 | 369 | 364.5 | 57.7 | 429 | 423.7 | 67.1 |
| 12 | 11.9 | 01.9 | 72 | 71.1 | 11.3 | 132 | 130.4 | 20.6 | 192 | 189.6 | 30.0 | 252 | 248.9 | 39.4 | 312 | 308.2 | 48.8 | 372 | 367.4 | 58.2 | 432 | 426.7 | 67.6 |
| | | | 73 | 72.1 | 11.4 | 133 | 131.4 | 20.8 | 193 | 190.6 | 30.2 | 253 | 249.9 | 39.6 | 313 | 309.1 | 49.0 | 373 | 368.4 | 58.4 | 433 | 427.7 | 67.7 |
| | | | 74 | 73.1 | 11.6 | 134 | 132.4 | 21.0 | 194 | 191.6 | 30.3 | 254 | 250.9 | 39.7 | 314 | 310.1 | 49.2 | 374 | 369.4 | 58.5 | 434 | 428.7 | 67.8 |
| | | | 75 | 74.1 | 11.7 | 135 | 133.3 | 21.1 | 195 | 192.6 | 30.5 | 255 | 251.9 | 39.9 | 315 | 311.1 | 49.3 | 375 | 370.4 | 58.7 | 435 | 429.6 | 68.0 |
| | | | 76 | 75.1 | 11.9 | 136 | 134.3 | 21.3 | 196 | 193.6 | 30.7 | 256 | 252.8 | 40.0 | 316 | 312.1 | 49.4 | 376 | 371.4 | 58.8 | 436 | 430.6 | 68.1 |
| | | | 77 | 76.1 | 12.0 | 137 | 135.3 | 21.4 | 197 | 194.6 | 30.8 | 257 | 253.8 | 40.2 | 317 | 313.1 | 49.6 | 377 | 372.4 | 59.0 | 437 | 431.6 | |
| | | | 78 | 77.0 | 12.2 | 138 | 136.3 | 21.6 | 198 | 195.6 | 31.0 | 258 | 254.8 | 40.4 | 318 | 314.1 | 49.8 | 378 | 373.3 | 59.1 | 438 | 432.6 | |
| | | | 79 | 78.0 | 12.4 | 139 | 137.3 | 21.7 | 199 | 196.5 | 31.1 | 259 | 255.8 | 40.5 | 319 | 315.1 | 49.9 | 379 | 374.3 | 59.3 | 439 | 433.6 | |
| | | | 80 | 79.0 | 12.5 | 140 | 138.3 | 21.9 | 200 | 197.5 | 31.3 | 260 | 256.8 | 40.7 | 320 | 316.1 | 50.1 | 380 | 375.3 | 59.5 | 440 | 434.6 | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

For 10 Degrees.

| | Dep. | Dif. D. Lat. | Dep. | Dif. D. Lat. | Dep. | Dif. D. Lat.

For 11 Degrees.

| Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 01. 0 | 00. 2 | 61 | 59. 9 | 11. 6 | 121 | 118. 8 | 23. 1 | 181 | 177. 7 | 34. 5 | 241 | 236. 6 | 46. 0 | 301 | 295. 4 | 57. 4 | 361 | 354. | | | | | |
| 2 | 02. 0 | 00. 4 | 62 | 60. 9 | 11. 8 | 122 | 119. 8 | 23. 3 | 182 | 178. 7 | 34. 7 | 242 | 237. 6 | 46. 2 | 302 | 296. 4 | 57. 6 | 362 | 3 | | | | | |
| 3 | 02. 9 | 00. 6 | 63 | 61. 8 | 12. 0 | 123 | 120. 7 | 23. 5 | 183 | 179. 6 | 34. 9 | 243 | 238. 5 | 46. 4 | 303 | 297. 4 | 57. 8 | 363 | 3 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | 01. 1 | | 66 | 64. 8 | 12. 6 | 126 | 123. 7 | 24. 0 | 186 | 182. 6 | 35. 5 | 246 | 241. 5 | 46. 9 | 306 | 300. 3 | 58. 4 | 366 | 3 | | | | | |
| 7 | 06. 9 | 01. 3 | 67 | 65. 8 | 12. 8 | 127 | 124. 7 | 24. 2 | 187 | 183. 6 | 35. 7 | 247 | 242. 5 | 47. 1 | 307 | 301. 3 | 58. 6 | 367 | 3 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | 69 | 67. 7 | 13. 2 | 129 | 126. 6 | 24. 6 | 189 | 185. 5 | 36. 1 | 249 | 244. 4 | 47. 5 | 309 | 303. 3 | 59. 0 | 369 | 362. | | | | | |
| 10 | 09. 8 | 01. 9 | 70 | 68. 7 | 13. 4 | 130 | 127. 6 | 24. 8 | 190 | 186. 5 | 36. 3 | 250 | 245. 4 | 47. 7 | 310 | 304. 3 | 59. 2 | 370 | 3 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 11. 8 | 02. 3 | 72 | 70. 7 | 13. 7 | 132 | 129. 6 | 25. 2 | 192 | 188. 5 | 36. 6 | 252 | 247. 4 | 48. 1 | 312 | 306. 2 | 59. 5 | 372 | 365. 1 | 71. 0 | 432 | 424. 0 | 82 | |
| 13 | 12. 8 | 02. 5 | 73 | 71. 7 | 13. 9 | 133 | 130. 6 | 25. 4 | 193 | 189. 5 | 36. 8 | 253 | 248. 4 | 48. 3 | 313 | 307. 2 | 59. 7 | 373 | 366. 1 | 71. 2 | 433 | 425. 0 | 82 | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 14. 7 | 02. 9 | 75 | 73. 6 | 14. 3 | 135 | 132. 5 | 25. 8 | 195 | 191. 4 | 37. 2 | 255 | 250. 3 | 48. 7 | 315 | 309. 2 | 60. 1 | 375 | 368. 1 | 71. 6 | 435 | 427 | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | 16. 7 | 03. 2 | 77 | 75. 6 | 14. 7 | 137 | 134. 5 | 26. 1 | 197 | 193. 4 | 37. 6 | 257 | 252. 3 | 49. 0 | 317 | 311. 1 | 60. 5 | 377 | 370. 0 | 71. 9 | 437 | 428. 9 | 83. | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 18. 7 | 03. 6 | 79 | 77. 5 | 15. 1 | 139 | 136. 4 | 26. 5 | 199 | 195. 3 | 38. 0 | 259 | 254. 2 | 49. 4 | 319 | 313. 1 | 60. 9 | 379 | 372. 0 | 72. 3 | 439 | 430. 9 | 8 | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 82 | 79. 5 | 15. 5 | 141 | 138. 4 | 26. 9 | 201 | 197. 5 | 38. 4 | 261 | 256. 2 | 49. 8 | 321 | 315. 1 | | | | | | | | |
| 20 | 21 | 04. 2 | 82 | 80. 5 | 15. 6 | 142 | 139. 4 | 27. 1 | 202 | 198. 3 | 38. 5 | 262 | 257. 2 | 50. 0 | 322 | 316. 1 | 61. 4 | 382 | 374. 9 | 72. 9 | 442 | 433. 8 | | |
| | | | 83 | 81. 5 | 15. 8 | 143 | 140. 4 | 27. 3 | 203 | 199. 3 | 38. 7 | 263 | 258. 2 | 50. 2 | 323 | 317. 0 | 61. 6 | 383 | 375. 9 | 73 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 24. 5 | 04. 8 | 85 | 83. 4 | 16. 2 | 145 | 142. 3 | 27. 7 | 205 | 201. 2 | 39. 1 | 265 | 260. 1 | 50. 6 | 325 | 319. 0 | 62. 0 | 385 | 377. 9 | 73. 5 | 445 | 436. 8 | | |
| 26 | 25. 5 | 05. 0 | 86 | 84. 4 | 16. 4 | 146 | 143. 3 | 27. 9 | 206 | 202. 2 | 39. 3 | 266 | 261. 1 | 50. 8 | 326 | 320. 0 | 62. 2 | 386 | 378. 9 | 73. 7 | 446 | 437 | | |
| 27 | 26. 5 | 05. 2 | 87 | 85. 4 | 16. 6 | 147 | 144. 3 | 28. 0 | 207 | 203. 2 | 39. 5 | 267 | 262. 1 | 50. 9 | 327 | 321. 0 | 62. 4 | 387 | 379. 9 | 73. 8 | | | | |
| 28 | 27. 5 | 05. 3 | 88 | 86. 4 | 16. 8 | 148 | 145. 3 | 28. 2 | 208 | 204. 2 | 39. 7 | 268 | 263. 1 | 51. 1 | 328 | 321. 9 | 62. 6 | 388 | 380. 8 | 74 | | | | |
| 29 | 28. 5 | 05. 5 | 89 | 87. 4 | 17. 0 | 149 | 146. 3 | 28. 4 | 209 | 205. 2 | 39. 9 | 269 | 264. 1 | 51. 3 | 329 | 322. 9 | 62. 8 | 389 | 381. 8 | 74 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | 30. 4 | 05. 9 | 91 | 89. 3 | 17. 4 | 151 | 148. 2 | 28. 8 | 211 | 207. 1 | 40. 3 | 271 | 266. 0 | 51. 7 | 331 | 324. 9 | 63. 2 | 391 | 383. 8 | 74 | | | | |
| 32 | 31. 4 | 06. 1 | 92 | 90 3 | 17. 6 | 152 | 149. 2 | 29. 0 | 212 | 208. 1 | 40. 5 | 272 | 267. 0 | 51. 9 | 332 | 325. 9 | 63. 4 | 392 | 384. 8 | 74. 8 | | | | |
| 33 | 32. 4 | 06. 3 | 93 | 91. 3 | 17. 7 | 153 | 150. 2 | 29. 2 | 213 | 209. 1 | 40. 6 | 273 | 268. 0 | 52. 1 | 333 | 326. 8 | 63. 5 | 393 | 385. 7 | 75 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | 41. 2 | 276 | 270. 0 | 52. 7 | 336 | 329. 8 | 64. 1 | | | | | | | |
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| 38 | 37. 3 | 07. 3 | 98 | 96. 2 | 18. 7 | 158 | 155. 1 | 30. 1 | 218 | 214. 0 | 41. 6 | 278 | 272. 9 | 53. 0 | 338 | 331. 8 | 64. 5 | 398 | 390. 7 | 75 | | | | |
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| 41 | 40. 2 | 07. 8 | 101 | 99. 1 | 19. 3 | 161 | 158. 0 | 30. 7 | 221 | 216. 9 | 42. 2 | 281 | 275. 8 | 53. 6 | 341 | 334. 7 | 65. 1 | 401 | 393. 6 | 76 | | | | |
| | | 8. 0 | 102 | 100. 1 | 19. 5 | 162 | 159. 0 | 30. 9 | 222 | 217. 9 | 42. 4 | 282 | 276. 8 | 53. 8 | 342 | 335. 7 | 65 | | | 76 | | | | |
| | | | 03 | 101. 1 | 19. 7 | 163 | 160. 0 | 31. 1 | 223 | 218. 9 | 42. 6 | 283 | 277. 8 | 54. 0 | 343 | 336. 7 | 65. 5 | 403 | 395. 6 | 77 | | | | |
| | | | 04 | 102. 1 | 19. 8 | 164 | 161. 0 | 31. 3 | 224 | 219. 9 | 42. 7 | 284 | 278. 8 | 54. 2 | 344 | 337. 6 | 65. 6 | 404 | 396. 6 | | | | | |
| 44 | 43. 2 | 08. 6 | 105 | 103. 1 | 20. 0 | 165 | 162. 0 | 31. 5 | 225 | 220. 9 | 42. 9 | 285 | 279. 8 | 54. 4 | 345 | 338. 6 | 65. 8 | 405 | 397. 5 | 77. 3 | | | | |
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| | | | | | | 168 | 164. 9 | 32. 1 | 228 | 223. 8 | 43. 5 | 288 | 282. 7 | 55. 0 | 348 | 341. 6 | 66. 4 | 408 | 400. 5 | 77. 9 | 468 | 459. 4 | 89 | |
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| 52 | 51. 0 | 09. 9 | 112 | 109. 9 | 21. 4 | 172 | 168. 8 | 32. 8 | 232 | 227. 7 | 44. 3 | 292 | 286. 6 | 55. 7 | 352 | 345. 5 | 67. 2 | 412 | 404. 4 | 78 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| 54 | 53. 0 | 10. 3 | 114 | 111. 9 | 21. 8 | 174 | 170. 8 | 33. 2 | 234 | 229. 7 | 44. 6 | 294 | 288. 6 | 56. 1 | 354 | 347. 5 | 67. 5 | 414 | 406. 4 | 7 | | | | |
| 55 | 54. 0 | 10. 5 | 115 | 112. 9 | 21. 9 | 175 | 171. 8 | 33. 4 | 235 | 230. 7 | 44. 8 | 295 | 289. 6 | 56. 3 | 355 | 348. 4 | 67. 7 | 415 | 407. 3 | 7 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | 56. 0 | 10. 9 | 117 | 114. 9 | 22. 3 | 177 | 173. 7 | 33. 8 | 237 | 232. 6 | 45. 2 | 297 | 291. 5 | 56. 7 | 357 | 350. 4 | 68. 1 | 417 | 409. 3 | 7 | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 11. 3 | 119 | 116. 8 | 22. 7 | 179 | 175. 7 | 34. 2 | 239 | 234. 6 | 45. 6 | 299 | 293. 5 | 57. 1 | 359 | 352. 4 | 68. 5 | | | | | | | |
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For 79 Degrees.

For 12 Degrees.

| | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. |
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| 7 | 06.8 | 01.5 | 67 | 65.5 | 13.9 | 127 | 124.2 | 26.4 | 187 | 182.9 | 38.9 | 247 | 241.6 | 51.4 | 307 | 300.3 | 63.8 | 367 | 359.0 | 76.3 | 427 | 417.7 | 88.8 |
| 8 | 07.8 | 01.7 | 68 | 66.5 | 14.1 | 128 | 125.2 | 26.6 | 188 | 183.9 | 39.1 | 248 | 242.6 | 51.6 | 308 | 301.3 | 64.0 | 368 | 360.0 | 76.5 | 428 | 418.6 | 89.0 |
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| 12 | 11.7 | 02.5 | 72 | 70.4 | 15.0 | 132 | 129.1 | 27.4 | 192 | 187.8 | 39.9 | 252 | 246.5 | 52.4 | 312 | 305.2 | 64.8 | 372 | 363.9 | 77.3 | 432 | 422.6 | 89.8 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 13.7 | 02.9 | 74 | 72.4 | 15.4 | 134 | 131.1 | 27.9 | 194 | 189.8 | 40.3 | 254 | 248.4 | 52.8 | 314 | 307.1 | 65.3 | 374 | 365.8 | 77.7 | 434 | 424.5 | 90.2 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 15.7 | 03.3 | 76 | 74.3 | 15.8 | 136 | 133.0 | 28.3 | 196 | 191.7 | 40.8 | 256 | 250.4 | 53.2 | 316 | 309.1 | 65.7 | 376 | 367.8 | 78.2 | 436 | 426.5 | 90.6 |
| 17 | 16.6 | 03.5 | 77 | 75.3 | 16.0 | 137 | 134.0 | 28.5 | 197 | 192.7 | 41.0 | 257 | 251.3 | 53.4 | 317 | 310.1 | 65.9 | 377 | 368.8 | 78.4 | 437 | 427.5 | 90.8 |
| | | | | | | | | | | | | | | | | | | | | | | | |
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| 20 | 19.6 | 04.2 | 80 | 78.3 | 16.6 | 140 | 136.9 | 29.1 | 200 | 195.6 | 41.6 | 260 | 254.3 | 54.1 | 320 | 313.0 | 66.5 | 380 | 371.7 | 79.0 | 440 | 430.4 | 91.5 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 21.5 | 04.6 | 82 | 80.2 | 17.0 | 142 | 138.9 | 29.5 | 202 | 197.6 | 42.0 | 262 | 256.3 | 54.5 | 322 | 315.0 | 66.9 | 382 | 373.7 | 79.4 | 442 | 432.3 | 91.9 |
| 23 | 22.5 | 04.8 | 83 | 81.2 | 17.3 | 143 | 139.9 | 29.7 | 203 | 198.6 | 42.2 | 263 | 257.3 | 54.7 | 323 | 315.9 | 67.1 | 383 | 374.6 | 79.6 | 443 | 433.3 | 92.1 |
| 24 | 23.5 | 05.0 | 84 | 82.2 | 17.5 | 144 | 140.9 | 29.9 | 204 | 199.5 | 42.4 | 264 | 258.2 | 54.9 | 324 | 316.9 | 67.3 | 384 | 375.6 | 79.8 | 444 | 434.3 | 92.3 |
| 25 | 24.5 | 05.2 | 85 | 83.1 | 17.7 | 145 | 141.8 | 30.1 | 205 | 200.5 | 42.6 | 265 | 259.2 | 55.1 | 325 | 317.9 | 67.6 | 385 | 376.6 | 80.0 | 445 | 435.3 | 92.5 |
| 26 | 25.4 | 05.4 | 86 | 84.1 | 17.9 | 146 | 142.8 | 30.4 | 206 | 201.5 | 42.8 | 266 | 260.2 | 55.3 | 326 | 318.9 | 67.8 | 386 | 377.6 | 80.2 | 446 | 436.3 | 92.7 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | 27.4 | 05.8 | 88 | 86.1 | 18.3 | 148 | 144.8 | 30.8 | 208 | 203.5 | 43.2 | 268 | 262.1 | 55.7 | 328 | 320.8 | 68.2 | 388 | 379.5 | 80.7 | 448 | 438.2 | 93.1 |
| | | | 89 | 87.1 | 18.5 | 149 | 145.7 | 31.0 | 209 | 204.4 | 43.5 | 269 | 263.1 | 55.9 | 329 | 321.8 | 68.4 | 389 | 380.5 | 80.9 | 449 | 439.2 | 93.3 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | | | 91 | 89.0 | 18.9 | 151 | 147.7 | 31.4 | 211 | 206.4 | 43.9 | 271 | 265.1 | 56.3 | 331 | 323.8 | 68.8 | 391 | 382.5 | 81.3 | 451 | 441.1 | 93.7 |
| 32 | | | 92 | 90.0 | 19.1 | 152 | 148.7 | 31.6 | 212 | 207.4 | 44.1 | 272 | 266.1 | 56.6 | 332 | 324.7 | 69.0 | 392 | 383.4 | 81.5 | 452 | 442.1 | 93.9 |
| 33 | | | 93 | 91.0 | 19.3 | 153 | 149.7 | 31.8 | 213 | 208.3 | 44.3 | 273 | 267.0 | 56.8 | 333 | 325.7 | 69.2 | 393 | 384.4 | 81.7 | 453 | 443.1 | 94.1 |
| 34 | | | 94 | 91.9 | 19.5 | 154 | 150.6 | 32.0 | 214 | 209.3 | 44.5 | 274 | 268.0 | 57.0 | 334 | 326.7 | 69.4 | 394 | 385.4 | 81.9 | 454 | 444.1 | 94.4 |
| 35 | | | 95 | 92.9 | 19.8 | 155 | 151.6 | 32.2 | 215 | 210.3 | 44.7 | 275 | 269.0 | 57.2 | 335 | 327.7 | 69.6 | 395 | 386.4 | 82.1 | 455 | 445.1 | 94.6 |
| 36 | | | 96 | 93.9 | 20.0 | 156 | 152.6 | 32.4 | 216 | 211.3 | 44.9 | 276 | 270.0 | 57.4 | 336 | 328.7 | 69.8 | 396 | 387.3 | 82.3 | 456 | 446.0 | 94.8 |
| 37 | | | 97 | 94.9 | 20.2 | 157 | 153.6 | 32.6 | 217 | 212.3 | 45.1 | 277 | 270.9 | 57.6 | 337 | 329.6 | 70.0 | 397 | 388.3 | 82.5 | 457 | 447.0 | 95.0 |
| 38 | | | 98 | 95.9 | 20.4 | 158 | 154.5 | 32.9 | 218 | 213.2 | 45.3 | 278 | 271.9 | 57.8 | 338 | 330.6 | 70.3 | 398 | 389.3 | 82.7 | 458 | 448.0 | 95.2 |
| 39 | | | 99 | 96.8 | 20.6 | 159 | 155.5 | 33.1 | 219 | 214.2 | 45.5 | 279 | 272.9 | 58.0 | 339 | 331.6 | 70.5 | 399 | 390.3 | 82.9 | 459 | 449.0 | 95.4 |
| | | | 100 | 97.8 | 20.8 | 160 | 156.5 | 33.3 | 220 | 215.2 | 45.7 | 280 | 273.9 | 58.2 | 340 | 332.6 | 70.7 | 400 | 391.3 | 83.1 | 460 | 450.0 | 95.6 |
| 41 | | | 101 | 98.8 | 21.0 | 161 | 157.5 | 33.5 | 221 | 216.2 | 45.9 | 281 | 274.9 | 58.4 | 341 | 333.5 | 70.9 | 401 | 392.2 | 83.4 | 461 | 450.9 | 95.8 |
| 42 | | | 102 | 99.8 | 21.2 | 162 | 158.5 | 33.7 | 222 | 217.1 | 46.2 | 282 | 275.8 | 58.6 | 342 | 334.5 | 71.1 | 402 | 393.2 | 83.6 | 462 | 451.9 | 96.0 |
| 43 | | | 103 | 100.7 | 21.4 | 163 | 159.4 | 33.9 | 223 | 218.1 | 46.4 | 283 | 276.8 | 58.8 | 343 | 335.5 | 71.3 | 403 | 394.2 | 83.8 | 463 | 452.9 | 96.2 |
| 44 | | | 104 | 101.7 | 21.6 | 164 | 160.4 | 34.1 | 224 | 219.1 | 46.6 | 284 | 277.8 | 59.0 | 344 | 336.5 | 71.5 | 404 | 395.2 | 84.0 | 464 | 453.9 | 96.5 |
| 45 | | | 105 | 102.7 | 21.8 | 165 | 161.4 | 34.3 | 225 | 220.1 | 46.8 | 285 | 278.8 | 59.3 | 345 | 337.5 | 71.7 | 405 | 396.2 | 84.2 | 465 | 454.8 | 96.7 |
| 46 | | | 106 | 103.7 | 22.0 | 166 | 162.4 | 34.5 | 226 | 221.1 | 47.0 | 286 | 279.8 | 59.5 | 346 | 338.4 | 71.9 | 406 | 397.1 | 84.4 | 466 | 455.8 | 96.9 |
| 47 | | | 107 | 104.7 | 22.2 | 167 | 163.4 | 34.7 | 227 | 222.0 | 47.2 | 287 | 280.7 | 59.7 | 347 | 339.4 | 72.1 | 407 | 398.1 | 84.6 | 467 | 456.8 | 97.1 |
| 48 | | | 108 | 105.6 | 22.5 | 168 | 164.3 | 34.9 | 228 | 223.0 | 47.4 | 288 | 281.7 | 59.9 | 348 | 340.4 | 72.3 | 408 | 399.1 | 84.8 | 468 | 457.8 | 97.3 |
| 49 | | | 109 | 106.6 | 22.7 | 169 | 165.3 | 35.1 | 229 | 224.0 | 47.6 | 289 | 282.7 | 60.1 | 349 | 341.4 | 72.5 | 409 | 400.1 | 85.0 | 469 | 458.8 | 97.5 |
| | | | 110 | 107.6 | 22.9 | 170 | 166.3 | 35.3 | 230 | 225.0 | 47.8 | 290 | 283.7 | 60.3 | 350 | 342.4 | 72.7 | 410 | 401.0 | 85.2 | 470 | 459.7 | 97.7 |
| 51 | | | 111 | 108.6 | 23.1 | 171 | 167.3 | 35.6 | 231 | 226.0 | 48.0 | 291 | 284.6 | 60.5 | 351 | 343.5 | 73.0 | 411 | 402.0 | 85.4 | 471 | 460.7 | 97.9 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 53 | 51.8 | 11.0 | 113 | 110.5 | 23.5 | 173 | 169.2 | 36.0 | 233 | 227.9 | 48.4 | 293 | 286.6 | 60.9 | 353 | 345.3 | 73.4 | 413 | 404.0 | 85.8 | 473 | 462.7 | 98.3 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | 53.8 | 11.4 | 115 | 112.5 | 23.9 | 175 | 171.2 | 36.4 | 235 | 229.9 | 48.9 | 295 | 288.6 | 61.3 | 355 | 347.2 | 73.8 | 415 | 405.9 | 86.3 | 475 | 464.6 | 98.7 |
| 56 | 54.8 | 11.6 | 116 | 113.5 | 24.1 | 176 | 172.2 | 36.6 | 236 | 230.8 | 49.1 | 296 | 289.5 | 61.5 | 356 | 348.2 | 74.0 | 416 | 406.9 | 86.5 | 476 | 465.6 | 98.9 |
| 57 | 55.8 | 11.9 | 117 | 114.4 | 24.3 | 177 | 173.1 | 36.8 | 237 | 231.8 | 49.3 | 297 | 290.5 | 61.7 | 357 | 349.2 | 74.2 | 417 | 407.9 | 86.7 | 477 | 466.6 | 99.1 |
| 58 | 56.7 | 12.1 | 118 | 115.4 | 24.5 | 178 | 174.1 | 37.0 | 238 | 232.8 | 49.5 | 298 | 291.5 | 62.0 | 358 | 350.2 | 74.4 | 418 | 408.9 | 86.9 | 478 | 467.6 | 99.4 |
| 59 | 57.7 | 12.3 | 119 | 116.4 | 24.7 | 179 | 175.1 | 37.2 | 239 | 233.8 | 49.7 | 299 | 292.5 | 62.2 | 359 | 351.2 | 74.6 | 419 | 409.8 | 87.1 | 479 | 468.5 | 99.6 |
| 60 | 58.7 | 12.5 | 120 | 117.4 | 24.9 | 180 | 176.1 | 37.4 | 240 | 234.8 | 49.9 | 300 | 293.4 | 62.4 | 360 | 352.1 | 74.8 | 420 | 410.8 | 87.3 | 480 | 469.5 | 99.8 |

| | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. |
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For 78 Degrees.

For 13 Degrees.

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For 77 Degrees.

For 14 Degrees.

| No. | Lat. | Dep. | No. | Lat. | Dep. | No. | Lat. | Dep. | No. | Lat. | Dep. | No. | Lat. | Dep. | No. | Lat. | Dep. | No. | Lat. | Dep. | No. | Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 01. 0 | | 61 | 59. 2 | 14. 8 | 121 | 117. 4 | 29. 3 | | | | | | | | | | | | | | | |
| 2 | 02. 0 | 00. 5 | 62 | 60. 2 | 15. 0 | 122 | 118. 4 | 29. 5 | 182 | 176. 6 | 44. 0 | 242 | 234. 8 | 58. 5 | 302 | 293. 0 | 73. 0 | 362 | 351. 2 | 87. 6 | 422 | 409. 4 | 102. 1 |
| 3 | 03. 0 | 00. 7 | 63 | 61. 1 | 15. 2 | 123 | 119. 5 | 29. 8 | 183 | 177. 6 | 44. 3 | 243 | 235. 8 | 58. 8 | 303 | 294. 0 | 73. 3 | 363 | 352. 2 | 87. 8 | 423 | 410. 4 | 102. 3 |
| 4 | 04. 0 | 01. 0 | 64 | 62. 1 | 15. 5 | 124 | 120. 3 | 30. 0 | 184 | 178. 5 | 44. 5 | 244 | 236. 8 | 59. 0 | 304 | 294. 9 | 73. 5 | 364 | 353. 2 | 88. 0 | 424 | 411. 4 | 102. 6 |
| 5 | 05. 0 | 01. 2 | 65 | 63. 1 | 15. 7 | 125 | 121. 3 | | | | | | | | | | | | | | | | |
| 6 | 06. 0 | 01. 5 | 66 | 64. 0 | 16. 0 | 126 | 122. 3 | 30. 5 | 186 | 180. 5 | 45. 0 | 246 | 238. 7 | 59. 5 | 306 | 296. 9 | 74. 0 | 366 | 355. 1 | 88. 5 | 426 | 413. 3 | 103. 0 |
| 7 | 07. 0 | 01. 7 | 67 | 65. 0 | 16. 2 | 127 | 123. 2 | 30. 7 | 187 | 181. 4 | 45. 2 | 247 | 239. 7 | 59. 8 | 307 | 297. 8 | 74. 2 | 367 | 356. 1 | 88. 7 | 427 | 414. 3 | 103. 2 |
| 8 | 08. 0 | 02. 0 | 68 | 66. 0 | 16. 5 | 128 | 124. 2 | 31. 0 | 188 | 182. 4 | 45. 5 | 248 | 240. 6 | 60. 0 | 308 | 298. 8 | 74. 5 | 368 | 357. 0 | 89. 0 | 428 | 415. 3 | 103. 5 |
| 9 | 09. 0 | 02. 2 | 69 | 67. 0 | 16. 7 | 129 | 125. 1 | 31. 2 | 189 | 183. 4 | 45. 7 | 249 | 241. 6 | 60. 2 | 309 | 299. 8 | 74. 7 | 369 | 358. 0 | 89. 2 | 429 | 416. 2 | 103. 8 |
| 10 | 09. 9 | 02. 4 | 70 | 67. 9 | 16. 9 | 130 | 126. 1 | 31. 4 | 190 | 184. 3 | 46. 0 | 250 | 242. 6 | 60. 5 | 310 | 300. 7 | 75. 0 | 370 | 358. 9 | 89. 5 | 430 | 417. 2 | 104. 0 |
| 11 | 10. 9 | 02. 7 | 71 | 68. 9 | 17. 2 | 131 | 127. 1 | 31. 7 | 191 | 185. 3 | 46. 2 | 251 | 243. 5 | 60. 7 | 311 | 301. 7 | 75. 2 | 371 | 359. 9 | 89. 7 | 431 | 418. 2 | 104. 2 |
| 12 | 11. 9 | 02. 9 | 72 | 69. 9 | 17. 4 | 132 | 128. 1 | 31. 9 | 192 | 186. 3 | 46. 4 | 252 | 244. 5 | 61. 0 | 312 | 302. 7 | 75. 4 | 372 | 360. 9 | 90. 0 | 432 | 419. 1 | 104. 5 |
| 13 | 12. 9 | 03. 1 | 73 | 70. 9 | 17. 7 | 133 | 129. 0 | 32. 2 | 193 | 187. 2 | 46. 7 | 253 | 245. 5 | 61. 2 | 313 | 303. 7 | 75. 7 | 373 | 361. 8 | 90. 2 | 433 | 420. 1 | 104. 7 |
| 14 | 13. 9 | 03. 4 | 74 | 71. 8 | 17. 9 | 134 | 130. 0 | 32. 4 | 194 | 188. 2 | 46. 9 | 254 | 246. 4 | 61. 5 | 314 | 304. 6 | 75. 9 | 374 | 362. 8 | 90. 5 | 434 | 421. 1 | 105. 0 |
| 15 | 14. 9 | 03. 6 | 75 | 72. 8 | 18. 1 | 135 | 131. 0 | 32. 7 | 195 | 189. 2 | 47. 2 | 255 | 247. 4 | 61. 7 | 315 | 305. 6 | 76. 2 | 375 | 363. 8 | 90. 7 | 435 | 422. 1 | 105. 2 |
| 16 | 15. 9 | 03. 9 | 76 | 73. 8 | 18. 4 | 136 | 132. 0 | 32. 9 | 196 | 190. 2 | 47. 4 | 256 | 248. 4 | 62. 0 | 316 | 306. 6 | 76. 4 | 376 | 364. 7 | 91. 0 | 436 | 423. 0 | 105. 4 |
| 17 | 16. 9 | 04. 1 | 77 | 74. 7 | 18. 6 | 137 | 132. 9 | 33. 1 | 197 | 191. 1 | 47. 7 | 257 | 249. 4 | 62. 2 | 317 | 307. 6 | 76. 7 | 377 | 365. 7 | 91. 2 | 437 | 424. 0 | 105. 7 |
| 18 | 17. 9 | 04. 4 | 78 | 75. 7 | 18. 9 | 138 | 133. 9 | 33. 4 | 198 | 192. 1 | 47. 9 | 258 | 250. 3 | 62. 4 | 318 | 308. 5 | 76. 9 | 378 | 366. 7 | 91. 4 | 438 | 425. 0 | 105. 9 |
| 19 | 18. 9 | 04. 6 | 79 | 76. 7 | 19. 1 | 139 | 134. 9 | 33. 6 | 199 | 193. 1 | 48. 1 | 259 | 251. 3 | 62. 7 | 319 | 309. 5 | 77. 2 | 379 | 367. 6 | 91. 7 | 439 | 425. 9 | 106. 2 |
| 20 | 19. 9 | 04. 8 | 80 | 77. 6 | 19. 4 | 140 | 135. 8 | 33. 9 | 200 | 194. 1 | 48. 4 | 260 | 252. 3 | 62. 9 | 320 | 310. 5 | 77. 4 | 380 | 368. 6 | 91. 9 | 440 | 426. 9 | 106. 4 |
| 21 | 20. 9 | 05. 1 | 81 | 78. 6 | 19. 6 | 141 | 136. 8 | 34. 1 | 201 | 195. 0 | 48. 6 | 261 | 253. 2 | 63. 2 | 321 | 311. 4 | 77. 7 | 381 | 369. 5 | 92. 2 | 441 | 427. 8 | 106. 7 |
| 22 | 21. 8 | 05. 3 | 82 | 79. 6 | 19. 8 | 142 | 137. 8 | 34. 4 | 202 | 196. 0 | 48. 9 | 262 | 254. 2 | 63. 4 | 322 | 312. 4 | 77. 9 | 382 | 370. 5 | 92. 4 | 442 | 428. 8 | 106. 9 |
| 23 | 22. 8 | 05. 6 | 83 | 80. 5 | 20. 1 | 143 | 138. 8 | 34. 6 | 203 | 197. 0 | 49. 1 | 263 | 255. 2 | 63. 6 | 323 | 313. 4 | 78. 1 | 383 | 371. 4 | 92. 7 | 443 | 429. 8 | 107. 2 |
| 24 | 23. 8 | 05. 8 | 84 | 81. 5 | 20. 3 | 144 | 139. 7 | 34. 8 | 204 | 197. 9 | 49. 4 | 264 | 256. 2 | 63. 9 | 324 | 314. 3 | 78. 4 | 384 | 372. 4 | 92. 9 | 444 | 430. 8 | 107. 4 |
| 25 | 24. 8 | 06. 0 | 85 | 82. 5 | 20. 6 | 145 | 140. 7 | 35. 1 | 205 | 198. 9 | 49. 6 | 265 | 257. 1 | 64. 1 | 325 | 315. 3 | 78. 6 | 385 | 373. 3 | 93. 1 | 445 | 431. 7 | 107. 7 |
| 26 | 25. 8 | 06. 3 | 86 | 83. 4 | 20. 8 | 146 | 141. 7 | 35. 3 | 206 | 199. 9 | 49. 8 | 266 | 258. 1 | 64. 3 | 326 | 316. 3 | 78. 9 | 386 | 374. 3 | 93. 4 | 446 | 432. 7 | 107. 9 |
| 27 | 26. 8 | 06. 5 | 87 | 84. 4 | 21. 1 | 147 | 142. 6 | 35. 6 | 207 | 200. 8 | 50. 1 | 267 | 259. 1 | 64. 6 | 327 | 317. 2 | 79. 1 | 387 | 375. 2 | 93. 6 | 447 | 433. 6 | 108. 2 |
| 28 | 27. 8 | 06. 8 | 88 | 85. 4 | 21. 3 | 148 | 143. 6 | 35. 8 | 208 | 201. 8 | 50. 3 | 268 | 260. 0 | 64. 8 | 328 | 318. 2 | 79. 4 | 388 | 376. 2 | 93. 9 | 448 | 434. 6 | 108. 4 |
| 29 | 28. 7 | 07. 0 | 89 | 86. 4 | 21. 5 | 149 | 144. 6 | 36. 0 | 209 | 202. 8 | 50. 6 | 269 | 261. 0 | 65. 1 | 329 | 319. 2 | 79. 6 | 389 | 377. 1 | 94. 1 | 449 | 435. 5 | 108. 7 |
| 30 | 29. 7 | 07. 3 | 90 | 87. 3 | 21. 8 | 150 | 145. 5 | 36. 3 | 210 | 203. 8 | 50. 8 | 270 | 262. 0 | 65. 3 | 330 | 320. 1 | 79. 9 | 390 | 378. 1 | 94. 4 | 450 | 436. 5 | 108. 9 |
| 31 | 30. 7 | 07. 5 | 91 | 88. 3 | 22. 0 | 151 | 146. 5 | 36. 5 | 211 | 204. 7 | 51. 0 | 271 | 263. 0 | 65. 6 | 331 | 321. 1 | 80. 1 | 391 | 379. 0 | 94. 6 | 451 | 437. 5 | 109. 2 |
| 32 | 31. 0 | 07. 7 | 92 | 89. 3 | 22. 3 | 152 | 147. 5 | 36. 8 | 212 | 205. 7 | 51. 3 | 272 | 263. 9 | 65. 8 | 332 | 322. 1 | 80. 3 | 392 | 380. 0 | 94. 8 | 452 | 438. 4 | 109. 4 |
| 33 | 32. 0 | 08. 0 | 93 | 90. 2 | 22. 5 | 153 | 148. 4 | 37. 0 | 213 | 206. 7 | 51. 5 | 273 | 264. 9 | 66. 1 | 333 | 323. 0 | 80. 6 | 393 | 381. 0 | 95. 1 | 453 | 439. 4 | 109. 7 |
| 34 | 33. 0 | 08. 2 | 94 | 91. 2 | 22. 8 | 154 | 149. 4 | 37. 3 | 214 | 207. 7 | 51. 8 | 274 | 265. 9 | 66. 3 | 334 | 324. 0 | 80. 8 | 394 | 381. 9 | 95. 3 | 454 | 440. 4 | 109. 9 |
| 35 | 34. 0 | 08. 5 | 95 | 92. 2 | 23. 0 | 155 | 150. 4 | 37. 5 | 215 | 208. 6 | 52. 0 | 275 | 266. 8 | 66. 6 | 335 | 324. 9 | 81. 1 | 395 | 382. 9 | 95. 6 | 455 | 441. 3 | 110. 2 |
| 36 | 35. 0 | 08. 7 | 96 | 93. 1 | 23. 3 | 156 | 151. 3 | 37. 8 | 216 | 209. 6 | 52. 3 | 276 | 267. 8 | 66. 8 | 336 | 325. 9 | 81. 3 | 396 | 383. 8 | 95. 8 | 456 | 442. 3 | 110. 4 |
| 37 | 36. 0 | 09. 0 | 97 | 94. 1 | 23. 5 | 157 | 152. 3 | 38. 0 | 217 | 210. 6 | 52. 5 | 277 | 268. 8 | 67. 1 | 337 | 326. 8 | 81. 6 | 397 | 384. 8 | 96. 1 | 457 | 443. 3 | 110. 7 |
| 38 | 37. 0 | 09. 2 | 98 | 95. 1 | 23. 8 | 158 | 153. 3 | 38. 3 | 218 | 211. 6 | 52. 8 | 278 | 269. 8 | 67. 3 | 338 | 327. 8 | 81. 8 | 398 | 385. 8 | 96. 3 | 458 | 444. 3 | 110. 9 |
| 39 | 37. 8 | 09. 4 | 99 | 96. 1 | 24. 0 | 159 | 154. 3 | 38. 5 | 219 | 212. 5 | 53. 0 | 279 | 270. 7 | 67. 5 | 339 | 328. 9 | 82. 0 | 399 | 387. 1 | 96. 5 | 459 | 445. 3 | 111. 2 |
| 40 | 38. 8 | 09. 7 | 100 | 97. 0 | 24. 3 | 160 | 155. 2 | 38. 8 | 220 | 213. 5 | 53. 3 | 280 | 271. 7 | 67. 8 | 340 | 329. 9 | 82. 3 | 400 | 388. 0 | 96. 8 | 460 | 446. 2 | 111. 4 |
| 41 | 39. 8 | 09. 9 | 101 | 98. 0 | 24. 5 | 161 | 156. 2 | 39. 0 | 221 | 214. 5 | 53. 5 | 281 | 272. 7 | 68. 0 | 341 | 330. 8 | 82. 5 | 401 | 389. 0 | 97. 0 | 461 | 447. 2 | 111. 7 |
| 42 | 40. 8 | 10. 2 | 102 | 99. 0 | 24. 8 | 162 | 157. 2 | 39. 3 | 222 | 215. 5 | 53. 8 | 282 | 273. 7 | 68. 3 | 342 | 331. 8 | 82. 8 | 402 | 389. 9 | 97. 2 | 462 | 448. 2 | 111. 9 |
| 43 | 41. 8 | 10. 4 | 103 | 99. 9 | 24. 9 | 163 | 158. 2 | 39. 4 | 223 | 216. 4 | 53. 9 | 283 | 274. 6 | 68. 5 | 343 | 332. 8 | 83. 0 | 403 | 391. 0 | 97. 5 | 463 | 449. 1 | 112. 2 |
| 44 | 42. 7 | 10. 7 | 104 | 100. 9 | 25. 2 | 164 | 159. 1 | 39. 7 | 224 | 217. 4 | 54. 2 | 284 | 275. 6 | 68. 7 | 344 | 333. 7 | 83. 2 | 404 | 392. 0 | 97. 7 | 464 | 450 | 112. 4 |
| 45 | 43. 7 | 10. 9 | | | | | | | | | | | | | | | | | | | | | |
| 46 | 44. 7 | 11. 1 | | | | | | | | | | | | | | | | | | | | | |
| 47 | 45. 7 | 11. 4 | | | | | | | | | | | | | | | | | | | | | |
| 48 | 46. 7 | 11. 6 | | | | | | | | | | | | | | | | | | | | | |
| 49 | 47. 7 | 11. 9 | | | | | | | | | | | | | | | | | | | | | |
| 50 | 48. 7 | 12. 1 | | | | | | | | | | | | | | | | | | | | | |
| 51 | 49. 7 | 12. 4 | | | | | | | | | | | | | | | | | | | | | |
| 52 | 50. 7 | 12. 6 | | | | | | | | | | | | | | | | | | | | | |
| 53 | 51. 7 | 12. 9 | | | | | | | | | | | | | | | | | | | | | |
| 54 | 52. 7 | 13. 1 | | | | | | | | | | | | | | | | | | | | | |
| 55 | 53. 7 | 13. 4 | | | | | | | | | | | | | | | | | | | | | |
| 56 | 54. 7 | 13. 6 | | | | | | | | | | | | | | | | | | | | | |
| 57 | 55. 7 | 13. 9 | | | | | | | | | | | | | | | | | | | | | |
| 58 | 56. 7 | 14. 1 | | | | | | | | | | | | | | | | | | | | | |
| 59 | 57. 7 | 14. 4 | | | | | | | | | | | | | | | | | | | | | |
| 60 | 58. 7 | 14. 6 | | | | | | | | | | | | | | | | | | | | | |
| 61 | 59. 7 | 14. 9 | | | | | | | | | | | | | | | | | | | | | |
| 62 | 60. 7 | 15. 1 | | | | | | | | | | | | | | | | | | | | | |
| 63 | 61. 7 | 15. 4 | | | | | | | | | | | | | | | | | | | | | |
| 64 | 62. 7 | 15. 6 | | | | | | | | | | | | | | | | | | | | | |
| 65 | 63. 7 | 15. 9 | | | | | | | | | | | | | | | | | | | | | |
| 66 | 64. 7 | 16. 1 | | | | | | | | | | | | | | | | | | | | | |
| 67 | 65. 7 | 16. 4 | | | | | | | | | | | | | | | | | | | | | |
| 68 | 66. 7 | 16. 6 | | | | | | | | | | | | | | | | | | | | | |
| 69 | 67. 7 | 16. 9 | | | | | | | | | | | | | | | | | | | | | |
| 70 | 68. 7 | 17. 1 | | | | | | | | | | | | | | | | | | | | | |
| 71 | 69. 7 | 17. 4 | | | | | | | | | | | | | | | | | | | | | |
| 72 | 70. 7 | 17. 6 | | | | | | | | | | | | | | | | | | | | | |
| 73 | 71. 7 | 17. 9 | | | | | | | | | | | | | | | | | | | | | |
| 74 | 72. 7 | 18. 1 | | | | | | | | | | | | | | | | | | | | | |
| 75 | 73. 7 | 18. 4 | | | | | | | | | | | | | | | | | | | | | |
| 76 | 74. 7 | 18. 6 | | | | | | | | | | | | | | | | | | | | | |

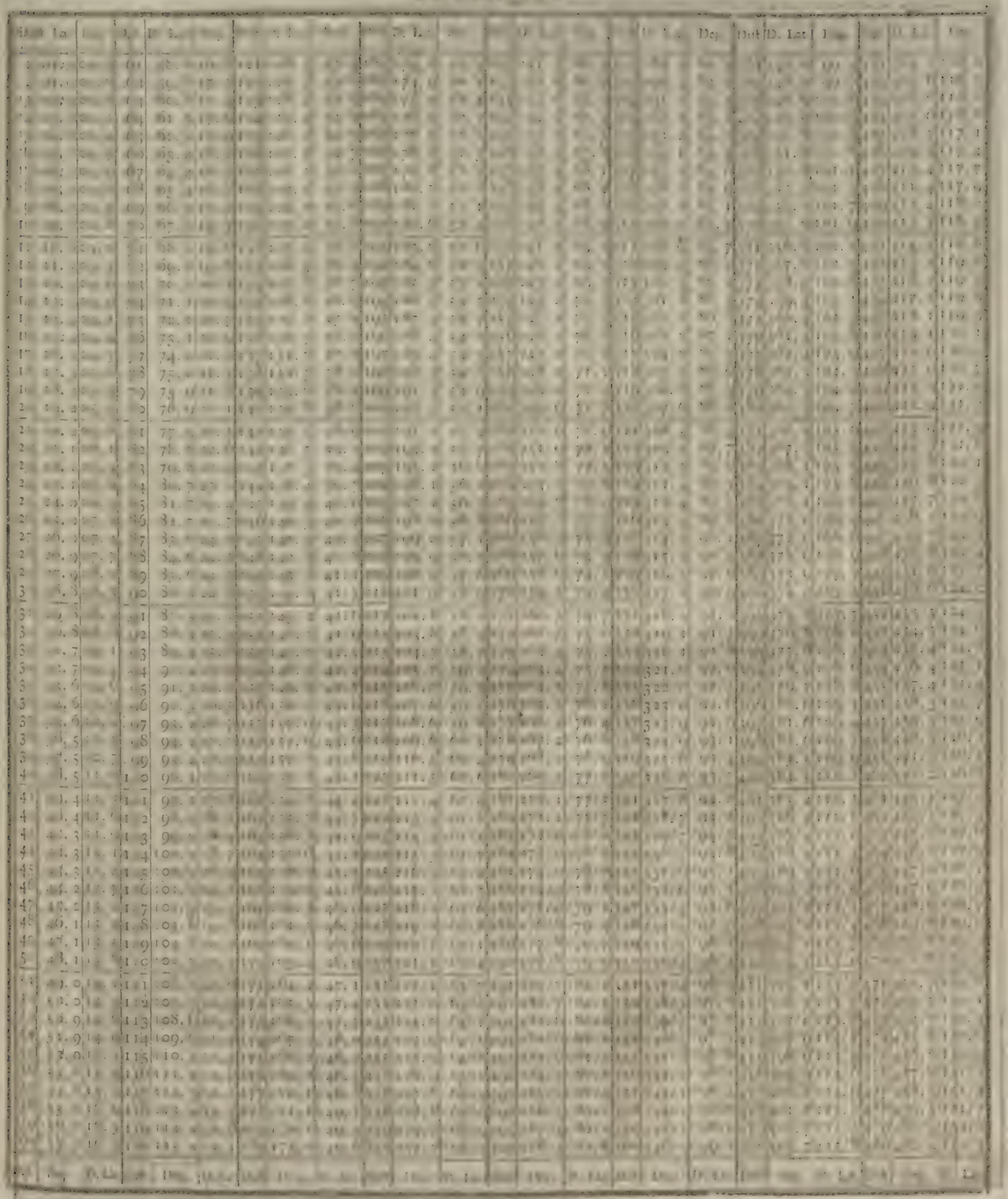
For 76 Degrees.

For 15 Degrees.



For 75 Degrees.

For 34 Degrees.



For 34 Degrees.

For 17 Degrees.

| Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 41 | | | 81 | | | 121 | | | 161 | | | 201 | | | 241 | | | 281 | | | |
| 2 | | | 42 | | | 82 | | | 122 | | | 162 | | | 202 | | | 242 | | | 282 | | | |
| 3 | | | 43 | | | 83 | | | 123 | | | 163 | | | 203 | | | 243 | | | 283 | | | |
| 4 | | | 44 | | | 84 | | | 124 | | | 164 | | | 204 | | | 244 | | | 284 | | | |
| 5 | | | 45 | | | 85 | | | 125 | | | 165 | | | 205 | | | 245 | | | 285 | | | |
| 6 | | | 46 | | | 86 | | | 126 | | | 166 | | | 206 | | | 246 | | | 286 | | | |
| 7 | 06. 7 | 02. 0 | 47 | 64. 1 | 19. 3 | 127 | 121. 5 | 37. 1 | 167 | 158. 8 | 54. 7 | 247 | 236. 2 | 72. 1 | 287 | | | 327 | | | 367 | | |
| 8 | 07. 7 | 02. 3 | 48 | 65. 0 | 19. 9 | 128 | 122. 4 | 37. 4 | 168 | 159. 8 | 55. 0 | 248 | 237. 2 | 72. 5 | 288 | | | 328 | | | 368 | | |
| 9 | 08. 6 | 02. 6 | 49 | 66. 0 | 20. 2 | 129 | 123. 4 | 37. 7 | 169 | 160. 8 | 55. 3 | 249 | 238. 2 | 72. 8 | 289 | | | 329 | | | 369 | | |
| 10 | 09. 6 | 02. 9 | 50 | 66. 9 | 20. 5 | 130 | 124. 3 | 38. 0 | 170 | 161. 7 | 55. 6 | 250 | 239. 1 | 73. 1 | 290 | | | 330 | | | 370 | | |
| 11 | 10. 5 | 03. 2 | 51 | 67. 8 | 20. 8 | 131 | 125. 2 | 38. 3 | 171 | 162. 6 | 55. 9 | 251 | 240. 0 | 73. 4 | 291 | 277. 4 | 85. 0 | 331 | 314. 4 | 96. 3 | 371 | 352. 4 | 107. 9 |
| 12 | 11. 5 | 03. 5 | 52 | 68. 9 | 21. 1 | 132 | 126. 2 | 38. 6 | 172 | 163. 6 | 56. 1 | 252 | 241. 0 | 73. 7 | 292 | 278. 3 | 85. 3 | 332 | 315. 4 | 96. 6 | 372 | 353. 4 | 108. 2 |
| 13 | 12. 4 | 03. 8 | 53 | 69. 8 | 21. 4 | 133 | 127. 2 | 38. 9 | 173 | 164. 6 | 56. 4 | 253 | 241. 9 | 74. 0 | 293 | 279. 3 | 85. 6 | 333 | 316. 3 | 96. 9 | 373 | 354. 4 | 108. 5 |
| 14 | 13. 4 | 04. 1 | 54 | 70. 8 | 21. 6 | 134 | 128. 1 | 39. 2 | 174 | 165. 5 | 56. 7 | 254 | 243. 9 | 74. 3 | 294 | 280. 2 | 85. 9 | 334 | 317. 3 | 97. 2 | 374 | 355. 3 | 108. 8 |
| 15 | 14. 3 | 04. 4 | 55 | 71. 7 | 21. 9 | 135 | 129. 1 | 39. 5 | 175 | 166. 5 | 57. 0 | 255 | 244. 8 | 74. 6 | 295 | 281. 2 | 86. 2 | 335 | 318. 3 | 97. 5 | 375 | 356. 3 | 109. 1 |
| 16 | 15. 3 | 04. 7 | 56 | 72. 7 | 22. 2 | 136 | 130. 0 | 39. 8 | 176 | 167. 4 | 57. 3 | 256 | 245. 8 | 75. 1 | 296 | 282. 1 | 86. 5 | 336 | 319. 2 | 97. 8 | 376 | 357. 3 | 109. 4 |
| 17 | 16. 2 | 05. 0 | 57 | 73. 6 | 22. 5 | 137 | 131. 0 | 40. 1 | 177 | 168. 4 | 57. 6 | 257 | 245. 8 | 75. 1 | 297 | 283. 1 | 86. 8 | 337 | 320. 2 | 98. 1 | 377 | 358. 2 | 109. 7 |
| 18 | 17. 2 | 05. 3 | 58 | 74. 6 | 22. 8 | 138 | 131. 9 | 40. 4 | 178 | 169. 3 | 57. 9 | 258 | 246. 8 | 75. 4 | 298 | 284. 0 | 87. 1 | 338 | 321. 2 | 98. 4 | 378 | 359. 2 | 110. 0 |
| 19 | 18. 1 | 05. 6 | 59 | 75. 5 | 23. 1 | 139 | 132. 9 | 40. 7 | 179 | 170. 3 | 58. 2 | 259 | 247. 7 | 75. 7 | 299 | 285. 0 | 87. 4 | 339 | 322. 1 | 98. 7 | 379 | 360. 2 | 110. 3 |
| 20 | 19. 1 | 05. 9 | 60 | 76. 5 | 23. 4 | 140 | 133. 8 | 41. 0 | 180 | 171. 2 | 58. 5 | 260 | 248. 7 | 76. 0 | 300 | 285. 9 | 87. 6 | 340 | 323. 1 | 99. 0 | 380 | 361. 1 | 110. 6 |
| 21 | 20. 0 | 06. 2 | 61 | 77. 4 | 23. 7 | 141 | 134. 8 | 41. 3 | 181 | 172. 2 | 58. 8 | 261 | 249. 6 | 76. 3 | 301 | 286. 9 | 87. 9 | 341 | 324. 0 | 99. 3 | 381 | 362. 1 | 110. 9 |
| 22 | 20. 9 | 06. 4 | 62 | 78. 4 | 24. 0 | 142 | 135. 8 | 41. 5 | 202 | 193. 2 | 59. 1 | 262 | 250. 6 | 76. 6 | 302 | 287. 9 | 88. 2 | 342 | 325. 0 | 99. 6 | 382 | 363. 1 | 111. 2 |
| 23 | 21. 9 | 06. 7 | 63 | 79. 3 | 24. 3 | 143 | 136. 7 | 41. 8 | 203 | 194. 1 | 59. 4 | 263 | 251. 5 | 76. 9 | 303 | 288. 8 | 88. 4 | 343 | 325. 9 | 99. 8 | 383 | 364. 0 | 111. 5 |
| 24 | 22. 8 | 07. 0 | 64 | 80. 3 | 24. 6 | 144 | 137. 7 | 42. 1 | 204 | 195. 1 | 59. 7 | 264 | 252. 5 | 77. 2 | 304 | 289. 8 | 88. 7 | 344 | 326. 9 | 100. 1 | 384 | 365. 0 | 111. 8 |
| 25 | 23. 8 | 07. 3 | 65 | 81. 2 | 24. 9 | 145 | 138. 7 | 42. 4 | 205 | 196. 0 | 60. 0 | 265 | 253. 4 | 77. 5 | 305 | 290. 7 | 89. 0 | 345 | 327. 8 | 100. 4 | 385 | 366. 0 | 112. 1 |
| 26 | 24. 7 | 07. 6 | 66 | 82. 2 | 25. 2 | 146 | 139. 6 | 42. 7 | 206 | 197. 0 | 60. 3 | 266 | 254. 4 | 77. 8 | 306 | 291. 7 | 89. 3 | 346 | 328. 8 | 100. 7 | 386 | 366. 9 | 112. 4 |
| 27 | 25. 7 | 07. 9 | 67 | 83. 1 | 25. 4 | 147 | 140. 6 | 43. 0 | 207 | 198. 0 | 60. 6 | 267 | 255. 3 | 78. 1 | 307 | 292. 7 | 89. 6 | 347 | 329. 7 | 100. 9 | 387 | 367. 9 | 112. 7 |
| 28 | 26. 6 | 08. 2 | 68 | 84. 1 | 25. 7 | 148 | 141. 5 | 43. 3 | 208 | 198. 9 | 60. 9 | 268 | 256. 3 | 78. 4 | 308 | 293. 6 | 89. 9 | 348 | 330. 7 | 101. 2 | 388 | 368. 8 | 112. 9 |
| 29 | 27. 6 | 08. 5 | 69 | 85. 0 | 26. 0 | 149 | 142. 5 | 43. 6 | 209 | 199. 9 | 61. 2 | 269 | 257. 2 | 78. 7 | 309 | 294. 6 | 90. 2 | 349 | 331. 6 | 101. 5 | 389 | 369. 8 | 113. 2 |
| 30 | 28. 5 | 08. 8 | 70 | 86. 0 | 26. 3 | 150 | 143. 4 | 43. 9 | 210 | 200. 8 | 61. 5 | 270 | 258. 2 | 79. 0 | 310 | 295. 5 | 90. 5 | 350 | 332. 6 | 101. 8 | 390 | 370. 7 | 113. 5 |
| 31 | 29. 6 | 09. 1 | 71 | 87. 0 | 26. 6 | 151 | 144. 4 | 44. 1 | 211 | 201. 8 | 61. 7 | 271 | 259. 2 | 79. 3 | 311 | 296. 5 | 90. 8 | 351 | 333. 5 | 102. 1 | 391 | 371. 7 | 113. 8 |
| 32 | 30. 6 | 09. 4 | 72 | 87. 9 | 26. 9 | 152 | 145. 4 | 44. 4 | 212 | 202. 7 | 62. 0 | 272 | 260. 1 | 79. 6 | 312 | 297. 5 | 91. 1 | 352 | 334. 5 | 102. 4 | 392 | 372. 7 | 114. 1 |
| 33 | 31. 6 | 09. 7 | 73 | 88. 9 | 27. 2 | 153 | 146. 3 | 44. 7 | 213 | 203. 7 | 62. 3 | 273 | 261. 1 | 79. 9 | 313 | 298. 4 | 91. 4 | 353 | 335. 4 | 102. 7 | 393 | 373. 6 | 114. 4 |
| 34 | 32. 5 | 09. 9 | 74 | 89. 8 | 27. 5 | 154 | 147. 3 | 45. 0 | 214 | 204. 6 | 62. 6 | 274 | 262. 0 | 80. 2 | 314 | 299. 4 | 91. 7 | 354 | 336. 4 | 102. 9 | 394 | 374. 6 | 114. 7 |
| 35 | 33. 5 | 10. 2 | 75 | 90. 8 | 27. 8 | 155 | 148. 2 | 45. 3 | 215 | 205. 6 | 62. 9 | 275 | 263. 0 | 80. 4 | 315 | 300. 3 | 91. 9 | 355 | 337. 3 | 103. 2 | 395 | 375. 5 | 115. 0 |
| 36 | 34. 4 | 10. 5 | 76 | 91. 7 | 28. 1 | 156 | 149. 2 | 45. 6 | 216 | 206. 5 | 63. 2 | 276 | 263. 9 | 80. 7 | 316 | 301. 3 | 92. 2 | 356 | 338. 3 | 103. 5 | 396 | 376. 5 | 115. 3 |
| 37 | 35. 4 | 10. 8 | 77 | 92. 7 | 28. 4 | 157 | 150. 1 | 45. 9 | 217 | 207. 5 | 63. 5 | 277 | 264. 9 | 81. 0 | 317 | 302. 2 | 92. 5 | 357 | 339. 2 | 103. 8 | 397 | 377. 4 | 115. 6 |
| 38 | 36. 3 | 11. 1 | 78 | 93. 7 | 28. 7 | 158 | 151. 1 | 46. 2 | 218 | 208. 4 | 63. 8 | 278 | 265. 8 | 81. 3 | 318 | 303. 2 | 92. 8 | 358 | 340. 2 | 104. 1 | 398 | 378. 4 | 115. 9 |
| 39 | 37. 3 | 11. 4 | 79 | 94. 6 | 29. 0 | 159 | 152. 1 | 46. 5 | 219 | 209. 4 | 64. 1 | 279 | 266. 8 | 81. 6 | 319 | 304. 1 | 93. 1 | 359 | 341. 1 | 104. 4 | 399 | 379. 4 | 116. 2 |
| 40 | 38. 3 | 11. 7 | 80 | 95. 6 | 29. 3 | 160 | 153. 0 | 46. 8 | 220 | 210. 3 | 64. 4 | 280 | 267. 8 | 81. 9 | 320 | 305. 1 | 93. 4 | 360 | 342. 1 | 104. 7 | 400 | 380. 3 | 116. 5 |
| 41 | 39. 2 | 12. 0 | 81 | 96. 5 | 29. 6 | 161 | 154. 0 | 47. 1 | 221 | 211. 3 | 64. 7 | 281 | 268. 7 | 82. 2 | 321 | 306. 0 | 93. 7 | 361 | 343. 0 | 105. 0 | 401 | 381. 3 | 116. 8 |
| 42 | 40. 2 | 12. 3 | 82 | 97. 5 | 29. 9 | 162 | 154. 9 | 47. 4 | 222 | 212. 2 | 65. 0 | 282 | 269. 7 | 82. 5 | 322 | 307. 0 | 94. 0 | 362 | 344. 0 | 105. 3 | 402 | 382. 2 | 117. 1 |
| 43 | 41. 1 | 12. 6 | 83 | 98. 4 | 30. 1 | 163 | 155. 9 | 47. 7 | 223 | 213. 2 | 65. 3 | 283 | 270. 7 | 82. 8 | 323 | 307. 9 | 94. 3 | 363 | 344. 9 | 105. 6 | 403 | 383. 2 | 117. 4 |
| 44 | 42. 1 | 12. 9 | 84 | 99. 4 | 30. 4 | 164 | 156. 8 | 48. 0 | 224 | 214. 2 | 65. 6 | 284 | 271. 6 | 83. 1 | 324 | 308. 9 | 94. 6 | 364 | 345. 9 | 105. 9 | 404 | 384. 1 | 117. 7 |
| 45 | 43. 0 | 13. 1 | 85 | 100. 3 | 30. 7 | 165 | 157. 8 | 48. 3 | 225 | 215. 1 | 65. 9 | 285 | 272. 6 | 83. 4 | 325 | 309. 8 | 94. 9 | 365 | 346. 8 | 106. 2 | 405 | 385. 1 | 118. 0 |
| 46 | 43. 9 | 13. 4 | 86 | 101. 3 | 31. 0 | 166 | 158. 7 | 48. 6 | 226 | 216. 1 | 66. 2 | 286 | 273. 5 | 83. 7 | 326 | 310. 8 | 95. 2 | 366 | 347. 8 | 106. 5 | 406 | 386. 0 | 118. 3 |
| 47 | 44. 9 | 13. 7 | 87 | 102. 3 | 31. 3 | 167 | 159. 7 | 48. 9 | 227 | 217. 1 | 66. 5 | 287 | 274. 5 | 84. 0 | 327 | 311. 7 | 95. 5 | 367 | 348. 7 | 106. 8 | 407 | 387. 0 | 118. 6 |
| 48 | 45. 9 | 14. 0 | 88 | 103. 3 | 31. 6 | 168 | 160. 7 | 49. 1 | 228 | 218. 0 | 66. 7 | 288 | 275. 4 | 84. 2 | 328 | 312. 8 | 101. 8 | 408 | 390. 1 | 119. 3 | 408 | 447. 5 | 136. 9 |
| 49 | 46. 8 | 14. 3 | 89 | 104. 2 | 31. 9 | 169 | 161. 6 | 49. 4 | 229 | 219. 0 | 67. 0 | 289 | 276. 4 | 84. 5 | 329 | 313. 7 | 102. 1 | 409 | 391. 0 | 119. 6 | 409 | 448. 5 | 137. 2 |
| 50 | 47. 8 | 14. 6 | 90 | 105. 2 | 32. 2 | 170 | 162. 6 | 49. 7 | 230 | 219. 9 | 67. 3 | 290 | 277. 4 | 84. 8 | 330 | 314. 7 | 102. 4 | 410 | 392. 0 | 119. 9 | 410 | 449. 4 | 137. 5 |
| 51 | 48. 7 | 14. 9 | 91 | 106. 2 | 32. 5 | 171 | 163. 5 | 50. 0 | 231 | 220. 9 | 67. 6 | 291 | 278. 3 | 85. 1 | 331 | 315. 6 | 102. 7 | 411 | 392. 9 | 120. 2 | 411 | 450. 4 | 137. 8 |
| 52 | 49. 7 | 15. 2 | 92 | 107. 1 | 32. 8 | 172 | 164. 5 | 50. 3 | 232 | 221. 8 | 67. 9 | 292 | 279. 3 | 85. 4 | 332 | 316. 6 | 103. 0 | 412 | 393. 9 | 120. 5 | 412 | 451. 3 | 138. 1 |
| 53 | 50. 7 | 15. 5 | 93 | 108. 1 | 33. 1 | 173 | 165. 4 | 50. 6 | 233 | 222. 8 | 68. 2 | 293 | 280. 3 | 85. 7 | 333 | 317. 5 | 103. 3 | 413 | 394. 8 | 120. 8 | 413 | 452. 3 | 138. 4 |
| 54 | 51. 6 | 15. 8 | 94 | 109. 1 | 33. 4 | 174 | 166. 4 | 50. 9 | 234 | 223. 7 | 68. 5 | 294 | 281. 2 | 86. 0 | 334 | 318. 5 | 103. 6 | 414 | 395. 8 | 121. 1 | 414 | 453. 2 | 138. 7 |
| 55 | 52. 6 | 16. 1 | 95 | 110. 0 | 33. 7 | 175 | 167. 4 | 51. 2 | 235 | 224. 7 | 68. 8 | 295 | 282. 2 | 86. 3 | 335 | 319. 4 | 103. 9 | 415 | 396. 8 | 121. 4 | 415 | 454. 2 | 139. 0 |
| 56 | 53. 5 | 16. 4 | 96 | 110. 9 | 33. 9 | 176 | 168. 3 | 51. 5 | 236 | 225. 7 | 69. 1 | 296 | 283. 1 | 86. 5 | 336 | 320. 4 | 104. 1 | 416 | 397. 8 | 121. 6 | 416 | 455. 2 | 139. 3 |
| 57 | 54. 5 | 16. 7 | 97 | 111. 9 | 34. 2 | 177 | 169. 3 | 51. 8 | 237 | 226. 6 | 69. 4 | 297 | 284. 1 | 86. 8 | 337 | 321. 3 | 104. 4 | 417 | 398. 7 | 121. 9 | 417 | 456. 1 | 139. 6 |
| 58 | 55. 4 | 17. 0 | 98 | 112. 8 | 34. 5 | 178 | 170. 2 | 52. 1 | 238 | 227. 6 | 69. 7 | 298 | 285. 0 | 87. 1 | 338 | 322. 3 | 104. 7 | 418 | 399. 7 | 122. 2 | 418 | 457. 1 | 139. 9 |
| 59 | 56. 4 | 17. 3 | 99 | 113. 8 | 34. 8 | 179 | 171. 2 | 52. 4 | 239 | 228. 5 | 69. 9 | 299 | 286. 0 | 87. 4 | 339 | 323. 2 | 105. 0 | 419 | 400. 7 | 122. 5 | 419 | 458. 1 | 140. 2 |
| 60 | 57. 4 | 17. 6 | 100 | 114. 8 | 35. 1 | 180 | 172. 1 | 52. 7 | 240 | 229. 5 | 70. 2 | 300 | 287. 0 | 87. 7 | 340 | 324. 2 | 105. 3 | 420 | 401. 6 | 122. 8 | 420 | 459. 0 | 140. 5 |

For 73 Degrees.

For 18 Degrees.

| | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 10.5 | 03.4 | 71 | 67.5 | 21.9 | 131 | 124.6 | 40.5 | 191 | 181.7 | 59.0 | 251 | 238.7 | 77.6 | 311 | 295.8 | 96.1 | 371 | 352.9 | 114.7 | 431 | 410.0 | 133.2 | |
| 11 | 11.3 | 03.7 | 72 | 68.5 | 22.2 | 132 | 125.5 | 40.8 | 192 | 182.6 | 59.3 | 252 | 239.5 | 77.9 | 312 | 296.7 | 96.4 | 372 | 353.8 | 115.0 | 432 | 410.9 | 133.5 | |
| 12 | 12.0 | 04.0 | 73 | 69.4 | 22.6 | 133 | 126.5 | 41.1 | 193 | 183.6 | 59.7 | 253 | 240.4 | 78.2 | 313 | 297.6 | 96.8 | 373 | 354.7 | 115.3 | 433 | 411.8 | 133.9 | |
| 13 | 12.8 | 04.4 | 74 | 70.4 | 22.9 | 134 | 127.4 | 41.4 | 194 | 184.5 | 60.0 | 254 | 241.4 | 78.5 | 314 | 298.5 | 97.1 | 374 | 355.6 | 115.6 | 434 | 412.7 | 134.2 | |
| 14 | 13.6 | 04.6 | 75 | 71.3 | 23.2 | 135 | 128.4 | 41.7 | 195 | 185.5 | 60.3 | 255 | 242.3 | 78.8 | 315 | 299.4 | 97.4 | 375 | 356.5 | 115.9 | 435 | 413.7 | 134.4 | |
| 15 | 14.3 | 04.9 | 76 | 72.3 | 23.5 | 136 | 129.3 | 42.0 | 196 | 186.4 | 60.6 | 256 | 243.3 | 79.1 | 316 | 300.3 | 97.7 | 376 | 357.4 | 116.2 | 436 | 414.6 | 134.7 | |
| 16 | 15.1 | 05.2 | 77 | 73.2 | 23.8 | 137 | 130.3 | 42.3 | 197 | 187.4 | 60.9 | 257 | 244.2 | 79.4 | 317 | 301.2 | 98.0 | 377 | 358.3 | 116.5 | 437 | 415.5 | 135.1 | |
| 17 | 15.9 | 05.5 | 78 | 74.2 | 24.1 | 138 | 131.2 | 42.6 | 198 | 188.3 | 61.2 | 258 | 245.2 | 79.7 | 318 | 302.1 | 98.3 | 378 | 359.2 | 116.8 | 438 | 416.5 | 135.4 | |
| 18 | 16.7 | 05.8 | 79 | 75.1 | 24.4 | 139 | 132.2 | 43.0 | 199 | 189.3 | 61.5 | 259 | 246.1 | 80.0 | 319 | 303.1 | 98.6 | 379 | 360.1 | 117.1 | 439 | 417.4 | 135.7 | |
| 19 | 17.4 | 06.2 | 80 | 76.1 | 24.7 | 140 | 133.1 | 43.3 | 200 | 190.2 | 61.8 | 260 | 247.1 | 80.3 | 320 | 304.0 | 98.9 | 380 | 361.0 | 117.4 | 440 | 418.3 | 136.0 | |
| 20 | 18.2 | 06.5 | 81 | 77.0 | 25.0 | 141 | 134.1 | 43.6 | 201 | 191.2 | 62.1 | 261 | 248.0 | 80.6 | 321 | 305.0 | 99.2 | 381 | 361.9 | 117.7 | 441 | 419.2 | 136.3 | |
| 21 | 19.0 | 06.8 | 82 | 78.0 | 25.3 | 142 | 135.0 | 43.9 | 202 | 192.1 | 62.4 | 262 | 249.0 | 80.9 | 322 | 305.9 | 99.5 | 382 | 362.8 | 118.0 | 442 | 420.1 | 136.6 | |
| 22 | 19.8 | 07.1 | 83 | 78.9 | 25.6 | 143 | 136.0 | 44.2 | 203 | 193.1 | 62.7 | 263 | 250.0 | 81.3 | 323 | 307.0 | 99.8 | 383 | 363.8 | 118.3 | 443 | 421.1 | 136.9 | |
| 23 | 20.5 | 07.4 | 84 | 79.9 | 25.9 | 144 | 137.0 | 44.5 | 204 | 194.0 | 63.0 | 264 | 251.0 | 81.6 | 324 | 308.0 | 100.1 | 384 | 364.8 | 118.6 | 444 | 422.1 | 137.2 | |
| 24 | 21.3 | 07.7 | 85 | 80.8 | 26.3 | 145 | 137.9 | 44.8 | 205 | 195.0 | 63.3 | 265 | 252.0 | 81.9 | 325 | 309.0 | 100.4 | 385 | 365.8 | 118.9 | 445 | 423.0 | 137.5 | |
| 25 | 22.1 | 08.0 | 86 | 81.8 | 26.6 | 146 | 138.9 | 45.1 | 206 | 195.9 | 63.7 | 266 | 253.0 | 82.2 | 326 | 310.0 | 100.7 | 386 | 366.7 | 119.2 | 446 | 424.0 | 137.8 | |
| 26 | 22.8 | 08.3 | 87 | 82.7 | 26.9 | 147 | 139.8 | 45.4 | 207 | 196.9 | 64.0 | 267 | 253.9 | 82.5 | 327 | 311.0 | 101.1 | 387 | 367.7 | 119.6 | 447 | 424.9 | 138.1 | |
| 27 | 23.6 | 08.6 | 88 | 83.7 | 27.2 | 148 | 140.8 | 45.7 | 208 | 197.8 | 64.3 | 268 | 254.9 | 82.8 | 328 | 312.0 | 101.4 | 388 | 368.6 | 119.9 | 448 | 425.8 | 138.4 | |
| 28 | 24.4 | 08.9 | 89 | 84.6 | 27.5 | 149 | 141.7 | 46.0 | 209 | 198.8 | 64.6 | 269 | 255.8 | 83.1 | 329 | 312.9 | 101.7 | 389 | 369.6 | 120.2 | 449 | 426.8 | 138.7 | |
| 29 | 25.1 | 09.2 | 90 | 85.6 | 27.8 | 150 | 142.7 | 46.3 | 210 | 199.7 | 64.9 | 270 | 256.8 | 83.4 | 330 | 313.9 | 102.0 | 390 | 370.5 | 120.5 | 450 | 427.7 | 139.0 | |
| 30 | 25.9 | 09.5 | 91 | 86.5 | 28.1 | 151 | 143.6 | 46.6 | 211 | 200.7 | 65.2 | 271 | 257.8 | 83.7 | 331 | 314.8 | 102.3 | 391 | 371.5 | 120.8 | 451 | 428.7 | 139.3 | |
| 31 | 26.7 | 09.8 | 92 | 87.5 | 28.4 | 152 | 144.6 | 46.9 | 212 | 201.6 | 65.5 | 272 | 258.7 | 84.1 | 332 | 315.8 | 102.6 | 392 | 372.5 | 121.1 | 452 | 429.7 | 139.7 | |
| 32 | 27.4 | 10.1 | 93 | 88.4 | 28.7 | 153 | 145.5 | 47.2 | 213 | 202.6 | 65.8 | 273 | 259.6 | 84.4 | 333 | 316.7 | 102.9 | 393 | 373.5 | 121.4 | 453 | 430.6 | 140.0 | |
| 33 | 28.2 | 10.4 | 94 | 89.4 | 29.0 | 154 | 146.5 | 47.5 | 214 | 203.5 | 66.1 | 274 | 260.6 | 84.7 | 334 | 317.7 | 103.2 | 394 | 374.4 | 121.8 | 454 | 431.6 | 140.3 | |
| 34 | 29.0 | 10.7 | 95 | 90.3 | 29.3 | 155 | 147.4 | 47.9 | 215 | 204.5 | 66.4 | 275 | 261.5 | 85.0 | 335 | 318.6 | 103.5 | 395 | 375.4 | 122.1 | 455 | 432.5 | 140.6 | |
| 35 | 29.7 | 11.0 | 96 | 91.3 | 29.6 | 156 | 148.4 | 48.2 | 216 | 205.4 | 66.7 | 276 | 262.5 | 85.3 | 336 | 319.6 | 103.8 | 396 | 376.4 | 122.4 | 456 | 433.5 | 140.9 | |
| 36 | 30.5 | 11.3 | 97 | 92.2 | 29.9 | 157 | 149.3 | 48.5 | 217 | 206.4 | 67.1 | 277 | 263.4 | 85.6 | 337 | 320.5 | 104.1 | 397 | 377.3 | 122.7 | 457 | 434.4 | 141.2 | |
| 37 | 31.3 | 11.6 | 98 | 93.2 | 30.2 | 158 | 150.3 | 48.8 | 218 | 207.3 | 67.4 | 278 | 264.4 | 85.9 | 338 | 321.5 | 104.5 | 398 | 378.3 | 123.0 | 458 | 435.4 | 141.5 | |
| 38 | 32.0 | 11.9 | 99 | 94.1 | 30.5 | 159 | 151.2 | 49.1 | 219 | 208.3 | 67.7 | 279 | 265.3 | 86.2 | 339 | 322.4 | 104.8 | 399 | 379.2 | 123.3 | 459 | 436.3 | 141.8 | |
| 39 | 32.8 | 12.2 | 100 | 95.0 | 30.8 | 160 | 152.2 | 49.4 | 220 | 209.2 | 68.0 | 280 | 266.3 | 86.5 | 340 | 323.4 | 105.1 | 400 | 380.2 | 123.6 | 460 | 437.3 | 142.1 | |
| 40 | 33.6 | 12.5 | 101 | 96.0 | 31.1 | 161 | 153.1 | 49.7 | 221 | 210.2 | 68.3 | 281 | 267.2 | 86.8 | 341 | 324.3 | 105.4 | 401 | 381.1 | 123.9 | 461 | 438.2 | 142.4 | |
| 41 | 34.3 | 12.8 | 102 | 96.9 | 31.4 | 162 | 154.1 | 50.0 | 222 | 211.1 | 68.6 | 282 | 268.2 | 87.1 | 342 | 325.3 | 105.7 | 402 | 382.1 | 124.2 | 462 | 439.2 | 142.7 | |
| 42 | 35.1 | 13.1 | 103 | 98.0 | 31.8 | 163 | 155.0 | 50.3 | 223 | 212.1 | 68.9 | 283 | 269.1 | 87.4 | 343 | 326.2 | 106.0 | 403 | 383.0 | 124.5 | 463 | 440.1 | 143.0 | |
| 43 | 35.9 | 13.4 | 104 | 98.9 | 32.1 | 164 | 156.0 | 50.6 | 224 | 213.0 | 69.2 | 284 | 270.1 | 87.7 | 344 | 327.2 | 106.3 | 404 | 384.0 | 124.8 | 464 | 441.1 | 143.3 | |
| 44 | 36.6 | 13.7 | 105 | 99.9 | 32.4 | 165 | 156.9 | 50.9 | 225 | 214.0 | 69.5 | 285 | 271.0 | 88.0 | 345 | 328.1 | 106.6 | 405 | 384.9 | 125.1 | 465 | 442.0 | 143.6 | |
| 45 | 37.4 | 14.0 | 106 | 100.8 | 32.7 | 166 | 157.9 | 51.2 | 226 | 214.9 | 69.8 | 286 | 272.0 | 88.3 | 346 | 329.1 | 106.9 | 406 | 385.9 | 125.4 | 466 | 443.0 | 143.9 | |
| 46 | 38.2 | 14.3 | 107 | 101.8 | 33.0 | 167 | 158.8 | 51.5 | 227 | 215.9 | 70.1 | 287 | 272.9 | 88.6 | 347 | 330.0 | 107.2 | 407 | 386.8 | 125.7 | 467 | 443.9 | 144.2 | |
| 47 | 38.9 | 14.6 | 108 | 102.7 | 33.3 | 168 | 159.8 | 51.8 | 228 | 216.8 | 70.4 | 288 | 273.9 | 88.9 | 348 | 331.0 | 107.5 | 408 | 387.8 | 126.0 | 468 | 444.8 | 144.5 | |
| 48 | 39.7 | 14.9 | 109 | 103.7 | 33.6 | 169 | 160.7 | 52.1 | 229 | 217.8 | 70.7 | 289 | 274.8 | 89.2 | 349 | 331.9 | 107.8 | 409 | 388.7 | 126.3 | 469 | 445.8 | 144.8 | |
| 49 | 40.5 | 15.2 | 110 | 104.6 | 33.9 | 170 | 161.7 | 52.4 | 230 | 218.7 | 71.0 | 290 | 275.8 | 89.5 | 350 | 332.9 | 108.1 | 410 | 389.7 | 126.6 | 470 | 446.7 | 145.1 | |
| 50 | 41.2 | 15.5 | 111 | 105.6 | 34.3 | 171 | 162.6 | 52.8 | 231 | 219.7 | 71.4 | 291 | 276.8 | 89.9 | 351 | 333.8 | 108.4 | 411 | 390.6 | 126.9 | 471 | 447.6 | 145.4 | |
| 51 | 42.0 | 15.8 | 112 | 106.5 | 34.6 | 172 | 163.6 | 53.1 | 232 | 220.6 | 71.7 | 292 | 277.7 | 90.2 | 352 | 334.8 | 108.7 | 412 | 391.6 | 127.2 | 472 | 448.6 | 145.7 | |
| 52 | 42.8 | 16.1 | 113 | 107.5 | 34.9 | 173 | 164.5 | 53.4 | 233 | 221.6 | 72.0 | 293 | 278.7 | 90.5 | 353 | 335.7 | 109.0 | 413 | 392.5 | 127.5 | 473 | 449.5 | 146.0 | |
| 53 | 43.5 | 16.4 | 114 | 108.4 | 35.2 | 174 | 165.5 | 53.7 | 234 | 222.5 | 72.3 | 294 | 279.6 | 90.8 | 354 | 336.7 | 109.3 | 414 | 393.5 | 127.8 | 474 | 450.5 | 146.3 | |
| 54 | 44.3 | 16.7 | 115 | 109.4 | 35.5 | 175 | 166.4 | 54.0 | 235 | 223.5 | 72.6 | 295 | 280.6 | 91.2 | 355 | 337.6 | 109.6 | 415 | 394.4 | 128.1 | 475 | 451.4 | 146.6 | |
| 55 | 45.1 | 17.0 | 116 | 110.3 | 35.8 | 176 | 167.4 | 54.3 | 236 | 224.4 | 72.9 | 296 | 281.5 | 91.5 | 356 | 338.6 | 109.9 | 416 | 395.4 | 128.4 | 476 | 452.4 | 146.9 | |
| 56 | 45.8 | 17.3 | 117 | 111.3 | 36.2 | 177 | 168.3 | 54.7 | 237 | 225.4 | 73.2 | 297 | 282.5 | 91.8 | 357 | 339.5 | 110.2 | 417 | 396.3 | 128.7 | 477 | 453.3 | 147.2 | |
| 57 | 46.6 | 17.6 | 118 | 112.2 | 36.5 | 178 | 169.3 | 55.0 | 238 | 226.4 | 73.5 | 298 | 283.4 | 92.1 | 358 | 340.5 | 110.5 | 418 | 397.3 | 129.0 | 478 | 454.3 | 147.5 | |
| 58 | 47.4 | 17.9 | 119 | 113.2 | 36.8 | 179 | 170.2 | 55.3 | 239 | 227.3 | 73.9 | 299 | 284.4 | 92.4 | 359 | 341.4 | 110.8 | 419 | 398.2 | 129.3 | 479 | 455.2 | 147.8 | |
| 59 | 48.1 | 18.2 | 120 | 114.1 | 37.1 | 180 | 171.2 | 55.6 | 240 | 228.3 | 74.2 | 300 | 285.3 | 92.7 | 360 | 342.4 | 111.1 | 420 | 399.2 | 129.6 | 480 | 456.2 | 148.1 | |

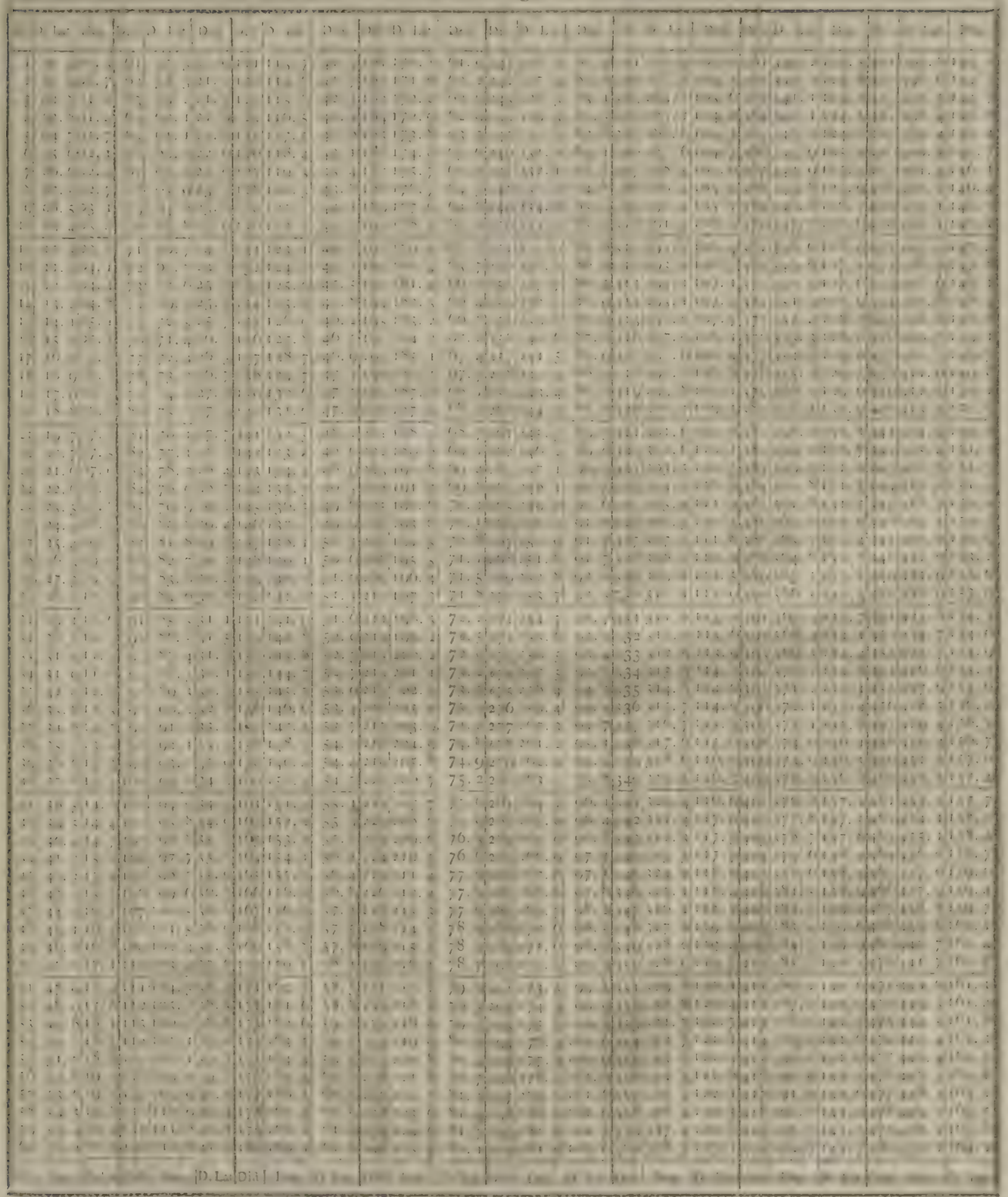
For 72 Degrees.

For 19 Degrees.

| | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1 | 0.9 | 0.3 | 1 | 0.9 | 0.3 | 1 | 0.9 | 0.3 | 1 | 0.9 | 0.3 |
| 2 | 2 | 1.9 | 0.7 | 2 | 1.9 | 0.7 | 2 | 1.9 | 0.7 | 2 | 1.9 | 0.7 |
| 3 | 3 | 2.8 | 1.0 | 3 | 2.8 | 1.0 | 3 | 2.8 | 1.0 | 3 | 2.8 | 1.0 |
| 4 | 4 | 3.8 | 1.3 | 4 | 3.8 | 1.3 | 4 | 3.8 | 1.3 | 4 | 3.8 | 1.3 |
| 5 | 5 | 4.7 | 1.6 | 5 | 4.7 | 1.6 | 5 | 4.7 | 1.6 | 5 | 4.7 | 1.6 |
| 6 | 6 | 5.7 | 2.0 | 6 | 5.7 | 2.0 | 6 | 5.7 | 2.0 | 6 | 5.7 | 2.0 |
| 7 | 7 | 6.6 | 2.3 | 7 | 6.6 | 2.3 | 7 | 6.6 | 2.3 | 7 | 6.6 | 2.3 |
| 8 | 8 | 7.6 | 2.6 | 8 | 7.6 | 2.6 | 8 | 7.6 | 2.6 | 8 | 7.6 | 2.6 |
| 9 | 9 | 8.5 | 2.9 | 9 | 8.5 | 2.9 | 9 | 8.5 | 2.9 | 9 | 8.5 | 2.9 |
| 10 | 10 | 9.5 | 3.3 | 10 | 9.5 | 3.3 | 10 | 9.5 | 3.3 | 10 | 9.5 | 3.3 |
| 11 | 11 | 10.4 | 3.6 | 11 | 10.4 | 3.6 | 11 | 10.4 | 3.6 | 11 | 10.4 | 3.6 |
| 12 | 12 | 11.4 | 3.9 | 12 | 11.4 | 3.9 | 12 | 11.4 | 3.9 | 12 | 11.4 | 3.9 |
| 13 | 13 | 12.3 | 4.2 | 13 | 12.3 | 4.2 | 13 | 12.3 | 4.2 | 13 | 12.3 | 4.2 |
| 14 | 14 | 13.3 | 4.6 | 14 | 13.3 | 4.6 | 14 | 13.3 | 4.6 | 14 | 13.3 | 4.6 |
| 15 | 15 | 14.2 | 4.9 | 15 | 14.2 | 4.9 | 15 | 14.2 | 4.9 | 15 | 14.2 | 4.9 |
| 16 | 16 | 15.2 | 5.2 | 16 | 15.2 | 5.2 | 16 | 15.2 | 5.2 | 16 | 15.2 | 5.2 |
| 17 | 17 | 16.1 | 5.5 | 17 | 16.1 | 5.5 | 17 | 16.1 | 5.5 | 17 | 16.1 | 5.5 |
| 18 | 18 | 17.1 | 5.9 | 18 | 17.1 | 5.9 | 18 | 17.1 | 5.9 | 18 | 17.1 | 5.9 |
| 19 | 19 | 18.0 | 6.2 | 19 | 18.0 | 6.2 | 19 | 18.0 | 6.2 | 19 | 18.0 | 6.2 |
| 20 | 20 | 19.0 | 6.5 | 20 | 19.0 | 6.5 | 20 | 19.0 | 6.5 | 20 | 19.0 | 6.5 |
| 21 | 21 | 19.9 | 6.8 | 21 | 19.9 | 6.8 | 21 | 19.9 | 6.8 | 21 | 19.9 | 6.8 |
| 22 | 22 | 20.9 | 7.2 | 22 | 20.9 | 7.2 | 22 | 20.9 | 7.2 | 22 | 20.9 | 7.2 |
| 23 | 23 | 21.8 | 7.5 | 23 | 21.8 | 7.5 | 23 | 21.8 | 7.5 | 23 | 21.8 | 7.5 |
| 24 | 24 | 22.8 | 7.8 | 24 | 22.8 | 7.8 | 24 | 22.8 | 7.8 | 24 | 22.8 | 7.8 |
| 25 | 25 | 23.7 | 8.1 | 25 | 23.7 | 8.1 | 25 | 23.7 | 8.1 | 25 | 23.7 | 8.1 |
| 26 | 26 | 24.7 | 8.5 | 26 | 24.7 | 8.5 | 26 | 24.7 | 8.5 | 26 | 24.7 | 8.5 |
| 27 | 27 | 25.6 | 8.8 | 27 | 25.6 | 8.8 | 27 | 25.6 | 8.8 | 27 | 25.6 | 8.8 |
| 28 | 28 | 26.6 | 9.1 | 28 | 26.6 | 9.1 | 28 | 26.6 | 9.1 | 28 | 26.6 | 9.1 |
| 29 | 29 | 27.5 | 9.4 | 29 | 27.5 | 9.4 | 29 | 27.5 | 9.4 | 29 | 27.5 | 9.4 |
| 30 | 30 | 28.5 | 9.8 | 30 | 28.5 | 9.8 | 30 | 28.5 | 9.8 | 30 | 28.5 | 9.8 |
| 31 | 31 | 29.4 | 10.1 | 31 | 29.4 | 10.1 | 31 | 29.4 | 10.1 | 31 | 29.4 | 10.1 |
| 32 | 32 | 30.4 | 10.4 | 32 | 30.4 | 10.4 | 32 | 30.4 | 10.4 | 32 | 30.4 | 10.4 |
| 33 | 33 | 31.3 | 10.7 | 33 | 31.3 | 10.7 | 33 | 31.3 | 10.7 | 33 | 31.3 | 10.7 |
| 34 | 34 | 32.3 | 11.1 | 34 | 32.3 | 11.1 | 34 | 32.3 | 11.1 | 34 | 32.3 | 11.1 |
| 35 | 35 | 33.2 | 11.4 | 35 | 33.2 | 11.4 | 35 | 33.2 | 11.4 | 35 | 33.2 | 11.4 |
| 36 | 36 | 34.2 | 11.7 | 36 | 34.2 | 11.7 | 36 | 34.2 | 11.7 | 36 | 34.2 | 11.7 |
| 37 | 37 | 35.1 | 12.0 | 37 | 35.1 | 12.0 | 37 | 35.1 | 12.0 | 37 | 35.1 | 12.0 |
| 38 | 38 | 36.1 | 12.4 | 38 | 36.1 | 12.4 | 38 | 36.1 | 12.4 | 38 | 36.1 | 12.4 |
| 39 | 39 | 37.0 | 12.7 | 39 | 37.0 | 12.7 | 39 | 37.0 | 12.7 | 39 | 37.0 | 12.7 |
| 40 | 40 | 38.0 | 13.0 | 40 | 38.0 | 13.0 | 40 | 38.0 | 13.0 | 40 | 38.0 | 13.0 |
| 41 | 41 | 38.9 | 13.3 | 41 | 38.9 | 13.3 | 41 | 38.9 | 13.3 | 41 | 38.9 | 13.3 |
| 42 | 42 | 39.9 | 13.7 | 42 | 39.9 | 13.7 | 42 | 39.9 | 13.7 | 42 | 39.9 | 13.7 |
| 43 | 43 | 40.8 | 14.0 | 43 | 40.8 | 14.0 | 43 | 40.8 | 14.0 | 43 | 40.8 | 14.0 |
| 44 | 44 | 41.8 | 14.3 | 44 | 41.8 | 14.3 | 44 | 41.8 | 14.3 | 44 | 41.8 | 14.3 |
| 45 | 45 | 42.7 | 14.6 | 45 | 42.7 | 14.6 | 45 | 42.7 | 14.6 | 45 | 42.7 | 14.6 |
| 46 | 46 | 43.7 | 15.0 | 46 | 43.7 | 15.0 | 46 | 43.7 | 15.0 | 46 | 43.7 | 15.0 |
| 47 | 47 | 44.6 | 15.3 | 47 | 44.6 | 15.3 | 47 | 44.6 | 15.3 | 47 | 44.6 | 15.3 |
| 48 | 48 | 45.6 | 15.6 | 48 | 45.6 | 15.6 | 48 | 45.6 | 15.6 | 48 | 45.6 | 15.6 |
| 49 | 49 | 46.5 | 15.9 | 49 | 46.5 | 15.9 | 49 | 46.5 | 15.9 | 49 | 46.5 | 15.9 |
| 50 | 50 | 47.5 | 16.3 | 50 | 47.5 | 16.3 | 50 | 47.5 | 16.3 | 50 | 47.5 | 16.3 |
| 51 | 51 | 48.4 | 16.6 | 51 | 48.4 | 16.6 | 51 | 48.4 | 16.6 | 51 | 48.4 | 16.6 |
| 52 | 52 | 49.4 | 16.9 | 52 | 49.4 | 16.9 | 52 | 49.4 | 16.9 | 52 | 49.4 | 16.9 |
| 53 | 53 | 50.3 | 17.2 | 53 | 50.3 | 17.2 | 53 | 50.3 | 17.2 | 53 | 50.3 | 17.2 |
| 54 | 54 | 51.3 | 17.6 | 54 | 51.3 | 17.6 | 54 | 51.3 | 17.6 | 54 | 51.3 | 17.6 |
| 55 | 55 | 52.2 | 17.9 | 55 | 52.2 | 17.9 | 55 | 52.2 | 17.9 | 55 | 52.2 | 17.9 |
| 56 | 56 | 53.2 | 18.2 | 56 | 53.2 | 18.2 | 56 | 53.2 | 18.2 | 56 | 53.2 | 18.2 |
| 57 | 57 | 54.1 | 18.5 | 57 | 54.1 | 18.5 | 57 | 54.1 | 18.5 | 57 | 54.1 | 18.5 |
| 58 | 58 | 55.1 | 18.9 | 58 | 55.1 | 18.9 | 58 | 55.1 | 18.9 | 58 | 55.1 | 18.9 |
| 59 | 59 | 56.0 | 19.2 | 59 | 56.0 | 19.2 | 59 | 56.0 | 19.2 | 59 | 56.0 | 19.2 |
| 60 | 60 | 57.0 | 19.5 | 60 | 57.0 | 19.5 | 60 | 57.0 | 19.5 | 60 | 57.0 | 19.5 |
| | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. |

For 71 Degrees.

For 20 Degrees.



For 71 Degrees.

# Differences of Latitude, and Departures.

## For 21 Degrees.

| | Dif | D. Lat | Dep | Dif | D. Lat | Dep | Dif | D. Lat | Dep | Dif | D. Lat | Dep | Dif | D. Lat | Dep | Dif | D. Lat | Dep | Dif | D. Lat | Dep |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | 121 | 113. 0 | 43. 4 | 181 | 169. 0 | 64. 9 | 241 | 225. 0 | 86. 4 | 301 | 281. 0 | 107. 9 | 361 | | |
| | | | | | | | 122 | 113. 9 | 43. 7 | 182 | 169. 9 | 65. 2 | 242 | 225. 9 | 86. 7 | 302 | 281. 9 | 108. 2 | 362 | | |
| | | | | | | | 123 | 114. 8 | 44. 1 | 183 | 170. 8 | 65. 6 | 243 | 226. 9 | 87. 1 | 303 | 282. 9 | 108. 6 | 363 | | |
| | | | | | | | 124 | 115. 8 | 44. 4 | 184 | 171. 8 | 65. 9 | 244 | 227. 8 | 87. 4 | | | | | | |
| | | | | | | 23. 3 | 125 | 116. 7 | 44. 8 | 185 | 172. 7 | 66. 3 | 245 | 228. 7 | 87. 8 | 305 | 284. 7 | 109. | | | |
| | | | | | | 23. 7 | 126 | 117. 6 | 45. 2 | 186 | 173. 6 | 66. 7 | 246 | 229. 7 | 88. 2 | 306 | 285. 7 | 109. 7 | 366 | 341. 7 | 131. 2 | 426 | 397. 7 | 152. 7 |
| | | | | | | 24. 0 | 127 | 118. 6 | 45. 5 | 187 | 174. 6 | 67. 0 | 247 | 230. 6 | 88. 5 | 307 | 286. 6 | 110. 0 | 367 | 342. 6 | 131. 5 | 427 | 398. 6 | 153. 0 |
| | | | | 63. 5 | 24. 4 | | 128 | 119. 5 | 45. 9 | 188 | 175. 5 | 67. 4 | 248 | 231. 5 | 88. 9 | 308 | 287. 5 | 110. 4 | 368 | 343. 5 | 131. 9 | 428 | 399. 6 | 153. 4 |
| | | | 69 | 64. 4 | 24. 7 | | 129 | 120. 4 | 46. 2 | 189 | 176. 4 | 67. 7 | 249 | 232. 5 | 89. 2 | 309 | 288. 5 | 110. 7 | 369 | 344. 5 | 132. 2 | 429 | 400. 5 | 153. 7 |
| | | | 70 | 65. 4 | 25. 1 | | 130 | 121. 4 | 46. 6 | 190 | 177. 4 | 68. 1 | 250 | 233. 4 | 89. 6 | 310 | 289. 4 | 111. 1 | 370 | 345. 4 | 132. 6 | 430 | 401. 4 | 154. 1 |
| | | | | | | | | | | | | | | | | | | | | | |
| | 11. | 04. 3 | 72 | 67. 2 | 25. 8 | | 132 | 123. 2 | 47. 3 | 192 | 179. 2 | 68. 8 | 252 | 235. 3 | 90. 3 | 312 | 291. 3 | 111. 8 | 372 | 347. 3 | 133. 3 | 432 | 403. 3 | 154. 8 |
| | | | | | | | | | | | | | | | | | | | | | |
| | 13. | 04. 9 | 74 | 69. 1 | 26. 5 | | 134 | 125. 1 | 48. 0 | 194 | 181. 1 | 69. 5 | 254 | 237. 1 | 91. 0 | 314 | 293. 1 | 112. 5 | 374 | 349. 1 | 134. 0 | 434 | 405. 2 | 155. 5 |
| | 14. | 05. 4 | 75 | 70. 0 | 26. 9 | | 135 | 126. 0 | 48. 4 | 195 | 182. 0 | 69. 9 | 255 | 238. 1 | 91. 4 | 315 | 294. 1 | 112. 9 | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | 15. | 05. 9 | 77 | 71. 9 | 27. 6 | | 137 | 127. 9 | 49. 1 | 197 | 183. 9 | 70. | | | | | | | | | |
| | 16. | 06. 5 | 78 | 72. 8 | 28. 0 | | 138 | 128. 8 | 49. 5 | 198 | 184. 8 | 71. 0 | 258 | 240. 9 | 92. 5 | 318 | 296. 9 | 114. 0 | | | |
| | 17. | 06. 8 | 79 | 73. 8 | 28. 3 | | 139 | 129. 8 | 49. 8 | 199 | 185. 8 | 71. 3 | | | | | | | | | |
| | 18. | 07. 2 | 80 | 74. 7 | 28. 7 | | 140 | 130. 7 | 50. 2 | 200 | 186. 7 | 71. 7 | 260 | 242. 7 | 93. 2 | 320 | 298. 7 | 114. 7 | 380 | 354. 7 | 136. 2 | 440 | 410. 8 | 157. 7 |
| | | | | | | | | | | | | | | | | | | | | | |
| | 19. | 07. 5 | 81 | 75. 6 | 29. 0 | | 141 | 131. 6 | 50. 5 | 201 | 187. 6 | 72. 0 | 261 | 243. 7 | 93. 5 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | 21. | 08. 2 | 83 | 77. 5 | 29. 7 | | 143 | 133. 5 | 51. 2 | 203 | 189. 5 | 72. 7 | 263 | 245. 5 | 94. 3 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | 23. | 09. 0 | 85 | 79. 4 | 30. 5 | | 145 | 135. 4 | 52. 0 | 205 | 191. 4 | 73. 5 | 265 | 247. 4 | 95. 0 | | | | | | |
| | 24. | 09. 3 | 86 | 80. 3 | 30. 8 | | 146 | 136. 3 | 52. 3 | 206 | 192. 3 | 73. 8 | 266 | 248. 3 | 95. 3 | | | | | | |
| | 25. | 09. 7 | 87 | 81. 2 | 31. 2 | | 147 | 137. 2 | 52. 7 | 207 | 193. 3 | 74. 2 | 267 | 249. 3 | 95. 7 | | | | | | |
| | 26. | 10. 0 | 88 | 82. 2 | 31. 5 | | 148 | 138. 2 | 53. 0 | 208 | 194. 2 | 74. 5 | 268 | 250. 2 | 96. 0 | | | | | | |
| | 27. | 10. 4 | 89 | 83. 1 | 31. 9 | | 149 | 139. 1 | 53. 4 | 209 | 195. 1 | 74. 9 | 269 | 251. 1 | 96. 4 | 329 | 307. 1 | 117. 0 | 389 | 363. 1 | 139. 4 | 449 | 419. 2 | 160. 9 |
| | 28. | 10. 8 | 90 | 84. 0 | 32. 3 | | 150 | 140. 0 | 53. 8 | 210 | 196. 1 | 75. 3 | 270 | 252. 1 | 96. 8 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | 28. | 11. 1 | 91 | 85. 0 | 32. 6 | | 151 | 141. 0 | 54. 1 | 211 | 197. 0 | 75. 6 | 271 | 253. 0 | 97. 1 | | | | | | |
| | 29. | 11. 5 | 92 | 85. 9 | 33. 0 | | 152 | 141. 9 | 54. 5 | 212 | 197. 9 | 76. 0 | 272 | 253. 9 | 97. 5 | | | | | | |
| | 30. | 11. 8 | 93 | 86. 8 | 33. 3 | | 153 | 142. 8 | 54. 8 | 213 | 198. 9 | 76. 3 | 273 | 254. 9 | 97. 8 | | | | | | |
| | 31. | 12. 2 | 94 | 87. 8 | 33. 7 | | 154 | 143. 8 | 55. 2 | 214 | 199. 8 | 76. 7 | 274 | 255. | | | | | | | |
| | 32. | 12. 5 | 95 | 88. 7 | 34. 0 | | 155 | 144. 7 | 55. 5 | 215 | 200. 7 | 77. 0 | 275 | 256. 7 | 98. 0 | | | | | | |
| | 33. | 12. 9 | 96 | 89. 6 | 34. 4 | | 156 | 145. 6 | 55. 9 | 216 | 201. 7 | 77. 4 | 276 | 257. 7 | 98. 0 | | | | | | |
| | 34. | 13. 3 | 97 | 90. 6 | 34. 8 | | 157 | 146. 6 | 56. 3 | 217 | 202. 6 | 77. 8 | 277 | 258. 6 | 99. 3 | | | | | | |
| | 35. | 13. 6 | 98 | 91. 5 | 35. 1 | | 158 | 147. 5 | 56. 6 | 218 | 203. 5 | 78. 1 | 278 | 259. 5 | 99. 6 | | | | | | |
| | 36. | 14. 0 | 99 | 92. 4 | 35. 5 | | 159 | 148. 4 | 57. 0 | 219 | 204. 5 | 78. 5 | 279 | 260. 5 | 100. 0 | | | | | | |
| | 37. | 14. 3 | 100 | 93. 4 | 35. 8 | | 160 | 149. 4 | 57. 3 | 220 | 205. 4 | 78. 8 | 280 | 261. 4 | 100. 3 | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | 38. | 14. 7 | 101 | 94. 3 | 36. 2 | | 161 | 150. 3 | 57. 7 | 221 | 206. 3 | 79. 2 | 281 | 262. 3 | 100. 7 | | | | | | |
| | 39. | 15. 1 | 102 | 95. 2 | 36. 6 | | 162 | 151. 2 | 58. 1 | 222 | 207. 3 | 79. 6 | 282 | 263. 3 | 101. 1 | 342 | | | | | |
| | 40. | 15. 4 | 103 | 96. 2 | 36. 9 | | 163 | 152. 2 | 58. 4 | 223 | 208. 2 | 79. 9 | 283 | 264. 2 | 101. 4 | 343 | | | | | |
| | 41. | 15. 8 | 104 | 97. 1 | 37. 3 | | 164 | 153. 1 | 58. 8 | 224 | 209. 1 | 80. 3 | 284 | 265. 1 | 101. 8 | 344 | | | | | |
| | 42. | 16. 1 | 105 | 98. 0 | 37. 6 | | 165 | 154. 0 | 59. 1 | 225 | 210. 1 | 80. 6 | 285 | 266. 1 | 102. 1 | 345 | | | | | |
| | 42. | 16. 5 | 106 | 99. 0 | 38. 0 | | 166 | 155. 0 | 59. 5 | 226 | 211. 0 | 81. 0 | 286 | 267. 0 | 102. 5 | 346 | | | | | |
| | 43. | 16. 8 | 107 | 99. 9 | 38. 3 | | 167 | 155. 9 | 59. 8 | 227 | 211. 9 | 81. 3 | 287 | 267. 9 | 102. 9 | 347 | | | | | |
| | 44. | 17. 2 | 108 | 100. 8 | 38. 7 | | 168 | 156. 8 | 60. 2 | 228 | 212. 9 | 81. 7 | 288 | 268. 9 | 103. 2 | 348 | | | | | |
| | 45. | 17. 6 | 109 | 101. 8 | 39. 1 | | 169 | 157. 8 | 60. 6 | 229 | 213. 8 | 82. 1 | 289 | 269. 8 | 103. 6 | 349 | 325. 8 | 125. | | | |
| | 46. | 17. 9 | 110 | 102. 7 | 39. 4 | | 170 | 158. 7 | 60. 9 | 230 | 214. 7 | 82. 4 | 290 | 270. 7 | 103. 9 | 350 | 326. 7 | 125. | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | 47. | 18. 3 | 111 | 103. 6 | 39. 8 | | 171 | 159. 6 | 61. 3 | 231 | 215. 7 | 82. 8 | 291 | 271. 7 | 104. 3 | 351 | | | | | |
| | 48. | 18. 6 | 112 | 104. 6 | 40. 1 | | 172 | 160. 6 | 61. 6 | 232 | 216. 6 | 83. 1 | 292 | 272. 6 | 104. 6 | 352 | 328. 6 | 126. | | | |
| | 49. | 19. 0 | 113 | 105. 5 | 40. 5 | | 173 | 161. 5 | 62. 0 | 233 | 217. 5 | 83. 5 | 293 | 273. 5 | 105. 0 | 353 | 329. 5 | 126. | | | |
| | 50. | 19. 4 | 114 | 106. 4 | 40. 9 | | 174 | 162. 4 | 62. 4 | 234 | 218. 5 | 83. 9 | 294 | 274. 5 | 105. 4 | 354 | 330. 5 | 126. | | | |
| | 51. | 19. 7 | 115 | 107. 4 | 41. 2 | | 175 | 163. 4 | 62. 7 | 235 | 219. 4 | 84. 2 | 295 | 275. 4 | 105. 7 | 355 | | | | | |
| | 52. | 20. 1 | 116 | 108. 3 | 41. 6 | | 176 | 164. 3 | 63. 1 | 236 | 220. 3 | 84. 6 | 296 | 276. 3 | 106. 1 | 356 | 332 | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | 53. | 20. 4 | 117 | 109. 2 | 41. 9 | | 177 | 165. 2 | 63. 4 | 237 | 221. 3 | 84. 9 | 297 | 277. 3 | 106. 4 | 357 | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | 350 | 335. | | | | |
| | | | | | | | | | | | | | | | | 37. 1 | 129. 0 | 420 | | | |

For 69 Degrees.

For 22 Degrees.



For 23 Degrees.

For 23 Degrees.

| Vol. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 14. 7 | 06. 3 | 76 | 70. 0 | 29. 7 | 136 | 125. 2 | 53. 1 | 196 | 180. 4 | 76. 6 | 256 | 235. | | | | | | | | | | |
| 17 | 15. 6 | 06. 6 | 77 | 70. 9 | 30. 1 | 137 | 126. 1 | 53. 5 | 197 | 181. 3 | 77. 0 | 257 | 236. | | | | | | | | | | |
| 18 | 16. 6 | 07. 0 | 78 | 71. 8 | 30. 5 | 138 | 127. 0 | 53. 9 | 198 | 182. 3 | 77. 4 | 258 | 237. | | | | | | | | | | |
| 19 | 17. 5 | 07. 4 | 79 | 72. 7 | 30. 9 | 139 | 128. 0 | 54. 3 | 199 | 183. 2 | 77. 8 | 259 | 238. 4 | 101. 2 | 319 | 293. | | | | | | | |
| 20 | 18. 4 | 07. 8 | 80 | 73. 6 | 31. 3 | 140 | 128. 9 | 54. 7 | 200 | 184. 1 | 78. 1 | 260 | 239. 3 | 101. | 320 | 294. | | | | | | | |
| 21 | 19 3 | 08. 2 | 81 | 74. 6 | 31. | 141 | 129. 8 | 55. 1 | 201 | 185. 0 | 78. 5 | 261 | 240. 3 | 102. | 321 | 295. 5 | 125. | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 23. 0 | 09. 8 | 85 | 78. 2 | 33. 2 | 145 | 133. 5 | 56. 7 | 205 | 188. 7 | 80. 1 | 265 | 243. 9 | 103. 5 | 325 | 299. 2 | 127. | 385 | 354. 4 | 150. 4 | 445 | 409. 0 | 173. 9 |
| 26 | 23. 9 | 10. 2 | 86 | 79. 2 | 33. 6 | 146 | 134. 4 | 57. | 206 | 189. 6 | 80. 5 | 266 | 244. 9 | 103. 9 | 326 | 300. 1 | 127. 4 | 386 | 355. 3 | 150. 8 | 446 | 410. 5 | 174. 3 |
| 27 | 24. 9 | 10. 5 | 87 | 80. 1 | 34. | 147 | 135. 3 | 57. 4 | 207 | 190. 5 | 80. 9 | 267 | 245. 8 | 104. 3 | 327 | 301. 0 | 127. 8 | 387 | 356. 2 | 151. 2 | 447 | 411. 5 | 174. 7 |
| 28 | 25. 8 | 10. 9 | 88 | 81. 0 | 34. 4 | 148 | 136. 2 | 57. 8 | 208 | 191. 5 | 81. 3 | 268 | 246. 7 | 104. 7 | 328 | 301. 9 | 128. 2 | 388 | 357. 2 | 151. 6 | 448 | 412. 4 | 175. 1 |
| 29 | 26. 7 | 11. 3 | 89 | 81. 9 | 34. 8 | 149 | 137. 2 | 58. 2 | 209 | 192. 4 | 81. 7 | 269 | 247. 6 | 105. 1 | 329 | 302. 8 | 128. | | | | | | |
| 30 | 27. 6 | 11. 7 | 90 | 82. 8 | 35. 2 | 150 | 138. 1 | 58. 6 | 210 | 193. 3 | 82. 1 | 270 | 248. 5 | 105. 5 | 330 | 303. 8 | 128. | | | | | | |
| 31 | 28. 5 | 12. 1 | 91 | 83. 8 | 35. 6 | 151 | 139. 0 | 59. 0 | 211 | 194. 2 | 82. 4 | 271 | 249. 5 | 105. 9 | 331 | 304. 7 | 129. 3 | 391 | 359. 9 | | | | |
| 32 | 29. 5 | 12. 5 | 92 | 84. 7 | 35. 9 | 152 | 139. 9 | 59. 4 | 212 | 195. 1 | 82. 8 | 272 | 250. 4 | 106. 5 | 332 | 305. 6 | 129. 7 | 392 | 360. 8 | | | | |
| | | | | | 36. 3 | 155 | 140. 8 | 59. 8 | 213 | 196. 1 | 83. 2 | 273 | 251. 3 | 106. 7 | 333 | 306. 5 | 130. 1 | 393 | 361. 8 | | | | |
| | | | | | 36. 7 | 154 | 141. 8 | 60. 2 | 214 | 197. 0 | 83. 6 | 274 | 252. 2 | 107. 1 | 334 | 307. 5 | 130. 5 | 394 | 362. 7 | | | | |
| | | | | | 37. 1 | 155 | 142. 7 | 60. 6 | 215 | 197. 9 | 84. 0 | 275 | 253. 1 | 107. 5 | 335 | 308. 4 | 130. 9 | 395 | 363. 6 | 154. 3 | 455 | 418. 8 | 177. 8 |
| 37 | 33. 1 | 14. 1 | 96 | 88. 4 | 37. 5 | 156 | 143. 6 | 61. 0 | 216 | 198. 8 | 84. 4 | 276 | 254. 1 | 107. 8 | 336 | 309. 3 | 131. 3 | 396 | 364. 5 | | | | |
| 37 | 34. 1 | 14. 5 | 97 | 89. 3 | 37. 9 | 157 | 144. 5 | 61. 3 | 217 | 199. 7 | 84. 8 | 277 | 255. 0 | 108. 2 | 337 | 310. 2 | 131. 7 | 397 | 365. 4 | | | | |
| 38 | 35. 0 | 14. 8 | 98 | 90. 2 | 38. 3 | 158 | 145. 4 | 61. 7 | 218 | 200. 7 | 85. 2 | 278 | 255. 9 | 108. 6 | 338 | 311. 1 | 132. 1 | 398 | 366. 4 | | | | |
| | | | | | 38. 7 | 159 | 146. 4 | 62. 1 | 219 | 201. 6 | 85. 6 | 279 | 256. 8 | 109. 0 | 339 | 312. 1 | 132. 5 | 399 | 367. 3 | | | | |
| | | | | | 39. 1 | 160 | 147. 3 | 62. 5 | 220 | 202. 5 | 86. 0 | 280 | 257. 7 | 109. 4 | 340 | 313. 0 | 132. 9 | 400 | 368. 2 | 156. 3 | 460 | 423. 4 | 179. 7 |
| 41 | | | | | 5 | 161 | 148. 2 | 62. 9 | 221 | 203. 4 | 86. 4 | 281 | 258. 7 | 109. 8 | 341 | 313. 9 | 133. 2 | 401 | 369. 1 | 156. 7 | 461 | 424. 4 | 180. 1 |
| 42 | | | | | 9 | 162 | 149. 1 | 63. 3 | 222 | 204. 4 | 86. 7 | 282 | 259. 6 | 110. 2 | 342 | 314. 8 | 133. 6 | 402 | 370. 0 | 157. 1 | 462 | 425. 3 | 180. 5 |
| 43 | 39. 6 | 16. 5 | 103 | 94. 8 | 40. 2 | 163 | 150. 0 | 63. 7 | 223 | 205. 3 | 87. 1 | 283 | 260. 5 | 110. 6 | 343 | 315. 7 | 134. 0 | 403 | 371. 0 | 157. 5 | 465 | 426. 2 | 180. 9 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | 41. 4 | 17. 6 | 105 | 96. 7 | 41. 0 | 165 | 151. 9 | 64. 5 | 225 | 207. 1 | 87. 9 | 285 | 262. 5 | 111. 4 | 345 | 317. 6 | 134. 8 | 405 | 372. 8 | 158. 3 | 465 | 428. 0 | 181. 7 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | 43. 3 | 18. 4 | 107 | 98. 5 | 41. 8 | 167 | 153. 7 | 65. 3 | 227 | 209. 0 | 88. 7 | 287 | 264. 2 | 112. 1 | 347 | 319. 4 | 135. 6 | 407 | 374. 6 | 159. 0 | 467 | 429. 9 | 182. 5 |
| | | | | | 2 | 168 | 154. 6 | 65. 6 | 228 | 209. 9 | 89. 1 | 288 | 265. 1 | 112. 5 | 348 | 320. 3 | 136. 0 | 408 | 375. 6 | 159. 4 | 468 | 430. 8 | 182. 9 |
| | | | | | 3 | 42. 6 | 169 | 155. 6 | 66. 0 | 229 | 210. 8 | 89. 5 | 289 | 266. 0 | 112. 9 | 349 | 321. 3 | 136. 4 | 409 | 376. 5 | 159. 8 | 469 | 431. 7 | 183. 3 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | 46. 9 | 19. 9 | 111 | 102. 2 | 43. 4 | 171 | 157. 4 | 66. 8 | 231 | 212. 6 | 90. 3 | 291 | 267. 9 | 113. 7 | 351 | 323. 1 | 137. 2 | 411 | 378. 3 | 160. 6 | 471 | 433. 6 | 184. 0 |
| | | | 112 | 103. 1 | 43. 8 | 172 | 158. 3 | 67. 2 | 232 | 213. 6 | 90. 6 | 292 | 268. 8 | 114. 1 | 352 | 324. 0 | 137. 5 | 412 | 379. 3 | 161. 0 | 472 | 434. 5 | 184. 4 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | 114 | 104. 9 | 44. 5 | 174 | 160. 2 | 68. 0 | 234 | 215. 4 | 91. 4 | 294 | 270. 6 | 114. 9 | 354 | 325. 9 | 138. 3 | 414 | 381. 1 | 161. 8 | 474 | 436. 3 | 185. 2 |
| | | | 115 | 105. 9 | 44. 9 | 175 | 161. 1 | 68. 4 | 235 | 216. 3 | 91. 8 | 295 | 271. 5 | 115. 3 | 355 | 326. 8 | 138. 7 | 415 | 382. 0 | 162. 2 | 475 | 437. 2 | 185. 6 |
| 56 | 51. 5 | 21. 9 | 116 | 106. 8 | 45. 3 | 176 | 162. 0 | 68. 8 | 236 | 217. 2 | 92. 2 | 296 | 272. 5 | 115. 7 | 356 | 327. 7 | 139. 1 | 416 | 382. 9 | 162. 5 | 476 | 438. 2 | 186. 0 |
| | | | 117 | 107. 7 | 45. 7 | 177 | 162. 9 | 69. 2 | 237 | 218. 2 | 92. 6 | 297 | 273. 4 | 116. 0 | 357 | 328. 6 | 139. 5 | 417 | 383. 9 | 162. 9 | 477 | 439. 1 | 186. 4 |
| 58 | 53. 4 | 22. 7 | 118 | 108. 6 | 46. 1 | 178 | 163. 8 | 69. 6 | 238 | 219. 1 | 93. 0 | 298 | 274. 3 | 116. 4 | 358 | 329. 5 | 139. 9 | 418 | 384. 8 | 163. 3 | 478 | 440. 0 | 186. 8 |
| 59 | 54. 3 | 23. 1 | 119 | 109. 5 | 46. 5 | | | | | | | 299 | 275. 2 | 116. 8 | | | | | | | | | |
| 60 | 55. 2 | 23. 4 | | 110. 5 | 46. 9 | 180 | 165. | | | | | | 276. 2 | 117. | | | | | | | | | |
| | | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | | | | | | | | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. |

For 67 Degrees.

For 24 Degrees.

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | |
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## Differences of Latitude, and Departures.
### For 25 Degrees.

| | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 61 | 55.3 | 25.8 | 121 | 109.7 | 51.1 | 181 | 164.0 | 76.5 | 241 | 218.4 | 101.9 | 301 | 272.8 | 127.2 | 361 | 327.1 | 152.6 |
| 2 | 62 | 56.2 | 26.2 | 122 | 110.6 | 51.6 | 182 | 164.9 | 76.9 | 242 | 219.3 | 102.3 | 302 | 273.7 | 127.6 | 362 | 328.0 | 153.0 |
| 3 | 63 | 57.1 | 26.6 | 123 | 111.5 | 52.0 | 183 | 165.9 | 77.3 | 243 | 220.2 | 102.7 | 303 | 274.6 | 128.0 | 363 | 329.0 | 153.4 |
| 4 | 64 | 58.0 | 27.0 | 124 | 112.4 | 52.4 | 184 | 166.8 | 77.8 | 244 | 221.1 | 103.1 | 304 | 275.5 | 128.4 | 364 | 329.9 | 153.8 |
| 5 | 65 | 58.9 | 27.5 | 125 | 113.3 | 52.8 | 185 | 167.7 | 78.2 | 245 | 222.0 | 103.5 | 305 | 276.4 | 128.9 | 365 | 330.8 | 154.2 |
| 6 | 66 | 59.8 | 27.9 | 126 | 114.2 | 53.2 | 186 | 168.6 | 78.6 | 246 | 222.9 | 104.0 | 306 | 277.3 | 129.3 | 366 | 331.7 | 154.6 |
| 7 | 67 | 60.7 | 28.3 | 127 | 115.1 | 53.7 | 187 | 169.5 | 79.0 | 247 | 223.8 | 104.4 | 307 | 278.2 | 129.7 | 367 | 332.6 | 155.1 |
| 8 | 68 | 61.6 | 28.7 | 128 | 116.0 | 54.1 | 188 | 170.4 | 79.4 | 248 | 224.8 | 104.8 | 308 | 279.1 | 130.1 | 368 | 333.5 | 155.5 |
| 9 | 69 | 62.5 | 29.1 | 129 | 116.9 | 54.5 | 189 | 171.3 | 79.9 | 249 | 225.7 | 105.2 | 309 | 280.0 | 130.6 | 369 | 334.4 | 155.9 |
| 10 | 70 | 63.4 | 29.6 | 130 | 117.8 | 54.9 | 190 | 172.2 | 80.3 | 250 | 226.6 | 105.7 | 310 | 280.9 | 131.0 | 370 | 335.3 | 156.3 |
| 11 | 71 | 64.3 | 30.0 | 131 | 118.7 | 55.3 | 191 | 173.1 | 80.7 | 251 | 227.5 | 106.1 | 311 | 281.8 | 131.4 | 371 | 336.2 | 156.8 |
| 12 | 72 | 65.2 | 30.4 | 132 | 119.6 | 55.8 | 192 | 174.0 | 81.1 | 252 | 228.4 | 106.5 | 312 | 282.7 | 131.8 | 372 | 337.1 | 157.2 |
| 13 | 73 | 66.1 | 30.9 | 133 | 120.5 | 56.2 | 193 | 174.9 | 81.6 | 253 | 229.3 | 106.9 | 313 | 283.6 | 132.2 | 373 | 338.0 | 157.6 |
| 14 | 74 | 67.1 | 31.3 | 134 | 121.4 | 56.6 | 194 | 175.8 | 82.0 | 254 | 230.2 | 107.3 | 314 | 284.5 | 132.7 | 374 | 338.9 | 158.0 |
| 15 | 75 | 68.0 | 31.7 | 135 | 122.4 | 57.1 | 195 | 176.7 | 82.4 | 255 | 231.1 | 107.8 | 315 | 285.4 | 133.1 | 375 | 339.8 | 158.4 |
| 16 | 76 | 68.9 | 32.1 | 136 | 123.3 | 57.5 | 196 | 177.6 | 82.8 | 256 | 232.0 | 108.2 | 316 | 286.4 | 133.5 | 376 | 340.7 | 158.9 |
| 17 | 77 | 69.8 | 32.5 | 137 | 124.2 | 57.9 | 197 | 178.5 | 83.3 | 257 | 232.9 | 108.6 | 317 | 287.3 | 133.9 | 377 | 341.6 | 159.3 |
| 18 | 78 | 70.7 | 33.0 | 138 | 125.1 | 58.3 | 198 | 179.4 | 83.7 | 258 | 233.8 | 109.0 | 318 | 288.2 | 134.4 | 378 | 342.5 | 159.7 |
| 19 | 79 | 71.6 | 33.4 | 139 | 126.0 | 58.7 | 199 | 180.4 | 84.1 | 259 | 234.7 | 109.5 | 319 | 289.1 | 134.8 | 379 | 343.4 | 160.1 |
| 20 | 80 | 72.5 | 33.8 | 140 | 126.9 | 59.2 | 200 | 181.3 | 84.5 | 260 | 235.6 | 109.9 | 320 | 290.0 | 135.2 | 380 | 344.3 | 160.5 |
| 21 | 81 | 73.4 | 34.2 | 141 | 127.8 | 59.6 | 201 | 182.2 | 84.9 | 261 | 236.5 | 110.3 | 321 | 290.9 | 135.6 | 381 | 345.3 | 161.0 |
| 22 | 82 | 74.3 | 34.7 | 142 | 128.7 | 60.0 | 202 | 183.1 | 85.4 | 262 | 237.4 | 110.7 | 322 | 291.8 | 136.1 | 382 | 346.2 | 161.4 |
| 23 | 83 | 75.2 | 35.1 | 143 | 129.6 | 60.4 | 203 | 184.0 | 85.8 | 263 | 238.4 | 111.1 | 323 | 292.7 | 136.5 | 383 | 347.1 | 161.8 |
| 24 | 84 | 76.1 | 35.5 | 144 | 130.5 | 60.8 | 204 | 184.9 | 86.2 | 264 | 239.3 | 111.6 | 324 | 293.6 | 136.9 | 384 | 348.0 | 162.2 |
| 25 | 85 | 77.0 | 35.9 | 145 | 131.4 | 61.3 | 205 | 185.8 | 86.6 | 265 | 240.2 | 112.0 | 325 | 294.5 | 137.3 | 385 | 348.9 | 162.7 |
| 26 | 86 | 77.9 | 36.3 | 146 | 132.3 | 61.7 | 206 | 186.7 | 87.1 | 266 | 241.1 | 112.4 | 326 | 295.4 | 137.7 | 386 | 349.8 | 163.1 |
| 27 | 87 | 78.8 | 36.8 | 147 | 133.2 | 62.1 | 207 | 187.6 | 87.5 | 267 | 242.0 | 112.8 | 327 | 296.3 | 138.2 | 387 | 350.7 | 163.5 |
| 28 | 88 | 79.7 | 37.2 | 148 | 134.1 | 62.5 | 208 | 188.5 | 87.9 | 268 | 242.9 | 113.3 | 328 | 297.2 | 138.6 | 388 | 351.6 | 163.9 |
| 29 | 89 | 80.6 | 37.6 | 149 | 135.0 | 62.9 | 209 | 189.4 | 88.3 | 269 | 243.8 | 113.7 | 329 | 298.1 | 139.0 | 389 | 352.5 | 164.4 |
| 30 | 90 | 81.5 | 38.0 | 150 | 135.9 | 63.4 | 210 | 190.3 | 88.7 | 270 | 244.7 | 114.1 | 330 | 299.0 | 139.4 | 390 | 353.4 | 164.8 |
| 31 | 91 | 82.5 | 38.4 | 151 | 136.9 | 63.8 | 211 | 191.2 | 89.2 | 271 | 245.6 | 114.5 | 331 | 299.9 | 139.8 | 391 | 354.3 | 165.2 |
| 32 | 92 | 83.4 | 38.9 | 152 | 137.8 | 64.2 | 212 | 192.1 | 89.6 | 272 | 246.5 | 115.0 | 332 | 300.8 | 140.3 | 392 | 355.2 | 165.6 |
| 33 | 93 | 84.3 | 39.3 | 153 | 138.7 | 64.6 | 213 | 193.0 | 90.0 | 273 | 247.4 | 115.4 | 333 | 301.7 | 140.7 | 393 | 356.1 | 166.0 |
| 34 | 94 | 85.2 | 39.7 | 154 | 139.6 | 65.0 | 214 | 194.0 | 90.4 | 274 | 248.3 | 115.8 | 334 | 302.7 | 141.1 | 394 | 357.0 | 166.5 |
| 35 | 95 | 86.1 | 40.1 | 155 | 140.5 | 65.5 | 215 | 194.9 | 90.8 | 275 | 249.2 | 116.2 | 335 | 303.6 | 141.5 | 395 | 358.0 | 166.9 |
| 36 | 96 | 87.0 | 40.6 | 156 | 141.4 | 65.9 | 216 | 195.8 | 91.3 | 276 | 250.1 | 116.6 | 336 | 304.5 | 142.0 | 396 | 358.9 | 167.3 |
| 37 | 97 | 87.9 | 41.0 | 157 | 142.3 | 66.3 | 217 | 196.7 | 91.7 | 277 | 251.0 | 117.1 | 337 | 305.4 | 142.4 | 397 | 359.8 | 167.7 |
| 38 | 98 | 88.8 | 41.4 | 158 | 143.2 | 66.7 | 218 | 197.6 | 92.1 | 278 | 251.9 | 117.5 | 338 | 306.3 | 142.8 | 398 | 360.7 | 168.1 |
| 39 | 99 | 89.7 | 41.8 | 159 | 144.1 | 67.1 | 219 | 198.5 | 92.5 | 279 | 252.8 | 117.9 | 339 | 307.2 | 143.2 | 399 | 361.6 | 168.6 |
| 40 | 100 | 90.6 | 42.3 | 160 | 145.0 | 67.6 | 220 | 199.4 | 92.9 | 280 | 253.8 | 118.3 | 340 | 308.1 | 143.7 | 400 | 362.5 | 169.0 |
| 41 | 101 | 91.5 | 42.7 | 161 | 145.9 | 68.0 | 221 | 200.3 | 93.4 | 281 | 254.7 | 118.8 | 341 | 309.0 | 144.1 | 401 | 363.4 | 169.4 |
| 42 | 102 | 92.4 | 43.1 | 162 | 146.8 | 68.4 | 222 | 201.2 | 93.8 | 282 | 255.6 | 119.2 | 342 | 309.9 | 144.5 | 402 | 364.3 | 169.8 |
| 43 | 103 | 93.3 | 43.5 | 163 | 147.7 | 68.8 | 223 | 202.1 | 94.2 | 283 | 256.5 | 119.6 | 343 | 310.8 | 144.9 | 403 | 365.2 | 170.3 |
| 44 | 104 | 94.3 | 43.9 | 164 | 148.6 | 69.3 | 224 | 203.0 | 94.6 | 284 | 257.4 | 120.0 | 344 | 311.7 | 145.3 | 404 | 366.1 | 170.7 |
| 45 | 105 | 95.2 | 44.4 | 165 | 149.5 | 69.7 | 225 | 204.0 | 95.1 | 285 | 258.3 | 120.5 | 345 | 312.6 | 145.8 | 405 | 367.0 | 171.1 |
| 46 | 106 | 96.1 | 44.8 | 166 | 150.4 | 70.1 | 226 | 204.9 | 95.5 | 286 | 259.2 | 120.9 | 346 | 313.5 | 146.2 | 406 | 368.0 | 171.5 |
| 47 | 107 | 97.0 | 45.2 | 167 | 151.3 | 70.5 | 227 | 205.8 | 95.9 | 287 | 260.1 | 121.3 | 347 | 314.4 | 146.6 | 407 | 368.9 | 171.9 |
| 48 | 108 | 97.9 | 45.6 | 168 | 152.2 | 71.0 | 228 | 206.7 | 96.3 | 288 | 261.0 | 121.7 | 348 | 315.3 | 147.0 | 408 | 369.8 | 172.4 |
| 49 | 109 | 98.8 | 46.1 | 169 | 153.1 | 71.4 | 229 | 207.6 | 96.8 | 289 | 261.9 | 122.2 | 349 | 316.2 | 147.5 | 409 | 370.7 | 172.8 |
| 50 | 110 | 99.7 | 46.5 | 170 | 154.0 | 71.8 | 230 | 208.5 | 97.2 | 290 | 262.8 | 122.6 | 350 | 317.1 | 147.9 | 410 | 371.6 | 173.2 |
| 51 | 111 | 100.6 | 46.9 | 171 | 154.9 | 72.2 | 231 | 209.4 | 97.6 | 291 | 263.7 | 123.0 | 351 | 318.0 | 148.3 | 411 | 372.5 | 173.6 |
| 52 | 112 | 101.5 | 47.3 | 172 | 155.8 | 72.7 | 232 | 210.3 | 98.0 | 292 | 264.6 | 123.4 | 352 | 318.9 | 148.7 | 412 | 373.4 | 174.1 |
| 53 | 113 | 102.4 | 47.8 | 173 | 156.7 | 73.1 | 233 | 211.2 | 98.4 | 293 | 265.5 | 123.8 | 353 | 319.8 | 149.2 | 413 | 374.3 | 174.5 |
| 54 | 114 | 103.3 | 48.2 | 174 | 157.6 | 73.5 | 234 | 212.1 | 98.9 | 294 | 266.4 | 124.3 | 354 | 320.7 | 149.6 | 414 | 375.2 | 174.9 |
| 55 | 115 | 104.2 | 48.6 | 175 | 158.5 | 73.9 | 235 | 213.0 | 99.3 | 295 | 267.3 | 124.7 | 355 | 321.6 | 150.0 | 415 | 376.1 | 175.3 |
| 56 | 116 | 105.1 | 49.0 | 176 | 159.4 | 74.4 | 236 | 213.9 | 99.7 | 296 | 268.2 | 125.1 | 356 | 322.5 | 150.4 | 416 | 377.0 | 175.8 |
| 57 | 117 | 106.0 | 49.5 | 177 | 160.3 | 74.8 | 237 | 214.8 | 100.1 | 297 | 269.1 | 125.5 | 357 | 323.4 | 150.8 | 417 | 377.9 | 176.2 |
| 58 | 118 | 106.9 | 49.9 | 178 | 161.2 | 75.2 | 238 | 215.7 | 100.5 | 298 | 270.0 | 125.9 | 358 | 324.3 | 151.3 | 418 | 378.8 | 176.6 |
| 59 | 119 | 107.8 | 50.3 | 179 | 162.1 | 75.6 | 239 | 216.6 | 101.0 | 299 | 270.9 | 126.4 | 359 | 325.2 | 151.7 | 419 | 379.7 | 177.0 |
| 60 | 120 | 108.7 | 50.7 | 180 | 163.0 | 76.1 | 240 | 217.5 | 101.4 | 300 | 271.8 | 126.8 | 360 | 326.1 | 152.1 | 420 | 380.6 | 177.4 |

| Dist | Dep. | D. Lat. | Dist | Dep. | D. Lat. | Dist | Dep. | D. Lat. | Dist | Dep. | D. Lat. | Dist | Dep. | D. Lat. | Dist | Dep. | D. Lat. | Dist | Dep. | D. Lat. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

For 26 Degrees.

| | D. Lat. | Dep. | | D. Lat. | Dep. | | D. Lat. | Dep. | | D. Lat. | Dep. | | D. Lat. | Dep. | | D. Lat. | Dep. | | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | 61 | 54.8 | 26.7 | 91 | 81.8 | 39.8 | 121 | 108.7 | 52.9 | 151 | 135.7 | 66.0 | 181 | 162.6 | 79.2 | 211 | 189.6 | 92.3 |
| 2 | | | 62 | 55.7 | 27. | 92 | 82.7 | 40.3 | 122 | 109.7 | 53.4 | 152 | 136.6 | 66.5 | 182 | 163.6 | 79.7 | 212 | 190.5 | 92.8 |
| 3 | | | 63 | 56.6 | 27.6 | 93 | 83.6 | 40.7 | 123 | 110.6 | 53.8 | 153 | 137.5 | 66.9 | 183 | 164.5 | 80.1 | 213 | 191.4 | 93.2 |
| 4 | | | 64 | 57.5 | 28.1 | 94 | 84.5 | 41.1 | 124 | 111.5 | 54.2 | 154 | 138.4 | 67.3 | 184 | 165.4 | 80.5 | 214 | 192.3 | 93.6 |
| 5 | | | 65 | 58.4 | 28.5 | 95 | 85.4 | 41.5 | 125 | 112.4 | 54.7 | 155 | 139.3 | 67.8 | 185 | 166.3 | 80.9 | 215 | 193.2 | 94.0 |
| 6 | | | 66 | 59.3 | 28.9 | 96 | 86.3 | 42.0 | 126 | 113.3 | 55.1 | 156 | 140.2 | 68.2 | 186 | 167.2 | 81.5 | 216 | 194.1 | 94.5 |
| 7 | | | 67 | 60.2 | 29.4 | 97 | 87.2 | 42.4 | 127 | 114.2 | 55.6 | 157 | 141.1 | 68.6 | 187 | 168.1 | 81.8 | 217 | 195.0 | 94.9 |
| 8 | | | 68 | 61.1 | 29.8 | 98 | 88.1 | 42.8 | 128 | 115.1 | 56.0 | 158 | 142.0 | 69.1 | 188 | 169.0 | 82.2 | 218 | 195.9 | 95.3 |
| 9 | | | 69 | 62.0 | 30.2 | 99 | 89.0 | 43.3 | 129 | 116.0 | 56.5 | 159 | 142.9 | 69.5 | 189 | 169.9 | 82.6 | 219 | 196.8 | 95.8 |
| 10 | | | 70 | 62.9 | 30.7 | 100 | 89.9 | 43.7 | 130 | 116.9 | 56.9 | 160 | 143.8 | 69.9 | 190 | 170.8 | 83.1 | 220 | 197.7 | 96.2 |
| 11 | | | 71 | 63.8 | 31.1 | 101 | 90.8 | 44.2 | 131 | 117.8 | 57.3 | 161 | 144.7 | 70.4 | 191 | 171.7 | 83.5 | 221 | 198.6 | 96.6 |
| 12 | | | 72 | 64.7 | 31.6 | 102 | 91.7 | 44.6 | 132 | 118.7 | 57.8 | 162 | 145.6 | 70.8 | 192 | 172.6 | 83.9 | 222 | 199.5 | 97.1 |
| 13 | | | 73 | 65.7 | 32. | 103 | 92.6 | 45.0 | 133 | 119.6 | 58.2 | 163 | 146.5 | 71.2 | 193 | 173.5 | 84.4 | 223 | 200.4 | 97.5 |
| 14 | | | 74 | 66.5 | 32.4 | 104 | 93.5 | 45.5 | 134 | 120.5 | 58.6 | 164 | 147.4 | 71.7 | 194 | 174.4 | 84.8 | 224 | 201.3 | 97.9 |
| 15 | | | 75 | 67.4 | 32.9 | 105 | 94.4 | 45.9 | 135 | 121.4 | 59.1 | 165 | 148.3 | 72.1 | 195 | 175.3 | 85.2 | 225 | 202.2 | 98.4 |
| 16 | | | 76 | 68.3 | 33.3 | 106 | 95.3 | 46.4 | 136 | 122.3 | 59.5 | 166 | 149.2 | 72.5 | 196 | 176.2 | 85.7 | 226 | 203.1 | 98.8 |
| 17 | | | 77 | 69.2 | 33.8 | 107 | 96.2 | 46.8 | 137 | 123.2 | 60.0 | 167 | 150.1 | 73.0 | 197 | 177.1 | 86.1 | 227 | 204.0 | 99.2 |
| 18 | | | 78 | 70.1 | 34.2 | 108 | 97.1 | 47.2 | 138 | 124.1 | 60.4 | 168 | 151.0 | 73.4 | 198 | 178.0 | 86.5 | 228 | 204.9 | 99.7 |
| 19 | | | 79 | 71.0 | 34.6 | 109 | 98.0 | 47.7 | 139 | 125.0 | 60.8 | 169 | 151.9 | 73.8 | 199 | 178.9 | 87.0 | 229 | 205.8 | 100.1 |
| 20 | | | 80 | 71.9 | 35.1 | 110 | 98.9 | 48.1 | 140 | 125.9 | 61.3 | 170 | 152.8 | 74.3 | 200 | 179.8 | 87.4 | 230 | 206.7 | 100.5 |
| 21 | 18.9 | 09.2 | 81 | 72.8 | 35.5 | 111 | 99.8 | 48.6 | 141 | 126.8 | 61.7 | 171 | 153.7 | 74.7 | 201 | 180.7 | 87.8 | 231 | 207.6 | 101.0 |
| 22 | 19.8 | 09.6 | 82 | 73.7 | 35.9 | 112 | 100.7 | 49.0 | 142 | 127.7 | 62.2 | 172 | 154.6 | 75.1 | 202 | 181.6 | 88.3 | 232 | 208.5 | 101.4 |
| 23 | 20.7 | 10.1 | 83 | 74.6 | 36.4 | 113 | 101.6 | 49.4 | 143 | 128.6 | 62.6 | 173 | 155.5 | 75.6 | 203 | 182.5 | 88.7 | 233 | 209.4 | 101.8 |
| 24 | 21.6 | 10.5 | 84 | 75.5 | 36.8 | 114 | 102.5 | 49.9 | 144 | 129.5 | 63.1 | 174 | 156.4 | 76.0 | 204 | 183.4 | 89.1 | 234 | 210.3 | 102.3 |
| 25 | 22.5 | 11.0 | 85 | 76.4 | 37.3 | 115 | 103.4 | 50.3 | 145 | 130.4 | 63.5 | 175 | 157.3 | 76.4 | 205 | 184.3 | 89.6 | 235 | 211.2 | 102.7 |
| 26 | 23.4 | 11.4 | 86 | 77.3 | 37.7 | 116 | 104.3 | 50.7 | 146 | 131.3 | 63.9 | 176 | 158.2 | 76.9 | 206 | 185.2 | 90.0 | 236 | 212.1 | 103.1 |
| 27 | 24.3 | 11.8 | 87 | 78.2 | 38.1 | 117 | 105.2 | 51.2 | 147 | 132.1 | 64.4 | 177 | 159.1 | 77.3 | 207 | 186.1 | 90.4 | 237 | 213.0 | 103.6 |
| 28 | 25.2 | 12.3 | 88 | 79.1 | 38.6 | 118 | 106.1 | 51.6 | 148 | 133.0 | 64.8 | 178 | 160.0 | 77.8 | 208 | 186.9 | 90.9 | 238 | 213.9 | 104.0 |
| 29 | 26.1 | 12.7 | 89 | 80.0 | 39.0 | 119 | 107.0 | 52.1 | 149 | 133.9 | 65.3 | 179 | 160.9 | 78.2 | 209 | 187.8 | 91.3 | 239 | 214.8 | 104.4 |
| 30 | 27.0 | 13.2 | 90 | 80.9 | 39.5 | 120 | 107.9 | 52.5 | 150 | 134.8 | 65.7 | 180 | 161.8 | 78.6 | 210 | 188.7 | 91.8 | 240 | 215.7 | 104.9 |
| 31 | 27.9 | 13.6 | 91 | 81.8 | 39.9 | 121 | 108.8 | 52.9 | 151 | 135.7 | 66.1 | 181 | 162.7 | 79.1 | 211 | 189.6 | 92.2 | 241 | 216.6 | 105.3 |
| 32 | 28.8 | 14.0 | 92 | 82.7 | 40.3 | 122 | 109.7 | 53.4 | 152 | 136.6 | 66.6 | 182 | 163.6 | 79.5 | 212 | 190.5 | 92.7 | 242 | 217.5 | 105.7 |
| 33 | 29.7 | 14.5 | 93 | 83.6 | 40.8 | 123 | 110.6 | 53.8 | 153 | 137.5 | 67.0 | 183 | 164.5 | 80.0 | 213 | 191.4 | 93.1 | 243 | 218.4 | 106.2 |
| 34 | 30.6 | 14.9 | 94 | 84.5 | 41.2 | 124 | 111.5 | 54.3 | 154 | 138.4 | 67.4 | 184 | 165.4 | 80.4 | 214 | 192.3 | 93.5 | 244 | 219.3 | 106.6 |
| 35 | 31.5 | 15.3 | 95 | 85.4 | 41.6 | 125 | 112.4 | 54.7 | 155 | 139.3 | 67.9 | 185 | 166.3 | 80.8 | 215 | 193.2 | 94.0 | 245 | 220.2 | 107.1 |
| 36 | 32.4 | 15.8 | 96 | 86.3 | 42.1 | 126 | 113.3 | 55.1 | 156 | 140.2 | 68.3 | 186 | 167.2 | 81.3 | 216 | 194.1 | 94.4 | 246 | 221.1 | 107.5 |
| 37 | 33.3 | 16.2 | 97 | 87.2 | 42.5 | 127 | 114.2 | 55.6 | 157 | 141.1 | 68.7 | 187 | 168.1 | 81.7 | 217 | 195.0 | 94.8 | 247 | 222.0 | 107.9 |
| 38 | 34.2 | 16.7 | 98 | 88.1 | 42.9 | 128 | 115.1 | 56.0 | 158 | 142.0 | 69.2 | 188 | 169.0 | 82.1 | 218 | 195.9 | 95.3 | 248 | 222.9 | 108.4 |
| 39 | 35.1 | 17.1 | 99 | 89.0 | 43.4 | 129 | 116.0 | 56.5 | 159 | 142.9 | 69.6 | 189 | 169.9 | 82.6 | 219 | 196.8 | 95.7 | 249 | 223.8 | 108.8 |
| 40 | 36.0 | 17.5 | 100 | 89.9 | 43.8 | 130 | 116.9 | 56.9 | 160 | 143.8 | 70.0 | 190 | 170.8 | 83.0 | 220 | 197.7 | 96.2 | 250 | 224.7 | 109.2 |
| 41 | | | | | | | | | | | | | | | | | | | | |
| 42 | | | | | | | | | | | | | | | | | | | | |
| 43 | | | | | | | | | | | | | | | | | | | | |
| 44 | | | | | | | | | | | | | | | | | | | | |
| 45 | 40.4 | 19.7 | | | | | | | | | | | | | | | | | | |
| 46 | 41.3 | 20.2 | | | | | | | | | | | | | | | | | | |
| 47 | | | | | | | | | | | | | | | | | | | | |
| 48 | 43.1 | 21.0 | | | | | | | | | | | | | | | | | | |
| 49 | 44.0 | 21.5 | | | | | | | | | | | | | | | | | | |
| 50 | 44.9 | 21.9 | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | |
| | |

For 27 Degrees.

| | | |

For 28 Degrees.



For 62 Degrees.

For 29 Degrees.



For 61 Degrees.

For 30 Degrees.

For 60 Degrees.

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 00. 9 | 00. 5 | 61 | 52. 3 | 31. 4 | 121 | 103. 7 | 62. 3 | 181 | 155. 1 | | | | | | | | | | | | | | | | | | | | | |
| 2 | 01. 7 | 01. 0 | 62 | 53. 1 | 31. 9 | 122 | 104. 6 | 62. 8 | 182 | 156. 0 | | | | | | | | | | | | | | | | | | | | | |
| 3 | 02. 6 | 01. 5 | 63 | 54. 0 | 32. 4 | 123 | 105. 4 | 63. 3 | 183 | 156. 9 | | | | | | | | | | | | | | | | | | | | | |
| 4 | 03. 4 | 02. 1 | 64 | 54. 9 | 33. 0 | 124 | 106. 3 | 63. 9 | 184 | 157. 7 | 94. 8 | 244 | 209. | | | | | | | | | | | | | | | | | | |
| 7 | 06. 0 | 03. 6 | 67 | 57. 4 | 34. 5 | 127 | 108. 9 | 65. 4 | 187 | 160. 3 | 96. 3 | 247 | 211. 7 | 127. 2 | 307 | 263. 2 | 158. 1 | 367 | 314. 6 | 189. | | | | | | | | | | | |
| 8 | 06. 9 | 04. 1 | 68 | 58. 3 | 35. 0 | 128 | 109. 7 | 65. 9 | 188 | 161. 1 | 96. 8 | 248 | 213. 6 | 127. 7 | 308 | 264. 0 | 158. 6 | 368 | 315. 4 | 189. | | | | | | | | | | | |
| | | | 69 | 59. 1 | 35. 5 | 129 | 110. 6 | 66. | 189 | 162. 0 | 97. 2 | 249 | 213. 4 | 128. 2 | 309 | 264. 9 | 159. 2 | 369 | 316. 2 | 190. | | | | | | | | | | | |
| | | | 70 | 60. 0 | 36. 1 | 130 | 111. 4 | 67. 0 | 190 | 162. 9 | 97. 6 | 250 | 214. 3 | 128. 8 | 310 | 265. 7 | 159. 7 | 370 | 317. 2 | 190. 6 | 430 | 368. 6 | 221. 5 | | | | | | | | | |
| | | | 71 | 60. 9 | 36. 6 | 131 | 112. 3 | 67. 5 | 191 | 163. 7 | 98. 4 | 251 | 215. 1 | 129. 3 | 311 | 266. 6 | 160. 2 | 371 | 318. 0 | 191. 1 | 431 | 369. 4 | 222. 0 | | | | | | | | | |
| | | | 72 | 61. 7 | 37. 1 | 132 | 113. 1 | 67. 9 | 192 | 164. 6 | 98. 9 | 252 | 216. 0 | 129. 8 | 312 | 267. 4 | 160. 7 | 372 | 318. 9 | 191. 6 | 432 | 370. 3 | 222. 5 | | | | | | | | | |
| | | | 73 | 62. 6 | 37. 6 | 133 | 114. 0 | 68. 5 | 193 | 165. 4 | 99. 4 | 253 | 216. 9 | 130. 3 | 313 | 268. 3 | 161. 2 | 373 | 319. 7 | 192. 1 | 433 | 371. 2 | 223. 0 | | | | | | | | | |
| | | | 74 | 63. 4 | 38. 1 | 134 | 114. 8 | 69. | 194 | 166. 3 | 99. 9 | 254 | 217. 7 | 130. 8 | 314 | 269. 1 | 161. 7 | 374 | 320. 5 | 192. 6 | 434 | 372. 0 | 223. 5 | | | | | | | | | |
| | | | 75 | 64. 3 | 38. 6 | 135 | 115. 6 | 69. 4 | 195 | 167. 1 | 100. 4 | 255 | 218. 6 | 131. 3 | 315 | 270. 0 | 162. 2 | 375 | 321. 4 | 193. 1 | 435 | 372. 9 | 224. 0 | | | | | | | | | |
| | | | 76 | 65. 1 | 39. 1 | 136 | 116. 4 | 69. 9 | 196 | 167. 9 | 100. 9 | 256 | 219. 4 | 131. 8 | 316 | 270. 8 | 162. 7 | 376 | 322. 3 | 193. 6 | 436 | 373. 8 | 224. 6 | | | | | | | | | |
| | | | 77 | 66. 0 | 39. 7 | 137 | 117. 4 | 70. 6 | 197 | 168. 9 | 101. 5 | 257 | 220. 3 | 132. 4 | 317 | 271. 7 | 163. 3 | 377 | 323. 2 | 194. 2 | 437 | 374. 6 | 225. 1 | | | | | | | | | |
| | | | 78 | 66. 8 | 40. 2 | 138 | 118. 3 | 71. 1 | 198 | 169. 8 | 102. 0 | 258 | 221. 1 | 132. 9 | 318 | 272. 5 | 163. 8 | 378 | 324. 0 | 194. 7 | 438 | 375. 5 | 225. 7 | | | | | | | | | |
| | | | 79 | 67. 7 | 40. 7 | 139 | 119. 1 | 71. 6 | 199 | 170. 6 | 102. 5 | 259 | 222. 0 | 133. 4 | 319 | 273. 4 | 164. 3 | 379 | 324. 9 | 195. 2 | 439 | 376. 3 | 226. 2 | | | | | | | | | |
| | | | 80 | 68. 5 | 41. 2 | 140 | 120. 0 | 72. 1 | 200 | 171. 4 | 103. 0 | 260 | 222. 8 | 133. 9 | 320 | 274. 2 | 164. 8 | 380 | 325. 7 | 195. 7 | 440 | 377. 2 | 226. 8 | | | | | | | | | |
| | | | 81 | 69. 4 | 41. 7 | 141 | 120. 8 | 72. 6 | 201 | 172. 3 | 103. 5 | 261 | 223. 7 | 134. 4 | 321 | 275. 0 | 165. 3 | 381 | 326. 5 | 196. 2 | 441 | 378. 0 | 227. 3 | | | | | | | | | |
| | | | 82 | 70. 2 | 42. 2 | 142 | 121. 7 | 73. 1 | 202 | 173. 1 | 104. 0 | 262 | 224. 5 | 134. 9 | 322 | 275. 8 | 165. 8 | 382 | 327. 4 | 196. 7 | 442 | 378. 8 | 227. 8 | | | | | | | | | |
| | | | 83 | 71. 1 | 42. 7 | 143 | 122. 5 | 73. 6 | 203 | 174. 0 | 104. 5 | 263 | 225. 4 | 135. 4 | 323 | 276. 7 | 166. 3 | 383 | 328. 2 | 197. 2 | 443 | 379. 7 | 228. 3 | | | | | | | | | |
| | | | 84 | 72. 0 | 43. 2 | 144 | 123. 4 | 74. 1 | 204 | 174. 8 | 105. 0 | 264 | 226. 2 | 135. 9 | 324 | 277. 5 | 166. 8 | 384 | 329. 0 | 197. 7 | 444 | 380. 5 | 228. 8 | | | | | | | | | |
| | | | 85 | 72. 8 | 43. 7 | 145 | 124. 2 | 74. 6 | 205 | 175. 7 | 105. 5 | 265 | 227. 1 | 136. 4 | 325 | 278. 3 | 167. 3 | 385 | 329. 8 | 198. 2 | 445 | 381. 3 | 229. 3 | | | | | | | | | |
| | | | 86 | 73. 7 | 44. 2 | 146 | 125. 1 | 75. 1 | 206 | 176. 5 | 106. 0 | 266 | 227. 9 | 136. 9 | 326 | 279. 2 | 167. 8 | 386 | 330. 7 | 198. 7 | 446 | 382. 2 | 229. 8 | | | | | | | | | |
| | | | 87 | 74. 5 | 44. 7 | 147 | 125. 9 | 75. 6 | 207 | 177. 4 | 106. 5 | 267 | 228. 8 | 137. 4 | 327 | 280. 0 | 168. 3 | 387 | 331. 5 | 199. 2 | 447 | 383. 0 | 230. 3 | | | | | | | | | |
| | | | 88 | 75. 3 | 45. 2 | 148 | 126. 8 | 76. 1 | 208 | 178. 2 | 107. 0 | 268 | 229. 6 | 137. 9 | 328 | 280. 9 | 168. 8 | 388 | 332. 3 | 199. 7 | 448 | 383. 8 | 230. 8 | | | | | | | | | |
| | | | 89 | 76. 2 | 45. 7 | 149 | 127. 6 | 76. 6 | 209 | 179. 1 | 107. 5 | 269 | 230. 5 | 138. 4 | 329 | 281. 7 | 169. 3 | 389 | 333. 1 | 200. 2 | 449 | 384. 5 | 231. 3 | | | | | | | | | |
| | | | 90 | 77. 0 | 46. 2 | 150 | 128. 5 | 77. 1 | 210 | 179. 9 | 108. 0 | 270 | 231. 3 | 138. 9 | 330 | 282. 6 | 169. 8 | 390 | 333. 9 | 200. 7 | 450 | 385. 3 | 231. 8 | | | | | | | | | |
| | | | 91 | 77. 9 | 46. 7 | 151 | 129. 3 | 77. 6 | 211 | 180. 8 | 108. 5 | 271 | 232. 2 | 139. 6 | 331 | 283. 4 | 170. 3 | 391 | 334. 8 | 201. 2 | 451 | 386. 1 | 232. 3 | | | | | | | | | |
| | | | 92 | 78. 7 | 47. 2 | 152 | 130. 2 | 78. 1 | 212 | 181. 6 | 109. 0 | 272 | 233. 0 | 140. 1 | 332 | 284. 3 | 170. 8 | 392 | 335. 6 | 201. 7 | 452 | 386. 8 | 232. 8 | | | | | | | | | |
| | | | 93 | 79. 6 | 47. 7 | 153 | 131. 0 | 78. 6 | 213 | 182. 5 | 109. 5 | 273 | 233. 9 | 140. 6 | 333 | 285. 1 | 171. 3 | 393 | 336. 4 | 202. 2 | 453 | 387. 6 | 233. 3 | | | | | | | | | |
| | | | 94 | 80. 4 | 48. 2 | 154 | 131. 9 | 79. 1 | 214 | 183. 3 | 110. 0 | 274 | 234. 7 | 141. 1 | 334 | 286. 3 | 172. 0 | 394 | 337. 7 | 202. 9 | 454 | 389. 2 | 233. 8 | | | | | | | | | |
| | | | 95 | 81. 3 | 48. 7 | 155 | 132. 7 | 79. 6 | 215 | 184. 5 | 110. 7 | 275 | 235. 7 | 141. 6 | 335 | 287. 2 | 172. 5 | 395 | 338. 6 | 203. 4 | 455 | 390. 0 | 234. 3 | | | | | | | | | |
| | | | 96 | 82. 1 | 49. 2 | 156 | 133. 6 | 80. 1 | 216 | 185. 1 | 111. 2 | 276 | 236. 6 | 142. 2 | 336 | 288. 0 | 173. 1 | 396 | 339. 4 | 204. 0 | 456 | 390. 9 | 234. 9 | | | | | | | | | |
| | | | 97 | 83. 0 | 49. 7 | 157 | 134. 4 | 80. 6 | 217 | 186. 0 | 111. 8 | 277 | 237. 4 | 142. 7 | 337 | 288. 9 | 173. 6 | 397 | 340. 3 | 204. 5 | 457 | 391. 7 | 235. 4 | | | | | | | | | |
| | | | 98 | 83. 8 | 50. 2 | 158 | 135. 3 | 81. 1 | 218 | 186. 9 | 112. 3 | 278 | 238. 3 | 143. 2 | 338 | 289. 7 | 174. 1 | 398 | 341. 2 | 205. 0 | 458 | 392. 6 | 235. 9 | | | | | | | | | |
| | | | 99 | 84. 7 | 50. 7 | 159 | 135. 9 | 81. 6 | 219 | 187. 7 | 112. 8 | 279 | 239. 1 | 143. 7 | 339 | 290. 6 | 174. 6 | 399 | 342. 0 | 205. 5 | 459 | 393. 4 | 236. 4 | | | | | | | | | |
| | | | 100 | 85. 5 | 51. 2 | 160 | 136. 8 | 82. 1 | 220 | 188. 6 | 113. 3 | 280 | 240. 0 | 144. 2 | 340 | 291. 4 | 175. 1 | 400 | 342. 9 | 206. 0 | 460 | 394. 3 | 236. 9 | | | | | | | | | |
| | | | 101 | 86. 4 | 51. 7 | 161 | 137. 6 | 82. 6 | 221 | 189. 4 | 113. 8 | 281 | 240. 8 | 144. 7 | 341 | 292. 3 | 175. 6 | 401 | 343. 7 | 206. 5 | 461 | 395. 1 | 237. 4 | | | | | | | | | |
| | | | 102 | 87. 2 | 52. 2 | 162 | 138. 9 | 83. 4 | 222 | 190. 3 | 114. 3 | 282 | 241. 7 | 145. 2 | 342 | 293. 2 | 176. 1 | 402 | 344. 6 | 207. 0 | 462 | 396. 0 | 238. 0 | | | | | | | | | |
| | | | 103 | 88. 1 | 52. 7 | 163 | 139. 7 | 83. 9 | 223 | 191. 2 | 114. 8 | 283 | 242. 5 | 145. 7 | 343 | 294. 0 | 176. 6 | 403 | 345. 4 | 207. 5 | 463 | 396. 8 | 238. 5 | | | | | | | | | |
| | | | 104 | 89. 0 | 53. 2 | 164 | 140. 6 | 84. 5 | 224 | 192. 0 | 115. 4 | 284 | 243. 4 | 146. 3 | 344 | 294. 9 | 177. 2 | 404 | 346. 3 | 208. 1 | 464 | 397. 7 | 239. 0 | | | | | | | | | |
| | | | 105 | 89. 8 | 53. 7 | 165 | 141. 4 | 84. 9 | 225 | 192. 8 | 115. 9 | 285 | 244. 2 | 146. 8 | 345 | 295. 7 | 177. 7 | 405 | 347. 1 | 208. 6 | 465 | 398. 5 | 239. 5 | | | | | | | | | |
| | | | 106 | 90. 7 | 54. 2 | 166 | 142. 3 | 85. 5 | 226 | 193. 7 | 116. 4 | 286 | 245. 1 | 147. 3 | 346 | 296. 6 | 178. 2 | 406 | 348. 0 | 209. 1 | 466 | 399. 4 | 240. 0 | | | | | | | | | |
| | | | 107 | 91. 5 | 54. 7 | 167 | 143. 1 | 86. 0 | 227 | 194. 6 | 116. 9 | 287 | 246. 0 | 147. 8 | 347 | 297. 4 | 178. 7 | 407 | 348. 9 | 209. 6 | 467 | 400. 3 | 240. 5 | | | | | | | | | |
| | | | 108 | 92. 4 | 55. 2 | 168 | 144. 0 | 86. 5 | 228 | 195. 4 | 117. 4 | 288 | 246. 8 | 148. 3 | 348 | 298. 3 | 179. 2 | 408 | 349. 8 | 210. 1 | 468 | 401. 1 | 241. 0 | | | | | | | | | |
| | | | 109 | 93. 2 | 55. 7 | 169 | 144. 8 | 87. 0 | 229 | 196. 3 | 117. 9 | 289 | 247. 7 | 148. 8 | 349 | 299. 1 | 179. 7 | 409 | 350. 6 | 210. 6 | 469 | 402. 0 | 241. 5 | | | | | | | | | |
| | | | 110 | 94. 1 | 56. 2 | 170 | 145. 7 | 87. 5 | 230 | 197. 1 | 118. 4 | 290 | 248. 5 | 149. 3 | 350 | 300. 0 | 180. 2 | 410 | 351. 5 | 211. 1 | 470 | 402. 8 | 242. 0 | | | | | | | | | |
| | | | 111 | 94. 9 | 56. 7 | 171 | 146. 5 | 88. 0 | 231 | 198. 0 | 118. 9 | 291 | 249. 4 | 149. 8 | 351 | 300. 9 | 180. 8 | 411 | 352. 3 | 211. 7 | 471 | 403. 7 | 242. 6 | | | | | | | | | |
| | | | 112 | 95. 8 | 57. 2 | 172 | 147. 4 | 88. 5 | 232 | 198. 9 | 119. 5 | 292 | 250. 3 | 150. 4 | 352 | 301. 7 | 181. 3 | 412 | 353. 2 | 212. 2 | 472 | 404. 6 | 243. 1 | | | | | | | | | |
| | | | 113 | 96. 6 | 58. 1 | 173 | 148. 2 | 89. 0 | 233 | 199. 7 | 120. 0 | 293 | 251. 2 | 150. 9 | 353 | 302. 6 | 181. 8 | 413 | 354. 0 | 212. 7 | 473 | 405. 4 | 243. 6 | | | | | | | | | |
| | | | 114 | 97. 5 | 58. 6 | 174 | 149. 0 | 89. 5 | 234 | 200. 6 | 120. 5 | 294 | 252. 0 | 151. 4 | 354 | 303. 4 | 182. 3 | 414 | 354. 9 | 213. 2 | 474 | 406. 3 | 244. 1 | | | | | | | | | |
| | | | 115 | 98. 3 | 59. 1 | 175 | 149. 8 | 90. 0 | 235 | 201. 4 | 121. 0 | 295 | 252. 9 | 151. 9 | 355 | 304. 3 | 182. 8 | 415 | 355. 7 | 213. 7 | 475 | 407. 2 | 244. 6 | | | | | | | | | |
| | | | 116 | 99. 2 | 59. 6 | 176 | 150. 7 | 90. 5 | 236 | 202. 3 | 121. 5 | 296 | 253. 7 | 152. 5 | 356 | 305. 2 | 183. 4 | 416 | 356. 6 | 214. 3 | | | | | | | | | | | |
| | | | 117 | 100. 0 | 60. 1 | 177 | 151. 5 | 91. 0 | 237 | 203. 1 | 122. 1 | 297 | 254. 6 | 153. 0 | 357 | 306. 0 | 183. 9 | 417 | 357. 4 | 214. 8 | | | | | | | | | | | |
| | | | 118 | 100. 8 | 60. 6 | 178 | 152. 3 | 91. 5 | 238 | 204. 0 | 122. 6 | 298 | 255. 4 | 153. 5 | 358 | 306. 9 | 184. 4 | 418 | 358. 3 | 215. 3 | | | | | | | | | | | |
| | | | 119 | 101. 7 | 61. 1 | 179 | 153. 2 | 92. 0 | 239 | 204. 9 | 123. 1 | 299 | 256. 3 | 154. 0 | 359 | 307. 7 | 184. 9 | 419 | 359. 2 | 215. | | | | | | | | | | | |
| | | | 120 | 102. 5 | 61. 6 | 180 | 154. 0 | 92. 5 | 240 | 205. 7 | 123. 6 | 300 | 257. 1 | 154. 5 | 360 | 308. 6 | 185. 4 | 420 | 360. 0 | 216. | | | | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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For 32 Degrees.

| | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | | | | | | | | | |
| 2 | | | | | | | | | | | | | | | | | | |
| 3 | | | | | | | | | | | | | | | | | | |
| 4 | | | | | | | | | | | | | | | | | | |
| 5 | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | |
| 7 | 05.9 | 03.7 | 67 | 56 | | | | | | | | | | | | | | |
| 8 | 06.8 | 04.2 | 68 | 57.7 | 36.0 | 128 | 108.6 | 67.8 | 188 | 159.4 | 99. | | | | | | | |
| 9 | 07.6 | 04.8 | 69 | 58.5 | 36.6 | 129 | 109.4 | 68.4 | 189 | 160.3 | 100. | | | | | | | |
| 10 | 08.5 | 05.3 | 70 | 59.4 | 37.1 | 130 | 110.2 | 68.9 | 190 | 161.1 | 100. | | | | | | | |
| 11 | 09.3 | 05.8 | 71 | 60.2 | 37.6 | 131 | 111.1 | 69.4 | 191 | 162.0 | 101.2 | 251 | 212.9 | 133.0 | 311 | 263. | | |
| 12 | 10.2 | 06.4 | 72 | 61.1 | 38.2 | 132 | 111.9 | 69.9 | 192 | 162.8 | 101.7 | 252 | 213.7 | 133.5 | 312 | 264. | | |
| 13 | 11.0 | 06.9 | 73 | 61.9 | 38.7 | 133 | 112.8 | 70.5 | 193 | 163.7 | 102.3 | 253 | 214.6 | 134.1 | 313 | 265. | | |
| 14 | 11.9 | 07.4 | 74 | 62.8 | 39.2 | 134 | 113.6 | 71.0 | 194 | 164.5 | 102.8 | 254 | 215.4 | 134.6 | 314 | 266 | | |
| 15 | 12.7 | 07.9 | 75 | 63.6 | 39.7 | 135 | 114.5 | 71.5 | 195 | 165.4 | 103.3 | 255 | 216.3 | 135.1 | 315 | 267. | | |
| 16 | 13.6 | 08.5 | 76 | 64.5 | 40.3 | 136 | 115.3 | 72.1 | 196 | 166.2 | 103.9 | 256 | 217.1 | 135.7 | 316 | 268. | | |
| 17 | 14.4 | 09.0 | 77 | 65.3 | 40.8 | 137 | 116.2 | 72.6 | 197 | 167.1 | 104.4 | 257 | 217.9 | 136.2 | 317 | 269. | | |
| 18 | 15.3 | 09.5 | 78 | 66.1 | 41.3 | 138 | 117.0 | 73.1 | 198 | 167.9 | 104.9 | 258 | 218.8 | 136.7 | 318 | 269. | | |
| 19 | 16.1 | 10.1 | 79 | 67.0 | 41.9 | 139 | 117.9 | 73.7 | 199 | 168.8 | 105.5 | 259 | 219.6 | 137.2 | 319 | 270 | | |
| 20 | 17.0 | 10.6 | 80 | 67.8 | 42.4 | 140 | 118.7 | 74.2 | 200 | 169.6 | 106.0 | 260 | 220.5 | 137.8 | 320 | 271.4 | 169.6 | |
| 21 | 17.8 | 11.1 | 81 | 68.7 | 42.9 | 141 | 119.6 | 74.7 | 201 | 170.5 | 106.5 | 261 | 221.3 | 138.3 | 321 | 272.2 | 170.1 | |
| 22 | 18.7 | 11.7 | 82 | 69.5 | 43.5 | 142 | 120.4 | 75.2 | 202 | 171.3 | 107.0 | 262 | 222.2 | 138.8 | 322 | 273.1 | 170.6 | |
| 23 | 19.5 | 12.2 | 83 | 70.4 | 44.0 | 143 | 121.3 | 75.8 | 203 | 172.2 | 107.6 | 263 | 223.0 | 139.4 | 323 | 273.9 | 171.1 | |
| 24 | 20.4 | 12.7 | 84 | 71.2 | 44.5 | 144 | 122.1 | 76.3 | 204 | 173.0 | 108.1 | 264 | 223.9 | 139.9 | 324 | 274.8 | 171.7 | |
| 25 | 21.2 | 13.2 | 85 | 72.1 | 45.0 | 145 | 123.0 | 76.8 | 205 | 173.8 | 108.6 | 265 | 224.7 | 140.4 | 325 | 275.6 | 172.2 | |
| 26 | 22.0 | 13.8 | 86 | 72.9 | 45.6 | 146 | 123.8 | 77.4 | 206 | 174.7 | 109.2 | 266 | 225.6 | 141.0 | 326 | 276.5 | 172.7 | |
| 27 | 22.9 | 14.3 | 87 | 73.8 | 46.1 | 147 | 124.7 | 77.9 | 207 | 175.5 | 109.7 | 267 | 226.4 | 141.5 | 327 | 277.3 | 173.3 | |
| 28 | 23.7 | 14.8 | 88 | 74.6 | 46.6 | 148 | 125.5 | 78.4 | 208 | 176.4 | 110.2 | 268 | 227.3 | 142.0 | 328 | 278.2 | 173.8 | |
| 29 | 24.6 | 15.4 | 89 | 75.5 | 47.2 | 149 | 126.4 | 79.0 | 209 | 177.2 | 110.8 | 269 | 228.1 | 142.5 | 329 | 279.0 | 174.3 | |
| 30 | 25.4 | 15.9 | 90 | 76.3 | 47.7 | 150 | 127.2 | 79.5 | 210 | 178.1 | 111.3 | 270 | 229.0 | 143.1 | 330 | 279.9 | 174.9 | |
| 31 | 26.3 | 16.4 | 91 | 77.2 | 48.2 | 151 | 128.1 | 80.0 | 211 | 178.9 | 111.8 | 271 | 229.8 | 143.6 | 331 | 280.7 | 175. | |
| 32 | 27.1 | 17.0 | 92 | 78.0 | 48.8 | 152 | 128.9 | 80.5 | 212 | 179.8 | 112.3 | 272 | 230.7 | 144.1 | 332 | 281.6 | 175. | |
| 33 | 28.0 | 17.5 | 93 | 78.9 | 49.3 | 153 | 129.8 | 81.1 | 213 | 180.6 | 112.9 | 273 | 231.5 | 144.7 | 333 | 282.4 | 176 | |
| 34 | 28.8 | 18.0 | 94 | 79.7 | 49.8 | 154 | 130.6 | 81.6 | 214 | 181.5 | 113.4 | 274 | 232.4 | 145.2 | 334 | 283.3 | 177. | |
| 35 | 29.7 | 18.5 | 95 | 80.6 | 50.3 | 155 | 131.4 | 82.1 | 215 | 182.3 | 113.9 | 275 | 233.2 | 145.7 | 335 | 284.1 | 177. | |
| 36 | 30.5 | 19.1 | 96 | 81.4 | 50.9 | 156 | 132.3 | 82.7 | 216 | 183.2 | 114.5 | 276 | 234.1 | 146.3 | 336 | 285.0 | 178 | |
| 37 | 31.4 | 19.6 | 97 | 82.3 | 51.4 | 157 | 133.1 | 83.2 | 217 | 184.0 | 115.0 | 277 | 234.9 | 146.8 | 337 | 285.8 | 178. | |
| 38 | 32.2 | 20.1 | 98 | 83.1 | 51.9 | 158 | 134.0 | 83.7 | 218 | 184.9 | 115.5 | 278 | 235.8 | 147.3 | 338 | 286.7 | 179 | |
| 39 | 33.1 | 20.7 | 99 | 84.0 | 52.5 | 159 | 134.8 | 84.3 | 219 | 185.7 | 116.1 | 279 | 236.6 | 147.8 | 339 | 287.5 | 179 | |
| 40 | 33.9 | 21.2 | 100 | 84.8 | 53.0 | 160 | 135.7 | 84.8 | 220 | 186.6 | 116.6 | 280 | 237.5 | 148.4 | 340 | 288.3 | 18 | |
| 41 | 34.8 | 21.7 | 101 | 85.7 | 53.5 | 161 | 136.5 | 85.3 | 221 | 187.4 | 117.1 | 281 | 238.3 | 148.9 | 341 | 289.2 | 180 | |
| 42 | 35.6 | 22.3 | 102 | 86.5 | 54.1 | 162 | 137.4 | 85.8 | 222 | 188.3 | 117.6 | 282 | 239.1 | 149.4 | 342 | 290.0 | 181 | |
| 43 | 36.5 | 22.8 | 103 | 87.4 | 54.6 | 163 | 138. | | | | | | | | | | | |
| 44 | 37.3 | 23.3 | 104 | 88.2 | 55.1 | 164 | 139.1 | 86.9 | 224 | 190.0 | 118.7 | 284 | 240.8 | 150.5 | 344 | 291.7 | 181 | |
| 45 | 38.2 | 23.8 | 105 | 89.0 | 55.6 | 165 | 139.9 | 87.4 | 225 | 190.8 | 119.2 | 285 | 241.7 | 151.0 | 345 | 292.6 | 182 | |
| 46 | 39.0 | 24.4 | 106 | 89.9 | 56.2 | 166 | 140.8 | 88.0 | 226 | 191.7 | 119.8 | 286 | 242.5 | 151.6 | 346 | 293.4 | 183 | |
| 47 | 39.9 | 24.9 | 107 | 90.7 | 56.7 | 167 | 141.6 | 88.5 | 227 | 192.5 | 120.3 | 287 | 243.4 | 152.1 | 347 | 294.3 | 183 | |
| 48 | 40.7 | 25.4 | 108 | 91.6 | 57.2 | 168 | 142.5 | 89.0 | 228 | 193.4 | 120.8 | 288 | 244.2 | 152.6 | 348 | 295.1 | 184 | |
| 49 | 41.6 | 26.0 | 109 | 92.4 | 57.8 | 169 | 143.3 | 89.6 | 229 | 194.2 | 121.4 | 289 | 245.1 | 153.1 | 349 | 296.0 | 184 | |
| 50 | 42.4 | 26.5 | 110 | 93.3 | 58.3 | 170 | 144.2 | 90.1 | 230 | 195.1 | 121.9 | 290 | 245.9 | 153.7 | 350 | 296.8 | 185 | |
| 51 | 43.3 | 27.0 | 111 | 94.1 | 58.8 | 171 | 145. | 90.6 | 231 | 195.9 | 122.4 | 291 | 246.8 | 154.2 | 351 | 297.7 | 186. | |
| 52 | 44.1 | 27.6 | 112 | 95.0 | 59.4 | 172 | 145.8 | 91.2 | 232 | 196.8 | 122.9 | 292 | 247.6 | 154.7 | 352 | 298.5 | 186 | |
| 53 | 45.0 | 28.1 | 113 | 95.8 | 59.9 | 173 | 146.7 | 91.7 | 233 | 197.6 | 123.5 | 293 | 248.5 | 155.2 | 353 | 299.4 | 187 | |
| 54 | 45.8 | 28.6 | 114 | 96.7 | 60.4 | 174 | 147.5 | 92.2 | 234 | 198.5 | 124.0 | 294 | 249.3 | 155.8 | 354 | 300.2 | 187 | |
| 55 | 46.7 | 29.2 | 115 | 97.5 | 60.9 | 175 | 148.4 | 92.8 | 235 | 199.3 | 124.5 | 295 | 250.2 | 156.3 | 355 | 301.1 | 188 | |
| 56 | 47.5 | 29.7 | 116 | 98.4 | 61.5 | 176 | 149.2 | 93.3 | 236 | 200.2 | 125.1 | 296 | 251.0 | 156.8 | 356 | 301.9 | 188 | |
| 57 | 48.4 | 30.2 | 117 | 99.2 | 62.0 | 177 | 150.1 | 93.8 | 237 | 201.0 | 125.6 | 297 | 251.9 | 157.4 | 357 | 302.8 | 189 | |
| 58 | 49.2 | 30.7 | 118 | 100.1 | 62.5 | 178 | 151.0 | 94.3 | 238 | 201.8 | 126.1 | 298 | 252.7 | 157.9 | 358 | 303.6 | 189 | |
| 59 | 50.1 | 31.3 | 119 | 100.9 | 63.1 | 179 | 151.8 | | | | | | | | | | | |
| 60 | 50.9 | 31.8 | 120 | 101.8 | 63.6 | 180 | 152.7 | | | | | | | | | | | |

For 33 Degrees.

For 33 Degrees.

| D. | D. Lat. | D. Dep. | D. | D. Lat. | D. Dep. | D. | D. Lat. | D. Dep. | D. | D. Lat. | D. Dep. | D. | D. Lat. | D. Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 0 | 0 | 5 | 1 | 51. 2 | | | | | | | | | |
| | 1 | 1 | | 2 | 52. 0 | | | | | | | | | |
| | 2 | 1 | | 3 | 52. 8 | | | | | | | | | |
| | 3 | 2 | | 4 | 53. 7 | | | | | | | | | |
| | 4 | 2 | | 5 | 54. 5 | | | | | | | | | |
| | 5 | 3 | | 6 | 55. 4 | | | | | | | | | |
| | 6 | 3 | | 7 | 56. 2 | | | | | | | | | |
| | 7 | 4 | | 8 | 57. 0 | | | | | | | | | |
| | 8 | 4 | | 9 | 57. 9 | | | | | | | | | |
| | 9 | 5 | | 10 | 58. 7 | | | | | | | | | |
| 1 | 9 | 0 | 1 | | 59. 5 | | | | | | | | | |
| 1 | 10 | 5 | 2 | | 60. 4 | | | | | | | | | |
| 1 | 10 | 1 | 3 | | 61. 2 | | | | | | | | | |
| 1 | 11 | 6 | 4 | | 62. 1 | | | | | | | | | |
| 1 | 12 | 2 | 5 | | 62. 9 | | | | | | | | | |
| 1 | 13 | 7 | 6 | | 63. 7 | | | | | | | | | |
| 1 | 14 | 3 | 7 | | 64. 6 | | | | | | | | | |
| 1 | 15 | 8 | 8 | | 65. 4 | | | | | | | | | |
| 1 | 15 | 3 | 9 | | 66. 3 | | | | | | | | | |
| 2 | 16 | 9 | 10 | | 67. 1 | | | | | | | | | |
| 2 | 17 | 4 | 11 | | 67. 9 | | | | | | | | | |
| 2 | 18 | 0 | 12 | | 68. 8 | | | | | | 210. 7 | 142. | | |
| 2 | 19 | 5 | 13 | | 69. 6 | | | | | | 220. 6 | 145. | | |
| 2 | 20 | 1 | 14 | | 70. 4 | | | | | | | | | |
| 2 | 21 | 6 | 15 | | 71. 3 | | | | | | | | | |
| 2 | 22 | 2 | 16 | | 72. 1 | | | | | | | | | |
| 2 | 23 | 7 | 17 | | 73. 0 | | | | | | | | | |
| 2 | 24 | 2 | 18 | | 73. 8 | | | | | | | | | |
| 2 | 25 | 8 | 19 | | 74. 6 | | | | | | | | | |
| 3 | 26 | 3 | 20 | | 75. 5 | | | | | | | | | |
| 3 | 27 | 9 | 21 | | 76. 3 | | | | | | | | | |
| 3 | 28 | 4 | 22 | | 77. 2 | | | | | | | | | |
| 3 | 29 | 0 | 23 | | 78. 0 | | | | | | | | | |
| 3 | 29 | 5 | 24 | | 78. 8 | | | | | | | | | |
| 3 | 30 | 1 | 25 | | 79. 7 | | | | | | | | | |
| 3 | 31 | 6 | 26 | | 80. 5 | | | | | | | | | |
| 3 | 32 | 2 | 27 | | 81. 4 | | | | | | | | | |
| 3 | 33 | 7 | 28 | | 82. 2 | | | | | | 218. 8 | 118. | | |
| 3 | 34 | 2 | 29 | | 83. 0 | | | | | | 219. 8 | 119. | | |
| 4 | 34 | 8 | 30 | | | | | | | | 220. 1 | 119. 8 | | |
| 4 | 35 | 3 | | | | | | | | | 221. 8 | | | |
| 4 | 35 | 9 | | | | | | | | | 222. 8 | | | |
| 4 | 36 | 4 | | | | | | | | | 223. 8 | | | |
| 4 | 37 | 0 | | | | | | | | | 224. 8 | | | |
| 4 | 37 | 5 | | | | | | | | | 225. 8 | | | |
| 4 | 38 | 1 | | | | | | | | | 226. 8 | | | |
| 4 | 38 | 6 | | | | | | | | | 227. 9 | | | |
| 4 | 39 | 2 | | | | | | | | | 228. 9 | | | |
| 4 | 39 | 7 | | | | | | | | | 229. 9 | | | |
| 5 | 40 | 3 | | | | | | | | | 230. 9 | | | |
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| 6 | | | | | | | | | | | | | | |
| D. | | | | | | | | | | | | | | |

For 57 Degrees.

For 34 Degrees.



For 56 Degrees.

For 35 Degrees.

| Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | 181 | 148. 3 | 103. 8 | 241 | 197. 4 | | | | | | | | | | | | | |
| | | | | | | 182 | 149. 1 | 104. 4 | 242 | 198. 2 | | | | | | | | | | | | | |
| | | | | | | 183 | 149. 9 | 105. 0 | 243 | 199. 1 | | | | | | | | | | | | | |
| | | | | | | 184 | 150. 7 | 105. 5 | 244 | 199. 9 | | | | | | | | | | | | | |
| | | | | | | 185 | 151. 5 | 106. 1 | 245 | 200. 7 | | | | | | | | | | | | | |
| | | | | | | 186 | 152. 4 | 106. 7 | 246 | 201. 5 | | | | | | | | | | | | | |
| | | | | | | 187 | 153. 2 | 107. 3 | 247 | 202. 3 | | | | | | | | | | | | | |
| | | | | | | 188 | 154. 0 | 107. 8 | 248 | 203. 1 | | | | | | | | | | | | | |
| | | | | | | 189 | 154. 8 | 108. 4 | 249 | 204. 0 | | | | | | | | | | | | | |
| | | | | | | 190 | 155. 6 | 109. 0 | 250 | 204. 8 | | | | | | | | | | | | | |
| | | | | | | 191 | 156. 5 | 109. 6 | 251 | 205. 6 | | | | | | | | | | | | | |
| | | | | | | 192 | 157. 3 | 110. 1 | 252 | 206. 4 | | | | | | | | | | | | | |
| | | | | | | 193 | 158. 1 | 110. 7 | 253 | 207. 2 | | | | | | | | | | | | | |
| | | | | | | 194 | 158. 9 | 111. 3 | 254 | 208. 1 | | | | | | | | | | | | | |
| | | | | | | 195 | 159. 7 | 111. 8 | 255 | 208. 9 | | | | | | | | | | | | | |
| | | | | | | 196 | 160. 6 | 112. 4 | 256 | 209. 7 | | | | | | | | | | | | | |
| | | | | | | 197 | 161. 4 | 113. 0 | 257 | 210. 5 | | | | | | | | | | | | | |
| | | | | | | 198 | 162. 2 | 113. 6 | 258 | 211. 3 | | | | | | | | | | | | | |
| | | | | | | 199 | 163. 0 | 114. 1 | 259 | 212. 2 | | | | | | | | | | | | | |
| | | | | | | 200 | 163. 8 | 114. 7 | 260 | 213. 0 | | | | | | | | | | | | | |
| | | | | | | 201 | 164. 6 | 115. 3 | 261 | 213. 8 | 149. 7 | 321 | 263. 0 | 184. 1 | | | | | | | | | |
| | | | | | | 202 | 165. 5 | 115. 9 | 262 | 214. 6 | 150. 3 | 322 | 263. 8 | 184. 7 | | | | | | | | | |
| | | | | | | 203 | 166. 3 | 116. 4 | 263 | 215. 4 | 150. 9 | 323 | 264. 6 | 185. | | | | | | | | | |
| | | | | | | 204 | 167. 1 | 117. 0 | 264 | 216. 3 | 151. 4 | 324 | 265. 4 | 185. | | | | | | | | | |
| | | | | | | 205 | 167. 9 | 117. 6 | 265 | 217. 1 | 152. 0 | 325 | 266. 2 | 186. 4 | | | | | | | | | |
| | | | | | | 206 | 168. 7 | 118. 2 | 266 | 217. 9 | 152. 6 | 326 | 267. 1 | 187. 0 | 386 | 316. 2 | 221. 4 | 446 | 365. 4 | 255. | | | |
| | | | | | | 207 | 169. 6 | 118. 7 | 267 | 218. 7 | 153. 1 | 327 | | | | | | | | | | | |
| | | | | | | 208 | 170. 4 | 119. 3 | 268 | 219. 5 | 153. 7 | 328 | | | | | | | | | | | |
| | | | | | | 209 | 171. 2 | 119. 9 | 269 | 220. 4 | 154. 3 | 329 | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | 211 | | 121. | 271 | | 155. 4 | 331 | 271. 1 | 189. 8 | 391 | 320. 3 | 224. 3 | 451 | | | | | |
| | | | | | | 212 | 173. 7 | 121. 6 | 272 | | 156. 0 | 332 | 272. | 190. 4 | | | | | | | | | |
| | | | | | | 213 | 174. 5 | 122. 2 | 273 | | 156. 6 | 333 | 272. 8 | 191. 0 | 393 | 321. 9 | 225. 4 | 453 | 371. 1 | 259. | | | |
| | | | | | | 214 | 175. 3 | 122. 7 | 274 | 224. 4 | 157. 2 | 334 | 273 6 | 191. 6 | 394 | 322. 8 | 226. 0 | 454 | 371. 9 | 260. | | | |
| | | | | | | 215 | 176. 1 | 123. 3 | 275 | 225. 3 | 157. 7 | 335 | 274. 4 | 192. 1 | 395 | 323. 6 | 226. 5 | 455 | 372. | 261. | | | |
| | | | | | | 216 | 176. | 123. 9 | 276 | 226. 1 | 158. 3 | 336 | 275. 2 | 192. 7 | 396 | 324. 4 | 227. 1 | 456 | 373. | 261. | | | |
| | | | | | | 217 | 177. 8 | 124. 5 | 277 | 226. 9 | 158. 9 | 337 | 276. 1 | 193. 3 | 397 | 325. 2 | 227. 7 | 457 | 374. | 262. | | | |
| | | | | | | 218 | 178. 6 | 125. 0 | 278 | 227. 7 | 159. 5 | 338 | 276. 9 | 193. 9 | 398 | 326. 0 | 228. 3 | 458 | 375. | 263. | | | |
| | | | | | | 219 | 179. 4 | 125. 6 | 279 | 228. 5 | 160. 0 | 339 | 277. 7 | 194. 4 | 399 | 326. 9 | 228. 8 | 459 | 376. | 263. | | | |
| | | | | | | 220 | 180. 2 | 126. 2 | 280 | 229. 4 | 160. 6 | 340 | 278. 5 | 195. 0 | 400 | 327. 7 | 229. 4 | 460 | 376. | 264. | | | |
| | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | |

For 56 Degrees.

For 37 Degrees.

| Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | [illegible] | [illegible] | 70 | 55. 9 | 42. 1 | 130 | 103. 8 | 78. 2 | 190 | 151. 7 | 114. 3 | 250 | 199. 7 | 150. 5 | 310 | 247. 5 | 186. 6 | 370 | 295. 5 | 222. 7 | 430 | 343. 4 | 258. 8 | | |
| 11 | [illegible] | [illegible] | 71 | 56. 7 | 42. 7 | 131 | 104. 6 | 78. 8 | 191 | 152. 5 | 114. 9 | 251 | 200. 5 | 151. 1 | 311 | 248. 3 | 187. 2 | 371 | 296. 3 | 223. 3 | 431 | 344. 2 | 259. 4 | | |
| 12 | [illegible] | [illegible] | 72 | [illegible] | [illegible] | 132 | [illegible] | [illegible] | 192 | [illegible] | [illegible] | 252 | [illegible] | [illegible] | 312 | [illegible] | [illegible] | 372 | [illegible] | [illegible] | 432 | [illegible] | [illegible] | | |
| 13 | [illegible] | [illegible] | 73 | [illegible] | [illegible] | 133 | [illegible] | [illegible] | 193 | [illegible] | [illegible] | 253 | [illegible] | [illegible] | 313 | [illegible] | [illegible] | 373 | [illegible] | [illegible] | 433 | [illegible] | [illegible] | | |
| 14 | [illegible] | [illegible] | 74 | [illegible] | [illegible] | 134 | [illegible] | [illegible] | 194 | [illegible] | [illegible] | 254 | [illegible] | [illegible] | 314 | [illegible] | [illegible] | 374 | [illegible] | [illegible] | 434 | [illegible] | [illegible] | | |
| 15 | [illegible] | [illegible] | 75 | 59. 9 | 45. 1 | 135 | 107. 8 | 81. 2 | 195 | 155. 7 | 117. 4 | 255 | 203. 7 | 153. 5 | 315 | 251. 5 | 189. 6 | 375 | 299. 5 | 225. 7 | 435 | 347. 4 | [illegible] | | |
| 16 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 17 | [illegible] | [illegible] | 77 | [illegible] | [illegible] | 137 | [illegible] | [illegible] | 197 | [illegible] | [illegible] | 257 | [illegible] | [illegible] | 317 | [illegible] | [illegible] | 377 | [illegible] | [illegible] | 437 | [illegible] | [illegible] | | |
| 18 | 14. 4 | [illegible] | 78 | 62. 3 | 46. 9 | 138 | 110. 2 | 83. 1 | 198 | 158. 1 | 119. 2 | 258 | 206. 0 | 155. 3 | 318 | 253. 9 | 191. 4 | 378 | 301. 8 | 227. 5 | 438 | 349. 6 | [illegible] | | |
| 19 | 15. 2 | [illegible] | 79 | 63. 1 | 47. 5 | 139 | 111. 0 | 83. 7 | 199 | 158. 6 | 119. 8 | 259 | 206. 8 | 155. 9 | 319 | 254. 7 | 192. 0 | 379 | 302. 6 | 228. 1 | 439 | 350. 6 | [illegible] | | |
| 20 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 21 | 10. 8 | [illegible] | [illegible] | [illegible] | [illegible] | 141 | 112. 6 | 84. 9 | 201 | 160. 5 | 121. 6 | 261 | 208. 4 | 157. 1 | 321 | 256. 3 | 193. 2 | 381 | 304. 2 | 229. 3 | 441 | 352. 2 | [illegible] | | |
| 22 | 17. 6 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 23 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 24 | 19. 2 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 25 | 20. 0 | [illegible] | 85 | 67. 9 | 51. 2 | 145 | 115. 8 | 87. 3 | 205 | 163. 7 | 123. 4 | 265 | 211. 6 | 159. 5 | 325 | 259. 5 | 195. 6 | 385 | 307. 4 | 231. 7 | 445 | 355. 4 | [illegible] | | |
| 26 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 27 | 21. 6 | 16. 2 | 87 | 69. 5 | 52. 4 | 147 | 117. 4 | 88. 5 | 207 | 165. 3 | 124. 6 | 267 | 213. 2 | 160. 7 | 327 | 261. 1 | 196. 8 | 387 | 309. 0 | 232. 9 | 447 | 357. 0 | [illegible] | | |
| 28 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 29 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 30 | 24. 0 | 18. 1 | 90 | 71. 0 | 54. 2 | 150 | 119. 8 | 90. 3 | 210 | 167. 7 | 126. 4 | 270 | 215. 6 | 162. 5 | 330 | 263. 5 | 198. 6 | 390 | 311. 4 | 234. 7 | 450 | 359. 4 | [illegible] | | |
| 31 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 32 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 33 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 34 | 27. 2 | 20. 5 | 94 | 75. 1 | 56. 6 | 154 | 123. 0 | 92. 7 | 214 | 170. 6 | 128. 8 | 274 | 218. 8 | 164. 9 | 334 | 266. 7 | 201. 0 | 394 | 314. 6 | 237. 1 | [illegible] | [illegible] | [illegible] | | |
| 35 | 28. 0 | 21. 1 | 95 | 75. 9 | 57. 2 | 155 | 123. 8 | 93. 3 | 215 | 171. 7 | 129. 3 | 275 | 219. 6 | 165. 5 | 335 | 267. 5 | 201. 6 | 395 | 315. 4 | 237. 7 | [illegible] | [illegible] | [illegible] | | |
| 36 | 28. 8 | 21. 7 | 96 | 76. 7 | 57. 8 | 156 | 124. 6 | 93. 9 | 216 | 172. 5 | 130. 0 | 276 | 220. 4 | 166. 1 | 336 | 268. 3 | 202. 2 | 396 | 316. 2 | 238. 3 | [illegible] | [illegible] | [illegible] | | |
| 37 | 27. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 38 | 32. 3 | 22. 9 | 98 | 78. 3 | 59. 0 | 158 | 126. 2 | 95. 1 | 218 | 174. 1 | 131. 2 | 278 | 222. 0 | 167. 3 | 338 | 269. 9 | 203. 4 | 398 | 317. 8 | 239. 5 | [illegible] | [illegible] | [illegible] | | |
| 39 | 33. 1 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 44 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 45 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 46 | 36. 7 | 27. 7 | 106 | 84. 7 | 63. 8 | 166 | 132. 6 | 99. 9 | 226 | 180. 5 | 136. 0 | 286 | 228. 4 | 172. 1 | 346 | 276. 3 | 208. 2 | 406 | 324. 2 | 244. 3 | [illegible] | [illegible] | [illegible] | | |
| 47 | 37. 5 | 28. 3 | 107 | 85. 5 | 64. 4 | 167 | 133. 4 | 100. 5 | 227 | 181. 3 | 136. 6 | 287 | 229. 2 | 172. 7 | 347 | 277. 1 | 208. 8 | 407 | 325. 0 | 244. [illegible] | [illegible] | [illegible] | [illegible] | | |
| 48 | 38. 3 | 28. 9 | 108 | 86. 3 | 65. 0 | 168 | 134. 2 | 101. 1 | 228 | 182. 1 | 137. 2 | 288 | 230. 0 | 173. 3 | 348 | 277. 6 | 209. 4 | 408 | 325. 8 | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 49 | 39. 1 | 29. 5 | 109 | 87. 1 | 65. 6 | 169 | 135. 0 | 101. 7 | 229 | 182. 9 | 137. 8 | 289 | 230. 8 | 173. 9 | 349 | 278. 7 | 210. 0 | 409 | 326. 6 | 246. 1 | [illegible] | [illegible] | [illegible] | | |
| 50 | 39. 9 | 30. 1 | 110 | 87. 8 | 66. 2 | 170 | 135. 8 | 102. 3 | 230 | 183. 7 | 138. 4 | 290 | 231. 6 | 174. 5 | 350 | 279. 5 | 210. 6 | 410 | 327. 4 | 246. [illegible] | [illegible] | [illegible] | [illegible] | | |
| 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 52 | 41. 5 | 31. 3 | 112 | 89. 4 | 67. 4 | 172 | 137. 4 | 103. 5 | 232 | 185. 3 | 139. 6 | 292 | 233. 2 | 175. 7 | 352 | 281. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 54 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 56 | 44. 7 | 33. 7 | 116 | 92. 6 | 69. 8 | 176 | 140. 6 | 105. 9 | 236 | 188. 5 | 142. 6 | 296 | 236. 4 | 178. 1 | 356 | 284. 3 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 57 | 45. 5 | 34. 3 | 117 | 93. 4 | 70. 4 | 177 | 141. 4 | 106. 5 | 237 | 189. 3 | 142. 9 | 297 | 237. 2 | 178. 7 | 357 | 285. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 58 | 46. 3 | 34. 9 | 118 | 94. 2 | 71. 0 | 178 | 142. 3 | 107. 1 | 238 | 190. 1 | 143. 2 | 298 | 238. 0 | 179. 3 | 358 | 285. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 59 | 47. 1 | 35. 5 | 119 | 95. 0 | 71. 6 | 179 | 143. [illegible] | 107. 7 | 239 | 190. [illegible] | 143. 8 | 299 | 238. 8 | 179. 9 | 359 | 286. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |
| 60 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | | |

| Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. | D. Lat. | Dif. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

For 53 Degrees.

For 37 Degrees.



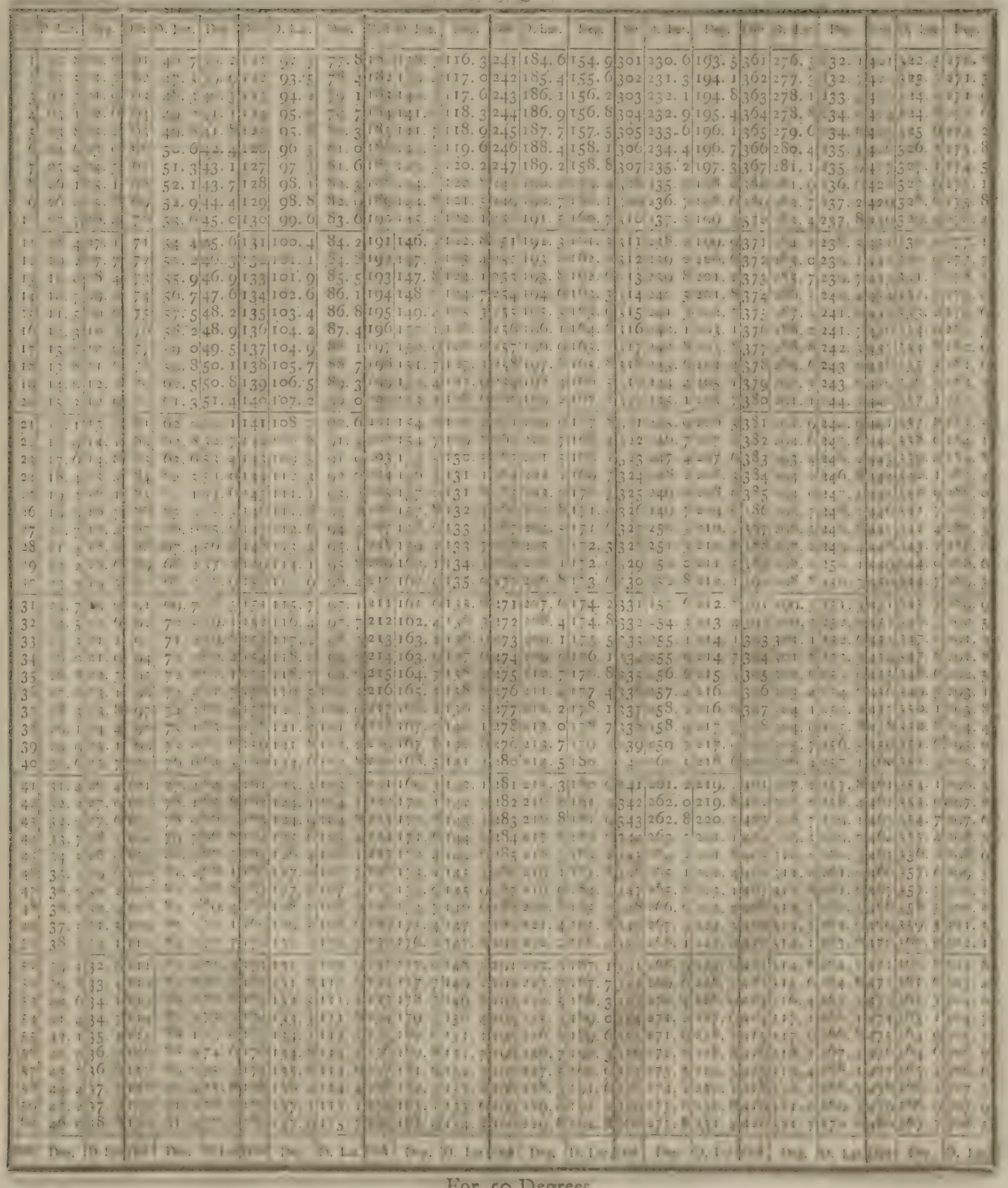
For 52 Degrees.

For 39 Degrees.



For 51 Degrees.

For 40 Degrees.



For 50 Degrees.

## Differences of Latitude, and Departures.

For 41 Degrees.

| Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | [illegible] | [illegible] | 61 | 46. [illegible] | 40. 0 | 121 | 91. 3 | 79. 4 | 181 | 136. 6 | 118. 7 | 241 | 181. 9 | 158. 1 | 301 | 227. 2 | 197. 5 | 361 | 272. 5 | 236. 9 | 421 | 317. 7 | 276. [illegible] |
| 2 | 01. 5 | 01. 3 | [illegible] | [illegible] | 40. 7 | 122 | 92. 1 | 80. 0 | 182 | 137. 4 | 119. 4 | 242 | 182. 6 | 158. 8 | 302 | 227. 9 | 198. 1 | 362 | 273. 2 | 257. [illegible] | 422 | 318. 5 | 277. [illegible] |
| 3 | 02. 3 | 02. 0 | 63 | 47. 5 | 41. 3 | 123 | 92. 8 | 80. 7 | 183 | 138. 1 | 120. 1 | 243 | 183. 4 | 159. 4 | 303 | 228. 7 | 198. 8 | 363 | 274. 0 | 238. [illegible] | 423 | 319. 2 | 277. [illegible] |
| 4 | 03. 0 | 02. 6 | 64 | 48. 3 | 42. 0 | 124 | 93. 6 | 81. 4 | 184 | 138. 9 | 120. 7 | 244 | 184. 1 | 160. 1 | 304 | 229. 4 | 199. 4 | 364 | 274. 7 | 238. [illegible] | 424 | 320. 0 | 27 [illegible] |
| 5 | 03. 8 | 03. 3 | 65 | 49. 1 | 42. 6 | 125 | 94. 3 | 82. 0 | 185 | 139. 6 | 121. 4 | 245 | 184. 9 | 160. 7 | 305 | 230. 2 | 200. 1 | 365 | 275. 5 | 239. [illegible] | 425 | 320. 8 | 27 [illegible] |
| 6 | 04. 5 | 03. 9 | 66 | 49. 8 | 43. 3 | 126 | 95. 1 | 82. 7 | 186 | 140. 4 | 122. 0 | 246 | 185. 7 | 161. 4 | 306 | 230. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 7 | 05. 3 | 04. 6 | 67 | 50. 6 | 44. 0 | 127 | 95. 8 | 83. 3 | 187 | 141. 1 | 122. 7 | 247 | 186. 4 | 162. 0 | 307 | 231. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 8 | 06. 0 | 05. 2 | 68 | 51. 3 | 44. 6 | 128 | 96. 6 | 84. 0 | 188 | 141. 9 | 123. 3 | 248 | 187. 2 | 162. 7 | 308 | 232. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 9 | 06. 8 | 05. 9 | 69 | 52. 1 | 45. 3 | 129 | 97. 4 | 84. 6 | 189 | 142. 6 | 124. 0 | 249 | 187. 9 | 163. 4 | 309 | 233. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 10 | 07. 5 | 06. 6 | 70 | 52. 8 | 45. 9 | 130 | 98. 1 | 85. 3 | 190 | 143. 4 | 124. 7 | 250 | 188. 7 | 164. 0 | 310 | 234. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 11 | 08. 3 | 07. [illegible] | 71 | [illegible] | [illegible] | 131 | 98. [illegible] | 85. [illegible] | 191 | 144. 1 | 125. 3 | 251 | 189. [illegible] | 164. 7 | 311 | 234. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 12 | 09. 1 | 07. 9 | 72 | 54. 3 | 47. 2 | 132 | 99. 6 | 86. 6 | 192 | 144. 9 | 126. 0 | 252 | 190. 2 | 165. 3 | 312 | 235. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 13 | 09. 8 | 08. 5 | 73 | 55. 1 | 47. 9 | 133 | 100. 4 | 87. 3 | 193 | 145. 7 | 126. 6 | 253 | 190. 9 | 166. 0 | 313 | 236. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 14 | 10. [illegible] | [illegible] | 74 | [illegible] | [illegible] | 134 | 101. [illegible] | [illegible] | 194 | [illegible] | [illegible] | 254 | [illegible] | [illegible] | 314 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 15 | 11. 3 | 09. 8 | 75 | 56. 6 | 49. [illegible] | 135 | 101. 9 | [illegible] | 195 | [illegible] | [illegible] | 255 | [illegible] | [illegible] | 315 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 16 | 12. 1 | 10. 5 | 76 | 57. 4 | 49. 9 | 136 | 102. 6 | 89. 2 | 196 | 147. 9 | 128. 6 | 256 | 193. 2 | 168. 0 | 316 | 2 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 17 | 12. 8 | 11. 2 | 77 | 58. 1 | 50. 5 | 137 | 103. 4 | 89. 9 | 197 | 148. 7 | 129. 2 | 257 | 194. 0 | 168. 6 | 317 | 239. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 18 | 13. 6 | 11. 8 | 78 | 58. 9 | 51. 2 | 138 | 104. 1 | 90. 5 | 198 | 149. 4 | 129. 9 | 258 | 194. 7 | 169. 3 | 318 | 2 [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 19 | 14. 3 | 12. 5 | 79 | 59. 6 | 51. 8 | 139 | 104. 9 | 91. 2 | 199 | 150. 2 | 130. 6 | 259 | 195. 5 | 169. 9 | 319 | 240. 8 | 209. 3 | 379 | 286. 0 | 248. 7 | 439 | 331. 3 | 288. 0 |
| 20 | 15. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 140 | [illegible] | [illegible] | 200 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 21 | 15. [illegible] | [illegible] | 81 | 61. 1 | 53. 1 | 141 | 106. 4 | 92. 5 | 201 | 151. 7 | 131. 9 | 261 | 197. 0 | 171. 2 | 321 | 241. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 22 | 16. 6 | 14. [illegible] | 82 | 61. 9 | 53. 8 | 142 | 107. 2 | 93. 2 | 202 | 152. 5 | 132. 5 | 262 | 197. 7 | 171. 9 | 322 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 23 | 17. 4 | 15. 1 | [illegible] | [illegible] | [illegible] | 143 | [illegible] | [illegible] | 203 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 323 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 24 | 18. 1 | 15. 7 | 84 | 63. 4 | 55. 1 | 144 | 108. 7 | 94. 5 | 204 | 154. 0 | 133. 8 | 264 | 199. 2 | 173. 2 | 324 | 244. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 25 | 18. 9 | 16. 4 | 85 | 64. 2 | 55. 8 | 145 | 109. 4 | 95. 1 | 205 | 154. 7 | 134. 5 | 265 | 200. 0 | 173. 9 | 325 | 245. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 26 | 19. 6 | 17. 1 | 86 | 64. 9 | 56. 4 | 146 | 110. 2 | 95. 8 | 206 | 155. 5 | 135. 1 | 266 | 200. 8 | 174. 5 | 326 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 27 | 20. 4 | 17. 7 | 87 | 65. 7 | 57. 1 | 147 | 110. 9 | 96. 4 | 207 | 156. 2 | 135. 8 | 267 | 201. 5 | 175. 2 | 327 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 28 | 21. 1 | 18. 4 | 88 | 66. 4 | 57. 7 | 148 | 111. 7 | 97. 1 | 208 | 157. 0 | 136. 5 | 268 | 202. 3 | 175. 8 | 328 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 29 | 21. 9 | 19. 0 | 89 | 67. 2 | 58. 4 | 149 | 112. 5 | 97. 8 | 209 | 157. 7 | 137. 1 | 269 | 203. 0 | 176. 5 | 329 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 30 | 22. 6 | 19. 7 | 90 | 67. 9 | 59. 0 | 150 | 113. 2 | 98. 4 | 210 | 158. 5 | 137. 8 | 270 | 203. 8 | 177. 1 | 330 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 31 | [illegible] | [illegible] | [illegible] | [illegible] | 7 59. 7 | 151 | 114. 0 | 99. 1 | 211 | 159. 2 | 138. 4 | 271 | 204. 5 | 177. 8 | 331 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 32 | [illegible] | [illegible] | [illegible] | [illegible] | 9. 4 60. 4 | 152 | 114. 7 | 99. 7 | 212 | 160. 0 | 139. 1 | 272 | 205. 3 | 178. 4 | 332 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 33 | [illegible] | [illegible] | [illegible] | 70. 2 | 61. 0 | 153 | 115. 5 | 100. 4 | 213 | 160. 8 | 139. 7 | 273 | 206. 0 | 179. 1 | 333 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 34 | [illegible] | [illegible] | [illegible] | 70. 9 | 61. 7 | 154 | 116. 2 | 101. 0 | 214 | 161. 5 | 140. 4 | 274 | 206. 8 | 179. 8 | 334 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 35 | [illegible] | [illegible] | [illegible] | 71. 7 | 62. 3 | 155 | 117. 0 | 101. 7 | 215 | 162. 3 | 141. 1 | 275 | 207. 5 | 180. 4 | 335 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 36 | [illegible] | [illegible] | [illegible] | 72. 5 | 63. 0 | 156 | 117. 7 | 102. 3 | 216 | 163. 0 | 141. 7 | 276 | 208. 3 | 181. 1 | 336 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 37 | [illegible] | [illegible] | [illegible] | 73. 2 | 63. 6 | 157 | 118. 5 | 103. 0 | 217 | 163. 8 | 142. 4 | 277 | 209. 1 | 181. 7 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 38 | [illegible] | [illegible] | [illegible] | 74. 0 | 64. 3 | 158 | 119. 2 | 103. 7 | 218 | 164. 5 | 143. 0 | 278 | 209. 8 | 182. 4 | 338 | 255. [illegible] | 231. 8 | 398 | 300. 4 | 261. [illegible] | 458 | 345. 7 | 300. 5 |
| 39 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 41 | [illegible] | [illegible] | [illegible] | [illegible] | 66. 3 | 161 | 121. 5 | 105. 6 | 221 | 166. 8 | 145. 0 | 281 | 212. 1 | 184. 4 | 341 | 257. 4 | 223. 7 | 401 | 302. 6 | 263. 1 | 461 | 347. 9 | 302. 5 |
| 42 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 45. 6 | 282 | 212. 8 | 185. 0 | 342 | 258. 1 | 224. 4 | 402 | 303. 4 | 263. 7 | 462 | 348. 7 | 303. 1 |
| 43 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 46. 3 | 283 | 213. 6 | 185. 7 | 343 | 258. 9 | 225. 0 | 403 | 304. 2 | 264. 4 | 463 | 349. 4 | 303. 8 |
| 44 | [illegible] | [illegible] | [illegible] | [illegible] | 68. 2 | 164 | 123. 8 | 107. 6 | 224 | 169. 1 | 147. 0 | 284 | 214. 3 | 186. 3 | 344 | 259. 6 | 225. 7 | 404 | 304. 9 | 265. 1 | 464 | 350. 2 | 304. 4 |
| 45 | [illegible] | [illegible] | [illegible] | 70. 2 | 68. 9 | 165 | 124. 5 | 108. 2 | 225 | 169. 8 | 147. 6 | 285 | 215. 1 | 187. 0 | 345 | 260. 4 | 226. 3 | 405 | 305. 7 | 265. 7 | 465 | 350. 9 | 305. 1 |
| 46 | [illegible] | [illegible] | [illegible] | [illegible] | 69. [illegible] | 166 | [illegible] | 108. 9 | 226 | 170. 6 | 148. 3 | 286 | 215. 8 | 187. 6 | 346 | 261. [illegible] | 227. 0 | 406 | 306. 4 | 266. 4 | 466 | 351. 7 | 305. 7 |
| 47 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 48 | [illegible] | [illegible] | 108 | 81. 5 | 70. 9 | 168 | 126. 8 | 110. 2 | 228 | 172. 1 | 149. 6 | 288 | 217. 4 | 188. 6 | 348 | 262. 6 | 228. 3 | 408 | 307. 9 | 267. 7 | 468 | 353. 2 | 307. [illegible] |
| 49 | [illegible] | [illegible] | 109 | 82. 3 | 71. 5 | 169 | 127. 5 | 110. 9 | 229 | 172. 8 | 150. 2 | 289 | 218. 1 | 189. 0 | 349 | 263. 4 | 229. 0 | 409 | 308. 7 | 268. 3 | 469 | 354. 0 | 307. 7 |
| 50 | 37. 7 | 32. 8 | 110 | 83. 0 | 72. 2 | 170 | 128. 3 | 111. 5 | 230 | 173. 6 | 150. 9 | 290 | 218. 9 | 190. 3 | 350 | 264. 2 | 229. 6 | 410 | 309. 4 | 269. 0 | 470 | 354. 7 | 308. 4 |
| 51 | 38. 5 | 33. 5 | 111 | 83. 8 | 72. 8 | 171 | 129. 1 | 112. 2 | 231 | 174. 3 | 151. 5 | 291 | 219. 6 | 190. 9 | 351 | 264. 9 | 230. 3 | 411 | 310. 2 | 269. 6 | 471 | 355. 5 | 309. 0 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 53 | 40. 0 | 34. 8 | 113 | 85. 3 | 74. 1 | 173 | 130. 6 | 113. 5 | 233 | 175. 8 | 152. 9 | 293 | 221. 1 | 192. 2 | 353 | 266. 4 | 231. 6 | 413 | 311. 7 | 271. 0 | 473 | 357. 0 | 310. 5 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 55 | 41. 5 | 36. 1 | 115 | 86. 8 | 75. 4 | 175 | 132. 1 | 114. 8 | 235 | 177. 4 | 154. 2 | 295 | 222. 6 | 193. 5 | 355 | 267. 9 | 232. 9 | 415 | 313. 2 | 272. 3 | 475 | 358. 5 | 311. 9 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| 57 | 43. 0 | 37. 4 | 117 | 88. 3 | 76. 8 | 177 | 133. 6 | 116. 1 | 237 | 178. 9 | 155. 5 | 297 | 224. 1 | 194. 8 | 357 | 269. 4 | 234. 2 | 417 | 314. 7 | 273. 6 | 477 | 360. 0 | 312. 9 |
| 58 | 43. 8 | 38. 1 | 118 | 89. 1 | 77. 4 | 178 | 134. 3 | 116. 8 | 238 | 179. 6 | 156. 1 | 298 | 224. 9 | 195. 5 | 358 | 270. 1 | 234. 9 | 418 | 315. 5 | 274. 2 | 478 | 360. 8 | 313. 6 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |

| Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. | Dist. | Dep. | D. Lat. |
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For 42 Degrees.

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| 4 | 03. 0 | 02. 7 | 64 | 47. 6 | 42. 8 | 124 | 92. 1 | 83 | | | | | | | | | | | | | | | |
| 5 | 03. 7 | 03. 3 | 65 | 48. 2 | 43. 5 | 125 | 92. 9 | 83 | | | | | | | | | | | | | | | |
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| 11 | 08. 2 | 07. 4 | 71 | 52. 8 | 47. 5 | 131 | 97. 4 | 87 | 191 | 141. | | | | | | | | | | | | | |
| 12 | 08. 9 | 08. 0 | 72 | 53. 5 | 48. 2 | 132 | 98. 1 | 88. 3 | 192 | 142. | | | | | | | | | | | | | |
| 13 | 09. 7 | 08. 7 | 73 | 54. 2 | 48. 8 | 133 | 98. 8 | 89. 0 | 193 | 143. 4 | 129. 1 | 253 | 188. 6 | 169. 3 | 313 | 232. 6 | 209. 4 | 373 | 272. 2 | 249. 6 | 453 | 321. 8 | 289. 7 |
| 14 | 10. 4 | 09. 4 | 74 | 55. 0 | 49. 5 | 134 | 99. 6 | 89. 7 | 194 | 144. 2 | 129. 8 | 254 | 188. 8 | 170. 0 | 314 | 233. 3 | 210. 1 | 374 | 277. 9 | 250. 3 | 454 | 322. 5 | 290. 4 |
| 15 | 11. 1 | 10. 0 | 75 | 55. 7 | 50. 2 | 135 | 100. 3 | 90. 3 | 195 | 144. 9 | 130. 5 | 255 | 189. 5 | 170. 6 | 315 | 234. 1 | 210. 8 | 375 | 278. 7 | 250. 9 | 455 | 323. 3 | 291. 1 |
| 16 | 11. 9 | 10. 7 | 76 | 56. 5 | 50. 9 | 136 | 101. 1 | 91. 0 | 196 | 145. 7 | 131. 1 | 256 | 190. 2 | 171. 3 | 316 | 234. 8 | 211. 5 | 376 | 279. 4 | 251. 6 | 456 | 324. 0 | 291. 8 |
| 17 | 12. 6 | 11. 4 | 77 | 57. 2 | 51. 5 | 137 | 101. 8 | 91. 7 | 197 | 146. 4 | 131. 8 | 257 | 191. 0 | 172. 0 | 317 | 235. 6 | 212. 1 | 377 | 280. 2 | 252. 3 | 457 | 324. 8 | 292. 4 |
| 18 | 13. 4 | 12. 0 | 78 | 58. 0 | 52. 2 | 138 | 102. 6 | 92. 3 | 198 | 147. 1 | 132. 5 | 258 | 191. 7 | 172. 6 | 318 | 236. 3 | | | | | | | |
| 19 | 14. 1 | 12. 7 | 79 | 58. 7 | 52. 9 | 139 | 103. 3 | 93. 0 | 199 | 147. 9 | 133. 2 | 259 | 192. 5 | 173. 3 | 319 | 237. 1 | | | | | | | |
| 20 | 14. 9 | 13. 4 | 80 | 59. 5 | 53. 5 | 140 | 104. 0 | 93. 7 | 200 | 148. 6 | 133. 8 | 260 | 193. 2 | 174. 0 | 320 | 237. 8 | | | | | | | |
| | | | | | | | | | 201 | 149. 4 | 134. 5 | 261 | 194. 0 | 174. 6 | 321 | 238. 6 | | | | | | | |
| | | | | | | | | | 202 | 150. 1 | 135. 2 | 262 | 194. 7 | 175. 3 | 322 | 239. 3 | | | | | | | |
| | | | | | | | | | | | | | | | 323 | 240. 0 | | | | | | | |
| | | | | | | | | | | | | | | | 324 | 240. 8 | | | | | | | |
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| | | | | | | | | | | | | | | | | 243. 8 | | | | | | | |
| 30 | 22. 3 | 20. 1 | 90 | 66. 9 | 60. 2 | 150 | 111. 5 | 100. 4 | 210 | 156. 1 | 140. 5 | 270 | 200. 6 | 180. 7 | 330 | 245. 2 | | | | | | | |
| 31 | 23. 0 | 20. 7 | 91 | 67. 6 | 60. 9 | 151 | 112. 2 | 101. 0 | 211 | 156. 8 | 141. 2 | 271 | 201. 3 | 181. 3 | | | | | | | | | |
| 32 | 23. 8 | 21. 4 | 92 | 68. 4 | 61. 6 | 152 | 113. 0 | 101. 7 | 212 | 157. 5 | 141. 9 | 272 | 202. 1 | 182. 0 | 332 | 246. 7 | | | | | | | |
| 33 | 24. 5 | 22. 1 | 93 | 69. 1 | 62. 2 | 153 | 113. 7 | 102. 4 | 213 | 158. 3 | 142. 5 | 273 | 202. 9 | 182. 7 | 333 | 247. 5 | 222. 8 | 393 | 292. 1 | | | | |
| 34 | 25. 3 | 22. 8 | 94 | 69. 9 | 62. 9 | 154 | 114. 4 | 103. 0 | 214 | 159. 0 | 143. 2 | 274 | 203. 6 | 183. 3 | 334 | 248. 2 | 223. 5 | 394 | 292. 8 | | | | |
| 35 | 26. 0 | 23. 4 | 95 | 70. 6 | 63. 6 | 155 | 115. 2 | 103. 7 | 215 | 159. 8 | 143. 9 | 275 | 204. 4 | 184. 0 | 335 | 249. 0 | 224. 2 | 395 | 293. 5 | 264. 3 | 455 | 338. 1 | 304. 5 |
| 36 | 26. 8 | 24. 1 | 96 | 71. 3 | 64. 2 | 156 | 115. 9 | 104. 4 | 216 | 160. 5 | 144. 5 | 276 | 205. 1 | 184. 7 | 336 | 249. 7 | 224. 8 | 396 | 294. 3 | 265. 0 | 456 | 338. 9 | 305. 1 |
| 37 | 27. 5 | 24. 8 | 97 | 72. 1 | 64. 9 | 157 | 116. 7 | 105. 1 | 217 | 161. 3 | 145. 2 | 277 | 205. 9 | 185. 3 | 337 | 250. 4 | 225. 5 | 397 | 295. 0 | 265. 7 | 457 | 339. 6 | 305. 8 |
| 38 | 28. 2 | 25. 4 | 98 | 72. 8 | 65. 6 | 158 | 117. 4 | 105. 7 | 218 | 162. 0 | 145. 9 | 278 | 206. 6 | 186. 0 | 338 | 251. 2 | 226. 2 | 398 | 295. 8 | 266. 3 | 458 | 340. 4 | 306. 5 |
| 39 | 29. 0 | 26. 1 | 99 | 73. 6 | 66. 2 | 159 | 118. 2 | 106. 4 | 219 | 162. 7 | 146. 5 | 279 | 207. 3 | 186. 7 | 339 | 251. 9 | 226. 8 | 399 | 296. 5 | 267. 0 | 459 | 341. 1 | 307. 1 |
| 40 | 29. 7 | 26. 8 | 100 | 74. 3 | 66. 9 | 160 | 118. 9 | 107. 1 | 220 | 163. 5 | 147. 2 | 280 | 208. 1 | 187. 4 | 340 | 252. 7 | 227. 5 | 400 | 297. 3 | 267. 7 | 460 | 341. 8 | 307. 8 |
| 41 | 30. 5 | 27. 4 | 101 | 75. 1 | 67. 6 | 161 | 119. 6 | 107. 7 | 221 | 164. 2 | 147. 9 | 281 | 208. 8 | 188. 0 | 341 | 253. 4 | 228. 2 | 401 | 298. 0 | 268. 3 | 461 | 342. 6 | 308. 5 |
| 42 | 31. 2 | 28. 1 | 102 | 75. 8 | 68. 3 | 162 | 120. 4 | 108. 4 | 222 | 165. 0 | 148. 5 | 282 | 209. 6 | 188. 7 | 342 | 254. 2 | 228. 8 | 402 | 298. 7 | 269. 0 | 462 | 343. 3 | 309. 1 |
| 43 | 32. 0 | 28. 8 | 103 | 76. 5 | 68. 9 | 163 | 121. 1 | 109. 1 | 223 | 165. 7 | 149. 2 | 283 | 210. 3 | 189. 4 | 343 | 254. 9 | 229. 5 | 403 | 299. 5 | 269. 7 | 463 | 344. 1 | 309. 8 |
| 44 | 32. 7 | 29. 4 | 104 | 77. 3 | 69. 6 | 164 | 121. 9 | 109. 7 | 224 | 166. 5 | 149. 9 | 284 | 211. 1 | 190. 0 | 344 | 255. 6 | 230. 2 | 404 | 300. 2 | 270. 3 | 464 | 344. 8 | 310. 5 |
| 45 | 33. 4 | 30. 1 | 105 | 78. 0 | 70. 3 | 165 | 122. 6 | 110. 4 | 225 | 167. 2 | 150. 6 | 285 | 211. 8 | 190. 7 | 345 | 256. 4 | 230. 9 | 405 | 301. 0 | 271. 0 | 465 | 345. 6 | 311. 2 |
| 46 | 34. 2 | 30. 8 | 106 | 78. 8 | 70. 9 | 166 | 123. 4 | 111. 1 | 226 | 168. 0 | 151. 2 | 286 | 212. 5 | 191. 4 | 346 | 257. 1 | 231. 5 | 406 | 301. 7 | 271. 7 | 466 | 346. 3 | 311. 8 |
| 47 | 34. 9 | 31. 4 | 107 | 79. 5 | 71. 6 | 167 | 124. 1 | 111. 7 | 227 | 168. 7 | 151. 9 | 287 | 213. 3 | 192. 0 | 347 | 257. 9 | 232. 2 | 407 | 302. 5 | 272. 3 | 467 | 347. 0 | 312. 5 |
| 48 | 35. 7 | 32. 1 | 108 | 80. 3 | 72. 3 | 168 | 124. 8 | 112. 4 | 228 | 169. 5 | 152. 6 | 288 | 214. 0 | 192. 7 | 348 | 258. 6 | 232. 9 | 408 | 303. 2 | 273. 0 | 468 | 347. 8 | 313. 2 |
| 49 | 36. 4 | 32. 8 | 109 | 81. 0 | 72. 9 | 169 | 125. 6 | 113. 1 | 229 | 170. 2 | 153. 2 | 289 | 214. 8 | 193. 4 | 349 | 259. 4 | 233. 5 | 409 | 303. 9 | 273. 7 | 469 | 348. 5 | 313. 8 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 412 | 306. 2 | 275. 7 | 472 | 350. 8 | 315. 8 |
| | | | | | | | | | | | | | | | | | | 413 | 306. 9 | 276. 4 | 473 | 351. 5 | 316. 5 |
| | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | 415 | 308. 4 | 277. 7 | 475 | 353. 0 | 317. 8 |
| | | | | | | | | | | | | | | | | | | 416 | 309. 1 | 278. 4 | 476 | 353. 7 | 318. 5 |
| | | | | | | | | | | | | | | | | | S. 9 | 417 | 309. 9 | 279. 0 | 477 | 354. 5 | 319. 2 |
| | | | | | | | | | | 176. 6 | 159. 0 | 298 | 221. 5 | 199. 4 | 358 | 266. 0 | 239. 6 | 418 | 310. 6 | 279. 7 | 478 | 355. 2 | 319. 9 |
| | | | | | | | | | 239 | 177. 6 | 159. 9 | 299 | 222. 2 | 200. 1 | 359 | 266. 8 | 240. 2 | 419 | 311. 4 | 280. 4 | 479 | 356. 0 | 320. 5 |
| | | | | | | | | | 240 | 178. 4 | 160. 6 | 300 | 222. 9 | 200. 5 | 360 | 267. 5 | 240. 9 | 420 | 312. 1 | 281. 1 | 480 | 356. 7 | 321. 2 |

For 43 Degrees.

For 43 Degrees.

| Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. | Dist. | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 00. 7 | 00. 7 | 31 | 49 | 0[illegible] | 61 | [illegible] | [illegible] | 91 | 66. 5 | 62. 1 | 121 | [illegible] | [illegible] | 151 | [illegible] | [illegible] |
| 2 | 01. 5 | 01. 4 | 32 | 45 | 32. 5 | 62 | 89. 2 | 83. 6 | 92 | 66. 8 | 63. 1 | 122 | 88. 1 | 83. 6 | 152 | 110. 0 | 104. 6 |
| 3 | 02. 2 | 02. 2 | 33 | 47. 3 | 33. 6 | 63 | 90. 6 | 84. 3 | 93 | 67. 4 | 64. 2 | 123 | 89. 1 | 84. 3 | 153 | 110. 7 | 105. 5 |
| 4 | 02. 9 | 02. 7 | 34 | 48. 1 | 34. 1 | 64 | 90. 7 | 84. 6 | 94 | 68. 1 | 64. 8 | 124 | 89. 8 | 85. 1 | 154 | 111. 4 | 106. 2 |
| 5 | 03. 7 | 03. 4 | 35 | 47. 5 | 34. 8 | 65 | 91. 4 | 85. 2 | 95 | 68. 8 | 65. 5 | 125 | 90. 5 | 85. 8 | 155 | 112. 1 | 106. 9 |
| 6 | 04. 4 | 04. 1 | 66 | 48. 2 | 35. 5 | 66 | 92. 2 | 85. 9 | 96 | 69. 5 | 66. 2 | 126 | 91. 2 | 86. 5 | 156 | 112. 8 | 107. 6 |
| 7 | 05. 1 | 04. 8 | 67 | 49. 0 | 35. 7 | 67 | 92. 6 | 86. 6 | 97 | 70. 2 | 66. 8 | 127 | 91. 9 | 87. 2 | 157 | 113. 6 | 108. 3 |
| 8 | 05. 9 | 05. 5 | 68 | 49. 7 | 36. 4 | 68 | 93. 3 | 87. 3 | 98 | 70. 9 | 67. 5 | 128 | 92. 6 | 87. 9 | 158 | 114. 3 | 109. 0 |
| 9 | 06. 6 | 06. 2 | 69 | 50. 5 | 37. 1 | 69 | 94. 0 | 88. 0 | 99 | 71. 6 | 68. 2 | 129 | 93. 3 | 88. 6 | 159 | 115. 0 | 109. 7 |
| 10 | 07. 3 | 06. 8 | 70 | 51. 2 | 37. 8 | 70 | 94. 7 | 88. 7 | 100 | 72. 3 | 68. 9 | 130 | 94. 0 | 89. 3 | 160 | 115. 7 | 110. 4 |
| 11 | 08. 0 | 07. 5 | 71 | 51. 9 | 38. 5 | 71 | 95. 4 | 89. 4 | 101 | 73. 0 | 69. 6 | 131 | 94. 8 | 90. 0 | 161 | 116. 4 | 111. 1 |
| 12 | 08. 8 | 08. 2 | 72 | 52. 7 | 39. 1 | 72 | 96. 1 | 90. 1 | 102 | 73. 8 | 70. 3 | 132 | 95. 5 | 90. 7 | 162 | 117. 2 | 111. 8 |
| 13 | 09. 5 | 08. 9 | 73 | 53. 4 | 39. 8 | 73 | 97. 3 | 90. 8 | 103 | 74. 5 | 70. 9 | 133 | 96. 2 | 91. 4 | 163 | 117. 9 | 112. 5 |
| 14 | 10. 2 | 09. 6 | 74 | 54. 1 | 40. 5 | 74 | 98. 0 | 91. 5 | 104 | 75. 2 | 71. 6 | 134 | 96. 9 | 92. 1 | 164 | 118. 6 | 113. 2 |
| 15 | 11. 0 | 10. 2 | 75 | 54. 9 | 41. 2 | 75 | 98. 7 | 92. 2 | 105 | 75. 9 | 72. 3 | 135 | 97. 6 | 92. 8 | 165 | 119. 3 | 113. 9 |
| 16 | 11. 7 | 10. 9 | 76 | 55. 6 | 41. 8 | 76 | 99. 5 | 92. 9 | 106 | 76. 6 | 73. 0 | 136 | 98. 3 | 93. 5 | 166 | 120. 0 | 114. 6 |
| 17 | 12. 4 | 11. 6 | 77 | 56. 3 | 42. 5 | 77 | 100. 2 | 93. 6 | 107 | 77. 3 | 73. 7 | 137 | 99. 0 | 94. 2 | 167 | 120. 7 | 115. 3 |
| 18 | 13. 2 | 12. 3 | 78 | 57. 1 | 43. 2 | 78 | 100. 9 | 94. 3 | 108 | 78. 0 | 74. 4 | 138 | 99. 7 | 94. 9 | 168 | 121. 5 | 116. 0 |
| 19 | 13. 9 | 12. 9 | 79 | 57. 8 | 43. 9 | 79 | 101. 7 | 94. 9 | 109 | 78. 8 | 75. 1 | 139 | 100. 4 | 95. 6 | 169 | 122. 2 | 116. 7 |
| 20 | 14. 6 | 13. 6 | 80 | 58. 5 | 44. 5 | 80 | 102. 4 | 95. 6 | 110 | 79. 5 | 75. 8 | 140 | 101. 1 | 96. 3 | 170 | 122. 9 | 117. 4 |
| 21 | 15. 4 | 14. 3 | 81 | 59. 3 | 45. 2 | 81 | 103. 1 | 96. 3 | 111 | 80. 2 | 76. 4 | 141 | 101. 8 | 97. 0 | 171 | 123. 6 | 118. 1 |
| 22 | 16. 1 | 15. 0 | 82 | 60. 0 | 45. 9 | 82 | 103. 8 | 97. 0 | 112 | 80. 9 | 77. 1 | 142 | 102. 5 | 97. 7 | 172 | 124. 3 | 118. 8 |
| 23 | 16. 8 | 15. 7 | 83 | 60. 7 | 46. 6 | 83 | 104. 6 | 97. 7 | 113 | 81. 6 | 77. 8 | 143 | 103. 3 | 98. 4 | 173 | 125. 1 | 119. 5 |
| 24 | 17. 6 | 16. 4 | 84 | 61. 5 | 47. 3 | 84 | 105. 3 | 98. 4 | 114 | 82. 3 | 78. 5 | 144 | 104. 0 | 99. 1 | 174 | 125. 8 | 120. 2 |
| 25 | 18. 3 | 17. 1 | 85 | 62. 2 | 47. 9 | 85 | 106. 0 | 99. 1 | 115 | 83. 0 | 79. 2 | 145 | 104. 7 | 99. 8 | 175 | 126. 5 | 120. 9 |
| 26 | 19. 0 | 17. 7 | 86 | 62. 9 | 48. 6 | 86 | 106. 7 | 99. 8 | 116 | 83. 7 | 79. 9 | 146 | 105. 4 | 100. 5 | 176 | 127. 2 | 121. 6 |
| 27 | 19. 7 | 18. 4 | 87 | 63. 6 | 49. 3 | 87 | 107. 4 | 100. 5 | 117 | 84. 4 | 80. 6 | 147 | 106. 1 | 101. 2 | 177 | 127. 9 | 122. 3 |
| 28 | 20. 4 | 19. 1 | 88 | 64. 4 | 50. 0 | 88 | 108. 1 | 101. 2 | 118 | 85. 2 | 81. 3 | 148 | 106. 9 | 101. 9 | 178 | 128. 7 | 123. 0 |
| 29 | 21. 2 | 19. 8 | 89 | 65. 1 | 50. 7 | 89 | 108. 9 | 101. 9 | 119 | 85. 9 | 81. 9 | 149 | 107. 6 | 102. 6 | 179 | 129. 4 | 123. 7 |
| 30 | 21. 9 | 20. 5 | 90 | 65. 8 | 51. 4 | 90 | 109. 6 | 102. 6 | 120 | 86. 6 | 82. 6 | 150 | 108. 3 | 103. 3 | 180 | 130. 1 | 124. 4 |
| 31 | 22. 6 | 21. 1 | 91 | 66. 5 | 52. 0 | 91 | 110. 3 | 103. 3 | 121 | 87. 3 | 83. 3 | 151 | 109. 0 | 104. 0 | 181 | 130. 8 | 125. 1 |
| 32 | 23. 4 | 21. 8 | 92 | 67. 3 | 52. 7 | 92 | 111. 0 | 104. 0 | 122 | 88. 0 | 84. 0 | 152 | 109. 7 | 104. 7 | 182 | 131. 6 | 125. 8 |
| 33 | 24. 1 | 22. 5 | 93 | 68. 0 | 53. 4 | 93 | 111. 8 | 104. 7 | 123 | 88. 7 | 84. 7 | 153 | 110. 4 | 105. 4 | 183 | 132. 3 | 126. 5 |
| 34 | 24. 8 | 23. 2 | 94 | 68. 7 | 54. 1 | 94 | 112. 5 | 105. 4 | 124 | 89. 4 | 85. 4 | 154 | 111. 1 | 106. 1 | 184 | 133. 0 | 127. 2 |
| 35 | 25. 6 | 23. 9 | 95 | 69. 4 | 54. 8 | 95 | 113. 2 | 106. 1 | 125 | 90. 2 | 86. 1 | 155 | 111. 8 | 106. 8 | 185 | 133. 7 | 127. 9 |
| 36 | 26. 3 | 24. 6 | 96 | 70. 2 | 55. 5 | 96 | 113. 9 | 106. 8 | 126 | 90. 9 | 86. 8 | 156 | 112. 5 | 107. 5 | 186 | 134. 4 | 128. 6 |
| 37 | 27. 0 | 25. 2 | 97 | 70. 9 | 56. 1 | 97 | 114. 7 | 107. 5 | 127 | 91. 6 | 87. 5 | 157 | 113. 3 | 108. 2 | 187 | 135. 2 | 129. 3 |
| 38 | 27. 7 | 25. 9 | 98 | 71. 6 | 56. 8 | 98 | 115. 4 | 108. 2 | 128 | 92. 3 | 88. 2 | 158 | 114. 0 | 108. 9 | 188 | 135. 9 | 130. 0 |
| 39 | 28. 5 | 26. 6 | 99 | 72. 4 | 57. 5 | 99 | 116. 1 | 108. 9 | 129 | 93. 0 | 88. 9 | 159 | 114. 7 | 109. 6 | 189 | 136. 6 | 130. 7 |
| 40 | 29. 2 | 27. 3 | 100 | 73. 1 | 58. 2 | 100 | 116. 8 | 109. 6 | 130 | 93. 8 | 89. 6 | 160 | 115. 4 | 110. 3 | 190 | 137. 3 | 131. 4 |
| 41 | 29. 9 | 27. 9 | 101 | 73. 8 | 58. 9 | 101 | 117. 6 | 110. 3 | 131 | 94. 5 | 90. 3 | 161 | 116. 2 | 110. 9 | 191 | 138. 0 | 132. 1 |
| 42 | 30. 7 | 28. 6 | 102 | 74. 5 | 59. 6 | 102 | 118. 3 | 111. 0 | 132 | 95. 2 | 91. 0 | 162 | 116. 9 | 111. 6 | 192 | 138. 8 | 132. 8 |
| 43 | 31. 4 | 29. 3 | 103 | 75. 3 | 60. 2 | 103 | 119. 0 | 111. 7 | 133 | 95. 9 | 91. 7 | 163 | 117. 6 | 112. 3 | 193 | 139. 5 | 133. 5 |
| 44 | 32. 1 | 30. 0 | 104 | 76. 0 | 60. 9 | 104 | 119. 7 | 112. 4 | 134 | 96. 6 | 92. 4 | 164 | 118. 3 | 113. 0 | 194 | 140. 2 | 134. 2 |
| 45 | 32. 9 | 30. 7 | 105 | 76. 7 | 61. 6 | 105 | 120. 5 | 113. 1 | 135 | 97. 3 | 93. 1 | 165 | 119. 0 | 113. 7 | 195 | 140. 9 | 134. 9 |
| 46 | 33. 6 | 31. 4 | 106 | 77. 4 | 62. 3 | 106 | 121. 2 | 113. 8 | 136 | 98. 0 | 93. 8 | 166 | 119. 7 | 114. 4 | 196 | 141. 6 | 135. 6 |
| 47 | 34. 3 | 32. 1 | 107 | 78. 2 | 62. 9 | 107 | 121. 9 | 114. 5 | 137 | 98. 7 | 94. 5 | 167 | 120. 4 | 115. 1 | 197 | 142. 4 | 136. 3 |
| 48 | 35. 1 | 32. 7 | 108 | 78. 9 | 63. 6 | 108 | 122. 6 | 115. 2 | 138 | 99. 4 | 95. 2 | 168 | 121. 2 | 115. 8 | 198 | 143. 1 | 137. 0 |
| 49 | 35. 8 | 33. 4 | 109 | 79. 6 | 64. 3 | 109 | 123. 4 | 115. 9 | 139 | 100. 1 | 95. 9 | 169 | 121. 9 | 116. 5 | 199 | 143. 8 | 137. 7 |
| 50 | 36. 5 | 34. 1 | 110 | 80. 3 | 64. 9 | 110 | 124. 1 | 116. 6 | 140 | 100. 8 | 96. 5 | 170 | 122. 6 | 117. 2 | 200 | 144. 5 | 138. 4 |
| 51 | 37. 2 | 34. 8 | 111 | 81. 1 | 65. 6 | 111 | 124. 8 | 117. 3 | 141 | 101. 5 | 97. 2 | 171 | 123. 3 | 117. 9 | 201 | 145. 3 | 139. 1 |
| 52 | 38. 0 | 35. 5 | 112 | 81. 8 | 66. 3 | 112 | 125. 5 | 118. 0 | 142 | 102. 2 | 97. 9 | 172 | 124. 0 | 118. 6 | 202 | 146. 0 | 139. 8 |
| 53 | 38. 7 | 36. 2 | 113 | 82. 5 | 67. 0 | 113 | 126. 3 | 118. 7 | 143 | 102. 9 | 98. 6 | 173 | 124. 8 | 119. 3 | 203 | 146. 7 | 140. 5 |
| 54 | 39. 4 | 36. 8 | 114 | 83. 2 | 67. 6 | 114 | 127. 0 | 119. 4 | 144 | 103. 6 | 99. 3 | 174 | 125. 5 | 120. 0 | 204 | 147. 4 | 141. 2 |
| 55 | 40. 2 | 37. 5 | 115 | 83. 9 | 68. 3 | 115 | 127. 7 | 120. 1 | 145 | 104. 3 | 100. 0 | 175 | 126. 2 | 120. 7 | 205 | 148. 2 | 141. 9 |
| 56 | 40. 9 | 38. 2 | 116 | 84. 7 | 69. 0 | 116 | 128. 4 | 120. 8 | 146 | 105. 0 | 100. 7 | 176 | 126. 9 | 121. 4 | 206 | 148. 9 | 142. 6 |
| 57 | 41. 6 | 38. 9 | 117 | 85. 4 | 69. 7 | 117 | 129. 2 | 121. 5 | 147 | 105. 7 | 101. 4 | 177 | 127. 6 | 122. 1 | 207 | 149. 6 | 143. 3 |
| 58 | 42. 4 | 39. 6 | 118 | 86. 1 | 70. 3 | 118 | 129. 9 | 122. 2 | 148 | 106. 4 | 102. 1 | 178 | 128. 4 | 122. 8 | 208 | 150. 3 | 144. 0 |
| 59 | 43. 1 | 40. 3 | 119 | 86. 8 | 71. 0 | 119 | 130. 6 | 122. 9 | 149 | 107. 2 | 102. 8 | 179 | 129. 1 | 123. 5 | 209 | 151. 1 | 144. 7 |
| 60 | 43. 8 | 40. 9 | 120 | 87. 5 | 71. 7 | 120 | 131. 3 | 123. 6 | 150 | 107. 9 | 103. 5 | 180 | 129. 8 | 124. 2 | 210 | 151. 8 | 145. 4 |

For 47 Degrees.

For 44 Degrees.

| | Dist | D. Lat. | Dep. | Dist | D. Lat | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1. | 1. | 0. | 61 | 43. 9 | 42. 4 | 121 | 87. 9 | 84. 1 | 181 | 130. 8 | 125. 7 | 241 | 173. 4 | 167. 4 | 301 | 216. 5 | 209. 1 | 361 | 259. 7 | 250. 8 |
| 2 | 2. | 1. | 1. | 62 | 44. 6 | 43. 1 | 122 | 87. 8 | 84. 7 | 182 | 130. 9 | 126. 4 | 242 | 174. 1 | 168. 1 | 302 | 217. 2 | 209. 8 | 362 | 260. 4 | 251. 5 |
| 3 | 3. | 2. | 2. | 63 | 45. 3 | 43. 7 | 123 | 88. 5 | 85. 4 | 183 | 131. 7 | 127. 2 | 243 | 174. 8 | 168. 8 | 303 | 217. 9 | 210. 5 | 363 | 261. 1 | 252. 2 |
| 4 | 4. | 3. | 2. | 64 | 46. 0 | 44. 4 | 124 | 89. 2 | 86. 1 | 184 | 132. 4 | 127. 9 | 244 | 175. 5 | 169. 5 | 304 | 218. 6 | 211. 2 | 364 | 261. 8 | 252. 9 |
| 5 | 5. | 3. | 3. | 65 | 46. 8 | 45. 1 | 125 | 89. 9 | 86. 8 | 185 | 133. 1 | 128. 6 | 245 | 176. 2 | 170. 2 | 305 | 219. 3 | 211. 9 | 365 | 262. 5 | 253. 6 |
| 6 | 6. | 4. | 4. | 66 | 47. 5 | 45. 8 | 126 | 90. 6 | 87. 5 | 186 | 133. 8 | 129. 3 | 246 | 176. 9 | 170. 9 | 306 | 220. 0 | 212. 6 | 366 | 263. 2 | 254. 3 |
| 7 | 7. | 5. | 5. | 67 | 48. 2 | 46. 5 | 127 | 91. 3 | 88. 2 | 187 | 134. 5 | 129. 9 | 247 | 177. 6 | 171. 6 | 307 | 220. 7 | 213. 3 | 367 | 263. 9 | 254. 9 |
| 8 | 8. | 5. | 6. | 68 | 48. 9 | 47. 2 | 128 | 92. 0 | 88. 9 | 188 | 135. 2 | 130. 6 | 248 | 178. 3 | 172. 3 | 308 | 221. 4 | 213. 9 | 368 | 264. 6 | 255. 6 |
| 9 | 9. | 6. | 6. | 69 | 49. 6 | 47. 9 | 129 | 92. 7 | 89. 6 | 189 | 135. 9 | 131. 3 | 249 | 179. 0 | 172. 9 | 309 | 222. 1 | 214. 6 | 369 | 265. 3 | 256. 3 |
| 10 | 10. | 7. | 7. | 70 | 50. 3 | 48. 6 | 130 | 93. 4 | 90. 3 | 190 | 136. 6 | 132. 0 | 250 | 179. 7 | 173. 6 | 310 | 222. 8 | 215. 3 | 370 | 266. 0 | 257. 0 |
| 11 | 11. | 7. | 8. | 71 | 51. 0 | 49. 3 | 131 | 94. 1 | 90. 9 | 191 | 137. 3 | 132. 7 | 251 | 180. 4 | 174. 3 | 311 | 223. 5 | 216. 0 | 371 | 266. 7 | 257. 7 |
| 12 | 12. | 8. | 8. | 72 | 51. 8 | 50. 0 | 132 | 94. 8 | 91. 6 | 192 | 138. 0 | 133. 4 | 252 | 181. 1 | 175. 0 | 312 | 224. 2 | 216. 7 | 372 | 267. 4 | 258. 4 |
| 13 | 13. | 8. | 9. | 73 | 52. 5 | 50. 7 | 133 | 95. 5 | 92. 3 | 193 | 138. 7 | 134. 1 | 253 | 181. 8 | 175. 7 | 313 | 224. 9 | 217. 4 | 373 | 268. 1 | 259. 1 |
| 14 | 14. | 9. | 9. | 74 | 53. 2 | 51. 4 | 134 | 96. 2 | 93. 0 | 194 | 139. 4 | 134. 8 | 254 | 182. 5 | 176. 4 | 314 | 225. 6 | 218. 1 | 374 | 268. 8 | 259. 8 |
| 15 | 15. | 10. | 10. | 75 | 53. 9 | 52. 1 | 135 | 96. 9 | 93. 7 | 195 | 140. 1 | 135. 5 | 255 | 183. 2 | 177. 1 | 315 | 226. 3 | 218. 8 | 375 | 269. 5 | 260. 5 |
| 16 | 16. | 11. | 11. | 76 | 54. 6 | 52. 8 | 136 | 97. 6 | 94. 4 | 196 | 140. 8 | 136. 2 | 256 | 183. 9 | 177. 8 | 316 | 227. 0 | 219. 5 | 376 | 270. 2 | 261. 2 |
| 17 | 17. | 12. | 12. | 77 | 55. 3 | 53. 5 | 137 | 98. 3 | 95. 1 | 197 | 141. 5 | 136. 9 | 257 | 184. 6 | 178. 5 | 317 | 227. 7 | 220. 2 | 377 | 270. 9 | 261. 9 |
| 18 | 18. | 12. | 13. | 78 | 56. 0 | 54. 2 | 138 | 99. 0 | 95. 8 | 198 | 142. 2 | 137. 6 | 258 | 185. 3 | 179. 2 | 318 | 228. 4 | 220. 9 | 378 | 271. 6 | 262. 6 |
| 19 | 19. | 13. | 14. | 79 | 56. 7 | 54. 9 | 139 | 99. 7 | 96. 5 | 199 | 142. 9 | 138. 3 | 259 | 186. 0 | 179. 9 | 319 | 229. 1 | 221. 6 | 379 | 272. 3 | 263. 3 |
| 20 | 20. | 14. | 15. | 80 | 57. 4 | 55. 6 | 140 | 100. 4 | 97. 2 | 200 | 143. 6 | 139. 0 | 260 | 186. 7 | 180. 6 | 320 | 229. 8 | 222. 3 | 380 | 273. 0 | 264. 0 |
| 21 | 21. | 15. | 16. | 81 | 58. 1 | 56. 3 | 141 | 101. 1 | 97. 9 | 201 | 144. 3 | 139. 7 | 261 | 187. 4 | 181. 3 | 321 | 230. 5 | 223. 0 | 381 | 273. 7 | 264. 7 |
| 22 | 22. | 15. | 17. | 82 | 58. 8 | 57. 0 | 142 | 101. 8 | 98. 6 | 202 | 145. 0 | 140. 4 | 262 | 188. 1 | 182. 0 | 322 | 231. 2 | 223. 7 | 382 | 274. 4 | 265. 4 |
| 23 | 23. | 16. | 18. | 83 | 59. 5 | 57. 7 | 143 | 102. 5 | 99. 3 | 203 | 145. 7 | 141. 1 | 263 | 188. 8 | 182. 7 | 323 | 231. 9 | 224. 4 | 383 | 275. 1 | 266. 1 |
| 24 | 24. | 17. | 19. | 84 | 60. 2 | 58. 4 | 144 | 103. 2 | 100. 0 | 204 | 146. 4 | 141. 8 | 264 | 189. 5 | 183. 4 | 324 | 232. 6 | 225. 1 | 384 | 275. 8 | 266. 8 |
| 25 | 25. | 18. | 19. | 85 | 61. 0 | 59. 1 | 145 | 104. 0 | 100. 7 | 205 | 147. 1 | 142. 5 | 265 | 190. 2 | 184. 1 | 325 | 233. 3 | 225. 8 | 385 | 276. 5 | 267. 5 |
| 26 | 26. | 18. | 20. | 86 | 61. 7 | 59. 8 | 146 | 104. 7 | 101. 4 | 206 | 147. 8 | 143. 2 | 266 | 190. 9 | 184. 8 | 326 | 234. 0 | 226. 5 | 386 | 277. 2 | 268. 2 |
| 27 | 27. | 19. | 21. | 87 | 62. 4 | 60. 5 | 147 | 105. 4 | 102. 1 | 207 | 148. 5 | 143. 9 | 267 | 191. 6 | 185. 5 | 327 | 234. 7 | 227. 2 | 387 | 277. 9 | 268. 9 |
| 28 | 28. | 20. | 21. | 88 | 63. 1 | 61. 2 | 148 | 106. 1 | 102. 8 | 208 | 149. 2 | 144. 6 | 268 | 192. 3 | 186. 2 | 328 | 235. 4 | 227. 9 | 388 | 278. 6 | 269. 6 |
| 29 | 29. | 20. | 22. | 89 | 63. 8 | 61. 9 | 149 | 106. 8 | 103. 5 | 209 | 149. 9 | 145. 3 | 269 | 193. 0 | 186. 9 | 329 | 236. 1 | 228. 6 | 389 | 279. 3 | 270. 3 |
| 30 | 30. | 21. | 23. | 90 | 64. 5 | 62. 6 | 150 | 107. 5 | 104. 2 | 210 | 150. 6 | 146. 0 | 270 | 193. 7 | 187. 6 | 330 | 236. 8 | 229. 3 | 390 | 280. 0 | 271. 0 |
| 31 | 31. | 22. | 24. | 91 | 65. 2 | 63. 3 | 151 | 108. 2 | 104. 9 | 211 | 151. 3 | 146. 7 | 271 | 194. 4 | 188. 3 | 331 | 237. 5 | 230. 0 | 391 | 280. 7 | 271. 7 |
| 32 | 32. | 22. | 25. | 92 | 65. 9 | 63. 9 | 152 | 108. 9 | 105. 6 | 212 | 152. 0 | 147. 4 | 272 | 195. 1 | 189. 0 | 332 | 238. 2 | 230. 7 | 392 | 281. 4 | 272. 4 |
| 33 | 33. | 23. | 25. | 93 | 66. 6 | 64. 6 | 153 | 109. 6 | 106. 3 | 213 | 152. 7 | 148. 1 | 273 | 195. 8 | 189. 7 | 333 | 238. 9 | 231. 4 | 393 | 282. 1 | 273. 1 |
| 34 | 34. | 24. | 26. | 94 | 67. 3 | 65. 3 | 154 | 110. 3 | 107. 0 | 214 | 153. 4 | 148. 8 | 274 | 196. 5 | 190. 4 | 334 | 239. 6 | 232. 1 | 394 | 282. 8 | 273. 8 |
| 35 | 35. | 25. | 27. | 95 | 68. 0 | 66. 0 | 155 | 111. 0 | 107. 7 | 215 | 154. 1 | 149. 5 | 275 | 197. 2 | 191. 1 | 335 | 240. 3 | 232. 8 | 395 | 283. 5 | 274. 5 |
| 36 | 36. | 25. | 28. | 96 | 68. 7 | 66. 7 | 156 | 111. 7 | 108. 4 | 216 | 154. 8 | 150. 2 | 276 | 197. 9 | 191. 8 | 336 | 241. 0 | 233. 5 | 396 | 284. 2 | 275. 2 |
| 37 | 37. | 26. | 29. | 97 | 69. 4 | 67. 4 | 157 | 112. 4 | 109. 1 | 217 | 155. 5 | 150. 9 | 277 | 198. 6 | 192. 5 | 337 | 241. 7 | 234. 2 | 397 | 284. 9 | 275. 9 |
| 38 | 38. | 27. | 29. | 98 | 70. 1 | 68. 1 | 158 | 113. 1 | 109. 8 | 218 | 156. 2 | 151. 6 | 278 | 199. 3 | 193. 2 | 338 | 242. 4 | 234. 9 | 398 | 285. 6 | 276. 6 |
| 39 | 39. | 28. | 30. | 99 | 70. 8 | 68. 8 | 159 | 113. 8 | 110. 5 | 219 | 156. 9 | 152. 3 | 279 | 200. 0 | 193. 9 | 339 | 243. 1 | 235. 6 | 399 | 286. 3 | 277. 3 |
| 40 | 40. | 28. | 31. | 100 | 71. 5 | 69. 5 | 160 | 114. 5 | 111. 2 | 220 | 157. 6 | 153. 0 | 280 | 200. 7 | 194. 6 | 340 | 243. 8 | 236. 3 | 400 | 287. 0 | 278. 0 |
| 41 | 41. | 29. | 32. | 101 | 72. 2 | 70. 2 | 161 | 115. 2 | 111. 9 | 221 | 158. 3 | 153. 7 | 281 | 201. 4 | 195. 3 | 341 | 244. 5 | 237. 0 | 401 | 287. 7 | 278. 7 |
| 42 | 42. | 30. | 33. | 102 | 72. 9 | 70. 9 | 162 | 115. 9 | 112. 6 | 222 | 159. 0 | 154. 4 | 282 | 202. 1 | 196. 0 | 342 | 245. 2 | 237. 7 | 402 | 288. 4 | 279. 4 |
| 43 | 43. | 30. | 34. | 103 | 73. 6 | 71. 6 | 163 | 116. 6 | 113. 3 | 223 | 159. 7 | 155. 1 | 283 | 202. 8 | 196. 7 | 343 | 245. 9 | 238. 4 | 403 | 289. 1 | 280. 1 |
| 44 | 44. | 31. | 35. | 104 | 74. 3 | 72. 3 | 164 | 117. 3 | 114. 0 | 224 | 160. 4 | 155. 8 | 284 | 203. 5 | 197. 4 | 344 | 246. 6 | 239. 1 | 404 | 289. 8 | 280. 8 |
| 45 | 45. | 32. | 36. | 105 | 75. 0 | 73. 0 | 165 | 118. 0 | 114. 7 | 225 | 161. 1 | 156. 5 | 285 | 204. 2 | 198. 1 | 345 | 247. 3 | 239. 8 | 405 | 290. 5 | 281. 5 |
| 46 | 46. | 33. | 36. | 106 | 75. 7 | 73. 7 | 166 | 118. 7 | 115. 4 | 226 | 161. 8 | 157. 2 | 286 | 204. 9 | 198. 8 | 346 | 248. 0 | 240. 5 | 406 | 291. 2 | 282. 2 |
| 47 | 47. | 33. | 37. | 107 | 76. 4 | 74. 4 | 167 | 119. 4 | 116. 1 | 227 | 162. 5 | 157. 9 | 287 | 205. 6 | 199. 5 | 347 | 248. 7 | 241. 2 | 407 | 291. 9 | 282. 9 |
| 48 | 48. | 34. | 38. | 108 | 77. 1 | 75. 1 | 168 | 120. 1 | 116. 8 | 228 | 163. 2 | 158. 6 | 288 | 206. 3 | 200. 2 | 348 | 249. 4 | 241. 9 | 408 | 292. 6 | 283. 6 |
| 49 | 49. | 35. | 39. | 109 | 77. 8 | 75. 8 | 169 | 120. 8 | 117. 5 | 229 | 163. 9 | 159. 3 | 289 | 207. 0 | 200. 9 | 349 | 250. 1 | 242. 6 | 409 | 293. 3 | 284. 3 |
| 50 | 50. | 35. | 40. | 110 | 78. 5 | 76. 5 | 170 | 121. 5 | 118. 2 | 230 | 164. 6 | 160. 0 | 290 | 207. 7 | 201. 6 | 350 | 250. 8 | 243. 3 | 410 | 294. 0 | 285. 0 |
| 51 | 51. | 36. | 41. | 111 | 79. 2 | 77. 2 | 171 | 122. 2 | 118. 9 | 231 | 165. 3 | 160. 7 | 291 | 208. 4 | 202. 3 | 351 | 251. 5 | 244. 0 | 411 | 294. 7 | 285. 7 |
| 52 | 52. | 37. | 42. | 112 | 79. 9 | 77. 9 | 172 | 122. 9 | 119. 6 | 232 | 166. 0 | 161. 4 | 292 | 209. 1 | 203. 0 | 352 | 252. 2 | 244. 7 | 412 | 295. 4 | 286. 4 |
| 53 | 53. | 37. | 43. | 113 | 80. 6 | 78. 6 | 173 | 123. 6 | 120. 3 | 233 | 166. 7 | 162. 1 | 293 | 209. 8 | 203. 7 | 353 | 252. 9 | 245. 4 | 413 | 296. 1 | 287. 1 |
| 54 | 54. | 38. | 44. | 114 | 81. 3 | 79. 3 | 174 | 124. 3 | 121. 0 | 234 | 167. 4 | 162. 8 | 294 | 210. 5 | 204. 4 | 354 | 253. 6 | 246. 1 | 414 | 296. 8 | 287. 8 |
| 55 | 55. | 39. | 45. | 115 | 82. 0 | 80. 0 | 175 | 125. 0 | 121. 7 | 235 | 168. 1 | 163. 5 | 295 | 211. 2 | 205. 1 | 355 | 254. 3 | 246. 8 | 415 | 297. 5 | 288. 5 |
| 56 | 56. | 40. | 46. | 116 | 82. 7 | 80. 7 | 176 | 125. 7 | 122. 4 | 236 | 168. 8 | 164. 2 | 296 | 211. 9 | 205. 8 | 356 | 255. 0 | 247. 5 | 416 | 298. 2 | 289. 2 |
| 57 | 57. | 40. | 47. | 117 | 83. 4 | 81. 4 | 177 | 126. 4 | 123. 1 | 237 | 169. 5 | 164. 9 | 297 | 212. 6 | 206. 5 | 357 | 255. 7 | 248. 2 | 417 | 298. 9 | 289. 9 |
| 58 | 58. | 41. | 48. | 118 | 84. 1 | 82. 1 | 178 | 127. 1 | 123. 8 | 238 | 170. 2 | 165. 6 | 298 | 213. 3 | 207. 2 | 358 | 256. 4 | 248. 9 | 418 | 299. 6 | 290. 6 |
| 59 | 59. | 42. | 49. | 119 | 84. 8 | 82. 8 | 179 | 127. 8 | 124. 5 | 239 | 170. 9 | 166. 3 | 299 | 214. 0 | 207. 9 | 359 | 257. 1 | 249. 6 | 419 | 300. 3 | 291. 3 |
| 60 | 60. | 42. | 50. | 120 | 85. 6 | 83. 5 | 180 | 128. 5 | 125. 2 | 240 | 171. 6 | 167. 0 | 300 | 214. 7 | 208. 6 | 360 | 257. 8 | 250. 3 | 420 | 301. 0 | 292. 0 |
| | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. | Dist | D. Lat. | Dep. |

For 46 Degrees.

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | | | | | | | | | |
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| ′ | Lat. 0° | Lat. 1° | Lat. 2° | Lat. 3° | Lat. 4° | Lat. 5° | Lat. 6° | Lat. 7° | Lat. 8° | Lat. 9° | Lat. 10° | Lat. 11° | Lat. 12° | Lat. 13° | Lat. 14° | Lat. 15° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 0. 00 | 60. 01 | 120. 02 | 180. 03 | 240. 04 | 300. 05 | 360. 06 | 420. 07 | 480. 08 | 541. 09 | 601. 10 | 663. 07 | 664, 09 | 725, 11 | 787, 13 | 849, 15 |
| 1 | 1. 00 | 61. 01 | 121. 02 | 181. 03 | 241. 04 | 301. 05 | 361. 06 | 421. 07 | 482. 08 | 542. 09 | 602. 10 | 664. 08 | 665, 11 | 726, 13 | 788, 15 | 850, 17 |
| 2 | 2. 00 | 62. 01 | 122. 02 | 182. 03 | 242. 04 | 302. 05 | 362. 06 | 422. 07 | 483. 08 | 543. 09 | 603. 10 | 665. 09 | 666, 13 | 727, 15 | 789, 17 | 851, 19 |
| 3 | 3. 00 | 63. 01 | 123. 02 | 183. 03 | 243. 04 | 303. 05 | 363. 06 | 423. 07 | 484. 08 | 544. 09 | 604. 10 | 666. 10 | 667, 15 | 728, 17 | 790, 19 | 852, 21 |
| 4 | 4. 00 | 64. 01 | 124. 02 | 184. 03 | 244. 04 | 304. 05 | 364. 06 | 424. 07 | 485. 08 | 545. 09 | 605. 10 | 667. 11 | 668, 17 | 729, 19 | 791, 21 | 853, 23 |
| 5 | 5. 00 | 65. 01 | 125. 02 | 185. 03 | 245. 04 | 305. 05 | 365. 06 | 425. 07 | 486. 08 | 546. 09 | 606. 10 | 668. 12 | 669, 19 | 730, 21 | 791, 23 | 853, 25 |
| 6 | 6. 00 | 66. 01 | 126. 02 | 186. 03 | 246. 04 | 306. 05 | 366. 06 | 426. 07 | 487. 08 | 547. 09 | 607. 10 | 669. 13 | 670, 21 | 731, 46 | 792, 94 | 854, 67 | 916, 67 |
| 7 | 7. 00 | 67. 01 | 127. 02 | 187. 03 | 247. 04 | 307. 05 | 367. 06 | 427. 07 | 488. 08 | 548. 09 | 608. 10 | 670. 14 | 671, 22 | 732, 48 | 793, 97 | 855, 70 | 917, 71 |
| 8 | 8. 00 | 68. 01 | 128. 02 | 188. 03 | 248. 04 | 308. 05 | 368. 06 | 428. 07 | 489. 08 | 549. 09 | 609. 10 | 671. 15 | 672, 24 | 733, 50 | 794, 99 | 856, 73 | 918, 75 |
| 9 | 9. 00 | 69. 01 | 129. 02 | 189. 03 | 249. 04 | 309. 05 | 369. 06 | 429. 07 | 490. 08 | 550. 09 | 610. 10 | 672. 16 | 673, 25 | 734, 52 | 796, 01 | 857, 75 | 919, 78 |
| 10 | 10. 00 | 70. 01 | 130. 02 | 190. 03 | 250. 04 | 310. 05 | 370. 06 | 430. 07 | 491. 08 | 551. 09 | 611. 10 | 673. 17 | 674, 27 | 735, 54 | 797, 03 | 858, 78 | 920, 82 |
| 11 | 11. 00 | 71. 01 | 131. 02 | 191. 03 | 251. 04 | 311. 05 | 371. 06 | 431. 07 | 492. 08 | 552. 09 | 612. 10 | 674. 18 | 675, 28 | 736, 56 | 798, 05 | 859, 80 | 921, 86 |
| 12 | 12. 00 | 72. 01 | 132. 02 | 192. 03 | 252. 04 | 312. 05 | 372. 06 | 432. 07 | 493. 08 | 553. 09 | 613. 10 | 675. 19 | 676, 30 | 737, 58 | 799, 07 | 860, 83 | 922, 89 |
| 13 | 13. 00 | 73. 01 | 133. 02 | 193. 03 | 253. 04 | 313. 05 | 373. 06 | 433. 07 | 494. 08 | 554. 09 | 614. 10 | 676. 20 | 677, 31 | 738, 60 | 800, 09 | 861, 85 | 923, 93 |
| 14 | 14. 00 | 74. 01 | 134. 02 | 194. 03 | 254. 04 | 314. 05 | 374. 06 | 434. 07 | 495. 08 | 555. 09 | 615. 10 | 677. 21 | 678, 33 | 739, 62 | 801, 11 | 862, 88 | 924, 96 |
| 15 | 15. 00 | 75. 01 | 135. 02 | 195. 03 | 255. 04 | 315. 05 | 375. 06 | 435. 07 | 496. 08 | 556. 09 | 616. 10 | 678. 22 | 679, 34 | 740, 64 | 802, 13 | 863, 90 | 925, 99 |
| 16 | 16. 00 | 76. 01 | 136. 03 | 196. 04 | 256. 05 | 316. 06 | 376. 07 | 436. 08 | 497. 09 | 557. 10 | 617. 11 | 679. 23 | 680, 40 | 741, 69 | 803, 15 | 864, 92 | 926, 02 |
| 17 | 17. 00 | 77. 01 | 137. 04 | 197. 05 | 257. 06 | 317. 07 | 377. 08 | 437. 09 | 498. 10 | 558. 11 | 618. 12 | 680. 34 | 681, 42 | 742, 71 | 804, 24 | 866, 0 | |
| 18 | 18. 00 | 78. 01 | 138. 04 | 198. 05 | 258. 06 | 318. 07 | 378. 08 | 439. 09 | 499. 10 | 559. 11 | 619. 12 | 681. 35 | 682, 44 | 743, 73 | 805, 26 | 867, 05 | 929, 11 |
| 19 | 19. 00 | 79. 01 | 139. 04 | 199. 05 | 259. 06 | 319. 07 | 379. 08 | 440. 09 | 500. 10 | 560. 11 | 620. 12 | 682. 36 | 683, 46 | 744, 76 | 806, 29 | 868, 08 | 930, 15 |
| 20 | 20. 00 | 80. 01 | 140. 04 | 200. 05 | 260. 06 | 320. 07 | 380. 08 | 441. 09 | 501. 10 | 561. 11 | 621. 12 | 683. 37 | 684, 48 | 745, 78 | 807, 31 | 869, 10 | 931, 17 |
| 21 | 21. 00 | 81. 01 | 141. 04 | 201. 05 | 261. 06 | 321. 07 | 381. 08 | 442. 09 | 502. 10 | 562. 11 | 622. 12 | 684. 38 | 685, 50 | 746, 81 | 808, 33 | 870, 12 | 932, 19 |
| 22 | 22. 00 | 82. 01 | 142. 04 | 202. 05 | 262. 06 | 322. 07 | 382. 08 | 443. 09 | 503. 10 | 563. 11 | 623. 12 | 685. 39 | 686, 52 | 747, 83 | 809, 35 | 871, 14 | 933, 21 |
| 23 | 23. 00 | 83. 01 | 143. 04 | 203. 05 | 263. 06 | 323. 07 | 383. 08 | 444. 09 | 504. 10 | 564. 11 | 624. 12 | 686. 40 | 687, 54 | 748, 85 | 810, 40 | 872, 16 | 934, 23 |
| 24 | 24. 00 | 84. 01 | 144. 04 | 204. 05 | 264. 06 | 324. 07 | 384. 08 | 445. 09 | 505. 10 | 565. 11 | 625. 12 | 687. 41 | 688, 56 | 749, 88 | 811, 43 | 873, 21 | 935, 28 |
| 25 | 25. 00 | 85. 01 | 145. 04 | 205. 05 | 265. 06 | 325. 07 | 385. 08 | 446. 09 | 506. 10 | 566. 11 | 626. 12 | 688. 42 | 689, 58 | 750, 90 | 812, 46 | 874, 25 | 937, 32 |
| 26 | 26. 00 | 86. 01 | 146. 04 | 206. 05 | 266. 06 | 326. 07 | 386. 08 | 447. 09 | 507. 10 | 567. 11 | 627. 12 | 689. 43 | 690, 60 | 751, 92 | 813, 48 | 875, 27 | 938, 36 |
| 27 | 27. 00 | 87. 01 | 147. 04 | 207. 05 | 267. 06 | 327. 07 | 387. 08 | 448. 09 | 508. 10 | 568. 11 | 628. 12 | 690. 44 | 691, 62 | 752, 94 | 814, 50 | 876, 30 | 939, 40 |
| 28 | 28. 00 | 88. 01 | 148. 04 | 208. 05 | 268. 06 | 328. 07 | 388. 08 | 449. 09 | 509. 10 | 569. 11 | 629. 12 | 691. 45 | 692, 64 | 753, 96 | 815, 53 | 877, 32 | 940, 44 |
| 29 | 29. 00 | 89. 01 | 149. 04 | 209. 05 | 269. 06 | 329. 07 | 389. 08 | 450. 09 | 510. 10 | 570. 11 | 630. 12 | 692. 46 | 693, 66 | 754, 98 | 816, 55 | 878, 34 | 941, 48 |
| 30 | 30. 00 | 90. 01 | 150. 04 | 210. 05 | 270. 06 | 330. 07 | 390. 08 | 451. 09 | 511. 10 | 571. 11 | 631. 12 | 693. 47 | 694, 68 | 756, 00 | 817, 58 | 879, 37 | 942, 52 |
| 31 | 31. 00 | 91. 01 | 151. 04 | 211. 05 | 271. 06 | 331. 07 | 391. 08 | 452. 09 | 512. 10 | 572. 11 | 632. 12 | 694. 48 | 695, 70 | 757, 05 | 818, 63 | 880, 47 | 942 | 56 |
| 32 | 32. 00 | 92. 01 | 152. 04 | 212. 05 | 272. 06 | 332. 07 | 392. 08 | 453. 09 | 513. 10 | 573. 11 | 633. 12 | 695. 49 | 696, 72 | 758, 07 | 819, 60 | 881, 50 | 943 | 60 |
| 33 | 33. 00 | 93. 01 | 153. 04 | 213. 05 | 273. 06 | 333. 07 | 393. 08 | 454. 09 | 514. 10 | 574. 11 | 634. 12 | 696. 50 | 697, 74 | 759, 09 | 820, 66 | 882, 54 | 944 | 64 |
| 34 | 34. 00 | 94. 01 | 154. 04 | 214. 05 | 274. 06 | 334. 07 | 394. 08 | 455. 09 | 515. 10 | 575. 11 | 635. 12 | 697. 51 | 698, 76 | 760, 12 | 821, 71 | 883 | | 68 |
| 35 | 35. 00 | 95. 01 | 155. 04 | 215. 05 | 275. 06 | 335. 07 | 395. 08 | 456. 09 | 516. 10 | 576. 11 | 636. 12 | 698. 52 | 699, 78 | 761, 14 | 822, 74 | 884 | | 72 |
| 36 | 36. 00 | 96. 01 | 156. 04 | 216. 05 | 276. 06 | 336. 07 | 396. 08 | 457. 09 | 517. 10 | 577. 11 | 637. 12 | 699. 53 | 700, 80 | 762, 16 | 823, 77 | 885 | | 76 |
| 37 | 37. 00 | 97. 01 | 157. 04 | 217. 05 | 277. 06 | 337. 07 | 397. 08 | 458. 09 | 518. 10 | 578. 11 | 638. 12 | 700. 54 | 701, 82 | 763, 18 | 824, 79 | 886 | | 80 |
| 38 | 38. 00 | 98. 01 | 158. 04 | 218. 05 | 278. 06 | 338. 07 | 398. 08 | 459. 09 | 519. 10 | 579. 11 | 639. 12 | 701. 55 | 702, 84 | 764, 20 | 825, 81 | 887 | | 84 |
| 39 | 39. 00 | 99. 01 | 159. 04 | 219. 05 | 279. 06 | 339. 07 | 399. 08 | 460. 09 | 520. 10 | 580. 11 | 640. 12 | 702. 56 | 703, 86 | 765, 22 | 826, 83 | 888 | | 88 |
| 40 | 40. 00 | 100. 01 | 160. 04 | 220. 05 | 280. 06 | 340. 07 | 400. 08 | 461. 09 | 521. 10 | 581. 11 | 641. 12 | 703. 57 | 704, 88 | 766, 24 | 827, 85 | 889 | | 92 |
| 41 | 41. 00 | 101. 01 | 161. 04 | 221. 05 | 281. 06 | 341. 07 | 401. 08 | 462. 09 | 522. 10 | 582. 11 | 642. 12 | 704. 58 | 705, 90 | 767, 26 | 828, 87 | 890 | | 96 |
| 42 | 42. 00 | 102. 01 | 162. 04 | 222. 05 | 282. 06 | 342. 07 | 402. 08 | 463. 09 | 523. 10 | 583. 11 | 643. 12 | 705. 59 | 706, 92 | 768, 28 | 829, 89 | 891 | | 1. 00 |
| 43 | 43. 00 | 103. 01 | 163. 04 | 223. 05 | 283. 06 | 343. 07 | 403. 08 | 464. 09 | 524. 10 | 584. 11 | 644. 12 | 706. 60 | 707, 94 | 769, 30 | 830, 91 | 892 | | 1. 04 |
| 44 | 44. 00 | 104. 01 | 164. 04 | 224. 05 | 284. 06 | 344. 07 | 404. 08 | 465. 09 | 525. 10 | 585. 11 | 645. 12 | 707. 61 | 708, 96 | 770, 32 | 831, 93 | 893 | | 1. 08 |
| 45 | 45. 00 | 105. 01 | 165. 04 | 225. 05 | 285. 06 | 345. 07 | 405. 08 | 466. 09 | 526. 10 | 586. 11 | 646. 12 | 708. 62 | 709, 98 | 771, 34 | 832, 95 | 894 | | 1. 12 |
| 46 | 46. 00 | 106. 01 | 166. 04 | 226. 05 | 286. 06 | 346. 07 | 406. 08 | 467. 09 | 527. 10 | 587. 11 | 647. 12 | 709. 63 | 711, 00 | 772, 36 | 833, 97 | 895 | | 1. 16 |
| 47 | 47. 00 | 107. 01 | 167. 04 | 227. 05 | 287. 06 | 347. 07 | 407. 08 | 468. 09 | 528. 10 | 588. 11 | 648. 12 | 710. 64 | 712, 02 | 773, 38 | 834, 99 | 896 | | 1. 20 |
| 48 | 48. 00 | 108. 01 | 168. 04 | 228. 05 | 288. 06 | 348. 07 | 408. 08 | 469. 09 | 529. 10 | 589. 11 | 649. 12 | 711. 65 | 713, 04 | 774, 40 | 836, 01 | 897 | | 1. 24 |
| 49 | 49. 00 | 109. 01 | 169. 04 | 229. 05 | 289. 06 | 349. 07 | 409. 08 | 470. 09 | 530. 10 | 590. 11 | 650. 12 | 712. 66 | 714, 06 | 775, 42 | 837, 03 | 898 | | 1. 28 |
| 50 | 50. 00 | 110. 01 | 170. 04 | 230. 05 | 290. 06 | 350. 07 | 410. 08 | 471. 09 | 531. 10 | 591. 11 | 651. 12 | 713. 67 | 715, 08 | 776, 44 | 838, 05 | 899 | | 1. 32 |
| 51 | 51. 00 | 111. 01 | 171. 04 | 231. 05 | 291. 06 | 351. 07 | 411. 08 | 472. 09 | 532. 10 | 592. 11 | 652. 12 | 714. 68 | 716, 10 | 777, 46 | 839, 07 | 900 | | 1. 36 |
| 52 | 52. 00 | 112. 01 | 172. 04 | 232. 05 | 292. 06 | 352. 07 | 412. 08 | 473. 09 | 533. 10 | 593. 11 | 653. 12 | 715. 69 | 717, 12 | 778, 48 | 840, 09 | 901 | | 1. 40 |
| 53 | 53. 00 | 113. 01 | 173. 04 | 233. 05 | 293. 06 | 353. 07 | 413. 08 | 474. 09 | 534. 10 | 594. 11 | 654. 12 | 716. 70 | 718, 14 | 779, 50 | 841, 11 | 902 | | 1. 44 |
| 54 | 54. 00 | 114. 02 | 174. 07 | 234. 18 | 294. 36 | 354. 63 | 415. 00 | 475. 51 | 536. 16 | 596. 93 | 657. 98 | 719. | | | | | | |
| 55 | 55. 00 | 115. 02 | 175. 07 | 235. 18 | 295. 36 | 355. 63 | 416. 01 | 476. 52 | 537. 17 | 597. 00 | 658. 00 | 720. | | | | | | |
| 56 | 56. 00 | 116. 02 | 176. 07 | 236. 18 | 296. 36 | 356. 63 | 417. 01 | 477. 52 | 538. 17 | 598. 00 | 659. 00 | 721. | | | | | | |
| 57 | 57. 00 | 117. 02 | 177. 07 | 237. 18 | 297. 36 | 357. 63 | 418. 01 | 478. 52 | 539. 17 | 599. 00 | 660. 00 | 722. | | | | | | |
| 58 | 58. 00 | 118. 02 | 178. 07 | 238. 18 | 298. 36 | 358. 63 | 419. 01 | 479. 52 | 540. 17 | 600. 00 | 661. 00 | 723. | | | | | | |
| 59 | 59. 00 | 119. 02 | 179. 07 | 239. 18 | 299. 36 | 359. 63 | 420. 01 | 480. 52 | 541. 17 | 601. 00 | 662. 00 | 724. | | | | | | |
| 60 | 60. 00 | 120. 02 | 180. 07 | 240. 18 | 300. 36 | 360. 63 | 421. 01 | 481. 52 | 542. 17 | 602. 00 | 663. 00 | 725. | | | | | | |

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| 29 | 1002, 93 | 1065, 67 | 1128, 75 | 1192, | 1250, 05 | | | | | | | | |
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| 33 | 1007, 10 | 1069, 86 | 1132, 97 | 1196, 45 | 1260, 32 | 1324, 60 | 1389, 35 | 1454, 55 | 1520, 26 | 1586, 49 | 1653, 27 | 1720, 65 | 1788, 63 |
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| 38 | 1012, 32 | 1075, 11 | 1138, 25 | 1201, 75 | 1265, 66 | 1329, 98 | 1394, 76 | 1460, 01 | 1525, 76 | 1592, 03 | 1658, 87 | 1726, 29 | 1794, 33 |
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| 41 | 1015, 45 | 1078, 26 | 1141, 41 | 1204, 94 | 1268, 87 | 1333, 21 | 1398, 01 | 1463, 28 | 1529, 06 | 1595, 36 | 1662, 22 | 1729, 67 | 1797, 75 |
| 42 | 1016, 50 | 1079, 31 | 1142, 47 | 1206, 00 | 1269, 93 | 1334, 29 | 1399, 10 | 1464, 38 | 1530, 16 | 1596, 47 | 1663, 34 | 173 | |
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| 44 | 1018, 58 | 1081, 41 | 1144, 58 | 1208, 13 | 1272, 07 | 1336, 44 | 1401, 26 | 1466, 56 | 1532, 36 | 1598, 69 | 1665, 58 | 1733, 06 | 1801, |
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| 46 | 1020, 67 | 1083, 51 | 1146, 69 | 1210, 25 | 1274, 21 | 1338, 60 | 1403, 43 | 1468, 75 | 1534, 56 | 1600, 91 | 1667, 82 | 1735, 32 | 1803, 45 |
| 47 | 1021, 72 | 1084, 56 | 1147, 75 | 1211, 31 | 1275, 28 | 1339, 67 | 1404, 52 | 1469, 84 | 1535, 66 | 1602, 02 | 1668, 94 | 1736, 45 | 18 |
| 48 | 1022, 76 | 1085, 61 | 1148, 80 | 1212, 38 | 1276, 35 | 1340, 75 | 1405, 60 | 1470, 93 | 1536, 77 | 1603, 13 | 1670, 06 | 1737, 58 | 1805, 73 |
| 49 | 1023, 81 | 1086, 66 | 1149, 86 | 1213, 44 | 1277, 42 | 1341, 83 | 1406, 69 | 1472, 02 | 1537, 87 | 1604, 24 | 1671, 18 | 1738, 71 | 1806, 87 |
| 50 | 1024, 85 | 1087, 71 | 1150, 92 | 1214, 50 | 1278, 49 | 1342, 91 | 1407, 77 | 1473, 12 | 1538, 97 | 1605, 35 | 1672, 30 | 1739, 84 | 1808, 01 |
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| 60 | 1034, 20 | 1097, 16 | 1160, 43 | 1224, 07 | 1288, 13 | 1352, 61 | 1417, 54 | 1482, 90 | 1548, 89 | 1615, 36 | 1682, 3 | | |
| 61 | | 1098, 22 | 1161, 49 | 1225, 14 | 1289, 22 | 1353, 69 | 1418, 62 | 1484, 06 | 1549, 96 | 1616, 47 | 1683, 49 | | |

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| 24 | 1846, 93 | 1916, 14 | 1986, 07 | 2056, 75 | 2128, 21 | 2200, 50 | 2273, 66 | 2347, 73 | 2422, 76 | 2498, 80 | | | |
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| 27 | 1850, 37 | 1919, 62 | 1989, 59 | 2060, 30 | 2131, 80 | 2204, 14 | 2277, 34 | 2351, 46 | 2426, | | | | |
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| 29 | 1852, 67 | 1921, 94 | 1991, 93 | 2062, 67 | 2134, 20 | 2206, 56 | 2279, 79 | 2353, 95 | 2429, | | | | |
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| 32 | 1856, 12 | 1925, 43 | 1995, 45 | 2066, 23 | 2137, 80 | 2210, 20 | 2283, 48 | 2357, 68 | 2432, 84 | 2509, 02 | | | |
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| 51 | 1877, 99 | 1947, 52 | 2017, 78 | 2088, 80 | 2160, 63 | 2233, 31 | 2306, 88 | 238 | | | | | |
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| 2 | 2784, 40 | 2850, 82 | 2948, 60 | 3032, 77 | 3118, 43 | 3205, 65 | 3294, 52 | 3385, 13 | 3477, 56 | 3571, 99 | 3668, 44 | 3767, 09 | 3868, 04 |
| 3 | 2785, 75 | 2852, 17 | 2949, 98 | 3034, 18 | 3119, 77 | 3207, 12 | 3296, 01 | 3386, 66 | 3479, 11 | 3573, 58 | 3670, 07 | 3768, 75 | 3869, 74 |
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| 6 | 2790, 78 | 2856, 20 | 2954, 16 | 3038, 43 | 3124, 19 | 3211, 52 | 3300, 51 | 3391, 24 | 3483, 74 | 3578, 35 | 3674, 95 | 3773, 74 | 3874, 86 |
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| 9 | 2793, 84 | 2860, 24 | 2958, 34 | 3042, 68 | 3129, 71 | 3215, 93 | 3305, 00 | 3395, 82 | 3488, 38 | 3583, 13 | 3679, 84 | 3778, 74 | 3879, 98 |
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| 13 | 2799, 24 | 2865, 63 | 2963, 93 | 3048, 36 | 3136, 07 | 3221, 81 | 3311, 00 | 3401, 96 | 3494, 58 | 3589, 51 | 3686, 36 | 3785, 42 | 3886, 81 |
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| 22 | 2811, 40 | 2877, 78 | 2976, 52 | 3061, 15 | 3151, 63 | 3235, 08 | 3324, 52 | 3415, 78 | 3508, 52 | 3603, 92 | 3701, 08 | 3800, 47 | 3902, 23 |
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| 26 | 2816, 81 | 2883, 18 | 2982, 12 | 3066, 83 | 3158, 01 | 3241, 00 | 3330, 54 | 3421, 93 | 3514, 72 | 3610, 31 | 3707, 62 | 3807, 18 | 3909, 10 |
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| 28 | 2819, 53 | 2901, 53 | 2984, 80 | 3069, 70 | 3161, 69 | 3243, 95 | 3333, 56 | 3425, 01 | 3517, 83 | 3613, 51 | 3710, 90 | 3810, 54 | 3912, 54 |
| 29 | 2820, 88 | 2902, 91 | 2986, 20 | 3071, 13 | 3163, 54 | 3245, 43 | 3335, 07 | 3426, 55 | 3519, 38 | 3615, 13 | 3712, 54 | 3812, 22 | 3914, 26 |
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| 35 | 2829, 03 | 2911, 16 | 2994, 71 | 3079, 69 | 3174, 61 | 3254, 31 | 3344, 13 | 3435, 79 | 3528, 72 | 3624, 78 | 3722, 42 | 3822, 32 | 3924, 60 |
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| 39 | 2834, 46 | 2916, 70 | 3000, 33 | 3085, 41 | 3181, 99 | 3260, 25 | 3350, 17 | 3441, 95 | 3534, 95 | 3631, 22 | 3729, 01 | 3829, 06 | 3931, 51 |
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| 51 | 2850, 81 | 2933, 33 | 3017, 24 | 3102, 61 | 3204, 18 | 3278, 15 | 3368, 33 | 3460, 46 | 3553, 67 | 3650, 59 | 3748, 91 | 3849, 43 | 3952, 32 |
| 52 | 2852, 17 | 2934, 72 | 3018, 65 | 3104, 04 | 3206, 03 | 3279, 64 | 3369, 84 | 3462, 00 | 3555, 23 | 3652, 21 | 3750, 57 | 3851, 13 | 3954, 06 |
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| 58 | 2860, 36 | 2943, 06 | 3027, 12 | 3112, 67 | 3217, 13 | 3288, 64 | 3378, 94 | 3471, 29 | 3564, 59 | 3661, 92 | 3760, 59 | 3861, 34 | 3964, 48 |
| 59 | 2861, 73 | 2944, 45 | 3028, 53 | 3114, 11 | 3218, 98 | 3290, 14 | 3380, 47 | 3472, 84 | 3566, 15 | 3663, 54 | 3762, 26 | 3863, 04 | 3966, 22 |
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| ′ | Lat. 55 | Lat. 56 | Lat. 57 | Lat. 58 | Lat. 59 | Lat. 60 | Lat. 61 | Lat. 62 | Lat. 63 | Lat. 64 | Lat. 65 | Lat. 66 | Lat. 67 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0 | 3967, 07 | 4073, 90 | 4182, 62 | 4294, 36 | 4409, 14 | 4527, 37 | 4649, 10 | 4774, 98 | 4904, 94 | 5039, 42 | 5178, 44 | 5322, 54 | 5472, 00 |
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| 3 | 3975, 20 | 4081, 27 | 4191, 08 | 4301, 99 | 4417, 84 | 4536, 03 | 4657, 91 | 4783, 31 | 4913, 41 | 5048, 05 | 5187, 30 | 5331, 60 | 5481, 31 |
| 4 | 3977, 95 | 4084, 07 | 4193, 91 | 4304, 85 | 4420, 76 | 4538, 99 | 4660, 83 | 4786, 31 | 4916, 49 | 5051, 17 | 5190, 42 | 5334, 77 | 5484, 47 |
| 5 | 3980, 75 | 4086, 87 | 4196, 81 | 4307, 73 | 4423, 73 | 4541, 91 | 4663, 80 | 4789, 39 | 4919, 57 | 5054, 29 | 5193, 59 | 5337, 93 | 5487, 63 |
| 6 | 3983, 54 | 4089, 67 | 4199, 65 | 4310, 61 | 4426, 65 | 4544, 87 | 4666, 72 | 4792, 47 | 4922, 65 | 5057, 41 | 5196, 71 | 5341, 09 | 5490, 79 |
| 7 | 3986, 34 | 4092, 47 | 4202, 55 | 4313, 49 | 4429, 62 | 4547, 79 | 4669, 69 | 4795, 55 | 4925, 73 | 5060, 53 | 5199, 88 | 5344, 25 | 5493, 95 |
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| 9 | 3991, 94 | 4098, 07 | 4208, 23 | 4319, 25 | 4435, 46 | 4553, 67 | 4675, 53 | 4801, 71 | 4931, 89 | 5066, 77 | 5206, 12 | 5350, 57 | 5500, 27 |
| 10 | 3994, 74 | 4100, 87 | 4211, 07 | 4322, 13 | 4438, 38 | 4556, 59 | 4678, 45 | 4804, 79 | 4934, 97 | 5069, 89 | 5209, 24 | 5353, 73 | 5503, 43 |
| 11 | 3997, 54 | 4103, 67 | 4213, 91 | 4325, 01 | 4441, 30 | 4559, 51 | 4681, 37 | 4807, 87 | 4938, 05 | 5073, 01 | 5212, 36 | 5356, 89 | 5506, 59 |
| 12 | 4000, 34 | 4106, 47 | 4216, 74 | 4327, 89 | 4444, 22 | 4562, 43 | 4684, 29 | 4810, 95 | 4941, 13 | 5076, 13 | 5215, 48 | 5360, 05 | 5509, 75 |
| 13 | 4003, 14 | 4109, 27 | 4219, 58 | 4330, 77 | 4447, 14 | 4565, 35 | 4687, 21 | 4814, 03 | 4944, 21 | 5079, 25 | 5218, 60 | 5363, 21 | 5512, 91 |
| 14 | 4005, 94 | 4112, 07 | 4222, 42 | 4333, 65 | 4450, 06 | 4568, 27 | 4690, 13 | 4817, 11 | 4947, 29 | 5082, 37 | 5221, 72 | 5366, 37 | 5516, 07 |
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| 16 | 4011, 54 | 4117, 67 | 4228, 10 | 4339, 41 | 4455, 90 | 4574, 11 | 4695, 97 | 4823, 27 | 4953, 45 | 5088, 61 | 5227, 96 | 5372, 69 | 5522, 39 |
| 17 | 4014, 34 | 4120, 47 | 4230, 94 | 4342, 29 | 4458, 82 | 4577, 03 | 4698, 89 | 4826, 35 | 4956, 53 | 5091, 73 | 5231, 08 | 5375, 85 | 5525, 55 |
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| 19 | 4019, 94 | 4126, 07 | 4236, 62 | 4348, 05 | 4464, 66 | 4582, 87 | 4704, 73 | 4832, 51 | 4962, 69 | 5097, 97 | 5237, 32 | 5382, 17 | 5531, 87 |
| 20 | 4022, 74 | 4128, 87 | 4239, 46 | 4350, 93 | 4467, 58 | 4585, 79 | 4707, 65 | 4835, 59 | 4965, 77 | 5101, 09 | 5240, 44 | 5385, 33 | 5535, 03 |
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| 22 | 4028, 34 | 4134, 47 | 4245, 14 | 4356, 69 | 4473, 42 | 4591, 63 | 4713, 49 | 4841, 75 | 4971, 93 | 5107, 33 | 5246, 68 | 5391, 65 | 5541, 35 |
| 23 | 4031, 14 | 4137, 27 | 4247, 98 | 4359, 57 | 4476, 34 | 4594, 55 | 4716, 41 | 4844, 83 | 4975, 01 | 5110, 45 | 5249, 80 | 5394, 81 | 5544, 51 |
| 24 | 4033, 94 | 4140, 07 | 4250, 82 | 4362, 45 | 4479, 26 | 4597, 47 | 4719, 33 | 4847, 91 | 4978, 09 | 5113, 57 | 5252, 92 | 5397, 97 | 5547, 67 |
| 25 | 4036, 74 | 4142, 87 | 4253, 66 | 4365, 33 | 4482, 18 | 4600, 39 | 4722, 25 | 4850, 99 | 4981, 17 | 5116, 69 | 5256, 04 | 5401, 13 | 5550, 83 |
| 26 | 4039, 54 | 4145, 67 | 4256, 50 | 4368, 21 | 4485, 10 | 4603, 31 | 4725, 17 | 4854, 07 | 4984, 25 | 5119, 81 | 5259, 16 | 5404, 29 | 5553, 99 |
| 27 | 4042, 34 | 4148, 47 | 4259, 34 | 4371, 09 | 4488, 02 | 4606, 23 | 4728, 09 | 4857, 15 | 4987, 33 | 5122, 93 | 5262, 28 | 5407, 45 | 5557, 15 |
| 28 | 4045, 14 | 4151, 27 | 4262, 18 | 4373, 97 | 4490, 94 | 4609, 15 | 4731, 01 | 4860, 23 | 4990, 41 | 5126, 05 | 5265, 40 | 5410, 61 | 5560, 31 |
| 29 | 4047, 94 | 4154, 07 | 4265, 02 | 4376, 85 | 4493, 86 | 4612, 07 | 4733, 93 | 4863, 31 | 4993, 49 | 5129, 17 | 5268, 52 | 5413, 77 | 5563, 47 |
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| 31 | 4053, 54 | 4159, 67 | 4270, 70 | 4382, 61 | 4499, 70 | 4617, 91 | 4739, 77 | 4869, 47 | 4999, 65 | 5135, 41 | 5274, 76 | 5420, 09 | 5569, 79 |
| 32 | 4056, 34 | 4162, 47 | 4273, 54 | 4385, 49 | 4502, 62 | 4620, 83 | 4742, 69 | 4872, 55 | 5002, 73 | 5138, 53 | 5277, 88 | 5423, 25 | 5572, 95 |
| 33 | 4059, 14 | 4165, 27 | 4276, 38 | 4388, 37 | 4505, 54 | 4623, 75 | 4745, 61 | 4875, 63 | 5005, 81 | 5141, 65 | 5281, 00 | 5426, 41 | 5576, 11 |
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| 36 | 4067, 54 | 4173, 67 | 4284, 90 | 4397, 01 | 4514, 30 | 4632, 51 | 4754, 37 | 4884, 87 | 5015, 05 | 5151, 01 | 5290, 36 | 5435, 89 | 5585, 59 |
| 37 | 4070, 34 | 4176, 47 | 4287, 74 | 4399, 89 | 4517, 22 | 4635, 43 | 4757, 29 | 4887, 95 | 5018, 13 | 5154, 13 | 5293, 48 | 5439, 05 | 5588, 75 |
| 38 | 4073, 14 | 4179, 27 | 4290, 58 | 4402, 77 | 4520, 14 | 4638, 35 | 4760, 21 | 4891, 03 | 5021, 21 | 5157, 25 | 5296, 60 | 5442, 21 | 5591, 91 |
| 39 | 4075, 94 | 4182, 07 | 4293, 42 | 4405, 65 | 4523, 06 | 4641, 27 | 4763, 13 | 4894, 11 | 5024, 29 | 5160, 37 | 5299, 72 | 5445, 37 | 5595, 07 |
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| 41 | 4081, 54 | 4187, 67 | 4299, 10 | 4411, 41 | 4528, 90 | 4647, 11 | 4768, 97 | 4900, 27 | 5030, 45 | 5166, 61 | 5305, 96 | 5451, 69 | 5601, 39 |
| 42 | 4084, 34 | 4190, 47 | 4301, 94 | 4414, 29 | 4531, 82 | 4650, 03 | 4771, 89 | 4903, 35 | 5033, 53 | 5169, 73 | 5309, 08 | 5454, 85 | 5604, 55 |
| 43 | 4087, 14 | 4193, 27 | 4304, 78 | 4417, 17 | 4534, 74 | 4652, 95 | 4774, 81 | 4906, 43 | 5036, 61 | 5172, 85 | 5312, 20 | 5458, 01 | 5607, 71 |
| 44 | 4089, 94 | 4196, 07 | 4307, 62 | 4420, 05 | 4537, 66 | 4655, 87 | 4777, 73 | 4909, 51 | 5039, 69 | 5175, 97 | 5315, 32 | 5461, 17 | 5610, 87 |
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| 47 | 4098, 34 | 4204, 47 | 4316, 14 | 4428, 69 | 4546, 42 | 4664, 63 | 4786, 49 | 4918, 75 | 5048, 93 | 5185, 33 | 5324, 68 | 5470, 65 | 5620, 35 |
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| 49 | 4103, 94 | 4210, 07 | 4321, 82 | 4434, 45 | 4552, 26 | 4670, 47 | 4792, 33 | 4924, 91 | 5055, 09 | 5191, 57 | 5330, 92 | 5476, 97 | 5626, 67 |
| 50 | 4106, 74 | 4212, 87 | 4324, 66 | 4437, 33 | 4555, 18 | 4673, 39 | 4795, 25 | 4927, 99 | 5058, 17 | 5194, 69 | 5334, 04 | 5480, 13 | 5629, 83 |
| 51 | 4109, 54 | 4215, 67 | 4327, 50 | 4440, 21 | 4558, 10 | 4676, 31 | 4798, 17 | 4931, 07 | 5061, 25 | 5197, 81 | 5337, 16 | 5483, 29 | 5632, 99 |
| 52 | 4112, 34 | 4218, 47 | 4330, 34 | 4443, 09 | 4561, 02 | 4679, 23 | 4801, 09 | 4934, 15 | 5064, 33 | 5200, 93 | 5340, 28 | 5486, 45 | 5636, 15 |
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| 54 | 4117, 94 | 4224, 07 | 4336, 02 | 4448, 85 | 4566, 86 | 4685, 07 | 4806, 93 | 4940, 31 | 5070, 49 | 5207, 17 | 5346, 52 | 5492, 77 | 5642, 47 |
| 55 | 4120, 74 | 4226, 87 | 4338, 86 | 4451, 73 | 4569, 78 | 4687, 99 | 4809, 85 | 4943, 39 | 5073, 57 | 5210, 29 | 5349, 64 | 5495, 93 | 5645, 63 |
| 56 | 4123, 54 | 4229, 67 | 4341, 70 | 4454, 61 | 4572, 70 | 4690, 91 | 4812, 77 | 4946, 47 | 5076, 65 | 5213, 41 | 5352, 76 | 5499, 09 | 5648, 79 |
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| 22 | | | | | | 6826, 46 | 7056, 37 | 7302, 20 | 7566, | | | |
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| 31 | | | | | | | | | | 7891, 91 | 8206, | |
| 32 | | | | | | | | | | | | |
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| | Lat. 81° | Lat. 82° | Lat. 83 | Lat. 84° | Lat. 85° | Lat. 86° | Lat. 87° | Lat. | Lat. 89 |
|---|---|---|---|---|---|---|---|---|---|
| 0 | 8[illegible]145. | [illegible]005. 8 | [illegible]013[illegible]89 | [illegible], 64. 6 | [illegible] | [illegible]2. | [illegible]10. 43 | [illegible] | |
| 1 | 8745. 46 | 9152[illegible] | 9014. 0 | [illegible]014[illegible]6 | [illegible], 76. 11 | [illegible]8 | [illegible]41. 17 | [illegible]45. 20 | 19[illegible] |
| 2 | 8751. 7 | 9159. | 9622. 2 | [illegible]0150. 7 | [illegible]0787. 65 | [illegible]1[illegible]. 31 | [illegible]660. 54 | [illegible]74. 22 | 16[illegible] |
| 3 | 8758. 09 | 9167. | 9630. 5 | [illegible]0165. 70 | [illegible]0799. 22 | [illegible]1[illegible]. 8 | [illegible]679. 41 | [illegible]93. 48 | 16[illegible] |
| 4 | 8764. 73 | 9174. | 9638. 80 | 10175. 37 | [illegible]0810. 82 | [illegible]1[illegible]. 3 | [illegible]699. 40 | [illegible]35. 00 | 16[illegible] |
| 5 | 8771. 17 | 9181. | 9647. 09 | 10185. 05 | [illegible]0822. 47 | [illegible]1[illegible]. 9 | [illegible]719. 0 | [illegible]52. 77 | 16[illegible] |
| 6 | 8777. 63 | 9188. | 9655. 40 | 10194. 77 | [illegible]0834. 16 | [illegible]1[illegible]. 6 | [illegible]738. 70 | [illegible]2. 80 | 16[illegible] |
| 7 | 8784. 10 | 9196. | 9663. 74 | 10204. 51 | [illegible]0845. 89 | [illegible]1[illegible]. 3 | [illegible]758. 3 | [illegible]33. 09 | 167[illegible] |
| 8 | 8790. 58 | 9203. | 9672. 09 | 10214. 28 | [illegible]0857. 65 | [illegible]1[illegible]. 1 | [illegible]778. 6 | [illegible]53. 66 | 16[illegible] |
| 9 | 8797. 08 | 9210. | 9680. 47 | 10224. 08 | [illegible]0869. 46 | [illegible]1[illegible]. 0 | [illegible]798. 2 | [illegible]14. 49 | 16[illegible] |
| 10 | 8803. 58 | 9218. | 9688. 86 | 10233. 90 | [illegible]0881. 31 | [illegible]1[illegible]. 9 | [illegible]818. 9 | [illegible]15. 61 | 16[illegible] |
| 11 | 8810. 10 | 9225. | 9697. 28 | 10243. 75 | [illegible]0893. 20 | [illegible]1[illegible]. 9 | [illegible]838. 8 | [illegible]17. 01 | 16[illegible] |
| 12 | 8816. 63 | 9232. | 9705. 71 | 10253. 64 | [illegible]0905. 13 | [illegible]1[illegible]. 9 | [illegible]859. 9 | [illegible]38. 70 | 17[illegible] |
| 13 | 8823. 17 | 9240. | 9714. 17 | 10263. 54 | [illegible]0917. 10 | [illegible]1[illegible]. 11 | [illegible]879. 2 | [illegible]60. 68 | 17[illegible] |
| 14 | 8829. 73 | 9247. | 9722. 64 | 10273. 48 | [illegible]0929. 11 | [illegible]1[illegible]. 3 | [illegible]900. 8 | [illegible]82. 97 | 17[illegible] |
| 15 | 8836. 30 | 9254. | 9731. 14 | 10283. 45 | [illegible]0941. 17 | [illegible]1[illegible]. 5 | [illegible]921. 6 | [illegible]5. 56 | 17[illegible] |
| 16 | 8842. 88 | 9262. | 9739. 66 | 10293. 45 | [illegible]0953. 26 | [illegible]1[illegible]. 8 | [illegible]942. 6 | [illegible]28. 46 | 17[illegible] |
| 17 | 8849. 47 | 9269. | 9748. 20 | 10303. 47 | [illegible]0965. 40 | [illegible]1[illegible]. 2 | [illegible]963. 8 | [illegible]51. 68 | 17[illegible] |
| 18 | 8856. 07 | 9277. | 9756. 76 | 10313. 53 | [illegible]0977. 59 | [illegible]1[illegible]. 7 | [illegible]984. 6 | [illegible]75. 23 | 17[illegible] |
| 19 | 8862. 69 | 9284. | 9765. 34 | 10323. 61 | [illegible]0989. 81 | [illegible]1[illegible]. 2 | [illegible]005. 75 | [illegible]99. 10 | 17[illegible] |
| 20 | 8869. 32 | 9292. | 9773. 94 | 10333. 72 | [illegible]1002. 08 | [illegible]1[illegible]. 81 | [illegible]027. 18 | [illegible]23. 31 | 17[illegible] |
| 21 | 8875. 96 | 9299. | 9782. 57 | 10343. 86 | [illegible]1014. 40 | [illegible]1[illegible]. 5 | [illegible]048. 74 | [illegible]47. 87 | 17[illegible] |
| 22 | 8882. 62 | 9307. | 9791. 21 | 10354. 03 | [illegible]1026. 75 | [illegible]1[illegible]. 2 | [illegible]070. 4 | [illegible]72. 78 | 17[illegible] |
| 23 | 8889. 29 | 9314. | 9799. 88 | 10364. 24 | [illegible]1039. 15 | [illegible]1[illegible]. 1 | [illegible]092. 7 | [illegible]98. 04 | 17[illegible] |
| 24 | 8895. 97 | 9322. | 9808. 57 | 10374. 47 | 11051. 60 | [illegible]1[illegible]. 9 | [illegible]3014. 5 | [illegible]23. 67 | 18[illegible] |
| 25 | 8902. 66 | 9329. | 9817. 28 | 10384. 73 | 11064. 09 | [illegible]1[illegible]. 9 | [illegible]236. 6 | [illegible]49. 67 | 18[illegible] |
| 26 | 8909. 37 | 9337. | 9826. 02 | 10395. 03 | [illegible]1076. 65 | [illegible]1[illegible]. 9 | [illegible]258. 62 | 14756. 05 | 18[illegible] |
| 27 | 8916. 09 | 9345. | 9834. 77 | 10405. 35 | [illegible]1089. 21 | [illegible]1[illegible]. 1 | [illegible]281. 2 | [illegible]83 | 18[illegible] |
| 28 | 8922. 82 | 9352. | 9843. 55 | 10415. 71 | 11101. 84 | [illegible]1[illegible]. 2 | [illegible]303. 58 | [illegible]co | 18[illegible] |
| 29 | 8929. 57 | 9360. | 9852. 35 | 10426. 10 | [illegible]1114. 52 | 11607. 5 | 13126. 27 | 14867. 57 | 18[illegible] |
| 30 | 8936. 33 | 9368. | 9861. 17 | [illegible]0436. 52 | 11127. 24 | 11620. 8 | 13149. 12 | 14905. 56 | 18[illegible] |
| 31 | 8943. | 9375. | 9870. 02 | 10446. 96 | 11140. 01 | 12008. 31 | 13172. 13 | 14943. 98 | 18799. |
| 32 | 8949. 8 | 9383. 36 | 9878. 88 | 10457. 44 | 11152. 82 | 12024. 81 | 13195. 28 | 14982. 83 | 18919. 67 |
| 33 | 8956. 68 | 9391. 96 | 9887. 77 | 10467. 95 | 11165. 69 | 12041. 39 | 13218. 60 | 15022. 12 | 19044. 69 |
| 34 | 8963. 44 | 9398. 79 | 9896. 69 | 10478. 50 | 11178. 60 | 12058. 05 | 13242. 07 | 15061. 87 | 19174. 44 |
| 35 | 8970. 21 | 9406. 52 | 9905. 63 | 10489. 08 | 11191. 56 | 12074. 79 | 13265. 70 | 15102. 08 | 19309. 27 |
| 36 | [illegible]977. 1 | [illegible]414. 30 | [illegible]914. 60 | 10499. 66 | 11204. 57 | 12091. 60 | 13289. 50 | 15142. 77 | 194[illegible] |
| 37 | [illegible]983. 9 | [illegible]423. 1 | [illegible]923. 6 | [illegible]510. 3 | [illegible]217. 63 | [illegible]2[illegible]. 5 | [illegible]313. 7 | [illegible]183. 94 | 195[illegible] |
| 38 | [illegible]990. 7 | [illegible]431. 9 | [illegible]932. 5 | [illegible]520. 9 | [illegible]230. 74 | [illegible]2[illegible]. 4 | [illegible]337. 00 | [illegible]225. 62 | 197[illegible] |
| 39 | [illegible]997. 5 | [illegible]440. 7 | [illegible]941. 4 | [illegible]531. 6 | [illegible]243. 90 | [illegible]2[illegible]. 5 | [illegible]361. 00 | [illegible]267. 80 | 199[illegible] |
| 40 | [illegible]004. 4 | [illegible]449. 5 | [illegible]950. 4 | [illegible]542. 4 | [illegible]257. 11 | [illegible]2[illegible]. 7 | [illegible]386. 7 | [illegible]310. 51 | 2 0[illegible] |
| 41 | [illegible]011. 3 | [illegible]458. 3 | [illegible]959. 4 | [illegible]553. 2 | [illegible]270. 37 | [illegible]2[illegible]. 9 | [illegible]411. 2 | [illegible]353. 76 | 2 2[illegible] |
| 42 | [illegible]018. 2 | [illegible]467. 2 | [illegible]968. 4 | [illegible]564. 1 | [illegible]283. 68 | [illegible]2[illegible]. 2 | [illegible]435. 5 | [illegible]397. 56 | 2 4[illegible] |
| 43 | [illegible]025. 1 | [illegible]476. 1 | [illegible]977. 4 | [illegible]575. 0 | [illegible]297. 04 | [illegible]2[illegible]. 71 | [illegible]460. 6 | [illegible]441. 92 | 2 6[illegible] |
| 44 | [illegible]032. 1 | [illegible]485. 0 | [illegible]986. 4 | [illegible]585. 9 | 11310. 46 | [illegible]2[illegible]. 2 | [illegible]486. 5 | [illegible]486. 86 | 2 8[illegible] |
| 45 | [illegible]039. 1 | [illegible]494. 0 | [illegible]995. 4 | [illegible]596. 8 | [illegible]323. 93 | [illegible]2[illegible]. 8 | [illegible]511. 43 | [illegible]532. 40 | 2 0[illegible] |
| 46 | [illegible]046. 1 | [illegible]503. 0 | [illegible]004. 5 | [illegible]607. 7 | [illegible]337. 45 | [illegible]2[illegible]. 4 | [illegible]537. 0 | [illegible]578. 55 | 2 3[illegible] |
| 47 | [illegible]053. 1 | [illegible]512. 0 | [illegible]013. 5 | [illegible]618. 6 | [illegible]351. 02 | [illegible]2[illegible]. 2 | [illegible]562. 75 | [illegible]625. 32 | 2 5[illegible] |
| 48 | [illegible]060. 1 | [illegible]521. 0 | [illegible]022. 6 | [illegible]629. 5 | [illegible]364. 65 | [illegible]2[illegible]. 1 | [illegible]588. 71 | [illegible]674. 75 | 2 8[illegible] |
| 49 | [illegible]067. 1 | [illegible]530. 0 | [illegible]031. 6 | [illegible]640. 4 | [illegible]378. 33 | [illegible]2[illegible]. 0 | [illegible]614. 5 | [illegible]724. 83 | 2 1[illegible] |
| 50 | [illegible]074. 1 | [illegible]539. 0 | [illegible]040. 6 | [illegible]651. 3 | [illegible]392. 06 | [illegible]2[illegible]. 1 | [illegible]641. 20 | [illegible]776. 59 | 2 4[illegible] |
| 51 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible]405. 85 | [illegible]2[illegible]. 3 | 13967. 15 | [illegible]828. 06 | 2 7[illegible] |
| 52 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible]419. 70 | [illegible]2[illegible]. 54 | 13694. 52 | [illegible]880. 25 | 2 0[illegible] |
| 53 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible]433. 60 | [illegible]2[illegible]. 8 | [illegible]721. 8 | [illegible]932. 19 | 2 3[illegible] |
| 54 | [illegible] | [illegible] | [illegible] | [illegible] | 11447. 56 | [illegible]2[illegible]. 33 | 13748. 67 | [illegible] | [illegible] |
| 55 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible]461. 58 | [illegible]2[illegible]. 8 | 13776. 07 | 16024. | [illegible] |
| 56 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible]475. 65 | [illegible]2[illegible]. 51 | 13803. 68 | 16077. 6 | [illegible] |
| 57 | [illegible] | [illegible] 1. 20 | [illegible] | [illegible] | [illegible]489. 78 | [illegible]2[illegible]. 2 | [illegible]831. 53 | 16131. | [illegible] |
| 58 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible]503. 97 | [illegible]2[illegible]. 1 | [illegible]859. 0 | [illegible] | [illegible] |
| 59 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible]518. 21 | [illegible]2[illegible]. 0 | [illegible]886. 8 | [illegible] | [illegible] |
| 60 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible]532. 51 | [illegible]2[illegible]. 0 | [illegible]914. 8 | [illegible] | [illegible] |

## T. XLII. Reduced Latitudes, to be used for the Argument of the preceding Table, when the Meridional Parts are wanted in the Spheroid.

| Lat. | Red. Lat. | Lat. | Red. Lat. | Lat. | Red. Lat. | Lat. | Red. Lat. | Lat. | Red. Lat. | Lat. | Red. Lat. | Lat. | Red. Lat. | Lat. | Red. Lat. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ° ′ | ° ′ ″ | ° ′ | ° ′ ″ | ° ′ | ° ′ ″ | ° ′ | ° ′ ″ | ° ′ | ° ′ ″ | ° ′ | ° ′ ″ | ° ′ | ° ′ ″ | ° ′ | ° ′ ″ |
| [illegible] | 0. 0 19. 53. 7 | 30. 0 | 29. 50. 44 | 40. 0 | 39. 49. 27 | 50. 0 | 49. 49. 26 | 60. 0 | 59. 50. 42 | 70. 0 | 69. 53. 5 | 80. 0 | 79. 56. 19 |
| [illegible] | 10 20. 3. 4 | 10 | 30. 0. 42 | 10 | 39. 59. 26 | 10 | 49. 59. 27 | 10 | 60. 0. 44 | 10 | 70. 3. 8 | 10 | 80. 6. 23 |
| [illegible] | 20 20. 13. 2 | 20 | 30. 10. 40 | 20 | 40. 9. 25 | 20 | 50. 9. 27 | 20 | 60. 10. 46 | 20 | 70. 13. 11 | 20 | 80. 16. 26 |
| [illegible] | 30 20. 22. 59 | 30 | 30. 20. 38 | 30 | 40. 19. 25 | 30 | 50. 19. 28 | 30 | 60. 20. 47 | 30 | 70. 23. 14 | 30 | 80. 26. 30 |
| [illegible] | 40 20. 32. 56 | 40 | 30. 30. 36 | 40 | 40. 29. 24 | 40 | 50. 29. 29 | 40 | 60. 30. 49 | 40 | 70. 33. 17 | 40 | [illegible] |
| [illegible] | 50 20. 42. 53 | 50 | 30. 40. 34 | 50 | 40. 39. 23 | 50 | 50. 39. 29 | 50 | 60. 40. 51 | 50 | 70. 43. [illegible] | 50 | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 61. 0 | 60. 50. 53 | 71. 0 | 70. 53. [illegible] | 81. [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 10 | 61. 0. 55 | 10 | 71. 3. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 20 | 61. 10. 57 | 20 | 71. 13. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 30 | 61. 20. 59 | 30 | 71. 23. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 40 | 61. 31. 1 | 40 | 71. 33. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | 50 | 61. 41. 3 | 50 | 71. 43. [illegible] | [illegible] | [illegible] |
| [illegible] | 22. 0 21. 52. 34 | 32. 0 | 31. 50. 22 | 42. 0 | 41. 49. 20 | 52. 0 | 51. 49. 35 | 62. 0 | 61. 51. 6 | 72. 0 | 71. 53. [illegible] | [illegible] | [illegible] |
| [illegible] | 10 22. 2. 31 | 10 | 32. 0. 21 | 10 | 41. 59. 20 | 10 | 51. 59. 36 | 10 | 62. 1. 8 | 10 | 72. 3. [illegible] | [illegible] | [illegible] |
| [illegible] | 20 22. 12. 29 | 20 | 32. 10. 19 | 20 | 42. 9. 19 | 20 | 52. 9. 37 | 20 | 62. 11. 10 | 20 | 72. 13. 47 | 20 | 82. 17. 9 |
| [illegible] | 30 22. 22. 26 | 30 | 32. 20. 18 | 30 | 42. 19. 19 | 30 | 52. 19. 38 | 30 | 62. 21. 12 | 30 | 72. 23. 50 | 30 | 82. 27. 13 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | 23. 0 22. 52. 18 | 33. 0 | 32. 50. 13 | 43. 0 | 42. 49. 18 | 53. 0 | 52. 49. 41 | 63. 0 | 62. 51. 18 | 73. 0 | 72. 53. 59 | 83. 0 | 82. 57. 24 |
| [illegible] | 10 23. 2. 15 | 10 | 33. 0. 11 | 10 | 42. 59. 18 | 10 | 52. 59. 42 | 10 | 63. 1. 21 | 10 | 73. 4. 2 | 10 | 83. 7. 28 |
| [illegible] | 20 23. 12. 13 | 20 | 33. 10. 10 | 20 | 43. 9. 18 | 20 | 53. 9. 43 | 20 | 63. 11. 23 | 20 | 73. 14. 5 | 20 | 83. 17. 31 |
| [illegible] | 30 23. 22. 10 | 30 | 33. 20. 8 | 30 | 43. 19. 17 | 30 | 53. 19. 44 | 30 | 63. 21. 25 | 30 | 73. 24. 9 | 30 | 83. 27. 35 |
| [illegible] | 40 23. 32. 8 | 40 | 33. 30. 7 | 40 | 43. 29. 17 | 40 | 53. 29. 45 | 40 | 63. 31. 27 | 40 | 73. 34. 12 | 40 | 83. 37. 39 |
| [illegible] | 50 23. 42. 5 | 50 | 33. 40. 5 | 50 | 43. 39. 17 | 50 | 53. 39. 46 | 50 | 63. 41. 29 | 50 | 73. 44. 15 | 50 | 83. 47. 43 |
| [illegible] | 24. 0 23. 52. 3 | 34. 0 | 33. 50. 4 | 44. 0 | 43. 49. 17 | 54. 0 | 53. 49. 47 | 64. 0 | 63. 51. 32 | 74. 0 | 73. 54. 18 | 84. 0 | 83. 57. 46 |
| [illegible] | 10 24. 2. 0 | 10 | 34. 0. 3 | 10 | 43. 59. 17 | 10 | 53. 59. 49 | 10 | 64. 1. 34 | 10 | 74. 4. 21 | 10 | 84. 7. 49 |
| [illegible] | 20 24. 11. 58 | 20 | 34. 10. 2 | 20 | 44. 9. 17 | 20 | 54. 9. 50 | 20 | 64. 11. 37 | 20 | 74. 14. 24 | 20 | 84. 17. 53 |
| [illegible] | 30 24. 21. 55 | 30 | 34. 20. 0 | 30 | 44. 19. 17 | 30 | 54. 19. 51 | 30 | 64. 21. 39 | 30 | 74. 24. 28 | 30 | 84. 27. 57 |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 35. 0 | 34. 49. 56 | 45. 0 | 44. 49. 16 | 55. 0 | 54. 49. 55 | 65. 0 | 64. 51. 46 | 75. 0 | 74. 54. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 10 | 34. 59. 55 | 10 | 44. 59. 16 | 10 | 54. 59. 56 | 10 | 65. 1. 48 | 10 | 75. 4. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 20 | 35. 9. 53 | 20 | 45. 9. 16 | 20 | 55. 9. 57 | 20 | 65. 11. 51 | 20 | 75. 14. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 30 | 35. 19. 52 | 30 | 45. 19. 17 | 30 | 55. 19. 59 | 30 | 65. 21. 53 | 30 | 75. 24. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 40 | 35. 29. 51 | 40 | 45. 29. 17 | 40 | 55. 30. 0 | 40 | 65. 31. 56 | 40 | 75. 34. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 50 | 35. 39. 50 | 50 | 45. 39. 17 | 50 | 55. 40. 1 | 50 | 65. 41. 58 | 50 | 75. 44. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 0 | 35. 49. 49 | 46. 0 | 45. 49. 17 | 56. 0 | 55. 50. 3 | 66. 0 | 65. 52. 1 | 76. 0 | 75. 54. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 10 | 35. 59. 47 | 10 | 45. 59. 17 | 10 | 56. 0. 4 | 10 | 66. 2. 3 | 10 | 76. 5. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 20 | 36. 9. 46 | 20 | 46. 9. 17 | 20 | 56. 10. 5 | 20 | 66. 12. 6 | 20 | 76. 15. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 30 | 36. 19. 45 | 30 | 46. 19. 17 | 30 | 56. 20. 7 | 30 | 66. 22. 8 | 30 | 76. 25. [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 40 | 36. 29. 44 | 40 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 50 | 36. 39. 43 | 50 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 0 | 36. 49. 42 | 47. [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | 10 | 36. 59. 41 | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | [illegible] | [illegible] | [illegible]

# TABLES

FOR THE

# READY USE OF THE NAUTICAL ALMANAC;

CONTAINING

PROPORTIONAL PARTS OF THE VARIATIONS WHICH TAKE PLACE
IN PERIODS OF $24^h$ AND $12^h$,
FOR LONGITUDE, OR ANY OTHER INTERVAL OF TIME.

Interval for 24 Hours, and Longitude.

| | 1° | 2° | 3° | 4° | 5° | 6° | 7° | 8° | 9° | 10° | 11° | 12° |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| 1 | 0. 2 | 0. 4 | 0. 7 | 0. 9 | 0. 11. 6 | 0. 13. 8 | 0. 16. 1 | 0. 18. 3 | 0. 20. 6 | 0. 22. 8 | 0. 25. 0 | 0. 27. 3 |
| 2 | 0. 4 | 0. 9 | 0. 13 | 0. 18 | 0. 22. 6 | 0. 27. 1 | 0. 31. 7 | 0. 36. 2 | 0. 40. 8 | 0. 45. 3 | 0. 49. 8 | 0. 54. 4 |
| 3 | 0. 7 | 0. 13 | 0. 20 | 0. 26 | 0. 33. 9 | 0. 40. 5 | 0. 47. 2 | 0. 53. 8 | 1. 0. 5 | 1. 7. 1 | 1. 13. 8 | 1. 20. 4 |
| 4 | 0. 9 | 0. 18 | 0. 26 | 0. 35 | 0. 45. 1 | 0. 54. 2 | 1. 3. 3 | 1. 12. 4 | 1. 21. 5 | 1. 30. 6 | 1. 39. 7 | 1. 48. 8 |
| 5 | 0. 11 | 0. 22 | 0. 33 | 0. 44 | 0. 56. 4 | 1. 7. 6 | 1. 18. 8 | 1. 30. 0 | 1. 41. 2 | 1. 52. 4 | 2. 3. 6 | 2. 14. 8 |
| 6 | 0. 13 | 0. 27 | 0. 40 | 0. 53 | 1. 7. 6 | 1. 20. 9 | 1. 34. 2 | 1. 47. 5 | 2. 0. 8 | 2. 14. 1 | 2. 27. 4 | 2. 40. 7 |
| 7 | 0. 16 | 0. 31 | 0. 47 | 1. 2 | 1. 18. 8 | 1. 34. 5 | 1. 50. 2 | 2. 5. 9 | 2. 21. 6 | 2. 37. 3 | 2. 53. 0 | 3. 8. 7 |
| 8 | 0. 18 | 0. 36 | 0. 53 | 1. 11 | 1. 29. 1 | 1. 47. 2 | 2. 5. 3 | 2. 23. 4 | 2. 41. 5 | 2. 59. 6 | 3. 17. 7 | 3. 35. 8 |
| 9 | 0. 20 | 0. 40 | 1. 0 | 1. 20 | 1. 40. 4 | 2. 0. 8 | 2. 21. 2 | 2. 41. 6 | 3. 2. 0 | 3. 22. 4 | 3. 42. 8 | 4. 3. 2 |
| 10 | 0. 22 | 0. 45 | 1. 7 | 1. 30 | 1. 52. 6 | 2. 14. 9 | 2. 37. 1 | 2. 59. 4 | 3. 21. 6 | 3. 43. 9 | 4. 6. 1 | 4. 28. 4 |
| 11 | 0. 25 | 0. 49 | 1. 13 | 1. 39 | 2. 4. 9 | 2. 27. 4 | 2. 50. 0 | 3. 12. 5 | 3. 35. 1 | 3. 57. 6 | 4. 20. 2 | 4. 42. 7 |
| 12 | 0. 27 | 0. 54 | 1. 20 | 1. 48 | 2. 17. 1 | 2. 40. 7 | 3. 4. 2 | 3. 27. 8 | 3. 51. 3 | 4. 14. 9 | 4. 38. 4 | 5. 2. 0 |
| 13 | 0. 29 | 0. 58 | 1. 26 | 1. 57 | 2. 29. 4 | 2. 53. 9 | 3. 18. 3 | 3. 42. 8 | 4. 7. 3 | 4. 31. 8 | 4. 56. 3 | 5. 20. 8 |
| 14 | 0. 31 | 1. 3 | 1. 33 | 2. 6 | 2. 41. 6 | 3. 7. 1 | 3. 32. 4 | 3. 57. 9 | 4. 23. 2 | 4. 48. 7 | 5. 14. 0 | 5. 39. 5 |
| 15 | 0. 33 | 1. 7 | 1. 40 | 2. 15 | 2. 53. 9 | 3. 20. 4 | 3. 46. 9 | 4. 13. 4 | 4. 39. 9 | 5. 6. 4 | 5. 32. 9 | 5. 59. 4 |
| 16 | 0. 36 | 1. 11 | 1. 47 | 2. 23 | 3. 6. 1 | 3. 33. 6 | 4. 1. 1 | 4. 28. 6 | 4. 56. 1 | 5. 23. 6 | 5. 51. 1 | 6. 18. 6 |
| 17 | 0. 38 | 1. 16 | 1. 53 | 2. 32 | 3. 18. 4 | 3. 46. 9 | 4. 15. 4 | 4. 43. 9 | 5. 12. 4 | 5. 40. 9 | 6. 9. 4 | 6. 37. 9 |
| 18 | 0. 40 | 1. 20 | 2. 0 | 2. 41 | 3. 30. 6 | 3. 59. 2 | 4. 27. 8 | 4. 56. 4 | 5. 25. 0 | 5. 53. 6 | 6. 22. 2 | 6. 50. 8 |
| 19 | 0. 42 | 1. 25 | 2. 7 | 2. 49 | 3. 42. 9 | 4. 12. 4 | 4. 41. 9 | 5. 11. 4 | 5. 40. 9 | 6. 10. 4 | 6. 39. 9 | 7. 9. 4 |
| 20 | 0. 45 | 1. 29 | 2. 13 | 2. 58 | 3. 55. 1 | 4. 25. 6 | 4. 56. 1 | 5. 26. 6 | 5. 57. 1 | 6. 27. 6 | 6. 58. 1 | 7. 28. 6 |
| 21 | 0. 47 | 1. 34 | 2. 20 | 3. 7 | 4. 7. 4 | 4. 38. 9 | 5. 10. 4 | 5. 41. 9 | 6. 13. 4 | 6. 44. 9 | 7. 16. 4 | 7. 47. 9 |
| 22 | 0. 49 | 1. 38 | 2. 26 | 3. 15 | 4. 19. 6 | 4. 52. 2 | 5. 24. 8 | 5. 57. 4 | 6. 30. 0 | 7. 2. 6 | 7. 35. 2 | 8. 7. 8 |
| 23 | 0. 51 | 1. 43 | 2. 33 | 3. 24 | 4. 32. 9 | 5. 5. 4 | 5. 38. 9 | 6. 12. 4 | 6. 45. 9 | 7. 19. 4 | 7. 52. 9 | 8. 26. 4 |
| 24 | 0. 53 | 1. 47 | 2. 40 | 3. 33 | 4. 45. 1 | 5. 18. 6 | 5. 52. 1 | 6. 26. 6 | 7. 0. 1 | 7. 33. 6 | 8. 7. 1 | 8. 40. 6 |
| 25 | 0. 56 | 1. 52 | 2. 46 | 3. 41 | 4. 58. 4 | 5. 32. 9 | 6. 7. 4 | 6. 41. 9 | 7. 16. 4 | 7. 50. 9 | 8. 25. 4 | 8. 59. 9 |
| 26 | 0. 58 | 1. 56 | 2. 53 | 3. 50 | 5. 10. 6 | 5. 45. 2 | 6. 21. 8 | 6. 56. 4 | 7. 32. 0 | 8. 7. 6 | 8. 43. 2 | 9. 18. 8 |
| 27 | 1. 0 | 2. 1 | 3. 0 | 3. 58 | 5. 23. 9 | 5. 59. 4 | 6. 34. 9 | 7. 10. 4 | 7. 45. 9 | 8. 21. 4 | 8. 56. 9 | 9. 32. 4 |
| 28 | 1. 2 | 2. 5 | 3. 7 | 4. 9 | 5. 36. 1 | 6. 12. 6 | 6. 48. 1 | 7. 24. 6 | 8. 0. 1 | 8. 36. 6 | 9. 12. 1 | 9. 48. 6 |
| 29 | 1. 4 | 2. 9 | 3. 13 | 4. 18 | 5. 49. 4 | 6. 25. 9 | 7. 2. 4 | 7. 38. 9 | 8. 15. 4 | 8. 51. 9 | 9. 28. 4 | 10. 4. 9 |
| 30 | 1. 7 | 2. 13 | 3. 20 | 4. 26 | 6. 2. 6 | 6. 39. 2 | 7. 15. 8 | 7. 52. 4 | 8. 29. 0 | 9. 5. 6 | 9. 42. 2 | 10. 18. 8 |
| 31 | 1. 9 | 2. 18 | 3. 26 | 4. 35 | 6. 15. 9 | 6. 52. 4 | 7. 28. 9 | 8. 5. 4 | 8. 41. 9 | 9. 18. 4 | 9. 55. 4 | 10. 31. 9 |
| 32 | 1. 11 | 2. 22 | 3. 33 | 4. 44 | 6. 29. 1 | 7. 5. 6 | 7. 42. 1 | 8. 18. 6 | 8. 55. 1 | 9. 31. 6 | 10. 8. 1 | 10. 44. 6 |
| 33 | 1. 13 | 2. 27 | 3. 40 | 4. 53 | 6. 42. 4 | 7. 18. 9 | 7. 55. 4 | 8. 31. 9 | 9. 8. 4 | 9. 44. 9 | 10. 21. 4 | 10. 57. 9 |
| 34 | 1. 16 | 2. 31 | 3. 46 | 5. 2 | 6. 55. 6 | 7. 32. 2 | 8. 8. 8 | 8. 45. 4 | 9. 22. 0 | 9. 58. 6 | 10. 35. 2 | 11. 11. 8 |
| 35 | 1. 18 | 2. 36 | 3. 53 | 5. 11 | 7. 8. 9 | 7. 45. 4 | 8. 21. 9 | 8. 58. 4 | 9. 34. 9 | 10. 11. 4 | 10. 48. 4 | 11. 24. 9 |
| 36 | 1. 20 | 2. 40 | 4. 0 | 5. 20 | 7. 22. 1 | 7. 58. 6 | 8. 35. 1 | 9. 11. 6 | 9. 48. 1 | 10. 24. 6 | 11. 1. 1 | 11. 37. 6 |
| 37 | 1. 22 | 2. 45 | 4. 7 | 5. 28 | 7. 35. 4 | 8. 11. 9 | 8. 48. 4 | 9. 24. 9 | 10. 1. 4 | 10. 37. 9 | 11. 14. 4 | 11. 50. 9 |
| 38 | 1. 25 | 2. 49 | 4. 13 | 5. 37 | 7. 48. 6 | 8. 25. 2 | 9. 1. 8 | 9. 38. 4 | 10. 15. 0 | 10. 51. 6 | 11. 28. 2 | 12. 4. 8 |
| 39 | 1. 27 | 2. 54 | 4. 20 | 5. 46 | 8. 1. 9 | 8. 38. 4 | 9. 14. 9 | 9. 51. 4 | 10. 28. 0 | 11. 4. 6 | 11. 41. 2 | 12. 17. 8 |
| 40 | 1. 29 | 2. 58 | 4. 26 | 5. 55 | 8. 15. 1 | 8. 51. 6 | 9. 28. 1 | 10. 4. 6 | 10. 41. 1 | 11. 17. 6 | 11. 54. 1 | 12. 30. 6 |
| 41 | 1. 31 | 3. 3 | 4. 33 | 6. 4 | 8. 28. 4 | 9. 4. 9 | 9. 41. 4 | 10. 17. 9 | 10. 54. 4 | 11. 30. 9 | 12. 7. 4 | 12. 43. 9 |
| 42 | 1. 34 | 3. 7 | 4. 40 | 6. 13 | 8. 41. 6 | 9. 18. 2 | 9. 54. 8 | 10. 31. 4 | 11. 8. 0 | 11. 44. 6 | 12. 21. 2 | 12. 57. 8 |
| 43 | 1. 36 | 3. 12 | 4. 46 | 6. 22 | 8. 54. 9 | 9. 31. 4 | 10. 7. 9 | 10. 44. 4 | 11. 21. 0 | 11. 57. 6 | 12. 34. 2 | 13. 10. 8 |
| 44 | 1. 38 | 3. 16 | 4. 53 | 6. 31 | 9. 8. 1 | 9. 44. 6 | 10. 21. 1 | 10. 57. 6 | 11. 34. 1 | 12. 10. 6 | 12. 47. 1 | 13. 23. 6 |
| 45 | 1. 40 | 3. 21 | 5. 0 | 6. 40 | 9. 21. 4 | 9. 57. 9 | 10. 34. 4 | 11. 10. 9 | 11. 47. 4 | 12. 23. 9 | 13. 0. 4 | 13. 36. 9 |
| 46 | 1. 43 | 3. 25 | 5. 6 | 6. 48 | 9. 34. 6 | 10. 11. 2 | 10. 47. 8 | 11. 24. 4 | 12. 1. 0 | 12. 37. 6 | 13. 14. 2 | 13. 50. 8 |
| 47 | 1. 45 | 3. 30 | 5. 13 | 6. 57 | 9. 47. 9 | 10. 24. 4 | 11. 0. 9 | 11. 37. 4 | 12. 14. 0 | 12. 50. 6 | 13. 27. 2 | 14. 3. 8 |
| 48 | 1. 47 | 3. 34 | 5. 20 | 7. 6 | 10. 1. 1 | 10. 37. 6 | 11. 14. 1 | 11. 50. 6 | 12. 27. 1 | 13. 3. 6 | 13. 40. 1 | 14. 16. 6 |
| 49 | 1. 49 | 3. 39 | 5. 26 | 7. 15 | 10. 14. 4 | 10. 50. 9 | 11. 27. 4 | 12. 3. 9 | 12. 40. 4 | 13. 16. 9 | 13. 53. 4 | 14. 29. 9 |
| 50 | 1. 52 | 3. 43 | 5. 33 | 7. 24 | 10. 27. 6 | 11. 4. 2 | 11. 40. 8 | 12. 17. 4 | 12. 54. 0 | 13. 30. 6 | 14. 7. 2 | 14. 43. 8 |
| 51 | 1. 54 | 3. 48 | 5. 40 | 7. 33 | 10. 40. 9 | 11. 17. 4 | 11. 53. 9 | 12. 30. 4 | 13. 7. 0 | 13. 43. 6 | 14. 20. 2 | 14. 56. 8 |
| 52 | 1. 56 | 3. 52 | 5. 46 | 7. 42 | 10. 54. 1 | 11. 30. 6 | 12. 7. 1 | 12. 43. 6 | 13. 20. 1 | 13. 56. 6 | 14. 33. 1 | 15. 9. 6 |
| 53 | 1. 58 | 3. 57 | 5. 53 | 7. 51 | 11. 7. 4 | 11. 43. 9 | 12. 20. 4 | 12. 56. 9 | 13. 33. 4 | 14. 9. 9 | 14. 46. 4 | 15. 22. 9 |
| 54 | 2. 1 | 4. 1 | 6. 0 | 7. 59 | 11. 20. 6 | 11. 57. 2 | 12. 33. 8 | 13. 10. 4 | 13. 47. 0 | 14. 23. 6 | 15. 0. 2 | 15. 36. 8 |
| 55 | 2. 3 | 4. 6 | 6. 6 | 8. 8 | 11. 33. 9 | 12. 10. 4 | 12. 46. 9 | 13. 23. 4 | 14. 0. 0 | 14. 36. 6 | 15. 13. 2 | 15. 49. 8 |
| 56 | 2. 5 | 4. 10 | 6. 13 | 8. 17 | 11. 47. 1 | 12. 23. 6 | 13. 0. 1 | 13. 36. 6 | 14. 13. 1 | 14. 49. 6 | 15. 26. 1 | 16. 2. 6 |
| 57 | 2. 7 | 4. 15 | 6. 20 | 8. 26 | 12. 0. 4 | 12. 36. 9 | 13. 13. 4 | 13. 49. 9 | 14. 26. 4 | 15. 2. 9 | 15. 39. 4 | 16. 15. 9 |
| 58 | 2. 10 | 4. 19 | 6. 26 | 8. 35 | 12. 13. 6 | 12. 50. 2 | 13. 26. 8 | 14. 3. 4 | 14. 40. 0 | 15. 16. 6 | 15. 53. 2 | 16. 29. 8 |
| 59 | 2. 12 | 4. 24 | 6. 33 | 8. 44 | 12. 26. 9 | 13. 3. 4 | 13. 39. 9 | 14. 16. 4 | 14. 53. 0 | 15. 29. 6 | 16. 6. 2 | 16. 42. 8 |
| 60 | 2. 14 | 4. 28 | 6. 40 | 8. 53 | 12. 40. 1 | 13. 16. 6 | 13. 53. 1 | 14. 29. 6 | 15. 6. 1 | 15. 42. 6 | 16. 19. 1 | 16. 55. 6 |

Interval for 12 Hours.

| Values | Interval for 24 Hours, and Longitude. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 13h 195° | 14h 210° | 15h 225° | 16h 240° | 17h 255° | 18h 270° | 19h 285° | 20h 300° | 21h 315° | 22h 330° | 23h 345° | |
| ′ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ′ |
| ″ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ″ |
| ‴ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ‴ |
| 1 | 0. 32. 30 | 0. 35. 0 | 0. 37. 30 | 0. 40. 0 | 0. 42. 30 | 0. 45. 0 | 0. 47. 30 | 0. 50. 0 | 0. 52. 30 | 0. 55. 0 | 0. 57. 30 | 1 |
| 2 | 1. 5. 0 | 1. 10. 0 | 1. 15. 0 | 1. 20. 0 | 1. 25. 0 | 1. 30. 0 | 1. 35. 0 | 1. 40. 0 | 1. 45. 0 | 1. 50. 0 | 1. 55. 0 | 2 |
| 3 | 1. 37. 30 | 1. 45. 0 | 1. 52. 30 | 2. 0. 0 | 2. 7. 30 | 2. 15. 0 | 2. 22. 30 | 2. 30. 0 | 2. 37. 30 | 2. 45. 0 | 2. 52. 30 | 3 |
| 4 | 2. 10. 0 | 2. 20. 0 | 2. 30. 0 | 2. 40. 0 | 2. 50. 0 | 3. 0. 0 | 3. 10. 0 | 3. 20. 0 | 3. 30. 0 | 3. 40. 0 | 3. 50. 0 | 4 |
| 5 | 2. 42. 30 | 2. 55. 0 | 3. 7. 30 | 3. 20. 0 | 3. 32. 30 | 3. 45. 0 | 3. 57. 30 | 4. 10. 0 | 4. 22. 30 | 4. 35. 0 | 4. 47. 30 | 5 |
| 6 | 3. 15. 0 | 3. 30. 0 | 3. 45. 0 | 4. 0. 0 | 4. 15. 0 | 4. 30. 0 | 4. 45. 0 | 5. 0. 0 | 5. 15. 0 | 5. 30. 0 | 5. 45. 0 | 6 |
| 7 | 3. 47. 30 | 4. 5. 0 | 4. 22. 30 | 4. 40. 0 | 4. 57. 30 | 5. 15. 0 | 5. 32. 30 | 5. 50. 0 | 6. 7. 30 | 6. 25. 0 | 6. 42. 30 | 7 |
| 8 | 4. 20. 0 | 4. 40. 0 | 5. 0. 0 | 5. 20. 0 | 5. 40. 0 | 6. 0. 0 | 6. 20. 0 | 6. 40. 0 | 7. 0. 0 | 7. 20. 0 | 7. 40. 0 | 8 |
| 9 | 4. 52. 30 | 5. 15. 0 | 5. 37. 30 | 6. 0. 0 | 6. 22. 30 | 6. 45. 0 | 7. 7. 30 | 7. 30. 0 | 7. 52. 30 | 8. 15. 0 | 8. 37. 30 | 9 |
| 10 | 5. 25. 0 | 5. 50. 0 | 6. 15. 0 | 6. 40. 0 | 7. 5. 0 | 7. 30. 0 | 7. 55. 0 | 8. 20. 0 | 8. 45. 0 | 9. 10. 0 | 9. 35. 0 | 10 |
| 11 | 5. 57. 30 | 6. 25. 0 | 6. 52. 30 | 7. 20. 0 | 7. 47. 30 | 8. 15. 0 | 8. 42. 30 | 9. 10. 0 | 9. 37. 30 | 10. 5. 0 | 10. 32. 30 | 11 |
| 12 | 6. 30. 0 | 7. 0. 0 | 7. 30. 0 | 8. 0. 0 | 8. 30. 0 | 9. 0. 0 | 9. 30. 0 | 10. 0. 0 | 10. 30. 0 | 11. 0. 0 | 11. 30. 0 | 12 |
| 13 | 7. 2. 30 | 7. 35. 0 | 8. 7. 30 | 8. 40. 0 | 9. 12. 30 | 9. 45. 0 | 10. 17. 30 | 10. 50. 0 | 11. 22. 30 | 11. 55. 0 | 12. 27. 30 | 13 |
| 14 | 7. 35. 0 | 8. 10. 0 | 8. 45. 0 | 9. 20. 0 | 9. 55. 0 | 10. 30. 0 | 11. 5. 0 | 11. 40. 0 | 12. 15. 0 | 12. 50. 0 | 13. 25. 0 | 14 |
| 15 | 8. 7. 30 | 8. 45. 0 | 9. 22. 30 | 10. 0. 0 | 10. 37. 30 | 11. 15. 0 | 11. 52. 30 | 12. 30. 0 | 13. 7. 30 | 13. 45. 0 | 14. 22. 30 | 15 |
| 16 | 8. 40. 0 | 9. 20. 0 | 10. 0. 0 | 10. 40. 0 | 11. 20. 0 | 12. 0. 0 | 12. 40. 0 | 13. 20. 0 | 14. 0. 0 | 14. 40. 0 | 15. 20. 0 | 16 |
| 17 | 9. 12. 30 | 9. 55. 0 | 10. 37. 30 | 11. 20. 0 | 12. 2. 30 | 12. 45. 0 | 13. 27. 30 | 14. 10. 0 | 14. 52. 30 | 15. 35. 0 | 16. 17. 30 | 17 |
| 18 | 9. 45. 0 | 10. 30. 0 | 11. 15. 0 | 12. 0. 0 | 12. 45. 0 | 13. 30. 0 | 14. 15. 0 | 15. 0. 0 | 15. 45. 0 | 16. 30. 0 | 17. 15. 0 | 18 |
| 19 | 10. 17. 30 | 11. 5. 0 | 11. 52. 30 | 12. 40. 0 | 13. 27. 30 | 14. 15. 0 | 15. 2. 30 | 15. 50. 0 | 16. 37. 30 | 17. 25. 0 | 18. 12. 30 | 19 |
| 20 | 10. 50. 0 | 11. 40. 0 | 12. 30. 0 | 13. 20. 0 | 14. 10. 0 | 15. 0. 0 | 15. 50. 0 | 16. 40. 0 | 17. 30. 0 | 18. 20. 0 | 19. 10. 0 | 20 |
| 21 | 11. 22. 30 | 12. 15. 0 | 13. 7. 30 | 14. 0. 0 | 14. 52. 30 | 15. 45. 0 | 16. 37. 30 | 17. 30. 0 | 18. 22. 30 | 19. 15. 0 | 20. 7. 30 | 21 |
| 22 | 11. 55. 0 | 12. 50. 0 | 13. 45. 0 | 14. 40. 0 | 15. 35. 0 | 16. 30. 0 | 17. 25. 0 | 18. 20. 0 | 19. 15. 0 | 20. 10. 0 | 21. 5. 0 | 22 |
| 23 | 12. 27. 30 | 13. 25. 0 | 14. 22. 30 | 15. 20. 0 | 16. 17. 30 | 17. 15. 0 | 18. 12. 30 | 19. 10. 0 | 20. 7. 30 | 21. 5. 0 | 22. 2. 30 | 23 |
| 24 | 13. 0. 0 | 14. 0. 0 | 15. 0. 0 | 16. 0. 0 | 17. 0. 0 | 18. 0. 0 | 19. 0. 0 | 20. 0. 0 | 21. 0. 0 | 22. 0. 0 | 23. 0. 0 | 24 |
| 25 | 13. 32. 30 | 14. 35. 0 | 15. 37. 30 | 16. 40. 0 | 17. 42. 30 | 18. 45. 0 | 19. 47. 30 | 20. 50. 0 | 21. 52. 30 | 22. 55. 0 | 23. 57. 30 | 25 |
| 26 | 14. 5. 0 | 15. 10. 0 | 16. 15. 0 | 17. 20. 0 | 18. 25. 0 | 19. 30. 0 | 20. 35. 0 | 21. 40. 0 | 22. 45. 0 | 23. 50. 0 | 24. 55. 0 | 26 |
| 27 | 14. 37. 30 | 15. 45. 0 | 16. 52. 30 | 18. 0. 0 | 19. 7. 30 | 20. 15. 0 | 21. 22. 30 | 22. 30. 0 | 23. 37. 30 | 24. 45. 0 | 25. 52. 30 | 27 |
| 28 | 15. 10. 0 | 16. 20. 0 | 17. 30. 0 | 18. 40. 0 | 19. 50. 0 | 21. 0. 0 | 22. 10. 0 | 23. 20. 0 | 24. 30. 0 | 25. 40. 0 | 26. 50. 0 | 28 |
| 29 | 15. 42. 30 | 16. 55. 0 | 18. 7. 30 | 19. 20. 0 | 20. 32. 30 | 21. 45. 0 | 22. 57. 30 | 24. 10. 0 | 25. 22. 30 | 26. 35. 0 | 27. 47. 30 | 29 |
| 30 | 16. 15. 0 | 17. 30. 0 | 18. 45. 0 | 20. 0. 0 | 21. 15. 0 | 22. 30. 0 | 23. 45. 0 | 25. 0. 0 | 26. 15. 0 | 27. 30. 0 | 28. 45. 0 | 30 |
| 31 | 16. 47. 30 | 18. 5. 0 | 19. 22. 30 | 20. 40. 0 | 21. 57. 30 | 23. 15. 0 | 24. 32. 30 | 25. 50. 0 | 27. 7. 30 | 28. 25. 0 | 29. 42. 30 | 31 |
| 32 | 17. 20. 0 | 18. 40. 0 | 20. 0. 0 | 21. 20. 0 | 22. 40. 0 | 24. 0. 0 | 25. 20. 0 | 26. 40. 0 | 28. 0. 0 | 29. 20. 0 | 30. 40. 0 | 32 |
| 33 | 17. 52. 30 | 19. 15. 0 | 20. 37. 30 | 22. 0. 0 | 23. 22. 30 | 24. 45. 0 | 26. 7. 30 | 27. 30. 0 | 28. 52. 30 | 30. 15. 0 | 31. 37. 30 | 33 |
| 34 | 18. 25. 0 | 19. 50. 0 | 21. 15. 0 | 22. 40. 0 | 24. 5. 0 | 25. 30. 0 | 26. 55. 0 | 28. 20. 0 | 29. 45. 0 | 31. 10. 0 | 32. 35. 0 | 34 |
| 35 | 18. 57. 30 | 20. 25. 0 | 21. 52. 30 | 23. 20. 0 | 24. 47. 30 | 26. 15. 0 | 27. 42. 30 | 29. 10. 0 | 30. 37. 30 | 32. 5. 0 | 33. 32. 30 | 35 |
| 36 | 19. 30. 0 | 21. 0. 0 | 22. 30. 0 | 24. 0. 0 | 25. 30. 0 | 27. 0. 0 | 28. 30. 0 | 30. 0. 0 | 31. 30. 0 | 33. 0. 0 | 34. 30. 0 | 36 |
| 37 | 20. 2. 30 | 21. 35. 0 | 23. 7. 30 | 24. 40. 0 | 26. 12. 30 | 27. 45. 0 | 29. 17. 30 | 30. 50. 0 | 32. 22. 30 | 33. 55. 0 | 35. 27. 30 | 37 |
| 38 | 20. 35. 0 | 22. 10. 0 | 23. 45. 0 | 25. 20. 0 | 26. 55. 0 | 28. 30. 0 | 30. 5. 0 | 31. 40. 0 | 33. 15. 0 | 34. 50. 0 | 36. 25. 0 | 38 |
| 39 | 21. 7. 30 | 22. 45. 0 | 24. 22. 30 | 26. 0. 0 | 27. 37. 30 | 29. 15. 0 | 30. 52. 30 | 32. 30. 0 | 34. 7. 30 | 35. 45. 0 | 37. 22. 30 | 39 |
| 40 | 21. 40. 0 | 23. 20. 0 | 25. 0. 0 | 26. 40. 0 | 28. 20. 0 | 30. 0. 0 | 31. 40. 0 | 33. 20. 0 | 35. 0. 0 | 36. 40. 0 | 38. 20. 0 | 40 |
| 41 | 22. 12. 30 | 23. 55. 0 | 25. 37. 30 | 27. 20. 0 | 29. 2. 30 | 30. 45. 0 | 32. 27. 30 | 34. 10. 0 | 35. 52. 30 | 37. 35. 0 | 39. 17. 30 | 41 |
| 42 | 22. 45. 0 | 24. 30. 0 | 26. 15. 0 | 28. 0. 0 | 29. 45. 0 | 31. 30. 0 | 33. 15. 0 | 35. 0. 0 | 36. 45. 0 | 38. 30. 0 | 40. 15. 0 | 42 |
| 43 | 23. 17. 30 | 25. 5. 0 | 26. 52. 30 | 28. 40. 0 | 30. 27. 30 | 32. 15. 0 | 34. 2. 30 | 35. 50. 0 | 37. 37. 30 | 39. 25. 0 | 41. 12. 30 | 43 |
| 44 | 23. 50. 0 | 25. 40. 0 | 27. 30. 0 | 29. 20. 0 | 31. 10. 0 | 33. 0. 0 | 34. 50. 0 | 36. 40. 0 | 38. 30. 0 | 40. 20. 0 | 42. 10. 0 | 44 |
| 45 | 24. 22. 30 | 26. 15. 0 | 28. 7. 30 | 30. 0. 0 | 31. 52. 30 | 33. 45. 0 | 35. 37. 30 | 37. 30. 0 | 39. 22. 30 | 41. 15. 0 | 43. 7. 30 | 45 |
| 46 | 24. 55. 0 | 26. 50. 0 | 28. 45. 0 | 30. 40. 0 | 32. 35. 0 | 34. 30. 0 | 36. 25. 0 | 38. 20. 0 | 40. 15. 0 | 42. 10. 0 | 44. 5. 0 | 46 |
| 47 | 25. 27. 30 | 27. 25. 0 | 29. 22. 30 | 31. 20. 0 | 33. 17. 30 | 35. 15. 0 | 37. 12. 30 | 39. 10. 0 | 41. 7. 30 | 43. 5. 0 | 45. 2. 30 | 47 |
| 48 | 26. 0. 0 | 28. 0. 0 | 30. 0. 0 | 32. 0. 0 | 34. 0. 0 | 36. 0. 0 | 38. 0. 0 | 40. 0. 0 | 42. 0. 0 | 44. 0. 0 | 46. 0. 0 | 48 |
| 49 | 26. 32. 30 | 28. 35. 0 | 30. 37. 30 | 32. 40. 0 | 34. 42. 30 | 36. 45. 0 | 38. 47. 30 | 40. 50. 0 | 42. 52. 30 | 44. 55. 0 | 46. 57. 30 | 49 |
| 50 | 27. 5. 0 | 29. 10. 0 | 31. 15. 0 | 33. 20. 0 | 35. 25. 0 | 37. 30. 0 | 39. 35. 0 | 41. 40. 0 | 43. 45. 0 | 45. 50. 0 | 47. 55. 0 | 50 |
| 51 | 27. 37. 30 | 29. 45. 0 | 31. 52. 30 | 34. 0. 0 | 36. 7. 30 | 38. 15. 0 | 40. 22. 30 | 42. 30. 0 | 44. 37. 30 | 46. 45. 0 | 48. 52. 30 | 51 |
| 52 | 28. 10. 0 | 30. 20. 0 | 32. 30. 0 | 34. 40. 0 | 36. 50. 0 | 39. 0. 0 | 41. 10. 0 | 43. 20. 0 | 45. 30. 0 | 47. 40. 0 | 49. 50. 0 | 52 |
| 53 | 28. 42. 30 | 30. 55. 0 | 33. 7. 30 | 35. 20. 0 | 37. 32. 30 | 39. 45. 0 | 41. 57. 30 | 44. 10. 0 | 46. 22. 30 | 48. 35. 0 | 50. 47. 30 | 53 |
| 54 | 29. 15. 0 | 31. 30. 0 | 33. 45. 0 | 36. 0. 0 | 38. 15. 0 | 40. 30. 0 | 42. 45. 0 | 45. 0. 0 | 47. 15. 0 | 49. 30. 0 | 51. 45. 0 | 54 |
| 55 | 29. 47. 30 | 32. 5. 0 | 34. 22. 30 | 36. 40. 0 | 38. 57. 30 | 41. 15. 0 | 43. 32. 30 | 45. 50. 0 | 48. 7. 30 | 50. 25. 0 | 52. 42. 30 | 55 |
| 56 | 30. 20. 0 | 32. 40. 0 | 35. 0. 0 | 37. 20. 0 | 39. 40. 0 | 42. 0. 0 | 44. 20. 0 | 46. 40. 0 | 49. 0. 0 | 51. 20. 0 | 53. 40. 0 | 56 |
| 57 | 30. 52. 30 | 33. 15. 0 | 35. 37. 30 | 38. 0. 0 | 40. 22. 30 | 42. 45. 0 | 45. 7. 30 | 47. 30. 0 | 49. 52. 30 | 52. 15. 0 | 54. 37. 30 | 57 |
| 58 | 31. 25. 0 | 33. 50. 0 | 36. 15. 0 | 38. 40. 0 | 41. 5. 0 | 43. 30. 0 | 45. 55. 0 | 48. 20. 0 | 50. 45. 0 | 53. 10. 0 | 55. 35. 0 | 58 |
| 59 | 31. 57. 30 | 34. 25. 0 | 36. 52. 30 | 39. 20. 0 | 41. 47. 30 | 44. 15. 0 | 46. 42. 30 | 49. 10. 0 | 51. 37. 30 | 54. 5. 0 | 56. 32. 30 | 59 |
| Values | 32. 30 | 35. 0 | 37. 30 | 40. 0 | 42. 30 | 45. 0 | 47. 30 | 50. 0 | 52. 30 | 55. 0 | 57. 30 | |
| | Interval for 12 Hours. | | | | | | | | | | | |

| Variation | Interval for 24 Hours, and Longitude. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1m 0°. 15′ | 2m 0°. 30′ | 3m 0°. 45′ | 4m 1°. 0′ | 5m 1°. 15′ | 6m 1°. 30′ | 7m 1°. 45′ | 8m 2°. 0′ |
| ° | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
| ′ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 1 | 0. 0. 1. 30 | 0. 0. 5. 0 | 0. 0. 7. 30 | 0. 0. 10. 0 | 0. 0. 12. 30 | 0. 0. 15. 0 | 0. 0. 17. 30 | 0. 0. 20. 0 |
| 2 | 0. 0. 5. 0 | 0. 0. 10. 0 | 0. 0. 15. 0 | 0. 0. 20. 0 | 0. 0. 25. 0 | 0. 0. 30. 0 | 0. 0. 35. 0 | 0. 0. 40. 0 |
| 3 | 0. 0. 7. 30 | 0. 0. 15. 0 | 0. 0. 22. 30 | 0. 0. 30. 0 | 0. 0. 37. 30 | 0. 0. 45. 0 | 0. 0. 52. 30 | 0. 1. 0. 0 |
| 4 | 0. 0. 10. 0 | 0. 0. 20. 0 | 0. 0. 30. 0 | 0. 0. 40. 0 | 0. 0. 50. 0 | 0. 1. 0. 0 | 0. 1. 10. 0 | 0. 1. 20. 0 |
| 5 | 0. 0. 12. 30 | 0. 0. 25. 0 | 0. 0. 37. 30 | 0. 0. 50. 0 | 0. 1. 2. 30 | 0. 1. 15. 0 | 0. 1. 27. 30 | 0. 1. 40. 0 |
| 6 | 0. 0. 15. 0 | 0. 0. 30. 0 | 0. 0. 45. 0 | 0. 1. 0. 0 | 0. 1. 15. 0 | 0. 1. 30. 0 | 0. 1. 45. 0 | 0. 2. 0. 0 |
| 7 | 0. 0. 17. 30 | 0. 0. 35. 0 | 0. 0. 52. 30 | 0. 1. 10. 0 | 0. 1. 27. 30 | 0. 1. 45. 0 | 0. 2. 2. 30 | 0. 2. 20. 0 |
| 8 | 0. 0. 20. 0 | 0. 0. 40. 0 | 0. 1. 0. 0 | 0. 1. 20. 0 | 0. 1. 40. 0 | 0. 2. 0. 0 | 0. 2. 20. 0 | 0. 2. 40. 0 |
| 9 | 0. 0. 22. 30 | 0. 0. 45. 0 | 0. 1. 7. 30 | 0. 1. 30. 0 | 0. 1. 52. 30 | 0. 2. 15. 0 | 0. 2. 37. 30 | 0. 3. 0. 0 |
| 10 | 0. 0. 25. 0 | 0. 0. 50. 0 | 0. 1. 15. 0 | 0. 1. 40. 0 | 0. 2. 5. 0 | 0. 2. 30. 0 | 0. 2. 55. 0 | 0. 3. 20. 0 |
| 11 | 0. 0. 27. 30 | 0. 0. 55. 0 | 0. 1. 22. 30 | 0. 1. 50. 0 | 0. 2. 17. 30 | 0. 2. 45. 0 | 0. 3. 12. 30 | 0. 3. 40. 0 |
| 12 | 0. 0. 30. 0 | 0. 1. 0. 0 | 0. 1. 30. 0 | 0. 2. 0. 0 | 0. 2. 30. 0 | 0. 3. 0. 0 | 0. 3. 30. 0 | 0. 4. 0. 0 |
| 13 | 0. 0. 32. 30 | 0. 1. 5. 0 | 0. 1. 37. 30 | 0. 2. 10. 0 | 0. 2. 42. 30 | 0. 3. 15. 0 | 0. 3. 47. 30 | 0. 4. 20. 0 |
| 14 | 0. 0. 35. 0 | 0. 1. 10. 0 | 0. 1. 45. 0 | 0. 2. 20. 0 | 0. 2. 55. 0 | 0. 3. 30. 0 | 0. 4. 5. 0 | 0. 4. 40. 0 |
| 15 | 0. 0. 37. 30 | 0. 1. 15. 0 | 0. 1. 52. 30 | 0. 2. 30. 0 | 0. 3. 7. 30 | 0. 3. 45. 0 | 0. 4. 22. 30 | 0. 5. 0. 0 |
| 16 | 0. 0. 40. 0 | 0. 1. 20. 0 | 0. 2. 0. 0 | 0. 2. 40. 0 | 0. 3. 20. 0 | 0. 4. 0. 0 | 0. 4. 40. 0 | 0. 5. 20. 0 |
| 17 | 0. 0. 42. 30 | 0. 1. 25. 0 | 0. 2. 7. 30 | 0. 2. 50. 0 | 0. 3. 32. 30 | 0. 4. 15. 0 | 0. 4. 57. 30 | 0. 5. 40. 0 |
| 18 | 0. 0. 45. 0 | 0. 1. 30. 0 | 0. 2. 15. 0 | 0. 3. 0. 0 | 0. 3. 45. 0 | 0. 4. 30. 0 | 0. 5. 15. 0 | 0. 6. 0. 0 |
| 19 | 0. 0. 47. 30 | 0. 1. 35. 0 | 0. 2. 22. 30 | 0. 3. 10. 0 | 0. 3. 57. 30 | 0. 4. 45. 0 | 0. 5. 32. 30 | 0. 6. 20. 0 |
| 20 | 0. 0. 50. 0 | 0. 1. 40. 0 | 0. 2. 30. 0 | 0. 3. 20. 0 | 0. 4. 10. 0 | 0. 5. 0. 0 | 0. 5. 50. 0 | 0. 6. 40. 0 |
| 21 | 0. 0. 52. 30 | 0. 1. 45. 0 | 0. 2. 37. 30 | 0. 3. 30. 0 | 0. 4. 22. 30 | 0. 5. 15. 0 | 0. 6. 7. 30 | 0. 7. 0. 0 |
| 22 | 0. 0. 55. 0 | 0. 1. 50. 0 | 0. 2. 45. 0 | 0. 3. 40. 0 | 0. 4. 35. 0 | 0. 5. 30. 0 | 0. 6. 25. 0 | 0. 7. 20. 0 |
| 23 | 0. 0. 57. 30 | 0. 1. 55. 0 | 0. 2. 52. 30 | 0. 3. 50. 0 | 0. 4. 47. 30 | 0. 5. 45. 0 | 0. 6. 42. 30 | 0. 7. 40. 0 |
| 4 | 0. 1. 0. 0 | 0. 2. 0. 0 | 0. 3. 0. 0 | 0. 4. 0. 0 | 0. 5. 0. 0 | 0. 6. 0. 0 | 0. 7. 0. 0 | 0. 8. 0. 0 |
| 25 | 0. 1. 2. 30 | 0. 2. 5. 0 | 0. 3. 7. 30 | 0. 4. 10. 0 | 0. 5. 12. 30 | 0. 6. 15. 0 | 0. 7. 17. 30 | 0. 8. 20. 0 |
| 26 | 0. 1. 5. 0 | 0. 2. 10. 0 | 0. 3. 15. 0 | 0. 4. 20. 0 | 0. 5. 25. 0 | 0. 6. 30. 0 | 0. 7. 35. 0 | 0. 8. 40. 0 |
| 27 | 0. 1. 7. 30 | 0. 2. 15. 0 | 0. 3. 22. 30 | 0. 4. 30. 0 | 0. 5. 37. 30 | 0. 6. 45. 0 | 0. 7. 52. 30 | 0. 9. 0. 0 |
| 28 | 0. 1. 10. 0 | 0. 2. 20. 0 | 0. 3. 30. 0 | 0. 4. 40. 0 | 0. 5. 50. 0 | 0. 7. 0. 0 | 0. 8. 10. 0 | 0. 9. 20. 0 |
| 29 | 0. 1. 12. 30 | 0. 2. 25. 0 | 0. 3. 37. 30 | 0. 4. 50. 0 | 0. 6. 2. 30 | 0. 7. 15. 0 | 0. 8. 27. 30 | 0. 9. 40. 0 |
| 30 | 0. 1. 15. 0 | 0. 2. 30. 0 | 0. 3. 45. 0 | 0. 5. 0. 0 | 0. 6. 15. 0 | 0. 7. 30. 0 | 0. 8. 45. 0 | 0. 10. 0. 0 |
| 31 | 0. 1. 17. 30 | 0. 2. 35. 0 | 0. 3. 52. 30 | 0. 5. 10. 0 | 0. 6. 27. 30 | 0. 7. 45. 0 | 0. 9. 2. 30 | 0. 10. 20. 0 |
| 32 | 0. 1. 20. 0 | 0. 2. 40. 0 | 0. 4. 0. 0 | 0. 5. 20. 0 | 0. 6. 40. 0 | 0. 8. 0. 0 | 0. 9. 20. 0 | 0. 10. 40. 0 |
| 33 | 0. 1. 22. 30 | 0. 2. 45. 0 | 0. 4. 7. 30 | 0. 5. 30. 0 | 0. 6. 52. 30 | 0. 8. 15. 0 | 0. 9. 37. 30 | 0. 11. 0. 0 |
| 34 | 0. 1. 25. 0 | 0. 2. 50. 0 | 0. 4. 15. 0 | 0. 5. 40. 0 | 0. 7. 5. 0 | 0. 8. 30. 0 | 0. 9. 55. 0 | 0. 11. 20. 0 |
| 35 | 0. 1. 27. 30 | 0. 2. 55. 0 | 0. 4. 22. 30 | 0. 5. 50. 0 | 0. 7. 17. 30 | 0. 8. 45. 0 | 0. 10. 12. 30 | 0. 11. 40. 0 |
| 36 | 0. 1. 30. 0 | 0. 3. 0. 0 | 0. 4. 30. 0 | 0. 6. 0. 0 | 0. 7. 30. 0 | 0. 9. 0. 0 | 0. 10. 30. 0 | 0. 12. 0. 0 |
| 37 | 0. 1. 32. 30 | 0. 3. 5. 0 | 0. 4. 37. 30 | 0. 6. 10. 0 | 0. 7. 42. 30 | 0. 9. 15. 0 | 0. 10. 47. 30 | 0. 12. 20. 0 |
| 38 | 0. 1. 35. 0 | 0. 3. 10. 0 | 0. 4. 45. 0 | 0. 6. 20. 0 | 0. 7. 55. 0 | 0. 9. 30. 0 | 0. 11. 5. 0 | 0. 12. 40. 0 |
| 39 | 0. 1. 37. 30 | 0. 3. 15. 0 | 0. 4. 52. 30 | 0. 6. 30. 0 | 0. 8. 7. 30 | 0. 9. 45. 0 | 0. 11. 22. 30 | 0. 13. 0. 0 |
| 40 | 0. 1. 40. 0 | 0. 3. 20. 0 | 0. 5. 0. 0 | 0. 6. 40. 0 | 0. 8. 20. 0 | 0. 10. 0. 0 | 0. 11. 40. 0 | 0. 13. 20. 0 |
| 41 | 0. 1. 42. 30 | 0. 3. 25. 0 | 0. 5. 7. 30 | 0. 6. 50. 0 | 0. 8. 32. 30 | 0. 10. 15. 0 | 0. 11. 57. 30 | 0. 13. 40. 0 |
| 42 | 0. 1. 45. 0 | 0. 3. 30. 0 | 0. 5. 15. 0 | 0. 7. 0. 0 | 0. 8. 45. 0 | 0. 10. 30. 0 | 0. 12. 15. 0 | 0. 14. 0. 0 |
| 43 | 0. 1. 47. 30 | 0. 3. 35. 0 | 0. 5. 22. 30 | 0. 7. 10. 0 | 0. 8. 57. 30 | 0. 10. 45. 0 | 0. 12. 32. 30 | 0. 14. 20. 0 |
| 44 | 0. 1. 50. 0 | 0. 3. 40. 0 | 0. 5. 30. 0 | 0. 7. 20. 0 | 0. 9. 10. 0 | 0. 11. 0. 0 | 0. 12. 50. 0 | 0. 14. 40. 0 |
| 45 | 0. 1. 52. 30 | 0. 3. 45. 0 | 0. 5. 37. 30 | 0. 7. 30. 0 | 0. 9. 22. 30 | 0. 11. 15. 0 | 0. 13. 7. 30 | 0. 15. 0. 0 |
| 46 | 0. 1. 55. 0 | 0. 3. 50. 0 | 0. 5. 45. 0 | 0. 7. 40. 0 | 0. 9. 35. 0 | 0. 11. 30. 0 | 0. 13. 25. 0 | 0. 15. 20. 0 |
| 47 | 0. 1. 57. 30 | 0. 3. 55. 0 | 0. 5. 52. 30 | 0. 7. 50. 0 | 0. 9. 47. 30 | 0. 11. 45. 0 | 0. 13. 42. 30 | 0. 15. 40. 0 |
| 48 | 0. 2. 0. 0 | 0. 4. 0. 0 | 0. 6. 0. 0 | 0. 8. 0. 0 | 0. 10. 0. 0 | 0. 12. 0. 0 | 0. 14. 0. 0 | 0. 16. 0. 0 |
| 49 | 0. 2. 2. 30 | 0. 4. 5. 0 | 0. 6. 7. 30 | 0. 8. 10. 0 | 0. 10. 12. 30 | 0. 12. 15. 0 | 0. 14. 17. 30 | 0. 16. 20. 0 |
| 50 | 0. 2. 5. 0 | 0. 4. 10. 0 | 0. 6. 15. 0 | 0. 8. 20. 0 | 0. 10. 25. 0 | 0. 12. 30. 0 | 0. 14. 35. 0 | 0. 16. 40. 0 |
| 51 | 0. 2. 7. 30 | 0. 4. 15. 0 | 0. 6. 22. 30 | 0. 8. 30. 0 | 0. 10. 37. 30 | 0. 12. 45. 0 | 0. 14. 52. 30 | 0. 17. 0. 0 |
| 52 | 0. 2. 10. 0 | 0. 4. 20. 0 | 0. 6. 30. 0 | 0. 8. 40. 0 | 0. 10. 50. 0 | 0. 13. 0. 0 | 0. 15. 10. 0 | 0. 17. 20. 0 |
| 53 | 0. 2. 12. 30 | 0. 4. 25. 0 | 0. 6. 37. 30 | 0. 8. 50. 0 | 0. 11. 2. 30 | 0. 13. 15. 0 | 0. 15. 27. 30 | 0. 17. 40. 0 |
| 54 | 0. 2. 15. 0 | 0. 4. 30. 0 | 0. 6. 45. 0 | 0. 9. 0. 0 | 0. 11. 15. 0 | 0. 13. 30. 0 | 0. 15. 45. 0 | 0. 18. 0. 0 |
| 55 | 0. 2. 17. 30 | 0. 4. 35. 0 | 0. 6. 52. 30 | 0. 9. 10. 0 | 0. 11. 27. 30 | 0. 13. 45. 0 | 0. 16. 2. 30 | 0. 18. 20. 0 |
| 56 | 0. 2. 20. 0 | 0. 4. 40. 0 | 0. 7. 0. 0 | 0. 9. 20. 0 | 0. 11. 40. 0 | 0. 14. 0. 0 | 0. 16. 20. 0 | 0. 18. 40. 0 |
| 57 | 0. 2. 22. 30 | 0. 4. 45. 0 | 0. 7. 7. 30 | 0. 9. 30. 0 | 0. 11. 52. 30 | 0. 14. 15. 0 | 0. 16. 37. 30 | 0. 19. 0. 0 |
| 58 | 0. 2. 25. 0 | 0. 4. 50. 0 | 0. 7. 15. 0 | 0. 9. 40. 0 | 0. 12. 5. 0 | 0. 14. 30. 0 | 0. 16. 55. 0 | 0. 19. 20. 0 |
| 59 | 0. 2. 27. 30 | 0. 4. 55. 0 | 0. 7. 22. 30 | 0. 9. 50. 0 | 0. 12. 17. 30 | 0. 14. 45. 0 | 0. 17. 12. 30 | 0. 19. 40. 0 |
| 60 | 0. 2. 30. 0 | 0. 5. 0. 0 | 0. 7. 30. 0 | 0. 10. 0. 0 | 0. 12. 30. 0 | 0. 15. 0. 0 | 0. 17. 30. 0 | 0. 20. 0. 0 |

| Variation | Interval for 12 Hours. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1m 0°. 15′ | 2m 0°. 30′ | 3m 0°. 45′ | 4m 1°. 0′ | 5m 1°. 15′ | 6m 1°. 30′ | 7m 1°. 45′ | 8m 2°. 0′ |

| Var. | Interval for 24 Hours, and Longitude. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 9ᵐ 2′.15′ | 10ᵐ 2′.30′ | 11ᵐ 2′.45′ | 12ᵐ 3′.0′ | 13ᵐ 3′.15′ | 14ᵐ 3′.30′ | 15ᵐ 3′.45′ | 16ᵐ 4′.0′ |
| ″ | ″ ‴ ⁗ ⁗ | ″ ‴ ⁗ ⁗ | ″ ‴ ⁗ ⁗ | ″ ‴ ⁗ ⁗ | ″ ‴ ⁗ ⁗ | ″ ‴ ⁗ ⁗ | ″ ‴ ⁗ ⁗ | ″ ‴ ⁗ ⁗ |
| ′ | ′ ″ ‴ ⁗ | ′ ″ ‴ ⁗ | ′ ″ ‴ ⁗ | ′ ″ ‴ ⁗ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ |
| ° | ° ′ ″ ‴ | ° ′ ″ ‴ | ° ′ ″ ‴ | ° ′ ″ ‴ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ |
| 1 | 0. 0. 22. 30 | 0. 0. 25. 0 | 0. 0. 27. 30 | 0. 0. 30. 0 | 0. 0. 32. 30 | 0. 0. 35. 0 | 0. 0. 37. 30 | 0. 0. 40. 0 |
| 2 | 0. 0. 45. 0 | 0. 0. 50. 0 | 0. 0. 55. 0 | 0. 1. 0. 0 | 0. 1. 5. 0 | 0. 1. 10. 0 | 0. 1. 15. 0 | 0. 1. 20. 0 |
| 3 | 0. 1. 7. 30 | 0. 1. 15. 0 | 0. 1. 22. 30 | 0. 1. 30. 0 | 0. 1. 37. 30 | 0. 1. 45. 0 | 0. 1. 52. 30 | 0. 2. 0. 0 |
| 4 | 0. 1. 30. 0 | 0. 1. 40. 0 | 0. 1. 50. 0 | 0. 2. 0. 0 | 0. 2. 10. 0 | 0. 2. 20. 0 | 0. 2. 30. 0 | 0. 2. 40. 0 |
| 5 | 0. 1. 52. 30 | 0. 2. 5. 0 | 0. 2. 17. 30 | 0. 2. 30. 0 | 0. 2. 42. 30 | 0. 2. 55. 0 | 0. 3. 7. 30 | 0. 3. 20. 0 |
| 6 | 0. 2. 15. 0 | 0. 2. 30. 0 | 0. 2. 45. 0 | 0. 3. 0. 0 | 0. 3. 15. 0 | 0. 3. 30. 0 | 0. 3. 45. 0 | 0. 4. 0. 0 |
| 7 | 0. 2. 37. 30 | 0. 2. 55. 0 | 0. 3. 12. 30 | 0. 3. 30. 0 | 0. 3. 47. 30 | 0. 4. 5. 0 | 0. 4. 22. 30 | 0. 4. 40. 0 |
| 8 | 0. 3. 0. 0 | 0. 3. 20. 0 | 0. 3. 40. 0 | 0. 4. 0. 0 | 0. 4. 20. 0 | 0. 4. 40. 0 | 0. 5. 0. 0 | 0. 5. 20. 0 |
| 9 | 0. 3. 22. 30 | 0. 3. 45. 0 | 0. 4. 7. 30 | 0. 4. 30. 0 | 0. 4. 52. 30 | 0. 5. 15. 0 | 0. 5. 37. 30 | 0. 6. 0. 0 |
| 10 | 0. 3. 45. 0 | 0. 4. 10. 0 | 0. 4. 35. 0 | 0. 5. 0. 0 | 0. 5. 25. 0 | 0. 5. 50. 0 | 0. 6. 15. 0 | 0. 6. 40. 0 |
| 11 | 0. 4. 7. 30 | 0. 4. 35. 0 | 0. 5. 2. 30 | 0. 5. 30. 0 | 0. 5. 57. 30 | 0. 6. 25. 0 | 0. 6. 52. 30 | 0. 7. 20. 0 |
| 12 | 0. 4. 30. 0 | 0. 5. 0. 0 | 0. 5. 30. 0 | 0. 6. 0. 0 | 0. 6. 30. 0 | 0. 7. 0. 0 | 0. 7. 30. 0 | 0. 8. 0. 0 |
| 13 | 0. 4. 52. 30 | 0. 5. 25. 0 | 0. 5. 57. 30 | 0. 6. 30. 0 | 0. 7. 2. 30 | 0. 7. 35. 0 | 0. 8. 7. 30 | 0. 8. 40. 0 |
| 14 | 0. 5. 15. 0 | 0. 5. 50. 0 | 0. 6. 25. 0 | 0. 7. 0. 0 | 0. 7. 35. 0 | 0. 8. 10. 0 | 0. 8. 45. 0 | 0. 9. 20. 0 |
| 15 | 0. 5. 37. 30 | 0. 6. 15. 0 | 0. 6. 52. 30 | 0. 7. 30. 0 | 0. 8. 7. 30 | 0. 8. 45. 0 | 0. 9. 22. 30 | 0. 10. 0. 0 |
| 16 | 0. 6. 0. 0 | 0. 6. 40. 0 | 0. 7. 20. 0 | 0. 8. 0. 0 | 0. 8. 40. 0 | 0. 9. 20. 0 | 0. 10. 0. 0 | 0. 10. 40. 0 |
| 17 | 0. 6. 22. 30 | 0. 7. 5. 0 | 0. 7. 47. 30 | 0. 8. 30. 0 | 0. 9. 12. 30 | 0. 9. 55. 0 | 0. 10. 37. 30 | 0. 11. 20. 0 |
| 18 | 0. 6. 45. 0 | 0. 7. 30. 0 | 0. 8. 15. 0 | 0. 9. 0. 0 | 0. 9. 45. 0 | 0. 10. 30. 0 | 0. 11. 15. 0 | 0. 12. 0. 0 |
| 19 | 0. 7. 7. 30 | 0. 7. 55. 0 | 0. 8. 42. 30 | 0. 9. 30. 0 | 0. 10. 17. 30 | 0. 11. 5. 0 | 0. 11. 52. 30 | 0. 12. 40. 0 |
| 20 | 0. 7. 30. 0 | 0. 8. 20. 0 | 0. 9. 10. 0 | 0. 10. 0. 0 | 0. 10. 50. 0 | 0. 11. 40. 0 | 0. 12. 30. 0 | 0. 13. 20. 0 |
| 21 | 0. 7. 52. 30 | 0. 8. 45. 0 | 0. 9. 37. 30 | 0. 10. 30. 0 | 0. 11. 22. 30 | 0. 12. 15. 0 | 0. 13. 7. 30 | 0. 14. 0. 0 |
| 22 | 0. 8. 15. 0 | 0. 9. 10. 0 | 0. 10. 5. 0 | 0. 11. 0. 0 | 0. 11. 55. 0 | 0. 12. 50. 0 | 0. 13. 45. 0 | 0. 14. 40. 0 |
| 23 | 0. 8. 37. 30 | 0. 9. 35. 0 | 0. 10. 32. 30 | 0. 11. 30. 0 | 0. 12. 27. 30 | 0. 13. 25. 0 | 0. 14. 22. 30 | 0. 15. 20. 0 |
| 24 | 0. 9. 0. 0 | 0. 10. 0. 0 | 0. 11. 0. 0 | 0. 12. 0. 0 | 0. 13. 0. 0 | 0. 14. 0. 0 | 0. 15. 0. 0 | 0. 16. 0. 0 |
| 25 | 0. 9. 22. 30 | 0. 10. 25. 0 | 0. 11. 27. 30 | 0. 12. 30. 0 | 0. 13. 32. 30 | 0. 14. 35. 0 | 0. 15. 37. 30 | 0. 16. 40. 0 |
| 26 | 0. 9. 45. 0 | 0. 10. 50. 0 | 0. 11. 55. 0 | 0. 13. 0. 0 | 0. 14. 5. 0 | 0. 15. 10. 0 | 0. 16. 15. 0 | 0. 17. 20. 0 |
| 27 | 0. 10. 7. 30 | 0. 11. 15. 0 | 0. 12. 22. 30 | 0. 13. 30. 0 | 0. 14. 37. 30 | 0. 15. 45. 0 | 0. 16. 52. 30 | 0. 18. 0. 0 |
| 28 | 0. 10. 30. 0 | 0. 11. 40. 0 | 0. 12. 50. 0 | 0. 14. 0. 0 | 0. 15. 10. 0 | 0. 16. 20. 0 | 0. 17. 30. 0 | 0. 18. 40. 0 |
| 29 | 0. 10. 52. 30 | 0. 12. 5. 0 | 0. 13. 17. 30 | 0. 14. 30. 0 | 0. 15. 42. 30 | 0. 16. 55. 0 | 0. 18. 7. 30 | 0. 19. 20. 0 |
| 30 | 0. 11. 15. 0 | 0. 12. 30. 0 | 0. 13. 45. 0 | 0. 15. 0. 0 | 0. 16. 15. 0 | 0. 17. 30. 0 | 0. 18. 45. 0 | 0. 20. 0. 0 |
| 31 | 0. 11. 37. 30 | 0. 12. 55. 0 | 0. 14. 12. 30 | 0. 15. 30. 0 | 0. 16. 47. 30 | 0. 18. 5. 0 | 0. 19. 22. 30 | 0. 20. 40. 0 |
| 32 | 0. 12. 0. 0 | 0. 13. 20. 0 | 0. 14. 40. 0 | 0. 16. 0. 0 | 0. 17. 20. 0 | 0. 18. 40. 0 | 0. 20. 0. 0 | 0. 21. 20. 0 |
| 33 | 0. 12. 22. 30 | 0. 13. 45. 0 | 0. 15. 7. 30 | 0. 16. 30. 0 | 0. 17. 52. 30 | 0. 19. 15. 0 | 0. 20. 37. 30 | 0. 22. 0. 0 |
| 34 | 0. 12. 45. 0 | 0. 14. 10. 0 | 0. 15. 35. 0 | 0. 17. 0. 0 | 0. 18. 25. 0 | 0. 19. 50. 0 | 0. 21. 15. 0 | 0. 22. 40. 0 |
| 35 | 0. 13. 7. 30 | 0. 14. 35. 0 | 0. 16. 2. 30 | 0. 17. 30. 0 | 0. 18. 57. 30 | 0. 20. 25. 0 | 0. 21. 52. 30 | 0. 23. 20. 0 |
| 36 | 0. 13. 30. 0 | 0. 15. 0. 0 | 0. 16. 30. 0 | 0. 18. 0. 0 | 0. 19. 30. 0 | 0. 21. 0. 0 | 0. 22. 30. 0 | 0. 24. 0. 0 |
| 37 | 0. 13. 52. 30 | 0. 15. 25. 0 | 0. 16. 57. 30 | 0. 18. 30. 0 | 0. 20. 2. 30 | 0. 21. 35. 0 | 0. 23. 7. 30 | 0. 24. 40. 0 |
| 38 | 0. 14. 15. 0 | 0. 15. 50. 0 | 0. 17. 25. 0 | 0. 19. 0. 0 | 0. 20. 35. 0 | 0. 22. 10. 0 | 0. 23. 45. 0 | 0. 25. 20. 0 |
| 39 | 0. 14. 37. 30 | 0. 16. 15. 0 | 0. 17. 52. 30 | 0. 19. 30. 0 | 0. 21. 7. 30 | 0. 22. 45. 0 | 0. 24. 22. 30 | 0. 26. 0. 0 |
| 40 | 0. 15. 0. 0 | 0. 16. 40. 0 | 0. 18. 20. 0 | 0. 20. 0. 0 | 0. 21. 40. 0 | 0. 23. 20. 0 | 0. 25. 0. 0 | 0. 26. 40. 0 |
| 41 | 0. 15. 22. 30 | 0. 17. 5. 0 | 0. 18. 47. 30 | 0. 20. 30. 0 | 0. 22. 12. 30 | 0. 23. 55. 0 | 0. 25. 37. 30 | 0. 27. 20. 0 |
| 42 | 0. 15. 45. 0 | 0. 17. 30. 0 | 0. 19. 15. 0 | 0. 21. 0. 0 | 0. 22. 45. 0 | 0. 24. 30. 0 | 0. 26. 15. 0 | 0. 28. 0. 0 |
| 43 | 0. 16. 7. 30 | 0. 17. 55. 0 | 0. 19. 42. 30 | 0. 21. 30. 0 | 0. 23. 17. 30 | 0. 25. 5. 0 | 0. 26. 52. 30 | 0. 28. 40. 0 |
| 44 | 0. 16. 30. 0 | 0. 18. 20. 0 | 0. 20. 10. 0 | 0. 22. 0. 0 | 0. 23. 50. 0 | 0. 25. 40. 0 | 0. 27. 30. 0 | 0. 29. 20. 0 |
| 45 | 0. 16. 52. 30 | 0. 18. 45. 0 | 0. 20. 37. 30 | 0. 22. 30. 0 | 0. 24. 22. 30 | 0. 26. 15. 0 | 0. 28. 7. 30 | 0. 30. 0. 0 |
| 46 | 0. 17. 15. 0 | 0. 19. 10. 0 | 0. 21. 5. 0 | 0. 23. 0. 0 | 0. 24. 55. 0 | 0. 26. 50. 0 | 0. 28. 45. 0 | 0. 30. 40. 0 |
| 47 | 0. 17. 37. 30 | 0. 19. 35. 0 | 0. 21. 32. 30 | 0. 23. 30. 0 | 0. 25. 27. 30 | 0. 27. 25. 0 | 0. 29. 22. 30 | 0. 31. 20. 0 |
| 48 | 0. 18. 0. 0 | 0. 20. 0. 0 | 0. 22. 0. 0 | 0. 24. 0. 0 | 0. 26. 0. 0 | 0. 28. 0. 0 | 0. 30. 0. 0 | 0. 32. 0. 0 |
| 49 | 0. 18. 22. 30 | 0. 20. 25. 0 | 0. 22. 27. 30 | 0. 24. 30. 0 | 0. 26. 32. 30 | 0. 28. 35. 0 | 0. 30. 37. 30 | 0. 32. 40. 0 |
| 50 | 0. 18. 45. 0 | 0. 20. 50. 0 | 0. 22. 55. 0 | 0. 25. 0. 0 | 0. 27. 5. 0 | 0. 29. 10. 0 | 0. 31. 15. 0 | 0. 33. 20. 0 |
| 51 | 0. 19. 7. 30 | 0. 21. 15. 0 | 0. 23. 22. 30 | 0. 25. 30. 0 | 0. 27. 37. 30 | 0. 29. 45. 0 | 0. 31. 52. 30 | 0. 34. 0. 0 |
| 52 | 0. 19. 30. 0 | 0. 21. 40. 0 | 0. 23. 50. 0 | 0. 26. 0. 0 | 0. 28. 10. 0 | 0. 30. 20. 0 | 0. 32. 30. 0 | 0. 34. 40. 0 |
| 53 | 0. 19. 52. 30 | 0. 22. 5. 0 | 0. 24. 17. 30 | 0. 26. 30. 0 | 0. 28. 42. 30 | 0. 30. 55. 0 | 0. 33. 7. 30 | 0. 35. 20. 0 |
| 54 | 0. 20. 15. 0 | 0. 22. 30. 0 | 0. 24. 45. 0 | 0. 27. 0. 0 | 0. 29. 15. 0 | 0. 31. 30. 0 | 0. 33. 45. 0 | 0. 36. 0. 0 |
| 55 | 0. 20. 37. 30 | 0. 22. 55. 0 | 0. 25. 12. 30 | 0. 27. 30. 0 | 0. 29. 47. 30 | 0. 32. 5. 0 | 0. 34. 22. 30 | 0. 36. 40. 0 |
| 56 | 0. 21. 0. 0 | 0. 23. 20. 0 | 0. 25. 40. 0 | 0. 28. 0. 0 | 0. 30. 20. 0 | 0. 32. 40. 0 | 0. 35. 0. 0 | 0. 37. 20. 0 |
| 57 | 0. 21. 22. 30 | 0. 23. 45. 0 | 0. 26. 7. 30 | 0. 28. 30. 0 | 0. 30. 52. 30 | 0. 33. 15. 0 | 0. 35. 37. 30 | 0. 38. 0. 0 |
| 58 | 0. 21. 45. 0 | 0. 24. 10. 0 | 0. 26. 35. 0 | 0. 29. 0. 0 | 0. 31. 25. 0 | 0. 33. 50. 0 | 0. 36. 15. 0 | 0. 38. 40. 0 |
| 59 | 0. 22. 7. 30 | 0. 24. 35. 0 | 0. 27. 2. 30 | 0. 29. 30. 0 | 0. 31. 57. 30 | 0. 34. 25. 0 | 0. 36. 52. 30 | 0. 39. 20. 0 |
| 60 | 0. 22. 30. 0 | 0. 25. 0. 0 | 0. 27. 30. 0 | 0. 30. 0. 0 | 0. 32. 30. 0 | 0. 35. 0. 0 | 0. 37. 30. 0 | 0. 40. 0. 0 |
| | 9ᵐ 2′.15′ | 10ᵐ 2′.30′ | 11ᵐ 2′.45′ | 12ᵐ 3′.0′ | 13ᵐ 3′.15′ | 14ᵐ 3′.30′ | 15ᵐ 3′.45′ | 16ᵐ 4′.0′ |

Interval for 12 Hours.

| | Interval for 24 Hours, and Longitude. | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 17m 4°.15′ | 18m 4°.30′ | 19m 4°.45′ | 20m 5°.0′ | 21m 5°.15′ | 22m 5°.30′ | 23m 5°.45′ | 24m 6°.0′ |
| 1 | 0. 0. 44. 30 | 0. 0. 45. 0 | 0. 0. 47. 30 | 0. 0. 50. 0 | 0. 0. 52. 30 | 0. 0. 55. 0 | 0. 0. 57. 30 | 0. 1. 0. 0 |
| 2 | 0. 1. 29. 0 | 0. 1. 30. 0 | 0. 1. 35. 0 | 0. 1. 40. 0 | 0. 1. 45. 0 | 0. 1. 50. 0 | 0. 1. 58. 0 | 0. 2. 0. 0 |
| 3 | 0. 2. 13. 30 | 0. 2. 15. 0 | 0. 2. 22. 30 | 0. 2. 30. 0 | 0. 2. 37. 30 | 0. 2. 45. 0 | 0. 2. 52. 30 | 0. 3. 0. 0 |
| 4 | 0. 2. 58. 0 | 0. 3. 0. 0 | 0. 3. 10. 0 | 0. 3. 20. 0 | 0. 3. 30. 0 | 0. 3. 40. 0 | 0. 3. 50. 0 | 0. 4. 0. 0 |
| 5 | 0. 3. 42. 30 | 0. 3. 45. 0 | 0. 3. 57. 30 | 0. 4. 10. 0 | 0. 4. 22. 30 | 0. 4. 35. 0 | 0. 4. 47. 30 | 0. 5. 0. 0 |
| 6 | 0. 4. 27. 0 | 0. 4. 30. 0 | 0. 4. 45. 0 | 0. 5. 0. 0 | 0. 5. 15. 0 | 0. 5. 30. 0 | 0. 5. 45. 0 | 0. 6. 0. 0 |
| 7 | 0. 5. 11. 30 | 0. 5. 15. 0 | 0. 5. 32. 30 | 0. 5. 50. 0 | 0. 6. 7. 30 | 0. 6. 25. 0 | 0. 6. 42. 30 | 0. 7. 0. 0 |
| 8 | 0. 5. 56. 0 | 0. 6. 0. 0 | 0. 6. 20. 0 | 0. 6. 40. 0 | 0. 7. 0. 0 | 0. 7. 20. 0 | 0. 7. 40. 0 | 0. 8. 0. 0 |
| 9 | 0. 6. 40. 30 | 0. 6. 45. 0 | 0. 7. 7. 30 | 0. 7. 30. 0 | 0. 7. 52. 30 | 0. 8. 15. 0 | 0. 8. 37. 30 | 0. 9. 0. 0 |
| 10 | 0. 7. 25. 0 | 0. 7. 30. 0 | 0. 7. 55. 0 | 0. 8. 20. 0 | 0. 8. 45. 0 | 0. 9. 10. 0 | 0. 9. 35. 0 | 0. 10. 0. 0 |
| 11 | 0. 8. 9. 30 | 0. 8. 15. 0 | 0. 8. 42. 30 | 0. 9. 10. 0 | 0. 9. 37. 30 | 0. 10. 5. 0 | 0. 10. 32. 30 | 0. 11. 0. 0 |
| 12 | 0. 8. 54. 0 | 0. 9. 0. 0 | 0. 9. 30. 0 | 0. 10. 0. 0 | 0. 10. 30. 0 | 0. 11. 0. 0 | 0. 11. 30. 0 | 0. 12. 0. 0 |
| 13 | 0. 9. 38. 30 | 0. 9. 45. 0 | 0. 10. 17. 30 | 0. 10. 50. 0 | 0. 11. 22. 30 | 0. 11. 55. 0 | 0. 12. 27. 30 | 0. 13. 0. 0 |
| 14 | 0. 10. 23. 0 | 0. 10. 30. 0 | 0. 11. 5. 0 | 0. 11. 40. 0 | 0. 12. 15. 0 | 0. 12. 50. 0 | 0. 13. 25. 0 | 0. 14. 0. 0 |
| 15 | 0. 11. 7. 30 | 0. 11. 15. 0 | 0. 11. 52. 30 | 0. 12. 30. 0 | 0. 13. 7. 30 | 0. 13. 45. 0 | 0. 14. 22. 30 | 0. 15. 0. 0 |
| 16 | 0. 11. 52. 0 | 0. 12. 0. 0 | 0. 12. 40. 0 | 0. 13. 20. 0 | 0. 14. 0. 0 | 0. 14. 40. 0 | 0. 15. 20. 0 | 0. 16. 0. 0 |
| 17 | 0. 12. 36. 30 | 0. 12. 45. 0 | 0. 13. 27. 30 | 0. 14. 10. 0 | 0. 14. 52. 30 | 0. 15. 35. 0 | 0. 16. 17. 30 | 0. 17. 0. 0 |
| 18 | 0. 13. 21. 0 | 0. 13. 30. 0 | 0. 14. 15. 0 | 0. 15. 0. 0 | 0. 15. 45. 0 | 0. 16. 30. 0 | 0. 17. 15. 0 | 0. 18. 0. 0 |
| 19 | 0. 14. 5. 30 | 0. 14. 15. 0 | 0. 15. 2. 30 | 0. 15. 50. 0 | 0. 16. 37. 30 | 0. 17. 25. 0 | 0. 18. 12. 30 | 0. 19. 0. 0 |
| 20 | 0. 14. 50. 0 | 0. 15. 0. 0 | 0. 15. 50. 0 | 0. 16. 40. 0 | 0. 17. 30. 0 | 0. 18. 20. 0 | 0. 19. 10. 0 | 0. 20. 0. 0 |
| 21 | 0. 15. 34. 30 | 0. 15. 45. 0 | 0. 16. 37. 30 | 0. 17. 30. 0 | 0. 18. 22. 30 | 0. 19. 15. 0 | 0. 20. 7. 30 | 0. 21. 0. 0 |
| 22 | 0. 16. 19. 0 | 0. 16. 30. 0 | 0. 17. 25. 0 | 0. 18. 20. 0 | 0. 19. 15. 0 | 0. 20. 10. 0 | 0. 21. 5. 0 | 0. 22. 0. 0 |
| 23 | 0. 17. 3. 30 | 0. 17. 15. 0 | 0. 18. 12. 30 | 0. 19. 10. 0 | 0. 20. 7. 30 | 0. 21. 5. 0 | 0. 22. 2. 30 | 0. 23. 0. 0 |
| 24 | 0. 17. 48. 0 | 0. 18. 0. 0 | 0. 19. 0. 0 | 0. 20. 0. 0 | 0. 21. 0. 0 | 0. 22. 0. 0 | 0. 23. 0. 0 | 0. 24. 0. 0 |
| 25 | 0. 18. 32. 30 | 0. 18. 45. 0 | 0. 19. 47. 30 | 0. 20. 50. 0 | 0. 21. 52. 30 | 0. 22. 55. 0 | 0. 23. 57. 30 | 0. 25. 0. 0 |
| 26 | 0. 19. 17. 0 | 0. 19. 30. 0 | 0. 20. 35. 0 | 0. 21. 40. 0 | 0. 22. 45. 0 | 0. 23. 50. 0 | 0. 24. 55. 0 | 0. 26. 0. 0 |
| 27 | 0. 20. 1. 30 | 0. 20. 15. 0 | 0. 21. 22. 30 | 0. 22. 30. 0 | 0. 23. 37. 30 | 0. 24. 45. 0 | 0. 25. 52. 30 | 0. 27. 0. 0 |
| 28 | 0. 20. 46. 0 | 0. 21. 0. 0 | 0. 22. 10. 0 | 0. 23. 20. 0 | 0. 24. 30. 0 | 0. 25. 40. 0 | 0. 26. 50. 0 | 0. 28. 0. 0 |
| 29 | 0. 21. 30. 30 | 0. 21. 45. 0 | 0. 22. 57. 30 | 0. 24. 10. 0 | 0. 25. 22. 30 | 0. 26. 35. 0 | 0. 27. 47. 30 | 0. 29. 0. 0 |
| 30 | 0. 22. 15. 0 | 0. 22. 30. 0 | 0. 23. 45. 0 | 0. 25. 0. 0 | 0. 26. 15. 0 | 0. 27. 30. 0 | 0. 28. 45. 0 | 0. 30. 0. 0 |
| 31 | 0. 22. 59. 30 | 0. 23. 15. 0 | 0. 24. 32. 30 | 0. 25. 50. 0 | 0. 27. 7. 30 | 0. 28. 25. 0 | 0. 29. 42. 30 | 0. 31. 0. 0 |
| 32 | 0. 23. 44. 0 | 0. 24. 0. 0 | 0. 25. 20. 0 | 0. 26. 40. 0 | 0. 28. 0. 0 | 0. 29. 20. 0 | 0. 30. 40. 0 | 0. 32. 0. 0 |
| 33 | 0. 24. 28. 30 | 0. 24. 45. 0 | 0. 26. 7. 30 | 0. 27. 30. 0 | 0. 28. 52. 30 | 0. 30. 15. 0 | 0. 31. 37. 30 | 0. 33. 0. 0 |
| 34 | 0. 25. 13. 0 | 0. 25. 30. 0 | 0. 26. 55. 0 | 0. 28. 20. 0 | 0. 29. 45. 0 | 0. 31. 10. 0 | 0. 32. 35. 0 | 0. 34. 0. 0 |
| 35 | 0. 25. 57. 30 | 0. 26. 15. 0 | 0. 27. 42. 30 | 0. 29. 10. 0 | 0. 30. 37. 30 | 0. 32. 5. 0 | 0. 33. 32. 30 | 0. 35. 0. 0 |
| 36 | 0. 26. 42. 0 | 0. 27. 0. 0 | 0. 28. 30. 0 | 0. 30. 0. 0 | 0. 31. 30. 0 | 0. 33. 0. 0 | 0. 34. 30. 0 | 0. 36. 0. 0 |
| 37 | 0. 27. 26. 30 | 0. 27. 45. 0 | 0. 29. 17. 30 | 0. 30. 50. 0 | 0. 32. 22. 30 | 0. 33. 55. 0 | 0. 35. 27. 30 | 0. 37. 0. 0 |
| 38 | 0. 28. 11. 0 | 0. 28. 30. 0 | 0. 30. 5. 0 | 0. 31. 40. 0 | 0. 33. 15. 0 | 0. 34. 50. 0 | 0. 36. 25. 0 | 0. 38. 0. 0 |
| 39 | 0. 28. 55. 30 | 0. 29. 15. 0 | 0. 30. 52. 30 | 0. 32. 30. 0 | 0. 34. 7. 30 | 0. 35. 45. 0 | 0. 37. 22. 30 | 0. 39. 0. 0 |
| 40 | 0. 29. 40. 0 | 0. 30. 0. 0 | 0. 31. 40. 0 | 0. 33. 20. 0 | 0. 35. 0. 0 | 0. 36. 40. 0 | 0. 38. 20. 0 | 0. 40. 0. 0 |
| 41 | 0. 30. 24. 30 | 0. 30. 45. 0 | 0. 32. 27. 30 | 0. 34. 10. 0 | 0. 35. 52. 30 | 0. 37. 35. 0 | 0. 39. 17. 30 | 0. 41. 0. 0 |
| 42 | 0. 31. 9. 0 | 0. 31. 30. 0 | 0. 33. 15. 0 | 0. 35. 0. 0 | 0. 36. 45. 0 | 0. 38. 30. 0 | 0. 40. 15. 0 | 0. 42. 0. 0 |
| 43 | 0. 31. 53. 30 | 0. 32. 15. 0 | 0. 34. 2. 30 | 0. 35. 50. 0 | 0. 37. 37. 30 | 0. 39. 25. 0 | 0. 41. 12. 30 | 0. 43. 0. 0 |
| 44 | 0. 32. 38. 0 | 0. 33. 0. 0 | 0. 34. 50. 0 | 0. 36. 40. 0 | 0. 38. 30. 0 | 0. 40. 20. 0 | 0. 42. 10. 0 | 0. 44. 0. 0 |
| 45 | 0. 33. 22. 30 | 0. 33. 45. 0 | 0. 35. 37. 30 | 0. 37. 30. 0 | 0. 39. 22. 30 | 0. 41. 15. 0 | 0. 43. 7. 30 | 0. 45. 0. 0 |
| 46 | 0. 34. 7. 0 | 0. 34. 30. 0 | 0. 36. 25. 0 | 0. 38. 20. 0 | 0. 40. 15. 0 | 0. 42. 10. 0 | 0. 44. 5. 0 | 0. 46. 0. 0 |
| 47 | 0. 34. 51. 30 | 0. 35. 15. 0 | 0. 37. 12. 30 | 0. 39. 10. 0 | 0. 41. 7. 30 | 0. 43. 5. 0 | 0. 45. 2. 30 | 0. 47. 0. 0 |
| 48 | 0. 35. 36. 0 | 0. 36. 0. 0 | 0. 38. 0. 0 | 0. 40. 0. 0 | 0. 42. 0. 0 | 0. 44. 0. 0 | 0. 46. 0. 0 | 0. 48. 0. 0 |
| 49 | 0. 36. 20. 30 | 0. 36. 45. 0 | 0. 38. 47. 30 | 0. 40. 50. 0 | 0. 42. 52. 30 | 0. 44. 55. 0 | 0. 46. 57. 30 | 0. 49. 0. 0 |
| 50 | 0. 37. 5. 0 | 0. 37. 30. 0 | 0. 39. 35. 0 | 0. 41. 40. 0 | 0. 43. 45. 0 | 0. 45. 50. 0 | 0. 47. 55. 0 | 0. 50. 0. 0 |
| 51 | 0. 37. 49. 30 | 0. 38. 15. 0 | 0. 40. 22. 30 | 0. 42. 30. 0 | 0. 44. 37. 30 | 0. 46. 45. 0 | 0. 48. 52. 30 | 0. 51. 0. 0 |
| 52 | 0. 38. 34. 0 | 0. 39. 0. 0 | 0. 41. 10. 0 | 0. 43. 20. 0 | 0. 45. 30. 0 | 0. 47. 40. 0 | 0. 49. 50. 0 | 0. 52. 0. 0 |
| 53 | 0. 39. 18. 30 | 0. 39. 45. 0 | 0. 41. 57. 30 | 0. 44. 10. 0 | 0. 46. 22. 30 | 0. 48. 35. 0 | 0. 50. 47. 30 | 0. 53. 0. 0 |
| 54 | 0. 40. 3. 0 | 0. 40. 30. 0 | 0. 42. 45. 0 | 0. 45. 0. 0 | 0. 47. 15. 0 | 0. 49. 30. 0 | 0. 51. 45. 0 | 0. 54. 0. 0 |
| 55 | 0. 40. 47. 30 | 0. 41. 15. 0 | 0. 43. 32. 30 | 0. 45. 50. 0 | 0. 48. 7. 30 | 0. 50. 25. 0 | 0. 52. 42. 30 | 0. 55. 0. 0 |
| 56 | 0. 41. 32. 0 | 0. 42. 0. 0 | 0. 44. 20. 0 | 0. 46. 40. 0 | 0. 49. 0. 0 | 0. 51. 20. 0 | 0. 53. 40. 0 | 0. 56. 0. 0 |
| 57 | 0. 42. 16. 30 | 0. 42. 45. 0 | 0. 45. 7. 30 | 0. 47. 30. 0 | 0. 49. 52. 30 | 0. 52. 15. 0 | 0. 54. 37. 30 | 0. 57. 0. 0 |
| 58 | 0. 43. 1. 0 | 0. 43. 30. 0 | 0. 45. 55. 0 | 0. 48. 20. 0 | 0. 50. 45. 0 | 0. 53. 10. 0 | 0. 55. 35. 0 | 0. 58. 0. 0 |
| 59 | 0. 43. 45. 30 | 0. 44. 15. 0 | 0. 46. 42. 30 | 0. 49. 10. 0 | 0. 51. 37. 30 | 0. 54. 5. 0 | 0. 56. 32. 30 | 0. 59. 0. 0 |
| | 8°.30′ | 9°.0′ | 9°.30′ | 10°.0′ | 10°.30′ | 11°.0′ | 11°.30′ | 12°.0′ |
| | Interval for 12 Hours. | | | | | | | |

Interval of 24 Hours, and Longitude.

| | 26m 6° 30′ | 27m 6° 45′ | 28m 7° 0′ | 29m 7° 15′ | 30m 7° 30′ | 31m 7° 45′ |
|---|---|---|---|---|---|---|
| ° | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ | ′ ″ |
| ′ | ″ | ″ | ″ | ″ | ″ | ″ |
| ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 1 | 0. 1. 2.30 | 0. 1. 5. 0 | 0. 1. 7.30 | 0. 1. 10. 0 | 0. 1. 12.30 | 0. 1. 15. 0 |
| 2 | 0. 2. 5. 0 | 0. 2. 10. 0 | 0. 2. 15. 0 | 0. 2. 20. 0 | 0. 2. 25. 0 | 0. 2. 30. 0 |
| 3 | 0. 3. 7.30 | 0. 3. 15. 0 | 0. 3. 22.30 | 0. 3. 30. 0 | 0. 3. 37.30 | 0. 3. 45. 0 |
| 4 | 0. 4. 10. 0 | 0. 4. 20. 0 | 0. 4. 30. 0 | 0. 4. 40. 0 | 0. 4. 50. 0 | 0. 5. 0. 0 |
| 5 | 0. 5. 12.30 | 0. 5. 25. 0 | 0. 5. 37.30 | 0. 5. 50. 0 | 0. 6. 2.30 | 0. 6. 15. 0 |
| 6 | 0. 6. 15. 0 | 0. 6. 30. 0 | 0. 6. 45. 0 | 0. 7. 0. 0 | 0. 7. 15. 0 | 0. 7. 30. 0 |
| 7 | 0. 7. 17.30 | 0. 7. 35. 0 | 0. 7. 52.30 | 0. 8. 10. 0 | 0. 8. 27.30 | 0. 8. 45. 0 |
| 8 | 0. 8. 20. 0 | 0. 8. 40. 0 | 0. 9. 0. 0 | 0. 9. 20. 0 | 0. 9. 40. 0 | 0. 10. 0. 0 |
| 9 | 0. 9. 22.30 | 0. 9. 45. 0 | 0. 10. 7.30 | 0. 10. 30. 0 | 0. 10. 52.30 | 0. 11. 15. 0 |
| 10 | 0. 10. 25. 0 | 0. 11. 5. 0 | 0. 11. 15. 0 | 0. 11. 40. 0 | 0. 12. 5. 0 | 0. 12. 30. 0 |
| 11 | 0. 11. 27.30 | 0. 12. 25. 0 | 0. 12. 22.30 | 0. 12. 50. 0 | 0. 13. 17.30 | 0. 13. 45. 0 |
| 12 | 0. 12. 30. 0 | 0. 13. 0. 0 | 0. 13. 30. 0 | 0. 14. 0. 0 | 0. 14. 30. 0 | 0. 15. 0. 0 |
| 13 | 0. 13. 32.30 | 0. 14. 5. 0 | 0. 14. 37.30 | 0. 15. 10. 0 | 0. 15. 42.30 | 0. 16. 15. 0 |
| 14 | 0. 14. 35. 0 | 0. 15. 10. 0 | 0. 15. 45. 0 | 0. 16. 20. 0 | 0. 16. 55. 0 | 0. 17. 30. 0 |
| 15 | 0. 15. 37.30 | 0. 16. 15. 0 | 0. 16. 52.30 | 0. 17. 30. 0 | 0. 18. 7.30 | 0. 18. 45. 0 |
| 16 | 0. 16. 40. 0 | 0. 17. 20. 0 | 0. 18. 0. 0 | 0. 18. 40. 0 | 0. 19. 20. 0 | 0. 20. 0. 0 |
| 17 | 0. 17. 42.30 | 0. 18. 25. 0 | 0. 19. 7.30 | 0. 19. 50. 0 | 0. 20. 32.30 | 0. 21. 15. 0 |
| 18 | 0. 18. 45. 0 | 0. 19. 30. 0 | 0. 20. 15. 0 | 0. 21. 0. 0 | 0. 21. 45. 0 | 0. 22. 30. 0 |
| 19 | 0. 19. 47.30 | 0. 20. 35. 0 | 0. 21. 22.30 | 0. 22. 10. 0 | 0. 22. 57.30 | 0. 23. 45. 0 |
| 20 | 0. 20. 50. 0 | 0. 21. 40. 0 | 0. 22. 30. 0 | 0. 23. 20. 0 | 0. 24. 10. 0 | 0. 25. 0. 0 |
| 21 | 0. 21. 52.30 | 0. 22. 45. 0 | 0. 23. 37.30 | 0. 24. 30. 0 | 0. 25. 22.30 | 0. 26. 15. 0 |
| 22 | 0. 22. 55. 0 | 0. 23. 50. 0 | 0. 24. 45. 0 | 0. 25. 40. 0 | 0. 26. 35. 0 | 0. 27. 30. 0 |
| 23 | 0. 23. 57.30 | 0. 24. 55. 0 | 0. 25. 52.30 | 0. 26. 50. 0 | 0. 27. 47.30 | 0. 28. 45. 0 |
| 24 | 0. 25. 0. 0 | 0. 26. 0. 0 | 0. 27. 0. 0 | 0. 28. 0. 0 | 0. 29. 0. 0 | 0. 30. 0. 0 |
| 25 | 0. 26. 2.30 | 0. 27. 5. 0 | 0. 28. 7.30 | 0. 29. 10. 0 | 0. 30. 12.30 | 0. 31. 15. 0 |
| 26 | 0. 27. 5. 0 | 0. 28. 10. 0 | 0. 29. 15. 0 | 0. 30. 20. 0 | 0. 31. 25. 0 | 0. 32. 30. 0 |
| 27 | 0. 28. 7.30 | 0. 29. 15. 0 | 0. 30. 22.30 | 0. 31. 30. 0 | 0. 32. 37.30 | 0. 33. 45. 0 |
| 28 | 0. 29. 10. 0 | 0. 30. 20. 0 | 0. 31. 30. 0 | 0. 32. 40. 0 | 0. 33. 50. 0 | 0. 35. 0. 0 |
| 29 | 0. 30. 12.30 | 0. 31. 25. 0 | 0. 32. 37.30 | 0. 33. 50. 0 | 0. 35. 2.30 | 0. 36. 15. 0 |
| 30 | 0. 31. 15. 0 | 0. 32. 30. 0 | 0. 33. 45. 0 | 0. 35. 0. 0 | 0. 36. 15. 0 | 0. 37. 30. 0 |
| 31 | 0. 32. 17.30 | 0. 33. 35. 0 | 0. 34. 52.30 | 0. 36. 10. 0 | 0. 37. 27.30 | 0. 38. 45. 0 |
| 32 | 0. 33. 20. 0 | 0. 34. 40. 0 | 0. 36. 0. 0 | 0. 37. 20. 0 | 0. 38. 40. 0 | 0. 40. 0. 0 |
| 33 | 0. 34. 22.30 | 0. 35. 45. 0 | 0. 37. 7.30 | 0. 38. 30. 0 | 0. 39. 52.30 | 0. 41. 15. 0 |
| 34 | 0. 35. 25. 0 | 0. 36. 50. 0 | 0. 38. 15. 0 | 0. 39. 40. 0 | 0. 41. 5. 0 | 0. 42. 30. 0 |
| 35 | 0. 36. 27.30 | 0. 37. 55. 0 | 0. 39. 22.30 | 0. 40. 50. 0 | 0. 42. 17.30 | 0. 43. 45. 0 |
| 36 | 0. 37. 30. 0 | 0. 39. 0. 0 | 0. 40. 30. 0 | 0. 42. 0. 0 | 0. 43. 30. 0 | 0. 45. 0. 0 |
| 37 | 0. 38. 32.30 | 0. 40. 5. 0 | 0. 41. 37.30 | 0. 43. 10. 0 | 0. 44. 42.30 | 0. 46. 15. 0 |
| 38 | 0. 39. 35. 0 | 0. 41. 10. 0 | 0. 42. 45. 0 | 0. 44. 20. 0 | 0. 45. 55. 0 | 0. 47. 30. 0 |
| 39 | 0. 40. 37.30 | 0. 42. 15. 0 | 0. 43. 52.30 | 0. 45. 30. 0 | 0. 47. 7.30 | 0. 48. 45. 0 |
| 40 | 0. 41. 40. 0 | 0. 43. 20. 0 | 0. 45. 0. 0 | 0. 46. 40. 0 | 0. 48. 20. 0 | 0. 50. 0. 0 |
| 41 | 0. 42. 42.30 | 0. 44. 25. 0 | 0. 46. 7.30 | 0. 47. 50. 0 | 0. 49. 32.30 | 0. 51. 15. 0 |
| 42 | 0. 43. 45. 0 | 0. 45. 30. 0 | 0. 47. 15. 0 | 0. 49. 0. 0 | 0. 50. 45. 0 | 0. 52. 30. 0 |
| 43 | 0. 44. 47.30 | 0. 46. 35. 0 | 0. 48. 22.30 | 0. 50. 10. 0 | 0. 51. 57.30 | 0. 53. 45. 0 |
| 44 | 0. 45. 50. 0 | 0. 47. 40. 0 | 0. 49. 30. 0 | 0. 51. 20. 0 | 0. 53. 10. 0 | 0. 55. 0. 0 |
| 45 | 0. 46. 52.30 | 0. 48. 45. 0 | 0. 50. 37.30 | 0. 52. 30. 0 | 0. 54. 22.30 | 0. 56. 15. 0 |
| 46 | 0. 47. 55. 0 | 0. 49. 50. 0 | 0. 51. 45. 0 | 0. 53. 40. 0 | 0. 55. 35. 0 | 0. 57. 30. 0 |
| 47 | 0. 48. 57.30 | 0. 50. 55. 0 | 0. 52. 52.30 | 0. 54. 50. 0 | 0. 56. 47.30 | 0. 58. 45. 0 |
| 48 | 0. 50. 0. 0 | 0. 52. 0. 0 | 0. 54. 0. 0 | 0. 56. 0. 0 | 0. 58. 0. 0 | 1. 0. 0. 0 |
| 49 | 0. 51. 2.30 | 0. 53. 5. 0 | 0. 55. 7.30 | 0. 57. 10. 0 | 0. 59. 12.30 | 1. 1. 15. 0 |
| 50 | 0. 52. 5. 0 | 0. 54. 10. 0 | 0. 56. 15. 0 | 0. 58. 20. 0 | 1. 0. 25. 0 | 1. 2. 30. 0 |
| 51 | 0. 53. 7.30 | 0. 55. 15. 0 | 0. 57. 22.30 | 0. 59. 30. 0 | 1. 1. 37.30 | 1. 3. 45. 0 |
| 52 | 0. 54. 10. 0 | 0. 56. 20. 0 | 0. 58. 30. 0 | 1. 0. 40. 0 | 1. 2. 50. 0 | 1. 5. 0. 0 |
| 53 | 0. 55. 12.30 | 0. 57. 25. 0 | 0. 59. 37.30 | 1. 1. 50. 0 | 1. 4. 2.30 | 1. 6. 15. 0 |
| 54 | 0. 56. 15. 0 | 0. 58. 30. 0 | 1. 0. 45. 0 | 1. 3. 0. 0 | 1. 5. 15. 0 | 1. 7. 30. 0 |
| 55 | 0. 57. 17.30 | 0. 59. 35. 0 | 1. 1. 52.30 | 1. 4. 10. 0 | 1. 6. 27.30 | 1. 8. 45. 0 |
| 56 | 0. 58. 20. 0 | 1. 0. 40. 0 | 1. 3. 0. 0 | 1. 5. 20. 0 | 1. 7. 40. 0 | 1. 10. 0. 0 |
| 57 | 0. 59. 22.30 | 1. 1. 45. 0 | 1. 4. 7.30 | 1. 6. 30. 0 | 1. 8. 52.30 | 1. 11. 15. 0 |
| 58 | 1. 0. 25. 0 | 1. 2. 50. 0 | 1. 5. 15. 0 | 1. 7. 40. 0 | 1. 10. 5. 0 | 1. 12. 30. 0 |
| 59 | 1. 1. 27.30 | 1. 3. 55. 0 | 1. 6. 22.30 | 1. 8. 50. 0 | 1. 11. 17.30 | 1. 13. 45. 0 |
| 60 | 1. 2. 30. 0 | 1. 5. 0. 0 | 1. 7. 30. 0 | 1. 10. 0. 0 | 1. 12. 30. 0 | 1. 15. 0. 0 |

Interval of 24 Hours.



| Numbers | Interval in Time, and Longitude. | | | | | | |
|---|---|---|---|---|---|---|---|
| | 0m 4s / 0° 1′ | 10m 8s / 2° 32′ | 20m 12s / 5° 3′ | 30m 16s / 7° 34′ | 40m 20s / 10° 5′ | 50m 24s / 12° 36′ | 1h 0m 28s / 15° 7′ |
| | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ | ° ′ ″ |
| | ′ ″ ″ | ′ ″ ″ | ′ ″ ″ | ′ ″ ″ | ′ ″ ″ | ′ ″ ″ | ′ ″ ″ |
| | ″ ″ ″ | ″ ″ ″ | ″ ″ ″ | ″ ″ ″ | ″ ″ ″ | ″ ″ ″ | ″ ″ ″ |
| 1 | 0. 1. 7. 30 | 0. 1. 42. 30 | 0. 2. 17. 30 | 0. 2. 52. 30 | 0. 3. 27. 30 | 0. 4. 2. 30 | 0 1. 52 30 |
| 2 | 0. 3. 15. 0 | 0. 3. 45. 0 | 0. 4. 15. 0 | 0. 4. 45. 0 | 0. 5. 15. 0 | 0. 5. 45. 0 | 0 3 45 0 |
| 3 | 0. 4. 22. 30 | 0. 5. 7. 30 | 0. 5. 52. 30 | 0. 6. 37. 30 | 0. 7. 22. 30 | 0. 8. 7. 30 | 0 5 37 30 |
| 4 | 0. 6. 30. 0 | 0. 7. 30. 0 | 0. 8. 30. 0 | 0. 9. 30. 0 | 0. 10. 30. 0 | 0. 11. 30. 0 | 0 7 30 0 |
| 5 | 0. 8. 37. 30 | 0. 9. 52. 30 | 0. 11. 7. 30 | 0. 12. 22. 30 | 0. 13. 37. 30 | 0. 14. 52. 30 | 0 9 22 30 |
| 6 | 0. 10. 45. 0 | 0. 12. 15. 0 | 0. 13. 45. 0 | 0. 15. 15. 0 | 0. 16. 45. 0 | 0. 18. 15. 0 | 0 11 15 0 |
| 7 | 0. 12. 52. 30 | 0. 14. 37. 30 | 0. 16. 22. 30 | 0. 18. 7. 30 | 0. 19. 52. 30 | 0. 21. 37. 30 | 0 13 7 30 |
| 8 | 0. 15. 0. 0 | 0. 17. 0. 0 | 0. 19. 0. 0 | 0. 21. 0. 0 | 0. 23. 0. 0 | 0. 25. 0. 0 | 0 15 0 0 |
| 9 | 0. 17. 7. 30 | 0. 19. 22. 30 | 0. 21. 37. 30 | 0. 23. 52. 30 | 0. 26. 7. 30 | 0. 28. 22. 30 | 0 16 52 30 |
| 10 | 0. 19. 15. 0 | 0. 21. 45. 0 | 0. 24. 15. 0 | 0. 26. 45. 0 | 0. 29. 15. 0 | 0. 31. 45. 0 | 0 18 45 0 |
| 11 | 0. 21. 22. 30 | 0. 24. 7. 30 | 0. 26. 52. 30 | 0. 29. 37. 30 | 0. 32. 22. 30 | 0. 35. 7. 30 | 0 20 37 30 |
| 12 | 0. 23. 30. 0 | 0. 26. 30. 0 | 0. 29. 30. 0 | 0. 32. 30. 0 | 0. 35. 30. 0 | 0. 38. 30. 0 | 0 22 30 0 |
| 13 | 0. 25. 37. 30 | 0. 28. 52. 30 | 0. 32. 7. 30 | 0. 35. 22. 30 | 0. 38. 37. 30 | 0. 41. 52. 30 | 0 24 22 30 |
| 14 | 0. 27. 45. 0 | 0. 31. 15. 0 | 0. 34. 45. 0 | 0. 38. 15. 0 | 0. 41. 45. 0 | 0. 45. 15. 0 | 0 26 15 0 |
| 15 | 0. 29. 52. 30 | 0. 33. 37. 30 | 0. 37. 22. 30 | 0. 41. 7. 30 | 0. 44. 52. 30 | 0. 48. 37. 30 | 0 28 7 30 |
| 16 | 0. 32. 0. 0 | 0. 36. 0. 0 | 0. 40. 0. 0 | 0. 44. 0. 0 | 0. 48. 0. 0 | 0. 52. 0. 0 | 0 30 0 0 |
| 17 | 0. 34. 7. 30 | 0. 38. 22. 30 | 0. 42. 37. 30 | 0. 46. 52. 30 | 0. 51. 7. 30 | 0. 55. 22. 30 | 0 31 52 30 |
| 18 | 0. 36. 15. 0 | 0. 40. 45. 0 | 0. 45. 15. 0 | 0. 49. 45. 0 | 0. 54. 15. 0 | 0. 58. 45. 0 | 0 33 45 0 |
| 19 | 0. 38. 22. 30 | 0. 43. 7. 30 | 0. 47. 52. 30 | 0. 52. 37. 30 | 0. 57. 22. 30 | 1. 2. 7. 30 | 0 35 37 30 |
| 20 | 0. 40. 30. 0 | 0. 45. 30. 0 | 0. 50. 30. 0 | 0. 55. 30. 0 | 1. 0. 30. 0 | 1. 5. 30. 0 | 0 37 30 0 |
| 21 | 0. 42. 37. 30 | 0. 47. 52. 30 | 0. 53. 7. 30 | 0. 58. 22. 30 | 1. 3. 37. 30 | 1. 8. 52. 30 | 0 39 22 30 |
| 22 | 0. 44. 45. 0 | 0. 50. 15. 0 | 0. 55. 45. 0 | 1. 1. 15. 0 | 1. 6. 45. 0 | 1. 12. 15. 0 | 0 41 15 0 |
| 23 | 0. 46. 52. 30 | 0. 52. 37. 30 | 0. 58. 22. 30 | 1. 4. 7. 30 | 1. 9. 52. 30 | 1. 15. 37. 30 | 0 43 7 30 |
| 24 | 0. 49. 0. 0 | 0. 55. 0. 0 | 1. 1. 0. 0 | 1. 7. 0. 0 | 1. 13. 0. 0 | 1. 19. 0. 0 | 0 45 0 0 |
| 25 | 0. 51. 7. 30 | 0. 57. 22. 30 | 1. 3. 37. 30 | 1. 9. 52. 30 | 1. 16. 7. 30 | 1. 22. 22. 30 | 0 46 52 30 |
| 26 | 0. 53. 15. 0 | 0. 59. 45. 0 | 1. 6. 15. 0 | 1. 12. 45. 0 | 1. 19. 15. 0 | 1. 25. 45. 0 | 0 48 45 0 |
| 27 | 0. 55. 22. 30 | 1. 2. 7. 30 | 1. 8. 52. 30 | 1. 15. 37. 30 | 1. 22. 22. 30 | 1. 29. 7. 30 | 0 50 37 30 |
| 28 | 0. 57. 30. 0 | 1. 4. 30. 0 | 1. 11. 30. 0 | 1. 18. 30. 0 | 1. 25. 30. 0 | 1. 32. 30. 0 | 0 52 30 0 |
| 29 | 0. 59. 37. 30 | 1. 6. 52. 30 | 1. 14. 7. 30 | 1. 21. 22. 30 | 1. 28. 37. 30 | 1. 35. 52. 30 | 0 54 22 30 |
| 30 | 1. 1. 45. 0 | 1. 9. 15. 0 | 1. 16. 45. 0 | 1. 24. 15. 0 | 1. 31. 45. 0 | 1. 39. 15. 0 | 0 56 15 0 |
| 31 | 1. 3. 52. 30 | 1. 11. 37. 30 | 1. 19. 22. 30 | 1. 27. 7. 30 | 1. 34. 52. 30 | 1. 42. 37. 30 | 0 58 7 30 |
| 32 | 1. 6. 0. 0 | 1. 14. 0. 0 | 1. 22. 0. 0 | 1. 30. 0. 0 | 1. 38. 0. 0 | 1. 46. 0. 0 | 1 0 0 0 |
| 33 | 1. 8. 7. 30 | 1. 16. 22. 30 | 1. 24. 37. 30 | 1. 32. 52. 30 | 1. 41. 7. 30 | 1. 49. 22. 30 | 1 1. 52 30 |
| 34 | 1. 10. 15. 0 | 1. 18. 45. 0 | 1. 27. 15. 0 | 1. 35. 45. 0 | 1. 44. 15. 0 | 1. 52. 45. 0 | 1 3 45 0 |
| 35 | 1. 12. 22. 30 | 1. 21. 7. 30 | 1. 29. 52. 30 | 1. 38. 37. 30 | 1. 47. 22. 30 | 1. 56. 7. 30 | 1 5 37 30 |
| 36 | 1. 14. 30. 0 | 1. 23. 30. 0 | 1. 32. 30. 0 | 1. 41. 30. 0 | 1. 50. 30. 0 | 1. 59. 30. 0 | 1 7 30 0 |
| 37 | 1. 16. 37. 30 | 1. 25. 52. 30 | 1. 35. 7. 30 | 1. 44. 22. 30 | 1. 53. 37. 30 | 2. 2. 52. 30 | 1 9 22 30 |
| 38 | 1. 18. 45. 0 | 1. 28. 15. 0 | 1. 37. 45. 0 | 1. 47. 15. 0 | 1. 56. 45. 0 | 2. 6. 15. 0 | 1 11 15 0 |
| 39 | 1. 20. 52. 30 | 1. 30. 37. 30 | 1. 40. 22. 30 | 1. 50. 7. 30 | 1. 59. 52. 30 | 2. 9. 37. 30 | 1 13 7 30 |
| 40 | 1. 23. 0. 0 | 1. 33. 0. 0 | 1. 43. 0. 0 | 1. 53. 0. 0 | 2. 3. 0. 0 | 2. 13. 0. 0 | 1 15 0 0 |
| 41 | 1. 25. 7. 30 | 1. 35. 22. 30 | 1. 45. 37. 30 | 1. 55. 52. 30 | 2. 6. 7. 30 | 2. 16. 22. 30 | 1 16 52 30 |
| 42 | 1. 27. 15. 0 | 1. 37. 45. 0 | 1. 48. 15. 0 | 1. 58. 45. 0 | 2. 9. 15. 0 | 2. 19. 45. 0 | 1 18 45 0 |
| 43 | 1. 29. 22. 30 | 1. 40. 7. 30 | 1. 50. 52. 30 | 2. 1. 37. 30 | 2. 12. 22. 30 | 2. 23. 7. 30 | 1 20 37 30 |
| 44 | 1. 31. 30. 0 | 1. 42. 30. 0 | 1. 53. 30. 0 | 2. 4. 30. 0 | 2. 15. 30. 0 | 2. 26. 30. 0 | 1 22 30 0 |
| 45 | 1. 33. 37. 30 | 1. 44. 52. 30 | 1. 56. 7. 30 | 2. 7. 22. 30 | 2. 18. 37. 30 | 2. 29. 52. 30 | 1 24 22 30 |
| 46 | 1. 35. 45. 0 | 1. 47. 15. 0 | 1. 58. 45. 0 | 2. 10. 15. 0 | 2. 21. 45. 0 | 2. 33. 15. 0 | 1 26 15 0 |
| 47 | 1. 37. 52. 30 | 1. 49. 37. 30 | 2. 1. 22. 30 | 2. 13. 7. 30 | 2. 24. 52. 30 | 2. 36. 37. 30 | 1 28 7 30 |
| 48 | 1. 40. 0. 0 | 1. 52. 0. 0 | 2. 4. 0. 0 | 2. 16. 0. 0 | 2. 28. 0. 0 | 2. 40. 0. 0 | 1 30 0 0 |
| 49 | 1. 42. 7. 30 | 1. 54. 22. 30 | 2. 6. 37. 30 | 2. 18. 52. 30 | 2. 31. 7. 30 | 2. 43. 22. 30 | 1 31 52 30 |
| 50 | 1. 44. 15. 0 | 1. 56. 45. 0 | 2. 9. 15. 0 | 2. 21. 45. 0 | 2. 34. 15. 0 | 2. 46. 45. 0 | 1 33 45 0 |
| 51 | 1. 46. 22. 30 | 1. 59. 7. 30 | 2. 11. 52. 30 | 2. 24. 37. 30 | 2. 37. 22. 30 | 2. 50. 7. 30 | 1 35 37 30 |
| 52 | 1. 48. 30. 0 | 2. 1. 30. 0 | 2. 14. 30. 0 | 2. 27. 30. 0 | 2. 40. 30. 0 | 2. 53. 30. 0 | 1 37 30 0 |
| 53 | 1. 50. 37. 30 | 2. 3. 52. 30 | 2. 17. 7. 30 | 2. 30. 22. 30 | 2. 43. 37. 30 | 2. 56. 52. 30 | 1 39 22 30 |
| 54 | 1. 52. 45. 0 | 2. 6. 15. 0 | 2. 19. 45. 0 | 2. 33. 15. 0 | 2. 46. 45. 0 | 3. 0. 15. 0 | 1 41 15 0 |
| 55 | 1. 54. 52. 30 | 2. 8. 37. 30 | 2. 22. 22. 30 | 2. 36. 7. 30 | 2. 49. 52. 30 | 3. 3. 37. 30 | 1 43 7 30 |
| 56 | 1. 57. 0. 0 | 2. 11. 0. 0 | 2. 25. 0. 0 | 2. 39. 0. 0 | 2. 53. 0. 0 | 3. 7. 0. 0 | 1 45 0 0 |
| 57 | 1. 59. 7. 30 | 2. 13. 22. 30 | 2. 27. 37. 30 | 2. 41. 52. 30 | 2. 56. 7. 30 | 3. 10. 22. 30 | 1 46 52 30 |
| 58 | 2. 1. 15. 0 | 2. 15. 45. 0 | 2. 30. 15. 0 | 2. 44. 45. 0 | 2. 59. 15. 0 | 3. 13. 45. 0 | 1 48 45 0 |
| 59 | 2. 3. 22. 30 | 2. 18. 7. 30 | 2. 32. 52. 30 | 2. 47. 37. 30 | 3. 2. 22. 30 | 3. 17. 7. 30 | 1 50 37 30 |
| 60 | 2. 5. 30. 0 | 2. 20. 30. 0 | 2. 35. 30. 0 | 2. 50. 30. 0 | 3. 5. 30. 0 | 3. 20. 30. 0 | 1 52 30 0 |
| Numbers | 0m 4s / 0° 1′ | 10m 8s / 2° 32′ | 20m 12s / 5° 3′ | 30m 16s / 7° 34′ | 40m 20s / 10° 5′ | 50m 24s / 12° 36′ | 1h 0m 28s / 15° 7′ |

Interval in Time and Longitude

Interval for 24 Hours, and Logistick.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| ′ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 1 | 0. 1 55. 0 | 0. 1 57. 30 | 0. 2. 0. 0 | 0. 2. 2. 30 | 0. 2. 5. 0 | 0. 2. 7. 30 | 0. 2. 10. 0 |
| 2 | 0. 3 50. 0 | 0. 3. 55. 0 | 0. 4. 0. 0 | 0. 4. 5. 0 | 0. 4. 10. 0 | 0. 4. 15. 0 | 0. 4. 20. 0 |
| 3 | 0. 5. 45. 0 | 0. 5. 52. 30 | 0. 6. 0. 0 | 0. 6. 7. 30 | 0. 6. 15. 0 | 0. 6. 22. 30 | 0. 6. 30. 0 |
| 4 | 0. 7. 40. 0 | 0. 7. 50. 0 | 0. 8. 0. 0 | 0. 8. 10. 0 | 0. 8. 20. 0 | 0. 8. 30. 0 | 0. 8. 40. 0 |
| 5 | 0. 9. 35. 0 | 0. 9. 47. 30 | 0. 10. 0. 0 | 0. 10. 12. 30 | 0. 10. 25. 0 | 0. 10. 37. 30 | 0. 10. 50. 0 |
| 6 | 0. 11. 30. 0 | 0. 11. 45. 0 | 0. 12. 0. 0 | 0. 12. 15. 0 | 0. 12. 30. 0 | 0. 12. 45. 0 | 0. 13. 0. 0 |
| 7 | 0. 13. 25. 0 | 0. 13. 42. 30 | 0. 14. 0. 0 | 0. 14. 17. 30 | 0. 14. 35. 0 | 0. 14. 52. 30 | 0. 15. 10. 0 |
| 8 | 0. 15. 20. 0 | 0. 15. 40. 0 | 0. 16. 0. 0 | 0. 16. 20. 0 | 0. 16. 40. 0 | 0. 17. 0. 0 | 0. 17. 20. 0 |
| 9 | 0. 17. 15. 0 | 0. 17. 37. 30 | 0. 18. 0. 0 | 0. 18. 22. 30 | 0. 18. 45. 0 | 0. 19. 7. 30 | 0. 19. 30. 0 |
| 10 | 0. 19. 10. 0 | 0. 19. 35. 0 | 0. 20. 0. 0 | 0. 20. 25. 0 | 0. 20. 50. 0 | 0. 21. 15. 0 | 0. 21. 40. 0 |
| 11 | 0. 21. 5. 0 | 0. 21. 32. 30 | 0. 22. 0. 0 | 0. 22. 27. 30 | 0. 22. 55. 0 | 0. 23. 22. 30 | 0. 23. 50. 0 |
| 12 | 0. 23. 0. 0 | 0. 23. 30. 0 | 0. 24. 0. 0 | 0. 24. 30. 0 | 0. 25. 0. 0 | 0. 25. 30. 0 | 0. 26. 0. 0 |
| 13 | 0. 24. 55. 0 | 0. 25. 27. 30 | 0. 26. 0. 0 | 0. 26. 32. 30 | 0. 27. 5. 0 | 0. 27. 37. 30 | 0. 28. 10. 0 |
| 14 | 0. 26. 50. 0 | 0. 27. 25. 0 | 0. 28. 0. 0 | 0. 28. 35. 0 | 0. 29. 10. 0 | 0. 29. 45. 0 | 0. 30. 20. 0 |
| 15 | 0. 28. 45. 0 | 0. 29. 22. 30 | 0. 30. 0. 0 | 0. 30. 37. 30 | 0. 31. 15. 0 | 0. 31. 52. 30 | 0. 32. 30. 0 |
| 16 | 0. 30. 40. 0 | 0. 31. 20. 0 | 0. 32. 0. 0 | 0. 32. 40. 0 | 0. 33. 20. 0 | 0. 34. 0. 0 | 0. 34. 40. 0 |
| 17 | 0. 32. 35. 0 | 0. 33. 17. 30 | 0. 34. 0. 0 | 0. 34. 42. 30 | 0. 35. 25. 0 | 0. 36. 7. 30 | 0. 36. 50. 0 |
| 18 | 0. 34. 30. 0 | 0. 35. 15. 0 | 0. 36. 0. 0 | 0. 36. 45. 0 | 0. 37. 30. 0 | 0. 38. 15. 0 | 0. 39. 0. 0 |
| 19 | 0. 36. 25. 0 | 0. 37. 12. 30 | 0. 38. 0. 0 | 0. 38. 47. 30 | 0. 39. 35. 0 | 0. 40. 22. 30 | 0. 41. 10. 0 |
| 20 | 0. 38. 20. 0 | 0. 39. 10. 0 | 0. 40. 0. 0 | 0. 40. 50. 0 | 0. 41. 40. 0 | 0. 42. 30. 0 | 0. 43. 20. 0 |
| 21 | 0. 40. 15. 0 | 0. 41. 7. 30 | 0. 42. 0. 0 | 0. 42. 52. 30 | 0. 43. 45. 0 | 0. 44. 37. 30 | 0. 45. 30. 0 |
| 22 | 0. 42. 10. 0 | 0. 43. 5. 0 | 0. 44. 0. 0 | 0. 44. 55. 0 | 0. 45. 50. 0 | 0. 46. 45. 0 | 0. 47. 40. 0 |
| 23 | 0. 44. 5. 0 | 0. 45. 2. 30 | 0. 46. 0. 0 | 0. 46. 57. 30 | 0. 47. 55. 0 | 0. 48. 52. 30 | 0. 49. 50. 0 |
| 24 | 0. 46. 0. 0 | 0. 47. 0. 0 | 0. 48. 0. 0 | 0. 49. 0. 0 | 0. 50. 0. 0 | 0. 51. 0. 0 | 0. 52. 0. 0 |
| 25 | 0. 47. 55. 0 | 0. 48. 57. 30 | 0. 50. 0. 0 | 0. 51. 2. 30 | 0. 52. 5. 0 | 0. 53. 7. 30 | 0. 54. 10. 0 |
| 26 | 0. 49. 50. 0 | 0. 50. 55. 0 | 0. 52. 0. 0 | 0. 53. 5. 0 | 0. 54. 10. 0 | 0. 55. 15. 0 | 0. 56. 20. 0 |
| 27 | 0. 51. 45. 0 | 0. 52. 52. 30 | 0. 54. 0. 0 | 0. 55. 7. 30 | 0. 56. 15. 0 | 0. 57. 22. 30 | 0. 58. 30. 0 |
| 28 | 0. 53. 40. 0 | 0. 54. 50. 0 | 0. 56. 0. 0 | 0. 57. 10. 0 | 0. 58. 20. 0 | 0. 59. 30. 0 | 1. 0. 40. 0 |
| 29 | 0. 55. 35. 0 | 0. 56. 47. 30 | 0. 58. 0. 0 | 0. 59. 12. 30 | 1. 0. 25. 0 | 1. 1. 37. 30 | 1. 2. 50. 0 |
| 30 | 0. 57. 30. 0 | 0. 58. 45. 0 | 1. 0. 0. 0 | 1. 1. 15. 0 | 1. 2. 30. 0 | 1. 3. 45. 0 | 1. 5. 0. 0 |
| 31 | 0. 59. 25. 0 | 1. 0. 42. 30 | 1. 2. 0. 0 | 1. 3. 17. 30 | 1. 4. 35. 0 | 1. 5. 52. 30 | 1. 7. 10. 0 |
| 32 | 1. 1. 20. 0 | 1. 2. 40. 0 | 1. 4. 0. 0 | 1. 5. 20. 0 | 1. 6. 40. 0 | 1. 8. 0. 0 | 1. 9. 20. 0 |
| 33 | 1. 3. 15. 0 | 1. 4. 37. 30 | 1. 6. 0. 0 | 1. 7. 22. 30 | 1. 8. 45. 0 | 1. 10. 7. 30 | 1. 11. 30. 0 |
| 34 | 1. 5. 10. 0 | 1. 6. 35. 0 | 1. 8. 0. 0 | 1. 9. 25. 0 | 1. 10. 50. 0 | 1. 12. 15. 0 | 1. 13. 40. 0 |
| 35 | 1. 7. 5. 0 | 1. 8. 32. 30 | 1. 10. 0. 0 | 1. 11. 27. 30 | 1. 12. 55. 0 | 1. 14. 22. 30 | 1. 15. 50. 0 |
| 36 | 1. 9. 0. 0 | 1. 10. 30. 0 | 1. 12. 0. 0 | 1. 13. 30. 0 | 1. 15. 0. 0 | 1. 16. 30. 0 | 1. 18. 0. 0 |
| 37 | 1. 10. 55. 0 | 1. 12. 27. 30 | 1. 14. 0. 0 | 1. 15. 32. 30 | 1. 17. 5. 0 | 1. 18. 37. 30 | 1. 20. 10. 0 |
| 38 | 1. 12. 50. 0 | 1. 14. 25. 0 | 1. 16. 0. 0 | 1. 17. 35. 0 | 1. 19. 10. 0 | 1. 20. 45. 0 | 1. 22. 20. 0 |
| 39 | 1. 14. 45. 0 | 1. 16. 22. 30 | 1. 18. 0. 0 | 1. 19. 37. 30 | 1. 21. 15. 0 | 1. 22. 52. 30 | 1. 24. 30. 0 |
| 40 | 1. 16. 40. 0 | 1. 18. 20. 0 | 1. 20. 0. 0 | 1. 21. 40. 0 | 1. 23. 20. 0 | 1. 25. 0. 0 | 1. 26. 40. 0 |
| 41 | 1. 18. 35. 0 | 1. 20. 17. 30 | 1. 22. 0. 0 | 1. 23. 42. 30 | 1. 25. 25. 0 | 1. 27. 7. 30 | 1. 28. 50. 0 |
| 42 | 1. 20. 30. 0 | 1. 22. 15. 0 | 1. 24. 0. 0 | 1. 25. 45. 0 | 1. 27. 30. 0 | 1. 29. 15. 0 | 1. 31. 0. 0 |
| 43 | 1. 22. 25. 0 | 1. 24. 12. 30 | 1. 26. 0. 0 | 1. 27. 47. 30 | 1. 29. 35. 0 | 1. 31. 22. 30 | 1. 33. 10. 0 |
| 44 | 1. 24. 20. 0 | 1. 26. 10. 0 | 1. 28. 0. 0 | 1. 29. 50. 0 | 1. 31. 40. 0 | 1. 33. 30. 0 | 1. 35. 20. 0 |
| 45 | 1. 26. 15. 0 | 1. 28. 7. 30 | 1. 30. 0. 0 | 1. 31. 52. 30 | 1. 33. 45. 0 | 1. 35. 37. 30 | 1. 37. 30. 0 |
| 46 | 1. 28. 10. 0 | 1. 30. 5. 0 | 1. 32. 0. 0 | 1. 33. 55. 0 | 1. 35. 50. 0 | 1. 37. 45. 0 | 1. 39. 40. 0 |
| 47 | 1. 30. 5. 0 | 1. 32. 2. 30 | 1. 34. 0. 0 | 1. 35. 57. 30 | 1. 37. 55. 0 | 1. 39. 52. 30 | 1. 41. 50. 0 |
| 48 | 1. 32. 0. 0 | 1. 34. 0. 0 | 1. 36. 0. 0 | 1. 38. 0. 0 | 1. 40. 0. 0 | 1. 42. 0. 0 | 1. 44. 0. 0 |
| 49 | 1. 33. 55. 0 | 1. 35. 57. 30 | 1. 38. 0. 0 | 1. 40. 2. 30 | 1. 42. 5. 0 | 1. 44. 7. 30 | 1. 46. 10. 0 |
| 50 | 1. 35. 50. 0 | 1. 37. 55. 0 | 1. 40. 0. 0 | 1. 42. 5. 0 | 1. 44. 10. 0 | 1. 46. 15. 0 | 1. 48. 20. 0 |
| 51 | 1. 37. 45. 0 | 1. 39. 52. 30 | 1. 42. 0. 0 | 1. 44. 7. 30 | 1. 46. 15. 0 | 1. 48. 22. 30 | 1. 50. 30. 0 |
| 52 | 1. 39. 40. 0 | 1. 41. 50. 0 | 1. 44. 0. 0 | 1. 46. 10. 0 | 1. 48. 20. 0 | 1. 50. 30. 0 | 1. 52. 40. 0 |
| 53 | 1. 41. 35. 0 | 1. 43. 47. 30 | 1. 46. 0. 0 | 1. 48. 12. 30 | 1. 50. 25. 0 | 1. 52. 37. 30 | 1. 54. 50. 0 |
| 54 | 1. 43. 30. 0 | 1. 45. 45. 0 | 1. 48. 0. 0 | 1. 50. 15. 0 | 1. 52. 30. 0 | 1. 54. 45. 0 | 1. 57. 0. 0 |
| 55 | 1. 45. 25. 0 | 1. 47. 42. 30 | 1. 50. 0. 0 | 1. 52. 17. 30 | 1. 54. 35. 0 | 1. 56. 52. 30 | 1. 59. 10. 0 |
| 56 | 1. 47. 20. 0 | 1. 49. 40. 0 | 1. 52. 0. 0 | 1. 54. 20. 0 | 1. 56. 40. 0 | 1. 59. 0. 0 | 2. 1. 20. 0 |
| 57 | 1. 49. 15. 0 | 1. 51. 37. 30 | 1. 54. 0. 0 | 1. 56. 22. 30 | 1. 58. 45. 0 | 2. 1. 7. 30 | 2. 3. 30. 0 |
| 58 | 1. 51. 10. 0 | 1. 53. 35. 0 | 1. 56. 0. 0 | 1. 58. 25. 0 | 2. 0. 50. 0 | 2. 3. 15. 0 | 2. 5. 40. 0 |
| 59 | 1. 53. 5. 0 | 1. 55. 32. 30 | 1. 58. 0. 0 | 2. 0. 27. 30 | 2. 2. 55. 0 | 2. 5. 22. 30 | 2. 7. 50. 0 |
| 60 | 1. 55. 0. 0 | 1. 57. 30. 0 | 2. 0. 0. 0 | 2. 2. 30. 0 | 2. 5. 0. 0 | 2. 7. 30. 0 | 2. 10. 0. 0 |

Interval for 12 Hou...

| ″ | Interval for 24 Hours, and Log. Diff. | | | | | | |
|---|---|---|---|---|---|---|---|
| | 53m 13.35′ | 54m 13.30′ | 55m 13.45′ | 56m 14.0′ | 57m 14.15′ | 58m 14.30′ | 59m 14.45′ |
| ° | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ | ′ ″ ‴ |
| ′ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ | ″ ‴ ⁗ |
| ″ | ‴ ⁗ ⁗ | ‴ ⁗ ⁗ | ‴ ⁗ ⁗ | ‴ ⁗ ⁗ | ‴ ⁗ ⁗ | ‴ ⁗ ⁗ | ‴ ⁗ ⁗ |
| 1 | 0. 2. 12. 30 | 0. 2. 15. 0 | 0. 2. 17. 30 | 0. 2. 20. 0 | 0. 2. 22. 30 | 0. 2. 25. 0 | 0. 2. 27. 30 |
| 2 | 0. 4. 25. 0 | 0. 4. 30. 0 | 0. 4. 35. 0 | 0. 4. 40. 0 | 0. 4. 45. 0 | 0. 4. 50. 0 | 0. 4. 55. 0 |
| 3 | 0. 6. 37. 30 | 0. 6. 45. 0 | 0. 6. 52. 30 | 0. 7. 0. 0 | 0. 7. 7. 30 | 0. 7. 15. 0 | 0. 7. 22. 30 |
| 4 | 0. 8. 50. 0 | 0. 9. 0. 0 | 0. 9. 10. 0 | 0. 9. 20. 0 | 0. 9. 30. 0 | 0. 9. 40. 0 | 0. 9. 50. 0 |
| 5 | 0. 11. 2. 30 | 0. 11. 15. 0 | 0. 11. 27. 30 | 0. 11. 40. 0 | 0. 11. 52. 30 | 0. 12. 5. 0 | 0. 12. 17. 30 |
| 6 | 0. 13. 15. 0 | 0. 13. 30. 0 | 0. 13. 45. 0 | 0. 14. 0. 0 | 0. 14. 15. 0 | 0. 14. 30. 0 | 0. 14. 45. 0 |
| 7 | 0. 15. 27. 30 | 0. 15. 45. 0 | 0. 16. 2. 30 | 0. 16. 20. 0 | 0. 16. 37. 30 | 0. 16. 55. 0 | 0. 17. 12. 30 |
| 8 | 0. 17. 40. 0 | 0. 18. 0. 0 | 0. 18. 20. 0 | 0. 18. 40. 0 | 0. 19. 0. 0 | 0. 19. 20. 0 | 0. 19. 40. 0 |
| 9 | 0. 19. 52. 30 | 0. 20. 15. 0 | 0. 20. 37. 30 | 0. 21. 0. 0 | 0. 21. 22. 30 | 0. 21. 45. 0 | 0. 22. 7. 30 |
| 10 | 0. 22. 5. 0 | 0. 22. 30. 0 | 0. 22. 55. 0 | 0. 23. 20. 0 | 0. 23. 45. 0 | 0. 24. 10. 0 | 0. 24. 35. 0 |
| 11 | 0. 24. 17. 30 | 0. 24. 45. 0 | 0. 25. 12. 30 | 0. 25. 40. 0 | 0. 26. 7. 30 | 0. 26. 35. 0 | 0. 27. 2. 30 |
| 12 | 0. 26. 30. 0 | 0. 27. 0. 0 | 0. 27. 30. 0 | 0. 28. 0. 0 | 0. 28. 30. 0 | 0. 29. 0. 0 | 0. 29. 30. 0 |
| 13 | 0. 28. 42. 30 | 0. 29. 15. 0 | 0. 29. 47. 30 | 0. 30. 20. 0 | 0. 30. 52. 30 | 0. 31. 25. 0 | 0. 31. 57. 30 |
| 14 | 0. 30. 55. 0 | 0. 31. 30. 0 | 0. 32. 5. 0 | 0. 32. 40. 0 | 0. 33. 15. 0 | 0. 33. 50. 0 | 0. 34. 25. 0 |
| 15 | 0. 33. 7. 30 | 0. 33. 45. 0 | 0. 34. 22. 30 | 0. 35. 0. 0 | 0. 35. 37. 30 | 0. 36. 15. 0 | 0. 36. 52. 30 |
| 16 | 0. 35. 20. 0 | 0. 36. 0. 0 | 0. 36. 40. 0 | 0. 37. 20. 0 | 0. 38. 0. 0 | 0. 38. 40. 0 | 0. 39. 20. 0 |
| 17 | 0. 37. 32. 30 | 0. 38. 15. 0 | 0. 38. 57. 30 | 0. 39. 40. 0 | 0. 40. 22. 30 | 0. 41. 5. 0 | 0. 41. 47. 30 |
| 18 | 0. 39. 45. 0 | 0. 40. 30. 0 | 0. 41. 15. 0 | 0. 42. 0. 0 | 0. 42. 45. 0 | 0. 43. 30. 0 | 0. 44. 15. 0 |
| 19 | 0. 41. 57. 30 | 0. 42. 45. 0 | 0. 43. 32. 30 | 0. 44. 20. 0 | 0. 45. 7. 30 | 0. 45. 55. 0 | 0. 46. 42. 30 |
| 20 | 0. 44. 10. 0 | 0. 45. 0. 0 | 0. 45. 50. 0 | 0. 46. 40. 0 | 0. 47. 30. 0 | 0. 48. 20. 0 | 0. 49. 10. 0 |
| 21 | 0. 46. 22. 30 | 0. 47. 15. 0 | 0. 48. 7. 30 | 0. 49. 0. 0 | 0. 49. 52. 30 | 0. 50. 45. 0 | 0. 51. 37. 30 |
| 22 | 0. 48. 35. 0 | 0. 49. 30. 0 | 0. 50. 25. 0 | 0. 51. 20. 0 | 0. 52. 15. 0 | 0. 53. 10. 0 | 0. 54. 5. 0 |
| 23 | 0. 50. 47. 30 | 0. 51. 45. 0 | 0. 52. 42. 30 | 0. 53. 40. 0 | 0. 54. 37. 30 | 0. 55. 35. 0 | 0. 56. 32. 30 |
| 24 | 0. 53. 0. 0 | 0. 54. 0. 0 | 0. 55. 0. 0 | 0. 56. 0. 0 | 0. 57. 0. 0 | 0. 58. 0. 0 | 0. 59. 0. 0 |
| 25 | 0. 55. 12. 30 | 0. 56. 15. 0 | 0. 57. 17. 30 | 0. 58. 20. 0 | 0. 59. 22. 30 | 1. 0. 25. 0 | 1. 1. 27. 30 |
| 26 | 0. 57. 25. 0 | 0. 58. 30. 0 | 0. 59. 35. 0 | 1. 0. 40. 0 | 1. 1. 45. 0 | 1. 2. 50. 0 | 1. 3. 55. 0 |
| 27 | 0. 59. 37. 30 | 1. 0. 45. 0 | 1. 1. 52. 30 | 1. 3. 0. 0 | 1. 4. 7. 30 | 1. 5. 15. 0 | 1. 6. 22. 30 |
| 28 | 1. 1. 50. 0 | 1. 3. 0. 0 | 1. 4. 10. 0 | 1. 5. 20. 0 | 1. 6. 30. 0 | 1. 7. 40. 0 | 1. 8. 50. 0 |
| 29 | 1. 4. 2. 30 | 1. 5. 15. 0 | 1. 6. 27. 30 | 1. 7. 40. 0 | 1. 8. 52. 30 | 1. 10. 5. 0 | 1. 11. 17. 30 |
| 30 | 1. 6. 15. 0 | 1. 7. 30. 0 | 1. 8. 45. 0 | 1. 10. 0. 0 | 1. 11. 15. 0 | 1. 12. 30. 0 | 1. 13. 45. 0 |
| 31 | 1. 8. 27. 30 | 1. 9. 45. 0 | 1. 11. 2. 30 | 1. 12. 20. 0 | 1. 13. 37. 30 | 1. 14. 55. 0 | 1. 16. 12. 30 |
| 32 | 1. 10. 40. 0 | 1. 12. 0. 0 | 1. 13. 20. 0 | 1. 14. 40. 0 | 1. 16. 0. 0 | 1. 17. 20. 0 | 1. 18. 40. 0 |
| 33 | 1. 12. 52. 30 | 1. 14. 15. 0 | 1. 15. 37. 30 | 1. 17. 0. 0 | 1. 18. 22. 30 | 1. 19. 45. 0 | 1. 21. 7. 30 |
| 34 | 1. 15. 5. 0 | 1. 16. 30. 0 | 1. 17. 55. 0 | 1. 19. 20. 0 | 1. 20. 45. 0 | 1. 22. 10. 0 | 1. 23. 35. 0 |
| 35 | 1. 17. 17. 30 | 1. 18. 45. 0 | 1. 20. 12. 30 | 1. 21. 40. 0 | 1. 23. 7. 30 | 1. 24. 35. 0 | 1. 26. 2. 30 |
| 36 | 1. 19. 30. 0 | 1. 21. 0. 0 | 1. 22. 30. 0 | 1. 24. 0. 0 | 1. 25. 30. 0 | 1. 27. 0. 0 | 1. 28. 30. 0 |
| 37 | 1. 21. 42. 30 | 1. 23. 15. 0 | 1. 24. 47. 30 | 1. 26. 20. 0 | 1. 27. 52. 30 | 1. 29. 25. 0 | 1. 30. 57. 30 |
| 38 | 1. 23. 55. 0 | 1. 25. 30. 0 | 1. 27. 5. 0 | 1. 28. 40. 0 | 1. 30. 15. 0 | 1. 31. 50. 0 | 1. 33. 25. 0 |
| 39 | 1. 26. 7. 30 | 1. 27. 45. 0 | 1. 29. 22. 30 | 1. 31. 0. 0 | 1. 32. 37. 30 | 1. 34. 15. 0 | 1. 35. 52. 30 |
| 40 | 1. 28. 20. 0 | 1. 30. 0. 0 | 1. 31. 40. 0 | 1. 33. 20. 0 | 1. 35. 0. 0 | 1. 36. 40. 0 | 1. 38. 20. 0 |
| 41 | 1. 30. 32. 30 | 1. 32. 15. 0 | 1. 33. 57. 30 | 1. 35. 40. 0 | 1. 37. 22. 30 | 1. 39. 5. 0 | 1. 40. 47. 30 |
| 42 | 1. 32. 45. 0 | 1. 34. 30. 0 | 1. 36. 15. 0 | 1. 38. 0. 0 | 1. 39. 45. 0 | 1. 41. 30. 0 | 1. 43. 15. 0 |
| 43 | 1. 34. 57. 30 | 1. 36. 45. 0 | 1. 38. 32. 30 | 1. 40. 20. 0 | 1. 42. 7. 30 | 1. 43. 55. 0 | 1. 45. 42. 30 |
| 44 | 1. 37. 10. 0 | 1. 39. 0. 0 | 1. 40. 50. 0 | 1. 42. 40. 0 | 1. 44. 30. 0 | 1. 46. 20. 0 | 1. 48. 10. 0 |
| 45 | 1. 39. 22. 30 | 1. 41. 15. 0 | 1. 43. 7. 30 | 1. 45. 0. 0 | 1. 46. 52. 30 | 1. 48. 45. 0 | 1. 50. 37. 30 |
| 46 | 1. 41. 35. 0 | 1. 43. 30. 0 | 1. 45. 25. 0 | 1. 47. 20. 0 | 1. 49. 15. 0 | 1. 51. 10. 0 | 1. 53. 5. 0 |
| 47 | 1. 43. 47. 30 | 1. 45. 45. 0 | 1. 47. 42. 30 | 1. 49. 40. 0 | 1. 51. 37. 30 | 1. 53. 35. 0 | 1. 55. 32. 30 |
| 48 | 1. 46. 0. 0 | 1. 48. 0. 0 | 1. 50. 0. 0 | 1. 52. 0. 0 | 1. 54. 0. 0 | 1. 56. 0. 0 | 1. 58. 0. 0 |
| 49 | 1. 48. 12. 30 | 1. 50. 15. 0 | 1. 52. 17. 30 | 1. 54. 20. 0 | 1. 56. 22. 30 | 1. 58. 25. 0 | 2. 0. 27. 30 |
| 50 | 1. 50. 25. 0 | 1. 52. 30. 0 | 1. 54. 35. 0 | 1. 56. 40. 0 | 1. 58. 45. 0 | 2. 0. 50. 0 | 2. 2. 55. 0 |
| 51 | 1. 52. 37. 30 | 1. 54. 45. 0 | 1. 56. 52. 30 | 1. 59. 0. 0 | 2. 1. 7. 30 | 2. 3. 15. 0 | 2. 5. 22. 30 |
| 52 | 1. 54. 50. 0 | 1. 57. 0. 0 | 1. 59. 10. 0 | 2. 1. 20. 0 | 2. 3. 30. 0 | 2. 5. 40. 0 | 2. 7. 50. 0 |
| 53 | 1. 57. 2. 30 | 1. 59. 15. 0 | 2. 1. 27. 30 | 2. 3. 40. 0 | 2. 5. 52. 30 | 2. 8. 5. 0 | 2. 10. 17. 30 |
| 54 | 1. 59. 15. 0 | 2. 1. 30. 0 | 2. 3. 45. 0 | 2. 6. 0. 0 | 2. 8. 15. 0 | 2. 10. 30. 0 | 2. 12. 45. 0 |
| 55 | 2. 1. 27. 30 | 2. 3. 45. 0 | 2. 6. 2. 30 | 2. 8. 20. 0 | 2. 10. 37. 30 | 2. 12. 55. 0 | 2. 15. 12. 30 |
| 56 | 2. 3. 40. 0 | 2. 6. 0. 0 | 2. 8. 20. 0 | 2. 10. 40. 0 | 2. 13. 0. 0 | 2. 15. 20. 0 | 2. 17. 40. 0 |
| 57 | 2. 5. 52. 30 | 2. 8. 15. 0 | 2. 10. 37. 30 | 2. 13. 0. 0 | 2. 15. 22. 30 | 2. 17. 45. 0 | 2. 20. 7. 30 |
| 58 | 2. 8. 5. 0 | 2. 10. 30. 0 | 2. 12. 55. 0 | 2. 15. 20. 0 | 2. 17. 45. 0 | 2. 20. 10. 0 | 2. 22. 35. 0 |
| 59 | 2. 10. 17. 30 | 2. 12. 45. 0 | 2. 15. 12. 30 | 2. 17. 40. 0 | 2. 20. 7. 30 | 2. 22. 35. 0 | 2. 25. 2. 30 |
| ″ | Interval for 12 Hours. | | | | | | |

| Apparent Time after Noon or Midnight. | | Second Difference 1′ | 2′ | 3′ | 4′ | 5′ | 6′ | 7′ | 8′ | 9′ | 10′ | 11′ | 12′ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| h. m. | h. m. | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 12. 0 | 0. 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 |
| 11. 50 | 0. 10 | 0, 4 | 0, 8 | 1, 2 | 1, 6 | 2, 1 | 2, 5 | 2, 9 | 3, 3 | 3, 7 | 4, 1 | 4, 5 | 4, 9 |
| 11. 40 | 0. 20 | 0, 8 | 1, 6 | 2, 4 | 3, 2 | 4, 1 | 4, 9 | 5, 7 | 6, 5 | 7, 3 | 8, 1 | 8, 9 | 9, 7 |
| 11. 30 | 0. 30 | 1, 2 | 2, 4 | 3, 6 | 4, 8 | 6, 0 | 7, 2 | 8, 4 | 9, 6 | 10, 8 | 12, 0 | 13, 2 | 14, 4 |
| 11. 20 | 0. 40 | 1, 6 | 3, 1 | 4, 7 | 6, 3 | 7, 9 | 9, 4 | 11, 0 | 12, 6 | 14, 2 | 15, 7 | 17, 3 | 18, 9 |
| 11. 10 | 0. 50 | 1, 9 | 3, 9 | 5, 8 | 7, 8 | 9, 7 | 11, 6 | 13, 6 | 15, 5 | 17, 4 | 19, 4 | 21, 3 | 23, 3 |
| 11. 0 | 1. 0 | 2, 3 | 4, 6 | 6, 9 | 9, 2 | 11, 5 | 13, 8 | 16, 0 | 18, 3 | 20, 6 | 22, 9 | 25, 2 | 27, 5 |
| 10. 50 | 1. 10 | 2, 6 | 5, 3 | 7, 9 | 10, 5 | 13, 2 | 15, 8 | 18, 4 | 21, 1 | 23, 7 | 26, 3 | 29, 0 | 31, 6 |
| 10. 40 | 1. 20 | 3, 0 | 5, 9 | 8, 9 | 11, 9 | 14, 8 | 17, 8 | 20, 7 | 23, 7 | 26, 7 | 29, 6 | 32, 6 | 35, 6 |
| 10. 30 | 1. 30 | 3, 3 | 6, 6 | 9, 9 | 13, 1 | 16, 4 | 19, 7 | 23, 0 | 26, 3 | 29, 5 | 32, 8 | 36, 1 | 39, 4 |
| 10. 20 | 1. 40 | 3, 6 | 7, 3 | 10, 9 | 14, 4 | 17, 9 | 21, 5 | 25, 1 | 28, 7 | 32, 3 | 35, 9 | 39, 5 | 43, 1 |
| 10. 10 | 1. 50 | 3, 9 | 7, 8 | 11, 6 | 15, 5 | 19, 4 | 23, 3 | 27, 2 | 31, 1 | 34, 9 | 38, 8 | 42, 7 | 46, 6 |
| 10. 0 | 2. 0 | 4, 2 | 8, 3 | 12, 5 | 16, 7 | 20, 8 | 25, 0 | 29, 2 | 33, 3 | 37, 5 | 41, 7 | 45, 8 | 50, 0 |
| 9. 50 | 2. 10 | 4, 4 | 8, 9 | 13, 3 | 17, 8 | 22, 2 | 26, 6 | 31, 1 | 35, 5 | 39, 9 | 44, 4 | 48, 8 | 53, 3 |
| 9. 40 | 2. 20 | 4, 7 | 9, 4 | 14, 1 | 18, 8 | 23, 5 | 28, 2 | 32, 9 | 37, 6 | 42, 3 | 47, 0 | 51, 7 | 56, 4 |
| 9. 30 | 2. 30 | 4, 9 | 9, 9 | 14, 8 | 19, 8 | 24, 7 | 29, 7 | 34, 6 | 39, 6 | 44, 5 | 49, 5 | 54, 4 | 59, 4 |
| 9. 20 | 2. 40 | 5, 2 | 10, 4 | 15, 6 | 20, 7 | 25, 9 | 31, 1 | 36, 3 | 41, 5 | 46, 7 | 51, 9 | 57, 0 | 62, 2 |
| 9. 10 | 2. 50 | 5, 4 | 10, 8 | 16, 2 | 21, 6 | 27, 1 | 32, 5 | 37, 9 | 43, 3 | 48, 7 | 54, 1 | 59, 5 | 64, 9 |
| 9. 0 | 3. 0 | 5, 6 | 11, 3 | 16, 9 | 22, 5 | 28, 1 | 33, 8 | 39, 4 | 45, 0 | 50, 6 | 56, 3 | 61, 9 | 67, 5 |
| 8. 50 | 3. 10 | 5, 8 | 11, 7 | 17, 5 | 23, 3 | 29, 1 | 35, 0 | 40, 8 | 46, 6 | 52, 4 | 58, 3 | 64, 1 | 69, 9 |
| 8. 40 | 3. 20 | 6, 0 | 12, 0 | 18, 1 | 24, 1 | 30, 1 | 36, 1 | 42, 1 | 48, 1 | 54, 2 | 60, 2 | 66, 2 | 72, 2 |
| 8. 30 | 3. 30 | 6, 2 | 12, 4 | 18, 6 | 24, 8 | 31, 0 | 37, 2 | 43, 4 | 49, 6 | 55, 8 | 62, 0 | 68, 2 | 74, 4 |
| 8. 20 | 3. 40 | 6, 4 | 12, 7 | 19, 1 | 25, 5 | 31, 8 | 38, 2 | 44, 6 | 50, 9 | 57, 3 | 63, 7 | 70, 0 | 76, 4 |
| 8. 10 | 3. 50 | 6, 5 | 13, 0 | 19, 6 | 26, 1 | 32, 6 | 39, 1 | 45, 7 | 52, 2 | 58, 7 | 65, 2 | 71, 7 | 78, 3 |
| 8. 0 | 4. 0 | 6, 7 | 13, 3 | 20, 0 | 26, 7 | 33, 3 | 40, 1 | 46, 7 | 53, 3 | 60, 0 | 66, 7 | 73, 3 | 80, 0 |
| 7. 40 | 4. 20 | 6, 9 | 13, 8 | 20, 8 | 27, 7 | 34, 6 | 41, 5 | 48, 4 | 55, 4 | 62, 3 | 69, 2 | 76, 1 | 83, 1 |
| 7. 20 | 4. 40 | 7, 1 | 14, 3 | 21, 4 | 28, 5 | 35, 6 | 42, 8 | 49, 9 | 57, 0 | 64, 2 | 71, 3 | 78, 4 | 85, 6 |
| 7. 0 | 5. 0 | 7, 3 | 14, 6 | 21, 9 | 29, 2 | 36, 5 | 43, 8 | 51, 0 | 58, 3 | 65, 6 | 72, 9 | 80, 2 | 87, 5 |
| 6. 40 | 5. 20 | 7, 4 | 14, 8 | 22, 2 | 29, 6 | 37, 0 | 44, 4 | 51, 9 | 59, 3 | 66, 7 | 74, 1 | 81, 5 | 88, 9 |
| 6. 20 | 5. 40 | 7, 5 | 15, 0 | 22, 4 | 29, 9 | 37, 4 | 44, 9 | 52, 3 | 59, 8 | 67, 3 | 74, 8 | 82, 2 | 89, 7 |
| 6. 0 | 6. 0 | 7, 5 | 15, 0 | 22, 5 | 30, 0 | 37, 5 | 45, 0 | 52, 5 | 60, 0 | 67, 5 | 75, 0 | 82, 5 | 90, 0 |

| Apparent Time after Noon or Midnight. | | Second Difference. 10″ | 20″ | 30″ | 40″ | 50″ | 1″ | 2″ | 3″ | 4″ | 5″ | 6″ | 7″ | 8″ | 9″ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| h. m. | h. m. | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ | ″ |
| 12. 0 | 0. 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 |
| 11. 50 | 0. 10 | 0, 1 | 0, 1 | 0, 2 | 0, 3 | 0, 3 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 1 |
| 11. 40 | 0. 20 | 0, 1 | 0, 3 | 0, 4 | 0, 5 | 0, 7 | 0, 0 | 0, 0 | 0, 0 | 0, 0 | 0, 1 | 0, 1 | 0, 1 | 0, 1 | 0, 1 |
| 11. 30 | 0. 30 | 0, 2 | 0, 4 | 0, 6 | 0, 8 | 1, 0 | 0, 0 | 0, 0 | 0, 1 | 0, 1 | 0, 1 | 0, 1 | 0, 1 | 0, 2 | 0, 2 |
| 11. 20 | 0. 40 | 0, 2 | 0, 5 | 0, 8 | 1, 0 | 1, 3 | 0, 0 | 0, 1 | 0, 1 | 0, 1 | 0, 1 | 0, 2 | 0, 2 | 0, 2 | 0, 2 |
| 11. 10 | 0. 50 | 0, 3 | 0, 6 | 1, 0 | 1, 3 | 1, 6 | 0, 0 | 0, 1 | 0, 1 | 0, 1 | 0, 2 | 0, 2 | 0, 3 | 0, 3 | 0, 3 |
| 11. 0 | 1. 0 | 0, 3 | 0, 8 | 1, 1 | 1, 4 | 1, 9 | 0, 0 | 0, 1 | 0, 1 | 0, 1 | 0, 2 | 0, 2 | 0, 3 | 0, 3 | 0, 3 |
| 10. 50 | 1. 10 | 0, 3 | 0, 9 | 1, 3 | 1, 8 | 2, 2 | 0, 0 | 0, 1 | 0, 1 | 0, 2 | 0, 2 | 0, 3 | 0, 3 | 0, 3 | 0, 4 |
| 10. 40 | 1. 20 | 0, 3 | 1, 0 | 1, 5 | 2, 0 | 2, 5 | 0, 0 | 0, 1 | 0, 1 | 0, 2 | 0, 2 | 0, 3 | 0, 3 | 0, 4 | 0, 4 |
| 10. 30 | 1. 30 | 0, 3 | 1, 1 | 1, 6 | 2, 2 | 2, 7 | 0, 0 | 0, 1 | 0, 1 | 0, 2 | 0, 3 | 0, 3 | 0, 4 | 0, 4 | 0, 5 |
| 10. 20 | 1. 40 | 0, 3 | 1, 2 | 1, 8 | 2, 3 | 2, 9 | 0, 1 | 0, 1 | 0, 2 | 0, 2 | 0, 3 | 0, 4 | 0, 4 | 0, 5 | 0, 5 |
| 10. 10 | 1. 50 | 0, 3 | 1, 3 | 1, 9 | 2, 5 | 3, 2 | 0, 1 | 0, 1 | 0, 2 | 0, 3 | 0, 3 | 0, 4 | 0, 4 | 0, 5 | 0, 6 |
| 10. 0 | 2. 0 | 0, 3 | 1, 4 | 2, 1 | 2, 8 | 3, 5 | 0, 1 | 0, 1 | 0, 2 | 0, 3 | 0, 3 | 0, 4 | 0, 5 | 0, 6 | 0, 6 |
| 9. 50 | 2. 10 | 0, 3 | 1, 5 | 2, 2 | 3, 0 | 3, 7 | 0, 1 | 0, 1 | 0, 2 | 0, 3 | 0, 4 | 0, 4 | 0, 5 | 0, 6 | 0, 7 |
| 9. 40 | 2. 20 | 0, 3 | 1, 6 | 2, 3 | 3, 1 | 3, 9 | 0, 1 | 0, 2 | 0, 2 | 0, 3 | 0, 4 | 0, 5 | 0, 5 | 0, 6 | 0, 7 |
| 9. 30 | 2. 30 | 0, 3 | 1, 6 | 2, 5 | 3, 3 | 4, 1 | 0, 1 | 0, 2 | 0, 2 | 0, 3 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 7 |
| 9. 20 | 2. 40 | 0, 3 | 1, 7 | 2, 6 | 3, 4 | 4, 3 | 0, 1 | 0, 2 | 0, 3 | 0, 3 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 8 |
| 9. 10 | 2. 50 | 0, 3 | 1, 8 | 2, 7 | 3, 6 | 4, 5 | 0, 1 | 0, 2 | 0, 3 | 0, 4 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 8 |
| 9. 0 | 3. 0 | 0, 3 | 1, 9 | 2, 8 | 3, 8 | 4, 7 | 0, 1 | 0, 2 | 0, 3 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 7 | 0, 8 |
| 8. 50 | 3. 10 | 1, 3 | 1, 9 | 2, 9 | 3, 9 | 4, 9 | 0, 1 | 0, 2 | 0, 3 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 8 | 0, 9 |
| 8. 40 | 3. 20 | 1, 3 | 2, 0 | 3, 0 | 4, 0 | 5, 0 | 0, 1 | 0, 2 | 0, 3 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 8 | 0, 9 |
| 8. 30 | 3. 30 | 1, 0 | 2, 1 | 3, 1 | 4, 1 | 5, 2 | 0, 1 | 0, 2 | 0, 3 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 8 | 0, 9 |
| 8. 20 | 3. 40 | 1, 1 | 2, 1 | 3, 2 | 4, 3 | 5, 3 | 0, 1 | 0, 2 | 0, 3 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 8 | 0, 9 |
| 8. 10 | 3. 50 | 1, 1 | 2, 2 | 3, 3 | 4, 4 | 5, 4 | 0, 1 | 0, 2 | 0, 3 | 0, 4 | 0, 5 | 0, 6 | 0, 8 | 0, 9 | 1, 0 |
| 8. 0 | 4. 0 | 1, 1 | 2, 2 | 3, 3 | 4, 4 | 5, 6 | 0, 1 | 0, 2 | 0, 3 | 0, 4 | 0, 6 | 0, 7 | 0, 8 | 0, 9 | 1, 0 |
| 7. 40 | 4. 20 | 1, 2 | 2, 3 | 3, 5 | 4, 7 | 5, 8 | 0, 1 | 0, 2 | 0, 3 | 0, 5 | 0, 6 | 0, 7 | 0, 8 | 0, 9 | 1, 0 |
| 7. 20 | 4. 40 | 1, 2 | 2, 4 | 3, 6 | 4, 8 | 5, 9 | 0, 1 | 0, 2 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 8 | 0, 9 | 1, 0 |
| 7. 0 | 5. 0 | 1, 2 | 2, 4 | 3, 6 | 4, 9 | 6, 1 | 0, 1 | 0, 2 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 8 | 1, 0 | 1, 0 |
| 6. 40 | 5. 20 | 1, 3 | 2, 4 | 3, 7 | 4, 9 | 6, 2 | 0, 1 | 0, 2 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 8 | 1, 0 | 1, 1 |
| 6. 20 | 5. 40 | 1, 3 | 2, 5 | 3, 8 | 5, 0 | 6, 2 | 0, 1 | 0, 2 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 9 | 1, 0 | 1, 1 |
| 6. 0 | 6. 0 | 1, 3 | 2, 5 | 3, 8 | 5, 0 | 6, 3 | 0, 1 | 0, 2 | 0, 4 | 0, 5 | 0, 6 | 0, 7 | 0, 9 | 1, 0 | 1, 1 |

EXPLANATION

## TO THE BINDER.

*This Errata must be placed at the end.*

### ERRATA IN THE TABLES.

From p. 56 to p. 72, in the Heads of the Proportional Parts, for *Auxil. Angle* read *Auxil. Argum*

| | | | | |
|---|---|---|---|---|
| Page 207, | in the Parts for Sec. of C.D. | - | 161 | 261 |
| 230, | under 0′ Aux. Argum. and to 29′ S.A.A. | - | 213 . 0172 | 213(212)0172 |
| 422, | in the 4th column, under { Sine / Cosine } and to 29′ | under 17° | 604 | 804 |
| 497, | to the Proportional Parts for Declination add another column for 21′, 22′, 23′, and 24′, which may be copied from p. 512. | | | |
| 510, | in the 1st. column under D, and to 54m interval, | for | 17 | read 15 |
| 531, | under 12° Declination, and to 41° Latitude | - | 5. 18. 24 | 5. 17. 24 |
| 532, | under 21° Declination, and to 2° Latitude | - | 5. 46. 56 | 5. 56. 56 |
| 537, | under 28° Declination, and to 10° Latitude | - | 6. 21. 23 | 6. 21. 31 |
| 537, | under 33° Declination, and to 31° Latitude | - | 7. 32. 52 | 7. 21. [illegible] |
| 537, | under 28° Declination, and to 61° Latitude | - | 10. 54. 20 | 10. 42. [illegible] |
| 648, | between Dist. 144 and 146 | - | 115 | 145 |

1807 г.
№ 12 г.

Логарифмические таблицы

КШ 2


Круз
N 275